SUSEDI

Route to Transformation of Educational Institutions through a Whole Institution Approach to Sustainability

(SUStainability EDucational Institutions)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

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Introduction

SUSEDI project

SUSEDI targets all Educational Institutions and aims to transform them into adopting the Whole Institution Approach (WIA) to sustainability. The aim of SUSEDI is to support educational institutions to adopt the WIA through a series of transformational steps, in accordance with the systemic framework for WIA to sustainability, and to certify them on achieving milestones. Additionally, SUSEDI aims to develop the sustainability competence of educators/leaders/administrative staff, as their role is critical for institutions in terms of adopting WIA.

The specific objectives of the project are the following:

1. To develop a Systemic Framework for WIA (Whole Institution Approach) to Sustainability with pillars (i.e. areas of work such as SOCIAL, PEDAGOGICAL and ORGANISATIONAL) and domains within pillars.

2. To develop and certify (with ISO17024) the sustainability competence of the personnel of Educational Institutions (leaders, educators and administrative staff) based on the Green Comp with an Open Educational Resource and a digital assessment tool.

3. To develop the guide “Route map for the transformation of Educational Institutions into WIA to sustainability” that will include steps to transformation and proposed activities in the pillars and domains of the systemic framework for WIA to sustainability.

4. To develop and certify (with ISO17024) transformation agents that will support Educational Institutions during their transformation into the WIA to sustainability (and again develop an open educational resource for them).

5. To develop a self-assessment tool that will be used by Educational Institutions to assess their current situation as far as WIA to sustainability is concerned either on their own or through the support of the transformation agents.

6. To develop a certification standard aligned with ISO for Educational Institutions to certificate their transformation into the WIA to sustainability in three different levels: Awareness, Into Action and WIA to sustainability.

7. To transform into and certify the institutions in the consortium on one of the certification levels developed according to their current situation.

8. To develop an alliance of Educational Institutions adopting or in the process of transformation towards WIA.

9. To promote the certification scheme to other Educational Institutions inside and outside the countries of the consortium

Scope of the Desk Research

The Desk Research of SUSEDI project takes place as Task 2.2 of the Work Package 2 – Development of a Systemic Framework for WIA to Sustainability. All (13) partners have to identify nationally, at European or international level, 2 best practices on WIA to sustainability. The scope of the desk research is to create a final report with a list of 26 practices that will enable the SUSEDI partners to study all the best practices identifies and, subsequently, to re-examine the initial Systemic Framework on WIA to Sustainability, amending it according to the findings of the Desk Research report. The identification of the best practices will be realised in two parts. The first part concerns the information, actions and results of the best practice and the second part concerns the partner's own reflections on the best practice. The partners will combine the desk research results with the results deriving for the Field research on WIA to sustainability experts' interviews.

Scope of the Field Research

The purpose of the field research was the conducting of interviews with experts on ESD from the participating countries, by the SUSEDI partners, aiming to collect data regarding the implementation of the WSA/WIA and ESD on national or regional and/or international level. The field research follows the desk research and pursues to provide in-depth, qualitative data on WSA/WIA and ESD through references to best practices/programs/initiatives/actions on WSA/WIA and ESD, that were developed by various institutions in formal and non-formal level in various contexts (national, regional, international). The analysis of the field study research will provide inputs and valuable information regarding the preparation of the strategic framework on WSA/WIA and ESD.

Methodology

This report contains the presentation and qualitative analysis of best practices in WIA/WSA and ESD and a synthesis of participants' answers in each of the question cohorts in the interviews conducted for field research. Part A, which is a synthesis of best practices, contains comprehensive tables indicating which parameters of WIA/WSA according to the Wals and Matthie (2022) model are more prominently addressed through the best practice, namely ethos and vision, curricula, capacity building, pedagogies and learning and institutional practices (an overview is also presented in Table 1) and in how each of these parameters is integrated in each practice. In addition, in Part A there is a comprehensive table presenting which of the SDGs are addressed through each of the best practices (Table 2). In addition, Part A contains a collection of partners' reflections as to why they consider the practices they presented as exemplar based on whether they are relevant, reflective, resourced, responsive and reformative. Part B of the analysis presents a summary of participants' answers in each of the three questions cohorts included in the interview protocol. Specifically, the first cohort of questions contained general questions about ESD implementation in their national context i.e. if there are policies in place concerning ESD at the national level, which forms of education they address and what their aims, objectives and results are in terms of ESD implementation, how ESD is integrated in formal education, gaps and challenges for its implementation in formal and non-formal education and reference as to how ESD is implemented in their organization. The second cohort of interview questions referred to WSA/WIA and ESD, how WSA/WIA is applied in participants' work context and which strands of WIA/WSA are more emphasized, strands that are more challenging to integrate or strands addressed in an exemplar way. The third cohort of questions referred to WIA/WSA recommendations and further development, its strengths, challenges, opportunities and threads for its implementation and how the viability and longitudinal implementation of WSA/WIA on ESD ca be ensured in their organization. Key points are identified for desk and for field research.

Results

PART A: Desk research

Data collection for desk research took the form of presentation of good practices in WSA/WIA and ESD from various countries. Participant organizations were required to identify these good practices at national settings or in the form of networks. Table 1 presents an overview of the parameters of

WSA/WIA most emphasized in these practices, namely vision and ethos, institutional practice, capacity building, community connections, curriculum and pedagogy and learning. Evidently, not all parameters of Wals and Matthie (2022) WIA flower model were present to each of the best practices. However, most of these parameters were visible to all cases, most prominently to the vision, institutional practices and capacity building.

Table 1: Overview of WIA/WSA parameters addressed in best practices

TITLE OF PRACTICE	IMPLEMENTATION LEAD/ PARTNER ORGANIZATIONS	COUNTRY OF IMPLEMENTATION	VISION	INSTITUTIONAL PRACTICE	CAPACITY BUILDING	COMMUNITY CONNECTIONS	CURRICULUM	PEDAGOGY AND LEARNING
Multicampus Sostenibile	University of Bologna	Italy	X	X		X		
UniPadova Sostenibile	University Degli Studi di Padova	Italy	X	X	X	X	X	
Paving the way for ESD in Cyprus	Ministry of Education, Sport and Youth	Cyprus	X	X	X	X	X	
Competency Center for SD	University of Tubingen	Germany	X	X	X	X	X	X
The Okayama ESD Project	Okayama ESD Promotion Commission	Japan	X	X	X	X	X	X
Green Free School	Individual initiative	Denmark		X		X	X	X

TITLE OF PRACTICE	IMPLEMENTATION LEAD/ PARTNER ORGANIZATIONS	COUNTRY OF IMPLEMENTATION	VISION	INSTITUTIONAL PRACTICE	CAPACITY BUILDING	COMMUNITY CONNECTIONS	CURRICULUM	PEDAGOGY AND LEARNING
Drobak Montessori Secondary School		Norway	X	X	X	X	X	X
ECO Schools	Foundation for Environmental Education (FEE)	Partner organisations: Schools from 73 countries, organizations, corporate partners.	X	X	X	X	X	X
ECO Schools Greece	Hellenic Society for the Protection of Nature	Greece	X	X	X			
Cooperatie Leren voor Morgen (Learning for Tomorrow)	Cooperatie Leren voor Morgen	Netherlands				X	X	
Be.Eco	Fondacja Digital University	Poland						X

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TITLE OF PRACTICE	IMPLEMENTATION LEAD/ PARTNER ORGANIZATIONS	COUNTRY OF IMPLEMENTATION	VISION	INSTITUTIONAL PRACTICE	CAPACITY BUILDING	COMMUNITY CONNECTIONS	CURRICULUM	PEDAGOGY AND LEARNING
Guidebook for training of SDGs' trainers	OECD, EU, L-ITEE	EU			X			X
Enredando redes de escuelas hacia la sostenibilidad (ESenRED) *"Networking school networks towards sustainability"*, in English	ESenRED National network of networks of non-university educational centers (Autonomous Communities, City Councils, Provincial Councils).	Spain				X		
The world we want. A globalizing experience through project-based learning.	CEIP Maestro Monreal ("Maestro Monreal Infant and Primary School")	Spain		X		X		X

TITLE OF PRACTICE	IMPLEMENTATION LEAD/ PARTNER ORGANIZATIONS	COUNTRY OF IMPLEMENTATION	VISION	INSTITUTIONAL PRACTICE	CAPACITY BUILDING	COMMUNITY CONNECTIONS	CURRICULUM	PEDAGOGY AND LEARNING
XXI CHALENGES – MAN, PLANET AND ECONOMY	University of Lodz	Poland					X	
An initiative "Race to Zero"	Lodz University of Technology	Poland		X				
Sustainability at Frederick University (Sustainability Report 2022)	Frederick University	Cyprus	X		X	X	X	X
University of Galway Sustainable Strategy	University of Galway	Ireland	X	X	X	X	X	X
SDG Champions Programme	Government of Ireland	Ireland	X	X	X	X		
Local environmental programs	Nature Trust	Malta	X	X	X	X		X

TITLE OF PRACTICE	IMPLEMENTATION LEAD/ PARTNER ORGANIZATIONS	COUNTRY OF IMPLEMENTATION	VISION	INSTITUTIONAL PRACTICE	CAPACITY BUILDING	COMMUNITY CONNECTIONS	CURRICULUM	PEDAGOGY AND LEARNING
and conservation of natural heritage sites								
EkoSkola	Nature Trust	Malta	X	X	X	X		X
STEAMFREAK	Cyprus Certification Company	Cyprus	X	X	X	X	X	X
University of Aegean		Greece	X					X
TOTAL			15	16	14	17	12	14

A total of 23 practices were analyzed. In Table 1, an overview of the aspects of WIA/WSA addressed through the practices is presented. The aspect of WIA/WSA most frequently addressed (17 out of 23 practices) was community connections. Evidently, organizations and networks place a strong emphasis on this two-way relationship: on one hand, drawing expertise and forming partnerships with organizations within the community contributing to the school actions and policies and on the other hand, promoting education-initiated change within the community towards sustainability and well-being. Institutional practices were also highlighted in 16 out of 23 cases, followed by vision (15), capacity building (14) and pedagogy and learning (14). Curricula were referred to in only 12 out of 23 paradigms. Examples of specific actions on how each of these parameters in incorporated in organizational actions will be presented subsequently in this desk research.

Table 2 presents an overview of SDGs addressed through each of the best practices. Evidently, SDG4-Quality Education was the goal addressed the most. Undoubtedly, best practices presented in WIA/WSA and ESD are aligned with the SDGs and the implementation of Agenda 2030 in the respective organizations. However, the specific SDGs addressed through each best practice vary.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Table 2: Overview of SDGs addressed through each of the best practic**es.**

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED																
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Multicampus Sostenibile	University of Bologna	Italy			X		X		X	X			X	X	X		X		
UniPadova Sostenibile	University Degli Studi di Padova	Italy				X	X		X	X		X	X		X				X
Paving the way for ESD in Cyprus	Ministry of Education, Sport and Youth	Cyprus				X	X				X	X							
Competency Center for SD	University of Tubingen	Germany				X			X		X	X	X				X		
The Okayama ESD Project	Okayama ESD Promotion Commission	Japan	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED															
Green Free School	Individual initiative	Denmark	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Drobak Montessori Schools		Norway				X	X										X	X
ECO Schools	Foundation for Environmental Education (FEE)	Schools, international foundation and organizations	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
ECO Schools Greece	Hellenic Society for the Protection of Nature	Greece			X	X											X	X
Cooperatie Leren voor Morgen		Nether-lands				X												

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED															
(Learning for Tomorrow)																		
Be.Eco	Fondacja Digital University	Poland				X								X				X
Guidebook for training of SDGs' trainers	OECD, EU, L-ITEE	EU				X												
Enredando redes de escuelas hacia la sostenibilidad (ESenRED)	ESenRED National network of networks of non-university educational centers promoted by Autonomous Communities, City Councils, Provincial Councils.	Spain				X						X		X				

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED															
The world we want. A globalizing experience through project-based learning.	CEIP Maestro Monreal ("Maestro Monreal Infant and Primary School" in English)	Spain							X			X		X				
XXI CHALENGES – MAN, PLANET AND ECONOMY	University of Lodz	Poland				X												
An initiative "Race to Zero"	Lodz University of Technology	Poland				X								X				X
Sustainability at Frederick University (Sustainability Report 2022)	Frederick University	Cyprus				X	X		X			X	X				X		X

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED															
University of Galway Sustainable Strategy	University of Galway	Ireland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SDG Champions Programme	Government of Ireland	Ireland	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Local environmental programs and conservation of natural heritage sites	Nature Trust	Malta				X							X	X	X	X	X		X
EkoSkola	Nature Trust	Malta				X													
STEAMFREAK	Cyprus Certification Company	Cyprus				X	X					X			X			X	

TITLE OF PRACTICE	LEAD/ PARTNER ORGANI-ZATIONS	COUNTRY	SUSTAINABLE DEVELOPMENT GOALS ADDRESSED															
University of Aegean		Greece					X	X				X			X			

Vision- Ethos- Leadership and Coordination

Organizational vision is at the heart of WIA/WSA. Together with values governing the operation of the institution, they form the ethos and guide all actions towards common goals. Vision is materialized through various parameters such as leadership, coordination, operations, curricula, pedagogies, capacity building, and collaborations. Without vision, the organization cannot have a clear orientation and cannot be transformed towards sustainability. Several best practices were reported concerning how WIA reflects organizational vision and ethos and how it is materialized through leadership and coordination both for the tertiary level (Higher Education Institutions- HEIs) and for the school level with regards to ESD.

Regarding universities, practices refer to their commitment to implement the Agenda 2030 and to align with the SDGs (UniBo, UniPadova, FU, Lodz University of Technology, University of Lodz, University of Galway) referring both to the sustainable upgrade of their infrastructures as well as to the development of knowledge and expertise through research and innovation and its dissemination locally and internationally. Best practices at the university level highlight the establishment of bodies, which monitor and guide WIA within the organization (e.g. FU, University of Tubingen) and encourage the involvement of all stakeholders within the universities to engage in sustainable development actions.

At the school level, the formation of the sustainable school through WIA may be addressed either through sustainable environmental education policies (e.g. public primary schools in Cyprus) or through project-based initiatives reflecting the school vision (e.g. Green Free School- Netherlands, Drobak Montessori Secondary School- Norway, CEIP Maestro Moreal-Spain). Through collaborative reflexive processes, networks of schools or networks between schools and other organizations (e.g. Okayama ESD Network- Japan, ESenRED- Spain, ECO Schools, Cooperatie Leren voor Morgen, Netherlands) provide the space for the creation of a common vision of sustainable development for schools, always adaptable to the specificities of the local context, and provide opportunities for coordination, networking and exchange of expertise.

Several examples were provided as to how WIA is implemented in tertiary institutions' vision, ethos, leadership and coordination:

The University of Padua identified its institutional commitment to support the objectives of the 2030 Agenda by launching the UniPadova Sostenibile project, organized and shared within the "Sustainability Commitments Charter 2018-2022". Setting forth the guidelines of UniPadova

Sostenibile for 2023-2027, this document reiterates and confirms the cornerstones that directed the University over the past five years, offering in the first place a global perspective in terms of the environment and the well-being of others to address sustainability. The Project aims, on the one hand, to coordinate and give visibility to all the actions organized by the University sustainability, involving the entire university community, from students and staff to the governing bodies; on the other hand, it promotes and supports the launch of new initiatives, the development and implementation of good practices, their transfer and dissemination within the university community and outside, on the territory.

The university's vision integrates its commitment to social sustainability with actions that promote well-being, education, inclusion and equal opportunity. The University also emphasizes social justice issues to address the urgent challenges related to the consequences of recent crises across a growing international dimension. On the environmental front, the University aims to arrange actions of experimental initiatives and pilot projects already in place by developing and implementing strategies and programs to reduce energy consumption and gas emissions, as well as to reduce its impact on the environment and ecosystems on a broader scale.

University of Bologna- Universita Sostenibile is an initiative focusing on the needs and habits of the university community, and the environment, through new management models that reduce the environmental impact of UNIBO policies, contribute to the well-being of the campus community and encourage a greener and more environmentally conscious community with more active and responsible behaviors. Lines of action are defined as Energy, Mobility, Environment and People, and the university applies actions under each of these domains. The University identified its institutional commitment to support the objectives of the 2030 Agenda by launching the UniBo Sostenibile project, organized and shared within the "Sustainability Commitments Charter 2018-2022". The project reiterates and confirms the cornerstones that directed the University over the past five years, offering in the first place a global perspective in terms of the environment and the well-being of others to address sustainability. More than 50% of the course units offered by the University focus on at least one of the 17 SDGs outlined in the United Nations 2030 Agenda. Study support projects are in place for students with disabilities; a training activity project for inmates with the support of the Department of Penitentiary Administration of the Italian Ministry of Justice; Engineering for Africa Project developed with the School of Engineering and the African National School of Public Works in Yaoundé, a teaching programme that offers courses in civil and environmental engineering. By adopting the Charter of Sustainability Commitments 2018-2022, the University has reaffirmed its commitment to

spreading an inclusive culture, valuing heterogeneity and diversity and promoting full participation in academic life for all members of the University community.

Furthermore, the orientation of Frederick University in Cyprus towards a WIA to ESD is clearly reflected in its vision, which is to advance knowledge for the good of the society through the provision of holistic education to students so that they can face the global challenges and become agents of change. This vision is structured around four main axes, namely Research, Teaching, Outreach and Governance. The dimension of Research seeks to encourage the university's academic research and collaborations and consulting activities with a variety of stakeholders, public and private. Outreach concerns actions that target local society and seeks to establish connections between the University and its environment including policy development and advocacy. Teaching refers to actions and targets connected to teaching and learning either in formal university education (programs of study), or through informal and non-formal activities such as lifelong learning actions. Finally, Governance and operations embraces and coordinates all the university policies with the aim of adopting best practices and leading towards the SDGs by example. Within the governance and operations actions, we can also mention collaboration memoranda, and other collaborations and participations of the university in international networks promoting sustainability. The establishment of the Personal and Professional Development Centre at Frederick University (P_2DF) and initiatives such as the Frederick University Living Lab (FULL), can also be considered as actions of governance and operations, and are developed and implemented with the support of academic, research and administrative staff and oriented towards WIA at the University and the realization of the Agenda 2030.

At the University of Galway, which is a bi-lingual university, there is a university-wide sustainability strategy acknowledging that different language cultures capture environmental phenomena that otherwise would remain hidden. Sustainability is part of the university mission, which is materialized through dialogue with the community and stakeholders with respectful mindsets. Therefore, at the University of Galway, the vision has a strong socio-cultural orientation.

WIA practices in ESD reflecting vision, ethos, leadership and coordination have also been presented for the school education level. In Cyprus, the Sustainable Environmental Education Policy (SEEP) is planned and implemented by each primary school, integrating the short- and long- term goals of the organization to reach sustainability following WIA/WSA including curricula/content, capacity building, infrastructure, non-formal education and education material. ESD is infused horizontally in all school subjects and the SEEP offers a holistic framework of objectives, actions and pedagogies aiming to transform the school towards sustainability through actions targeted to solve issues at the local level.

Similarly, in Japan, a yearly action plan is set for schools participating in the Okayama ESD Project to ensure that all actions taken within the school are focused towards action orienting the school and the local community towards sustainability. In the Okayama ESD Project, the vision is to shape future citizens, leaders and decision makers who are able to understand issues related to sustainability in their communities and to take initiatives and implement actions, which have tangible results in terms of improving the quality of life in the community. This requires the formation of strong synergies between the school, local authorities, structures of non-formal education, corporations, etc. This vision, therefore, entails that actions transforming local communities towards sustainability are continuous and that whole- community transformation is longitudinal despite the fact that actors (e.g. students, teachers, local stakeholders) change over time.

At the Green Free School in the Netherlands, the school vision has a strong emphasis on helping students develop practical skills (e.g. fixing bicycles, cultivating land, etc.) to prepare them to adjust to a future model of circular economy. In this case, using the school spaces and infrastructure (e.g. the school garden) as a tool for learning, in combination with non-formal education activities in the community are embedded in all school actions.

Institutional Practice (Learning From Creating Sustainability On Location)

Institutional practices in HEIs focusing on WIA for sustainability place a great emphasis on research and innovation and on the environmental upgrade of their infrastructure, especially regarding energy efficiency, mobility and waste management (Galway University, UniBo, UniPadova, FU, University of Lodz). Universities have the opportunity to create new technologies and implement them on campus to diagnose their efficiency in terms of promoting sustainable development. Depending on the orientation of the school and on the courses offered, universities focus on various aspects of sustainability e.g. on infrastructure and innovative technologies, on the well-being of students and employees, on business opportunities emerging through new models of economy created due to environmental issues, etc. For schools, institutional practice reflects more on implementing activities or projects and disseminating the results to local authorities and communities to improve their sustainability and citizens' well-being (e.g. Cyprus, Japan, Denmark, Greece, Spain). Upgrade of school infrastructure refers mostly to the greening of school spaces and their use as education tools. In some cases, school education is utilized as an agent of education-driven change within the local community, by implementing specific actions with tangible results (e.g. Cyprus, Japan). A variety of good practices was presented as to institutional practices implemented. Practices refer both to school education and in higher education institutions.

In Norway, the Drøbak Montessori secondary school is the first powerhouse school in Norway, which means that during sixty years of use it will produce more energy than it has used. The calculation includes the entire process, from material production, transport and construction to operation and finally disposal. Lunch is a central part of everyday life at Drøbak Montessori secondary school, where students and teachers plan, cook and eat together at the long table. This is an important arena for socialization, unity, cooperation, independence and economic understanding, as well as increased knowledge about cooking and diet. The school also offers physical activity in the schoolyard in the morning, where students and teachers play ball, field hockey, paddle tennis, table tennis, go for walks, etc. All the students have responsibilities for daily tasks such as cleaning, making warm lunches, feeding the hens, beekeeping, gardening, doing the hives, etc., and directly contribute to the running of the school, by maintaining the school grounds, cook and clean and make money by giving guided tours to visitors of the school, showcasing the sustainability features inside and out.

Through the best practices presented, multiple examples of holistic institutional practices referred to higher education institutions. For example, Lodz University of Technology joined Race to Zero initiative

in 2022. This is an initiative in which currently 3 Universities from Poland participate, which requires to commit to the ambitious goal and join the ranks of institutions striving to achieve climate neutrality by 2050. Within the framework of the described initiative, ten main tasks were defined. The coordination and implementation of activities is handled by the interdisciplinary team called Sustainable Development Panel. There are many stakeholders involved, both internal (e.g., employees, students) and external (e.g., suppliers, government, local community). As part of this initiative, a number of activities have been undertaken, including, for example building local energy sources (including photovoltaic systems, installing heat pumps etc.), mainly to reduce energy from fossil fuel combustion. In order to rationalize costs and optimize the efficiency of energy systems, there have been feasible technologies identified and technical documentation was prepared, mainly in terms of the use of photovoltaic sources and further advanced eco-energy activities. Moreover, Lodz University of Technology offers a number of courses that cover subjects related to the production and processing of clean, local energy. In addition to typical didactics, a number of stakeholder-activating activities are implemented, for example through various inventions presented at national and international levels, taking part in international competitions on innovation and entrepreneurship, etc.

Other practices refer to the sustainable campuses of University of Padua and University of Bologna. Indicatively, in Bologna, holistic actions on greening the university infrastructure under the line of action “Energy” are implemented, such as purchasing electricity from 100% renewable energy sources, a pilot project for sending consumption self-readings of all active users to distributors, water consumption control and automations and remote control of building to monitor their use and energy consumption. Actions on mobility include introducing car sharing as a way of managing university vehicles, introduction of AlmaBikes and lower tariffs on public transport for university members. At the University of Padua, seven lines of institutional action were set including resources, such as establishing Green Public Procurement procedures, plastic waste elimination, re-using materials, mobility and education for sustainability.

Monitoring and coordination of all institutional practices related to WIA and ESD has also been pointed out. The University of Aegean, in order to align all its operations with Agenda 2030 and for enhancing coordination within the organization, has established three committees with the responsibility to monitor and coordinate sustainability actions in the respective domains. These committees are “The gender equity committee”, “The blue development committee- Aegean Archipelago” aiming at shaping a common strategy to coordinate research on blue economy and to disseminate results, aspiring to promote smart, sustainable, integrated blue development in the Aegean in the context of

Agenda 2030 and “Environmental management committee- The Green University”, aimed to improve the university’s overall environmental performance in all its operations.

Capacity Building- Professional Development

Capacity building and professional development are vital elements of effective WIA implementation and ESD. They justify why WIA is systemic in its path towards transforming organizations towards sustainability as systemic changes and holistic transformations towards sustainable development require that teaching staff, administration and other stakeholders have all the skills, knowledge and expertise required to correspond to the demands of WIA. Professional development, the development of "soft" competences and discovering the value of self-learning are key factors leading to professional competence.

Practices presented refer to integrating training seminars for teaching staff (e.g. FU, University of Lodz), mandatory courses on WIA/WSA for sustainability for school administrators and other government officials (e.g. Cyprus, Germany, Spain). Capacity building can be in the form of workshops, training seminars, mentoring, sustainabiilty network meetings, guidebooks, etc. Networking between stakeholders within and outside the school facilitates tranfer of expertise and capacity building. Creating awareness on issues of sustainability not only for teachers but for all stakeholders involved within the education organization is the starting point for capacity building but also, practices presented emphasized the need to educate stakeholders on how to bring their ideas to action. Two very interesting good practices in the field of capacity building come from Poland. The first one, called Guidebook for Training of SDGs’ Trainers, is dedicated to motivated and professional officials and not just teachers, whose commitment is the basis for success in achieving the intended goals of sustainability. In the future, it is expected that SDG trainers will also train officials from local and regional government units, as OECD research indicates that the success of Agenda 2030 implementation largely depends on the regions and on the involvement of public in long-term and strategic planning, taking into account multidimensional and interdisciplinary aspects. The second capacity building example from Poland is a nationwide educational project for primary and secondary schools addressed to teaching staff called Be.Eco aiming to build environmental awareness among teachers. During the meetings, workshops and webinars, 1,340 schools and their teachers actively participated in them reaching more than 2090 teachers. Participants have access to free educational materials and the opportunity to participate in an ecological knowledge tournament and a hackathon.

Institutions and partnerships address this issue through different forms of trainings and actions. In Germany, at the University of Tubingen, the Competence Center for Sustainability is the university’s

network nexus point, which brings together people, knowledge, and competencies under the umbrella of sustainability. It provides contexts and structures to realize sustainability projects on all university levels. The centre uses its position to create awareness for topics of sustainability, facilitates employees to organize public events as well as workshops for pupils to transfer ideas of and awareness for sustainability to practical action. The Centre provides mentoring to students who are planning to undertake sustainability projects or want to write their thesis in a field of sustainability and, most importantly, organizes sustainability network meetings for all university members to create the necessary room they need for generating new bottom-up ideas.

In Japan, under the Okayama ESD project, specific teacher training courses are offered in the Yakage Upper Secondary School for new-coming teachers to introduce them to the specificities of the community. The aim is to empower teachers to facilitate their students' actions to transform their communities towards sustainability. The result is that school action in community transformation is continuous and longitudinal even though teachers and students of a school change over time. In Cyprus, capacity-building courses on ESD and on WSA are offered not only to teachers but also to school leaders on a mandatory basis to ensure that they have the potential to develop skills related to the leadership of the sustainable school.

Community Connections

Community connections and multi-stakeholder collaborations are an integral part of WIA in all levels of education. Several good practices were presented demonstrating various ways in which community connections are integrated into ESD. At an international level, the Eco-Schools program is addressed to the whole school community (pupils, teachers, parents, school employees) and is designed to encourage the whole school to mobilize and take action for the environment. It also encourages cooperation between students, teachers, parents and the local community to achieve more effective environmental action. In each school, an Environmental Committee is set up, made up of students and teachers, to work on environmental issues, and also ensures the implementation of the "Action Plan" and the "Eco-Code" with the participation of the whole school community. When the school completes the Action Plan and after being evaluated by the Network's Pedagogical Team, it is called an "Eco-School" and is rewarded with the Network's Green Flag bearing the Network's logo. After two years from the award, it is re-evaluated so that it can continue to deservedly carry the title. Finally, in order to open up to the local community and raise awareness, events and actions are organized in cooperation with the Local Authorities. Educational material is offered for all the Network's thematic modules.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

ESenRED is a state-wide network of networks in Spain, for experience sharing and joint activities. It is a network of networks, involving 16 networks of 15 Autonomous Communities in Spain; 4,225 non-university educational centers; more than 1,500,000 students and 100,000 teachers. Furthermore, the network has a close collaboration with the National Centre for Educational Innovation and Research (CNIIE), and the National Centre for Environmental Education (CENEAM), under the Ministry of Education, Culture and Sports and the Ministry of Ecological Transition and Demographic Challenge, respectively. In the sense that this is a meta-network involving a vast number of organizations. Collaboration, outreach and dissemination through it are increased exponentially. The diversity of networks, approaches, and projects also contributes to ESenRED's strength. ESenRED aligns with the WIA approach through its promotion of collaborative work within a network, where individuals from each network contribute with distinct roles and responsibilities. This fosters a distributed and shared leadership, facilitating interaction and the integration of diverse topics and viewpoints.

In Denmark, the Green Free School is a school that extends beyond the school context and into the lives of all those who are affiliated with the school. The school builds a community among parents and families, which aims to fulfill the school's vision, also for the adults. This community consists of a parental network, which creates and maintains the school's physical framework, social activities for children and adults with a focus on community, and parenting academy - engaging the school's adults in a common learning and development process with a focus on green transition, linked with innovation projects. Similarly, CEIP Maestro Moreal is a school district in Spain, where the results of ESD projects implemented by schools are shared with parents and local communities, and suggestions are forwarded to local authorities through a standardized procedure in order to promote sustainability and the well-being for the whole community.

In Japan, the Okayama ESD Project follows a collaborative, community-based approach. Participating organizations are categorized as “core”, “intermediary” and “research”, formulating the Okayama ESD Network. Each organization cooperates with other stakeholders and plays a role in practicing ESD activities according to the specific characteristics of the region. This approach facilitates and strengthens inter-organizational bonds. Each organization utilizes existing resources. The Project brings together organizations promoting ESD and facilitates a whole-city approach to ESD, which means that school actions are organized through the schools, in collaboration with other stakeholders, to solve environmental issues within the communities and transforms them towards sustainability.

The project involves the local community through both formal and non-formal education. It offers various activities and trainings organized in *Kominkans (Community Learning Centers)*, schools, parks and shopping malls as well as in places close to nature. More than 160 groups of citizens, from youth

to elderly people, out of more than 350 member organizations have taken part in these activities, working to achieve environmental preservation, global understanding, and disaster reduction. Ultimately, the initiative's strength is the promotion of civic collaboration to solve regional issues, deepen learning, and carry out activities reflecting local life. Embracing this spirit of action, Okayama City's whole-city approach is successfully paving the way for a more sustainable future for its citizens and communities.

In Denmark, the Green Free School puts sustainable living at the heart of its syllabus. It implements project-based innovation courses and students are facilitated to unlock their potential through active participation and an innovative pedagogical framework, including mix-aged communities of students. Project-based innovation courses have authentic recipients, which become the school's stakeholders, such as local businesses, the local community, researchers, parents, students, staff and every individual who can contribute to the project. The results of the school projects are communicated at the end of the innovation projects at the school and at the local level, and are disseminated in the community.

To sum up, the community is an integral part of the school. Practices were presented demonstrating how a school implementing WIA can function within the community and lead to education- initiated change (e.g. Denmark, Norway, Cyprus, and Japan). In turn, the community can facilitate the networking of schools both with other education organizations as well as with organizations outside the education sector. Networking can be infinitely expanded to involve more stakeholders.

Examples of networks between networks (e.g. Spain), and between multiple stakeholders and organizations have been provided (e.g. Eco Schools, EkoSkola Malta, Okayama ESD Network in Japan). Platforms to facilitate networking of schools with other organizations, such as non-formal structures (e.g. community centers, environmental education centers) have been observed in Cyprus and in Japan. Networking practices presented include frameworks to facilitate and standardize WIA (e.g. Okayama ESD Network, ESenRED in Spain, CEIP Maestro Moreal in Spain), aiming for schools to become agents of change of their communities towards sustainability. Networking often results to the creation of platforms in which organizations can interact, exchange information and resources. Evaluation guidelines as to how effectively a school implements WIA are provided as well as motivation for good practices through an award scheme.

Curriculum (Design, Content And Assessment)

Concerning the school level, ESD is integrated across curricula mainly through national or local policies. Depending on the school vision, curricula can be focused on specific sustainability related issues, most

related to the local context and usually with a prominent environmental content. Well-being in the community is also pointed out through several best practices at the school level. A promising result was that schools or school networks presented as implementing best practices of WIA/WSA embed ESD horizontally across school subjects and place an emphasis on the development of practical skills contributing to sustainability and sustainable development. Indicatively, there have been several examples of schools showcasing curricula focusing on inspiring students produce food, fix items, cultivate the land and, in general, on enabling them to develop skills related to circular economy principles.

At the tertiary level, it is evidently easier for HEIs to develop curricula integrating a wider variety of sustainability aspects, due to their degree of autonomy to set the content of their courses and due to their specialization in specific fields, which enable them to align their infrastructure to the principles of sustainable development and utilize them as education tools. Therefore, best practices concerning WIA/WSA and ESD are implemented with regard to curricula placed a strong focus not only on environment- related issues but also equally on its social and economic aspects, such as entrepreneurship in a circular economy, social responsibility, equality and solidarity. Considerable efforts are observed in incorporating ESD in university curricula demonstrating also the universities' commitment to green transition and to their alignment with the 2030 Agenda and the SDGs. Moreover, ESD, depending on the faculties at each university, is examined through its various parameters and connected with employability and entrepreneurship in various ways and through various actions.

In Cyprus, curricula for primary education focusing on principles of quality education, where knowledge, skills, values and behaviours promoted can assure sustainable present and future, include 12 thematic units on environmental issues and schools are required to create their School Environmental Education Policy. The school SEEP is structured around an environmental issue of the area of the school. Objectives and actions of the SEEP are set for a one- to three- year period and involve the whole school. Actions involve both formal and non-formal settings. The curricula are focused on the formation of a sustainable school, which is a vision requiring the holistic reform of the school. ESD curricula are implemented horizontally across all school subjects and operations.

In the case of specific school initiatives, such as the Green Free School in Denmark and in Drobak Montessori Secondary School in Norway, the school has the freedom to create their own curricula, which are localized, which means that they are based on the community context and also have a very strong orientation on practical skills (e.g. skills related to circular economy, fixing objects, bee keeping, etc.). Curricula are addressed both in formal and in non-formal settings.

At the level of HEIs, the University of Lodz in Poland, named XXI Challenges, undertakes an interesting good practice: Man, Planet and Economy. These are thematic units of elective courses on sustainability offered free of charge by the university, in the form of open lectures to students of all faculties. Indicative topics include how investment projects affect the local and regional environment, indigenous peoples and the natural environment in which they live, how are human rights are defined and what they look like in practice, how to shape competences in the field of applying Green HRM practices in business practice and how to optimise waste management in the economy and the creation of sustainable mobility. Therefore, these curricula support awareness of change taking place in the short and in the long term, realizing ways to oppose to or mitigate to change and awareness of new opportunities in the sphere of business, which have the potential to transform the economic system.

The SDGs are integrated in in all the curricula of Frederick University, Cyprus, and are addressed through student-centred learning and teaching approaches. The curricula aim to help students develop knowledge, skills and mind sets to become committed to building a more sustainable future and by offering SDGs relevant programs of study.

Pedagogy And Learning

Pedagogy and learning were mostly explicitly referred to best practices identified at the school level (i.e. Drobak Montessori Secondary School, CEIP Maestro Moreal, Okayama ESD Network, Green Free School, Cyprus Public Primary Schools). Pedagogies vary from project-based, to inquiry-based, modeling, debates, fieldwork, etc. Most of the best practices, regardless of education level, start from topics of local environmental interest and are targeted towards solving local environmental problems. The benefit of non-formal education is also highly acknowledged, along with highlighting how it can complement and enrich formal education initiatives. Disseminating project results and sharing them with local communities, parents, local authorities etc. is an integral part of the pedagogical and learning process in all levels of education. As a result of expertise gained from the implementation of relevant ESD approaches, collaborative networks of teachers have been created, promoting the sharing of knowledge attained (i.e. CEIP Maestro Moreal, EcoSchools, EkoSkola Malta, Okayama ESD Network). Digitalization is highly encouraged and integrated in students' final products e.g. in the form of presenting with QR codes and dissemination is also conducted through online platforms (i.e. STEMFreak, CEIP Maestro Moreal, Okayama ESD Network).

Indicatively, in Spain, the CEIP Maestro Moreal is a school district in which a project-based approach is followed, involving 3 primary schools, families, the local city council and the municipal council for

children. Starting with topics within students' interests, which facilitate prior knowledge to be utilized, the approaches used involve students in guided investigations, both individually and through teamwork, leading to the creation of a final product. ESD is horizontally integrated within the curricula of all school subjects and a great emphasis is provided on skills' development. Pedagogic techniques implemented involve debates, field work, and collaborative model making. The activities are shared with families and with the community and enhancements are submitted to the municipality through a standardized procedure, in an effort to improve sustainability and the well-being of children in the community.

Pedagogies implemented at the Green Free School in Denmark are focused around helping learners develop skills for a sustainable living and circular economy. The Green Free School is a unique amalgamation of sustainability and innovation on a foundation of learning and well-being. The school has a strong focus on environmental, social, and economic sustainability. School life, both inside and outside classes, is infused with sustainable lifestyle actions. For example, there are specific school actions (e.g. activities, modules, etc.) on food literacy, interior design for green spaces, renovation of buildings, waste management, etc., which are offered not only to students but also to parents and, among others, through actions outside the school settings, e.g. during camping trips. The school has a great impact on the community, since it operates as an open development laboratory where stakeholders outside the school organizations are invited to be involved. In turn, the school, through innovative projects, assists to the local community and industry to develop and implement solutions that will lead to the city's green transition. Some of the school's interventions in the community are: (a) the creation of a garden that helps to preserve and enhance the biodiversity of the area, (b) the cleaning the soil from chemicals by planting specific plant species, (c) creating a bird education space at Kofoeds Skole, an organization carrying out social work for adults. The Green Free School is mentioned in the European Commission's Final Report on Education for Environmental Sustainability, as one of the most important models for the adoption of the Whole School Approach in Europe.

At Drobak Montessori Secondary School in Norway, students have worked for increased integration of the school garden and outdoor areas in a teaching context, and here the school has made a great effort to merge this in a natural way in line with Maria Montessori's pedagogy. The garden is an arena where the pupils get the opportunity to develop healthy attitudes and become environmentally responsible participants in society.

At Frederick University of Cyprus, education for the students follows a holistic approach to enable learners to address the SDGs through their current or future roles. In order to strengthen even more this priority, Frederick University has developed "FULL", which stands for Frederick University Living

Lab and it is a pedagogical initiative based on a student-centered learning and teaching approach. It aims to offer to the students of FU the necessary knowledge (head), the appropriate skills (hands) and care (heart) so that upon their graduation, they will be able to tackle the turbulent future laying ahead and have the desire to become agents of change. FULL combines project-based, participatory and experiential learning through community connections and partnerships. Students are invited to employ their disciplinary knowledge, skills and competences in order to address real-world problems and issues in real professional settings, through interdisciplinary approaches and activities. FULL projects draw their topics from the United Nation's Sustainable Development Goals (SDGs). The overall aim is that each and every one of Frederick University's students during their studies will have at least once, the opportunity to engage in a project on the SDGs in a real-life, professional context.

Another interesting example in this domain comes from the University of Galway, which is working case studies that communicate sustainable practices to the wider environmental and global community, tackling on-campus sustainability. The university organizes events to recognize and reward "Champions of Sustainability" in the community and encourage leadership in sustainability. In this way, the university aims to accelerate peer learning and showcase best practices that demonstrate the implementation of the SDGs.

Non-formal education has also been highlighted throughout best practices. For example, Nature Trust Malta is an organization aimed towards raising environmental awareness and protecting local ecosystems through working with stakeholders collaboratively and through organizing specific environmental programs. In working towards this goal, stakeholders are encouraged to think critically and to develop skills that enable them to solve these problems, which are also transferable. Analogously, in Japan's Okayama Region, schools collaborate with local community centers to initiate actions solving environmental issues within local communities. In Cyprus, the Environmental Education Centers' (EEC) Network develops and offers education programs in various sites throughout the country aimed towards helping schools implement their Sustainable Environmental Education Policy. The EECs complement the work done in schools focused on examining and solving environmental issues at the local level, aspiring to develop the knowledge and skills required to lead a sustainable lifestyle.

STEAMFreak is an organization in Cyprus working complementary to schools, implementing education programs with on-location experimentation to develop sustainable practices. The institution models sustainability within its own operations, and its curricula emphasize hands-on learning experiences, embedding engineering into STEAM through authentic scenarios. Pedagogic techniques used place an emphasis on critical reflection and evaluation in all levels of the organization and put at its heart

analytical thinking, problem solving and creative exploration to develop innovative solutions to real world problems.

Partners' reflections on best practices

At the second part of the presentation of best practices, partners were required to explain why the best practices presented are considered as exemplar on WSA/WIA and ESD. This part of the report presents a comprehensive summary as to the characteristics that prompted partners to identify these WIA practices as such.

Relevance

Participants consider practices relevant since they are aligned with their institutions' overall strategic commitment to values such as the ones deriving from Agenda 2030. In addition, practices are considered relevant when initiatives provide applicable, replicable organizational models including economic, social and environmental sustainability, ensuring participation of all stakeholders involved, such as teachers, students, staff, citizens and businesses. Specific emphasis is given to the fact that decision making as to how WIA/WSA is implemented is a participatory process and this is often ensured through the establishment of councils within schools, HEIs or networks in which all stakeholders are represented and through which the implementation of WIA in ESD is monitored and coordinated. In addition, pedagogies implemented highlight how WSA/WIA is relevant to the SDGs. In the case of HEIs, this is emphasized through reforming course or module curricula to demonstrate how content is aligned with each of the SDGs. In the case of school organizations, this is approached through multidisciplinary actions in which the school serves as a catalyst and agent of change, acknowledging the power of students to transmit values to those around them, which can be a key to change. WIA/WSA practices follow holistic approaches and ESD is set as a priority in all actions of the organization. Curricula support education at the pedagogical, social-organizational and technical-economic levels.

Reflectiveness

Reflective practices of WIA/WSA for ESD refer to practices skilled in critical reflection and evaluation at all levels, and to the degree to which they develop critical thinking competences in organizations' staff and students. This was demonstrated through universities' initiatives to restructure the curricula of courses to reflect specific SDGs. The alignment of courses with the SDGs, on one hand, demonstrates universities' intention to comply with Agenda 2030 and, on the other hand, their commitment to

create a culture of learning and employability for all their students. In addition, actions undertaken within WIA in ESD in HEIs increase university-wide understanding of sustainability, addressing issues of lifestyle, conservation of natural resources and biodiversity, the role of business, etc.

Implementation of holistic approaches to solve challenges faced at the local environment of schools, such as for example through sustainable environmental education school policies, involve not only functions within the school, such as policies, curricula, governance, pedagogies, infrastructure, but also collaborations within the community and other stakeholders. This allows learners to realize the complexity of environmental issues and that dealing with challenges at their immediate surroundings (e.g. school, local community etc.) will require complex actions and multi stakeholder collaborations. This, in turn, allows them to develop skills necessary for them to be agents of change in their communities now and in the future, when they will be called upon facing issues of sustainability to increase their quality of lives. Evidently, for most of the school organizations presented, part of their vision and mission is to assist learners to develop a strong sense of self-worth, identity and awareness of their meaningful role in the society at large. Students gain skills, such as autonomy and critical thinking, with equality, solidarity, freedom and democracy at the heart of the school's value system. Reporting after the completion of each activity undertaken within WIA/WSA in ESD allows organizations to identify strengths and weaknesses in relation to sustainability and to address knowledge and expertise allowing them to remain adaptive, innovative and lead a sustainable lifestyle.

Resourcing

Efficiency in terms of resourcing when WIA/WSA is applied was evident throughout all best practices presented. Several projects presented within WIA/WSA practices, involved resourcing through multiple sources (e.g. regional, institutional, EU structural funds, etc.), which often requires redesigning institutional practices, rethinking organizational structures and management models, and integrating planning, control and accountability towards all stakeholders. In cases of WIA applied within HEIs, it was evident that increase of funding for research is of utmost importance in terms of how relevant actions can be applied more effectively and in terms of assessing how and to what degree actions undertaken within HEIs promote the sustainability of the organizations. Also, several best practices applied at HEIs showcased how funding for universities is used to transform campuses towards sustainability by improving infrastructure (i.e. through installation of smart and renewable energy sources, by improving mobility within the school and the community, by the energy upgrading of university buildings, etc.). Regarding school education, ESD is usually funded through national governments or local authorities, which provide the necessary sources for the functioning of the

schools and, in some cases, fund the functioning of structures of non-formal education, such as environmental education or community centers.

School or community transformations aspired through WIA at the school level are often achieved through existing financial resources. Nevertheless, networking platforms facilitate collaborations, which allow for more efficient use of existing resources and, in some cases, pave the way for corporate funding for schools. In terms of knowledge and expertise, it was evident that partners selected practices that placed emphasis in promoting interactions and collaborations of experts in various fields to achieve a common vision for the organization, through WIA/WSA and ESD. Collaborations and networking allow for the transfer of knowledge and expertise within and outside the networks and ensure the impact of school action within the community.

Responsiveness

A practice is characterized as responsive when it embraces a flexible structure and adapts to local and cultural settings; develops learner capabilities that help recognize complexity as well as the changing nature of sustainability challenges and rejects a one size fits all approach to sustainability. In this framework, WIA/WSAs presented both at the school and at the university level were guided, in their majority, by a plan focused on the specificities of the local context. In the case of schools, practices were guided for example on school wide environmental education policies focused on solving sustainability issues within the school or community context or on project-based approaches again focused on local issues. The aim, through these initiatives, was to promote the sustainability and the well-being within the school and the community, taking a holistic approach. Such examples involved tackling environmental issues in the area of the school, developing skills for living in a circular economy or practical skills focusing on real life challenges, both through formal and non-formal education approaches. Curricula presented were often localized. Starting from the local level, actions within schools gradually move to the national and international levels. However, the specificities of the school and of the local community are always the starting point of WIA in ESD in the practices presented for school education. Analogously, in higher education, practices referred to the implementation of universities' strategic planning for sustainability, which are aligned with the SDGs and, of course, with the universities' frameworks at the organizational level. Practices presented from HEIs aim to emphasize the universities' role as reference points on environment and sustainability issues and to increase their participation within national and international networks and platforms based on the implementation of the SDGs.

Mapping of the existing situation in all best practices presented, as well as monitoring and assessment to diagnose the effectiveness of specific actions, have a central role to how WIA is most effectively implemented to promote environmental sustainability within organizations. In this framework, the role of research is highlighted to scientifically ground the effectiveness of all measures taken and to adjust practices to dynamically changing contexts of organizations.

Reformative nature of best practices

Partners' reflections as to how best practices presented are considered as reformative were also provided, meaning how they perceived that the agenda is not simply one of adding on environmental or SDG themes to the curriculum, but that of reframing the entire educational experience. Partners demonstrated that, through the WIAs in ESD presented, a strong commitment to change the institutions but also the local communities was demonstrated towards sustainability and a focus to increase the well-being of each stakeholder involved in these practices.

Therefore, practices presented coming from school education and moving towards the tertiary level showcase institutions' alignment with Agenda 2030 and integrate a strong commitment to create sustainable schools/ universities. At the school level, this translates into reorganizing the school's functioning at all levels, including governance, teaching content and methods, teacher capacities, collaborations, non-formal education programs, etc. Moving a step further, some practices involved a vision to transform the whole community through actions and projects undertaken by schools. Ultimately, reforms integrate a strong focus on active learning through hands-on action, integrating flexible approaches to student learning based on the realities of their local setting. A strong orientation of the teaching content to practical skills (e.g. skills related to circular economy) in order to achieve transformation towards sustainability was also observed. Implementing WIA/WSA facilitates schools to integrate all aspects of sustainable development in their operations and in all areas affecting learning including the school environment, curricula, professional development, administration, teaching and pedagogical processes.

As far as the tertiary level is concerned, it was evident that the cases presented were selected as best practices because they appreciate the holistic nature of stakeholders' experiences in integrating SDGs in university life and in each of the main pillars of their functioning including teaching, research, mission and institution. Indicatively, stakeholders provided examples of actions within campuses to promote a culture of sustainability among employees, students and teachers, about issues such as resources, energy, environment, climate change, inclusion and human rights, by organizing awareness raising activities integrating multiple stakeholders through shared projects and activities with

associated consortiums, foundations and regional alliances promoting the SDGs. Therefore, the agenda's ultimate purpose is to lead to change. The steps undertaken seek to provide a holistic learning experience, where learning about sustainability will not be limited in the theoretical level, but also infused through the example of the institution and connected to the future professional life of the students (since university is preparing future professionals). The experiences offered are designed to be transformative and have a deep impact on learners towards sustainability practices.

Key points of desk research

Understanding WIA/WSA and ESD

- *WIA/WSA serves as a framework for the re-design of the school/ university as an organization and is related with the term "sustainable school", which depicts sustainability being integrated into education through comprehensive, systemic, and reflexive initiatives adopted collaboratively by all stakeholders.*

- *Best practices presented present a holistic view of sustainability as integrated through WSA, meaning that multiple perspectives are considered and sustainability is introduced in an integrated way, which is adjusted to the specificities of the context of each organization.*

- *The way organizations integrate WIA for sustainability is highly connected to the specific characteristics, challenges and conditions of the community where the organization is located. There is no one solution that fits all in sustainability*

- *WIA/WSA implemented in education organizations for sustainability is systemic and ESD-related actions are implemented holistically. This means that education is perceived as a system in which sustainability pervades all of its components: curriculum, pedagogy and learning, professional development, school-community relationships, school practices, ethos, vision, and leadership*

School Vision and Ethos

- *Sustainability is embedded in the school vision and ethos and is realized in various ways, taking in consideration local and school specificities.*

- *Organizations, especially at the tertiary level, are committed to sustainable development through not only their value system but also through international agendas, such as the SDGs and Agenda 2030. WIA facilitates the realization of these commitments as it addresses all aspects of sustainability including vision, ethos and governance, curricula, multi-stakeholder collaborations, capacity building, resources, institutional practices and pedagogies.*

- *Strategic plans and institutional policies need to be in place for all levels of education to achieve WIA in ESD. These strategic plans and policies need to be structured based on a short and a long term planning including monitoring and assessment.*

- Organizational vision and ethos refer, on one hand to a value system governing all school/ university functions integrating social sustainability, equality, solidarity and, on the other hand, refer to the sustainable upgrade of their infrastructures as well as to the development of knowledge and expertise through research and innovation and its dissemination locally and internationally.

Institutional practice

- *Institutional practices in HEIs focusing on WIA for sustainability place a great emphasis on research and innovation and on the environmental upgrade of their infrastructure, especially regarding energy efficiency, mobility and waste management.*

- *Universities have the opportunity to create new technologies and implement them on campus to diagnose and improve their efficiency in terms of promoting sustainable development.*

- *Depending on the orientation of the school and on the courses offered, universities focus on various aspects of sustainability e.g. on infrastructure and innovative technologies, on the well-being of students and employees, on business opportunities emerging through new models of economy created due to environmental issues, etc.*

- *For schools, institutional practice reflects more on implementing activities or projects and disseminating the results to local authorities and communities to improve their sustainability and citizens' well-being. Upgrade of school infrastructure refers mostly to the greening of school spaces and their use as education tools. In some cases, school education is utilized as an agent of education-driven change within the local community, by implementing specific actions with tangible results.*

- *Institutional practices involve all stakeholders within a school/ organization and allow for bottom-up initiatives to be showcased.*

- *Embedding SDGs in curricula and course content is highly emphasized, especially at the university level, demonstrating their commitment to Agenda 2030 and the Green Transition.*

- *Monitoring and coordinating institutional practices on WIA and ESD are as important as their establishment, in order to integrate all these practices to achieve the organization's vision.*

Capacity building

- *In all practices presented, there was a strong focus on professional development of the teaching staff to optimize WIA/WSA and ESD outcomes.*
- *Competencies are integrated horizontally across institutional functions, meaning that sustainability competencies permeate horizontally the programs of study and the training of professionals.*
- *Capacity building and professional development can take many forms including seminars, courses, workshops, mentoring, guidebooks, etc. In any case, capacity-building activities reported had a strong focus on educating stakeholders on how to generate bottom-up ideas and put them to action to transform their organizations and communities towards sustainability.*

Community connections

- *Often, change in the community towards sustainability is education-driven meaning that schools, when implementing WIA/WSA are facilitated firstly to collaborate with stakeholders outside the school to implement their policies, programs and projects and these collaborations facilitate outreach, dissemination and action in the community towards sustainable development.*
- *Education-driven changes to sustainability within the local community upscale peoples' well-being on one hand, and, on the other hand, enable learners to take ownership of their work, to realize their self-worth and to understand that they are the future drivers of change. Several examples of good practices embedding education driven change within local communities were provided, especially at the school level.*
- *Networking facilitates capacity building through exchange and infusion of knowledge and expertise on ESD and regarding sustainable development in general.*
- *Schools can be facilitated in their efforts to implement WIA/WSA to enhance sustainable development, through broader structures specialized on networking, such as councils, networks between networks, platforms, etc.*

- *Infusion of knowledge and expertise emerging through networks allows for more efficient resource management and contributes to the quality of education for sustainable development.*

Curricula

- *Orientation of institutions, especially HEIs, towards structuring curricula and courses with a stronger alignment with the SDGs was observed, and also explicitly demonstrating the connections of course curricula to the SDGs, by highlighting how each course is relevant to each of the SDGs.*

- *Examples provided include a strong socio-cultural perspective on how ESD is realized through WIA/WSA approaches, acknowledging the fact that different cultural and language characteristics allow for a more multi-faceted understanding of environmental phenomena, which otherwise can be overlooked.*

- *Curricula addressed all aspects of sustainability, including environmental, social and economic.*

Pedagogies and learning

- *Pedagogies showcased through best practices, regardless of the level of education, are varied, including projects, fieldwork, debates, inquiries, etc.*

- *ESD-related actions within schools, universities, community centers, networks, etc. allow involved parties to gain environmental awareness in multiple contexts.*

- *In working collaboratively towards solving local or global environmental problems, stakeholders are encouraged to think critically and develop skills that enable them to solve these problems, which are also transferable to other situations.*

- *Learning in non-formal settings is emphasized as a way to create environmental awareness in multiple contexts and is acknowledged as highly contributing to the development of systemic thinking on environmental issues.*

- *Pedagogies are focused around solving issues within organizations and local communities and, in most cases, are action-oriented. In this way, learners have the opportunity to experience how initiatives within the school/university have tangible effects on improving sustainability in the community and increase peoples' quality of life.*

Infrastructure

- *WIA has mobilized HEIs to upgrade their spaces and infrastructures. HEIs implementing WIA invest great funds and expertise to align their infrastructure with sustainability principles e.g. by saving energy, by introducing green technologies for energy production, by facilitating more environment friendly ways of transportation etc.*

- *At the school level, practices presented referring to infrastructure focused more on the creation of green spaces in the schoolyard, which are subsequently used as education tools.*

- *HEIs invest more on the environmental upgrade of their infrastructure and on research and innovation, compared to schools. Schools seek collaboration and networking with local communities and other stakeholders (i.e. NGOs, local authorities, corporations) to materialize their vision, which is more focused on the educational product rather than on the school infrastructure. Universities find it easier to promote changes in their infrastructure due, on one hand, to their freedom to allocate funds and, on the other hand, to faculties that relate to research and innovation concerning infrastructure housed in the universities.*

WIA as reflexive practice and ESD

- *WSA for sustainability is a reflective process meaning that, at the organizational level, it enables organizations to monitor and reflect upon their policies, actions, initiatives and practices and, after close monitoring and evaluation, to apply action to align the organization with sustainability. At the personal level, a culture of learning driven by sustainability allows learners to develop the necessary knowledge, skills and values necessary for citizens with sustainable orientations and lifestyles.*

- *The collective-reflexive aspect of WSA recognizes the significance of engaging different voices in participatory co-developed processes that lead to transformation and continual learning. Through the best practices presented, multi-stakeholder collaborations for the realization of WIA for sustainability were not only acknowledged but they were also facilitated through the formation of networks, councils and other structures focused on promoting multi-stakeholder collaboration.*

WIA/WSA as a reformative practice

- *The growing recognition of the importance of WIA/WSA in assisting society's transition to sustainability has sparked an intensive debate about its reformative potential.*
- *Institutional practices of HEIs include research and innovation to environmentally upgrade their campuses. At the school level, education- initiated change is materialized through dissemination of project results through action in the community.*

Resourcing

- *WIA promotes a more effective utilization of funds, knowledge and expertise. It can be claimed that the best practices presented showcased how multi-stakeholder collaborations, capacity building activities for teachers and government officials, and the reform of curricula promote better utilization of existing expertise and how holistic and systemic understanding of challenges that need to be tackled within an organization promote a more efficient use of existing funds in the last few years.*
- *Funding on research on sustainable development issues has dramatically increased for HEIs.*
- *The most valuable resource identified through the best practices is human potential, empowerment and motivation.*
- *Effective utilization of resources is achieved through WIA, since horizontal implementation of curricula, projects, actions and initiatives allow for collaboration, infusion of expertise and effective use of material resources and infrastructures.*
- *Investment on research is a vital element of transformations towards WIA, as research integrates both infrastructure and expertise, skills, competencies and pedagogies.*

PART B: Field research

Table 3: Interviewees' profile

Interview number	Level of studies completed	Current institution	Country	Professional profile	Years of experience
1	n/a	Regional directorate (School level)	Greece	Administration of primary and secondary schools	15
2	Ph.D.	Non-formal structure (Environmental education center)	Greece	Teacher, researcher, director, non-formal educator	>35
3	M.A.	Primary public school	Greece	Youth leader, teacher	13
4	Ph.D.	Research network	Poland	Research, academia, management	>15
5	Ph.D.	University	Poland	Research management and support, lecturer, administrator	15
6	Ph.D.	University	Spain	Project management, lecturer on sociology of sustainability	>50
7	Ph.D.	University	Cyprus	Academic, researcher, project coordinator	>15
8	Ph.D.	University	Italy	Secondary and tertiary level teaching, consultant, academic, youth leader	>18
9	Ph.D.	University	Cyprus	Academic	>15
10	Ph.D.	University	Cyprus	Academic, researcher	>25

Interview number	Level of studies completed	Current institution	Country	Professional profile	Years of experience
11	Ph.D.	University	Italy	Academic, Rector	>25
12	Ph.D.	Chair of Unece ESD Steering Committee, Head of ESD Unit	Cyprus	Policy maker, researcher	>25
13		Assistant Head	Italy	Teacher, policy maker	>8
14	Ph.D.	University	Italy		

Fourteen (14) experts on WIA and ESD implementation at the national and international level were interviewed. Interview transcripts, along with relevant examples and in-depth explanation of participant reasoning for presenting them as good practices are presented in ANNEX II of the current report. Table 3 above, presents an overview of the profile of the interviewees. Evidently, their expertise is varied, and refers mostly to tertiary education, not excluding participants who come from the school education sector and non-formal education structures (i.e. environmental education centers). All interviewees had extensive experience in their field of expertise and studies in relevant disciplines.

The first group of questions referred to overall ESD implementation at national level, while the second group referred to interviewees' understanding of WSA/WIA and ESD implementation. The third part of the interview referred to strengths, challenges and ways forward in regards to WIA and ESD in all levels of formal and non-formal education.

Overall ESD implementation at national level

The first set of questions of the interview protocol referred to the overall ESD implementation at national level. Not all interviewees were aware of the overall policies and regulatory measures that exist in their countries concerning ESD. This is mainly because the interviewees' background varies– representing official authorities, academia, non-governmental organizations and the business sector – and thus, their level of knowledge regarding specific national policies on ESD varies, too. For instance,

interviewees from Cyprus were well informed about and acknowledged that there is a coherent body of policies and regulatory measures on ESD for formal education, and a well-structured framework for providing non-formal education learning opportunities on environmental education (EE) and ESD which runs by the State Network of Environmental Education Centers. On the other hand, interviewee no. 4 from Poland stated that although there is a strategy for Sustainable Development until 2025, "there are only recommendations for integrating the topic of sustainable development into the content of teaching" while Polish interviewee no. 5 commented that "sustainability this way can be perceived rather as an element of certain specialization rather than an essential component of the education". Similarly, Greek interviewees have raised the fact that despite the existence of several policies and programs on sustainability, there is not a holistic framework for integrating ESD in the Greek curriculum.

The integration of ESD in the formal education context takes various forms in the different countries. For example, in Cyprus, specific policies are set and being implemented especially for pre-primary and primary education whereas in secondary, vocational and higher education, measures are not so concrete due to the fragmented character of the school curricula, which are divided in various disciplines. In addition, interviewee no. 9 from Cyprus mentioned that as for Higher Education, "there is no general framework, meaning a body of legislation, in which the institution has to conform in terms of ESD integration in the education programs offered". In Spain, interviewee no. 6 acknowledges that in regard to the policy level and the institutional structures, ESD is integrated in universities, however, "practices are rather primary or limited". As for the Greek education system and specifically primary and secondary levels, "the integration of sustainability education is mainly done through activities and school programs, which are voluntary. Teachers, if they can and are willing, can run such programs. The flexible zone is the only time given by the curriculum to run various activities which may include sustainability education activities".

As far as the integration of ESD in non-formal education is concerned, it has been noted by the majority of the interviewees that there is fragmentation between the educational opportunities being offered by the different actors. More specifically, interviewee no. 2 from Greece stated "non-formal education is characterized by a fragmentation. The field of lifelong learning is occupied by many non-governmental organizations, which implement actions in their area of specialization, but without any real integration". In the same line, interviewee no. 4 from Poland stated that there is "lack of coordination and cooperation: Non-formal education often operates within different institutions, organizations or projects. Lack of coordinated activities and cooperation among them can lead to fragmentation and limited impact". However, it should be noted that in Greece, there is a network of

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Sustainability Education Centers, which focuses on schools, running many programs for different groups of students each year. These centers are linked to the local communities and develop activities related to the educational needs of each place, commented the interviewee no. 2. In Cyprus, there is also a well-structured network of environmental centers all over the Island that provides non-formal educational programs on EE and ESD for all age groups (Interviewee 12).

During the interviews, participants had also the chance to share some gaps/obstacles/challenges for ESD implementation in their countries. Interviewees commented that “a comprehensive transformation of education for sustainability is needed. At present there is no holistic approach”; “an alternative perspective that moves education from the dominant technocratic approach to a socially critical approach and action”; overall social and political context which has difficulties to see and acknowledge the bigger picture on the issue of sustainable development and the transition of the society and the economy towards sustainable practices; lack of relevance and fragmentation in non-formal education; lack of administrative support by the official authorities; lack of financing and insufficient resources; "discovering" sustainability education in the context of more courses/subjects; lack of consistency and uniformity of nationwide standards which leads to many policy variables depending on the goals of municipalities and regions; low awareness and understanding of the goals; “insufficient integration of ESD standards into curricula”; “need for better alignment with labor market needs, especially at universities”; lack of evaluation and monitoring.

Especially regarding ESD implementation in non-formal and informal education, interviewee 12 pointed out that non-formal and informal education in ESD are not extended throughout the life of citizens through policy, so there is no continuity after schooling. She commented that in Cyprus, there are no adequate civil society empowerment programs in non-formal education in ESD. Furthermore, gaps in WIA and ESD implementation at non-formal education relate to the realization that, due to its place- and project-based nature, it is decisive in shaping a culture of the individual's engagement with things which lasts throughout live and affects lifestyle choices.

As for the question in relation to the strong and weak points for ESD integration in their organizations, some interviewees mentioned that there is a strong will from teachers and staff to integrate ESD despite the major difficulties they are facing in the school for keeping up with the national curriculum standards and responsibilities. Others had also pointed out that there are strong synergies among local actors and education providers and a will for engagement in these topics. However, lack of support, funding and resources was something that was mentioned by several interviewees as a weak point.

Understanding of WSA/WIA and ESD implementation.

Interviewees were subsequently required to answer questions regarding how ESD and WSA/WIA are understood in their context. Evidently, the notion of WIA is perceived in various ways, based on the level of education and national context. Nevertheless, interviewees pointed out that WIA/WSA offers a holistic and/or systemic understanding of sustainability within the organization (Interviewees 3,6,7,8,9,11,12), involving curricula, policy and also infrastructure (Interviewees 3,5,8,9,12). Indicatively interviewee 9 identifies the term "whole" with the term "systemic" meaning that changes promoted through ESD under WIA need to be systemic and have practical and tangible results. Participant 8 perceives WIA in reference to conceiving sustainability as a transversal topic and to implementing it in public and private life. He mentioned that, even though there is not a comprehensive understanding of sustainability at her national context since its implementation is not structural, however, awareness is on the increase. Participant 3, who works in school education, also identified WIA as a holistic approach to ESD and beyond, ensuring long-term viability of policies and practices within a school organization. According to participant 6, ESD is about bringing together principles, subjects and constructs revolving about informing all stakeholders within an organization about sustainability issues and creating a culture of sustainability.

Participants (i.e. 4,6,7,9,12), emphasize that WIA/WSA cannot be implemented or understood without the establishment of specific policies or- more ideally- strategies. Participant 7 pointed out that through a strategic plan involving all stakeholders in all levels of education and, in turn, through the expertise created and disseminated through the long-term implementation of this national strategy, practices are in place for the effective implementation of WIA and ESD and opportunities for ongoing capacity building are created. Participant 8 perceives WIA as the ability to conceive sustainability as a transversal topic and to implement it in public and private life. In the participant's context, even though there is not a comprehensive strategy to ESD, yet awareness is on the increase. Participant 9 also stresses the fact that the existence of a national policy on ESD implementation in his national context facilitates all activities regarding to ESD including the upgrade of infrastructure, the alignment of curricula with the SDGs, multi-stakeholder collaborations and capacity building.

Coordination of functions within an organization as well as among stakeholders in the case of collaborations is understood as a vital ingredient for successful implementation of WSA/ WIA in ESD (i.e. 2,5,6,7,8,9,12). Interviewee 5 is proud of the coordination mechanisms established in her organization regarding functions, curricula and actions but points out that building awareness on the vision and goals of the organization and the need for lifelong learning of all stakeholders involved are

vital challenges that need to be addressed. Participant 6 mentioned that ESD is about bringing together principles, subjects and actions about informing all stakeholders within for example, the university, and creating a culture of sustainability. Interviewee 12 claimed that nowadays, 10 years after the implementation of the education reform and implementing WIA/WSA and ESD in the Cyprus education system, we can identify main changes in the content of learning, in curricula within a social context, etc., but we cannot claim that we have moved to the creation of sustainable societies without substantial changes in school infrastructures so the emphasis now in Cyprus is how to create sustainable buildings, green technologies, open learning spaces, etc.

Interestingly, in some cases (e.g. interviewee 2) experts perceive WIA as a policy of a school towards sustainability and relate its implementation to the participation of the organization in international projects and/or networks such as ECO Schools.

Challenges of WIA/WSA approaches in ESD

In summary, the main challenges of implementing ESD and WIA are viewed as the absence of integrated strategies and policies (at national level concerning school education and at the institutional level concerning HEIs), the weakness in finding ways as to HOW to materialize WIA and ESD, the blurring of competencies, decision-making inertia, insufficient financial resources and information, lack of trained experts and lack of collaborations and coordination among multiple stakeholders. In some cases, even though strategies are in place as to how ESD is implemented at the national context, strengthening WIA through policies at the school level is a major challenge, mainly deriving through lack of a common understanding of the notion of sustainability. Including frameworks involving structures of non-formal education in ESD implementation in a formalized way is often overlooked, leading to the underfunding of structures such as environmental education centers (interviewee 2).

In some cases there is a lack of strategies in place formalizing the way ESD is implemented at the organizational level. The understanding of the concept of sustainability at an organizational level is often another challenge in effective implementation of WSA/WIA (i.e. interviewees 5,6). This leads to a problematic mindset in terms of how ESD can be effectively implemented within an organization, often encouraged by inflexible frameworks of formal education, lack of organizational support and lack of guidance as to how WSA/WIA can be implemented.

As far as HEIs are concerned, improving university infrastructures and create a mindset promoting WIA throughout HEIs is viewed as another major challenge (i.e. interviewees 8,9), in addition to improving civil engagement and strengthening institutional and legal frameworks are also major challenges (i.e.

interviewees 7,8). Interviewee 1 especially points out that establishing effective coordination within the organization as well as among collaborating stakeholders as a major challenge in implementing WIA/WSA in ESD. Better collaboration among tertiary institutions, which is often hindered by their high level of autonomy, is also claimed as a challenge, along with improving university infrastructure.

Dimensions of WSA/WIA that need to be strengthened

The main strand that participants point out as a dimension that needs to be strengthened is the establishment of a coherent strategy or strategic planning for each organization, that includes the goals and directions of ESD, strengthening the education and training component, integrating ESD into all areas of the organization's activities, building strong partnerships, continuous awareness-building (i.e. interviewees 2,3,5,6,7,9). Strategic planning allows for more efficient collaboration and communication, especially in the case of HEIs, and in the effective allocation of funds, always having in mind and respecting the specificities of the local context and organizational autonomy.

Materials and resources is an axis that also needs to be strengthened. This translates into more tool and materials being produced, their quality being assured through specific mechanisms, and easily disseminated to all interested parties. Specifically, participants suggested that material produced through implementation of ESD-related actions at the school levels and in structures of non-formal education needs to be open- source and platforms should be created at the national and international levels to ensure that expertise on WSA/WIA and ESD is accumulated over the years. In this framework, interviewees suggest building upon the keen interest of teachers on issues relevant to ESD, to implement capacity-building activities and to disseminate material inspiring subject matter for students.

Regarding the viability of WSA/WIA and ESD at an organizational level, participants mentioned that this depends on involving management, on building an organizational culture and on setting practices establishing firm institutional approaches to ESD. Participants also pointed out that strengthening school and community collaborations is key. Specifically, participant 9 pointed out that due to the high level of autonomy of HEIs and the freedom of the organizations to allocate funding, collaborations with local communities are often overlooked. Furthermore, viability of WSA/WIA is ensured through the improvement of civic engagement. This goes both ways: By engaging the school organization in actions improving the sustainability and well-being in the community and thus inducing education-initiated change and, on the other hand, by engaging the local communities in the functions and actions of the school.

As interviewee 12 supported, the viability and the long-term implementation of WSA/WIA on ESD can be ensured when schools/ organizations realize that WIA does not begin and end with the beginning and end of the school year, that it aims at the quality of education and that this should be the basis of the way of organizing the school. Monitoring is related to supporting the school to improve itself and move forward with new ESD development plans, holistically strengthening the implementation of the SDGs in the school unit and in the community. Also, viability is ensured through participation in European and international programs/projects ensuring that, through the exchange of expertise and tools/materials produced, and, importantly, through funding, gaps that are not or cannot be addressed nationally can be fulfilled, such as the upgrade of school infrastructure or the creation of a framework for certification of the sustainable school. Finally yet importantly, when the organization (i.e. HEI, school, structure of non-formal education) has a strong vision and ethos regarding sustainability, the viability of its actions is better established over time, since all actions and functions are focused on the long-term realization of this vision.

Key points of field research

• *The national policies and regulatory measures vary across European countries, leading to gaps in the implementation of ESD in the different countries*
• *More coherent, consistent and organized efforts should be made to include ESD in the school curricula and to the various university degrees*
• *Lack of sufficient educational and financial resources (e.g. funds, infrastructure, training) was identified*
• *Lack of systematic training and coaching of the educational and administrative staff was identified*
• *Cultivation of a more holistic and sustainable mentality across various target groups and the society in general is needed*
• *WIA/WSA in ESD is conceived as holistic, systemic approach of all school policies, functions and actions*
• *Understanding WIA and ESD as holistic strongly refers to the systematicity of functions and aspired changes within the organization.*
• *At the tertiary level, WIA/WSA is expected to highlight tangible change of the organization towards sustainability.*
• *The establishment of a unified strategy and/or policy under which WIA/WSA and ESD are implemented are vital elements for their effectiveness within organizations.*
• *WSA/ WIA and ESD at the university level is often connected to the improvement of the infrastructure of their campuses. ESD, as realized through WIA, is action-oriented and tangible results of actions within organizations and local communities are showcased.*
• *Major challenges in effectively implementing WSA/WIA refer to the lack of strategies and policy frameworks referring to all levels of education and non-formal education*

structures, lack of coordination within the organization and with stakeholders outside the organization and practical ways as to actions to effectively promote the school vision for sustainability.
• *Another major challenge is the complexity of the concept of sustainability, which is often perceived differently among stakeholders leading to problematic mind-sets as to how it can be achieved.*
• *Achieving the viability of WIA/WSA and ESD requires the existence of policy frameworks supporting the systemic implementation of the school vision and ethos on sustainability.*
• *Acknowledging the role of non-formal education in forming the sustainable school is vital, as non-formal structures work under more flexible frameworks allowing for multidisciplinary action within and outside the school organization.*
• *Interactions of the school/ HEI with other stakeholders, especially the ones in the local community, facilitates the realization of their vision in becoming sustainable and in improving the quality of life of all stakeholders.*

Annex 1

Best Practice Prersentations

ANNEX I: BEST PRACTICE PRESENTATIONS

Best Practice 1 (Provided by Asnor)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	MULTICAMPUS SOSTENIBILE
Implementation lead/partner organisation(s)	University of Bologna
Country or countries of implementation	Italy
Keywords	1. Energy 2. Environment 3. Mobility 4. People

Specific information on the best practice

Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Methodology: the University of Bologna adopts management and operational models based on the principles of sustainable development, designing a strategy that combines economic development, social inclusion and environmental sustainability. The Energy, Environment and Mobility action lines are associated with the People channel, which makes it possible to complete and implement all strategies, breaking them down in relation to the human context into the fields of sustainable nutrition, health and wellbeing, social and cultural sustainability and sport.

Aim: the University's commitment to sustainable development is manifested in the "Multicampus Sostenibile" (Sustainable Multicampus) project. The project is designed to be a container to present all the activities that the University of Bologna is exploring on these issues, coordinating and disseminating everything that is formulated by the various University structures.

Objective: the project focuses attention on the needs and habits of the university community, the environment and the mutual relationship between them, through new management models that reduce the environmental impact of UniBo policies, contribute to improving the wellbeing of the campus community and encourage a greener and more environmentally conscious community with more active and responsible behaviours.

Institutions: The project is implemented in cooperation with public authorities and the local community and is intended to show all the activities that the University of Bologna puts into practice to promote cross- sectoral sustainability and to disseminate best practices.

Stakeholders: University of Bologna, academic community, students, professors, citizens.

Results and implementation

Line of action Energy: by 2022 are equipped with remote management and remote control 69 buildings on Bologna, 7 buildings on Ravenna, 3 buildings on Rimini, 3 on Cesena, 1 on Cesenatico and work is underway to extend the functionality to other buildings. Photovoltaic systems installed cover 3% of the energy consumed by the University.

Line of action Mobility: renewed car fleet from more than 80 owned cars to 50 full electric, hybrid or bi-fuel petrol-methane vehicles, of which 35 full electric cars, 5 hybrid petrol/electric, 10 hybrid petrol/methane vehicles. 50 bicylcles integrated by environmental smart sensors have been deployed for scientific research purpose. 600 Almabikes available to students through a call for applications in the form of a free loan for a maximum of one year. 100 electric scooters and 50 pedal-assisted e-bikes were made available on request in 2021.

Line of action Environment: over 1000 square metres of green roofing installed on a number of university buildings, installation of "Water Houses", installation of filtered water dispensers, production of metal water bottles, 71 trees belonging to 9 tree species were planted as part of a green redevelopment project, set up of the garden of the new headquarters of the CdL in Aquaculture and Hygiene in Fish Production in Cesenatico.

Line of action People: high-tech vending machines that offer only 100% organic snacks and drinks, University's Baby Pit Stop, sport training courses organised in structures made available or created in the Campus.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

Line of action Energy

What: Actions aimed at energy containment for new infrastructure developments and the retrofitting of existing buildings, such as purchase of electricity from 100% renewable sources when available, pilot project for sending consumption self-readings of all active users to their distributors, adhesion to the "Water Consumption Control Project", activated with "HERA Spa", which envisages the increase in the frequency of water meter readings and a dedicated WebApp for consulting the master data and consumption. This channel includes measures linked to the automation and remote control of buildings to monitor their use and energy consumption.

When: The G.E.CO. Project was launched in 2009.

Key actors and collaborators: HERA Spa for water control consumption, GSE consulting for management of active power production contracts.

Resources: For the implementation of the GE.CO. project, the University uses "On Energy", a specially customised release of the BMS (Building Management System) platform "iOtto", web-based software operating in the Internet-of-Things field. WebApp for consumption control by HERA spa.

Line of action Mobility

What: In order to reduce atmospheric emissions, the University of Bologna promotes the use of public transport, cycle paths and other forms of low-impact mobility:

Zeta A - The University of Bologna has completely renewed its fleet, introducing car-sharing as a new way of managing its vehicles

AlmaBike – A unisex city bike specifically designed to meet the needs of university students who prefer an urban choice

MiMuovoLibero - Through an agreement with TPER it was possible to create new tariffs for members of the university community in order to make it as easy as possible for them to use public transport instead of private vehicles.

Key actors and collaborators: DICAM -Roads research Unit and Technion - Israel Institute of Technology; TPER Bologna

When: academic years 2020/2021 and 2021/2022

Line of action Environment

What: initiatives to reduce the environmental impact of users' activities and consumption habits, as well as actions promoting the reuse and recycling of resources. This channel also includes all the redevelopment projects of the University's external areas.

Actions: reduced use of plastic bottles, waste management, creation of green areas, environmental passport to monitor certain sustainability issues of the 2030 Agenda, a showcase of films to raise awareness on environmental issues, green roofs gardens.

When: from 2018

Key actors and collaborators: H.E.R.A. SpA

Line of action People

What: Projects included in this channel address issues such as inclusion, gender equality, healthy lifestyles and proper nutrition. In the context of Circular Building, all interventions meet the real needs of people.

Actions: planning and management of sports activities for university students and employees, as well as the management of university sports facilities.

University's Baby Pit Stop where new mothers, University staff, and students and their families have a furnished space equipped with everything they need to breastfeed or change their child's nappy in comfort.

Fully equipped refreshment points.

Key actors and collaborators: CUSB

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Main results:

- 83 buildings by 2022 are equipped with remote management and remote control to monitor their use and energy consumption.
- Renewed car fleet with full electric, hybrid or bi-fuel petrol-methane vehicles, Almabikes available to students, electric scooters and pedal-assisted e-bikes made available on request.
- Over 1000 square metres of green roofing installed on a number of university buildings, installation of "Water Houses", installation of filtered water dispensers, production of metal water bottles, 71 trees belonging to 9 tree species were planted as part of a green redevelopment project, creation of several green spaces.
- High-tech vending machines that offer only 100% organic snacks and drinks, University's Baby Pit Stop, sport training courses organised in structures made available or created in the Campus.
- **Impact on management processes**: A Green Office has been created to discuss and develop projects related to sustainability. It is run by students together with teachers and the University's professional staff, with the aim of spreading the culture of sustainability and implementing concrete programmes and plans.
- **Impact on policies:** Creations of a synergy between research, the local community and businesses, facilitating the co-creation of innovative projects and optimising networking between the various sectors of the University.
- **Impact on teachers, learners and beneficiary communities:** students, teachers, businesses and local communities are involved in the designing and implementation of sustainability projects. They are at the same time the main beneficiaries.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

- Report on UN Sustainable Development Goals
- Strategic Plan 2022-2027
- Report on research and technological activities

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://site.unibo.it/multicampus-sostenibile/en

https://site.unibo.it/almagoals/en

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The University of Bologna is committed to the values of Agenda 2030 and plays a leading role in guiding all institutional actions toward the pursuit of sustainable development. This is in line with a very important principle of the new strategic plan stating that Alma Mater wishes to promote social responsibility in every field and every activity. In fact, the seventeen Goals are incorporated into the strategic plan that serves as a blueprint for action and positioning the University of Bologna as an agent of positive change in the world, as well as one of the leading universities according to the Times Higher Education Impact Ranking list in the last few years.

The Sustainable Multicampus can be considered a replicable organizational model that promotes sustainability in relevant sectors (economical, social, environmental) and involves the participation of relevant stakeholders: teachers, students, citizens, businesses.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

The project is implemented with the contribution of relevant technological partners as well as public institutions. UNIBO's approach which has required both internally and externally oriented adjustments and buy-in, can be a role model for other universities. This work requires a harmonised set of activities across the board. For UNIBO, this has involved redesigning institutional strategies, rethinking organisational structures and management models, and integrating the planning, control, and accountability towards the stakeholders. Cultural sensitivity is also a must for a holistic understanding and implementation of the SDGs in universities, which can be achieved by establishing strategies for teaching and learning, fluid internal communication and collaborations and dedicated offices and initiatives. Research activities are financed with regional, national and European resources. In 2022 the University has received a total amount of financing from private and public entities of 141.657.425. The University promotes tenders to further support financing for technical equipment and research. At regional level it is actively involved in projects financed with structural funds (18 projects eligible for fundings under 2014-2020 framework) and with the support of private foundations (47 projects financed and 57 proposals for competitive research presented).

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Given the crucial importance of the young generations for the future of this planet, UNIBO pays particular attention to teaching activities and projects that connect students to the SDGs. As of 2019, 3.860 UNIBO courses contribute to awareness, understanding or engagement with one or more of the 17 SDGs. To track these connections and ensure the SDGs' visibility within the courses offered, each teacher must tag their course with indications of SDG relevance, which is published on the university portal, per UNESCO guidelines. UNIBO is also interested in understanding the extent to which gaining knowledge and abilities with relation to SDGs improves graduates' employability. Hence, efforts to track these kinds of correlations are also actively underway. Furthermore, UNIBO provides a specific online course (in collaboration with ASVIS, the Italian Alliance for Sustainable Development) for professors and staff to raise their awareness about the SDGs.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

UNIBO's success in implementing and addressing the SDGs across the university's different echelons was achieved by fully including the 2030 Agenda in the University strategy and adopting the SDGs as the driving standards for action, rather than mere parameters of analysis. Instead of identifying the SDGs targets and indicators that would conveniently align with the university's actions, UNIBO adopted a reversed approach. They redesigned the university's strategy based on actions that could deliver on the SDGs. This could not have been achieved without strong support from the highest levels of governance in the university and a thorough improvement of the traditional measurement criteria. A very critical step towards this aim was to reform the Strategic Plan of the University (2019–2021) to align with the 17 SDGs, reconciling the key strategic goals with related SDGs and articulating the required actions and strategies to achieve these goals in the short term. Moving from the strategic to the operational level, the dedicated initiative known as AlmaGoals organises activities and actions at the university-wide and the single campus level. In addition, AlmaGoals assesses UNIBO's sustainable development performance against key indicators and metrics, which is then reported to the public primarily via an annual Social Responsibility Report.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

Given its size and broad scope, UNIBO has become increasingly aware of its social, economic, and environmental impacts, and has taken urgent and effective actions to address the SDGs. In less than a decade, UNIBO's efforts have led to significant outcomes. In 2020, UNIBO was ranked sixth in the Times Higher Education Global Impact Ranking, in recognition of its pioneering commitment to the SDGs. Since the 2030 Agenda is not merely a set of 17 discrete goals but rather a coherent action plan, UNIBO has taken a holistic approach, integrating the SDGs into the institution's life and each of the four main pillars of the university: Teaching, Research, Third Mission, and Institution (the last of which refers to the actions oriented toward the internal community of the university).

Best practice 2 (provided by Asnor)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	UniPadova Sostenibile
Implementation lead/partner organisation(s)	Università degli Studi di Padova
Country or countries of implementation	Italy
Keywords	1. Inclusion 2. Environmental protection 3. Solidarity 4. Engagement

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Aim: The University of Padua has created and promoted the **"Sustainable UniPadova"** project, as a container and catalyst for initiatives aimed at sustainability.

The Project aims, on the one hand, to coordinate and give visibility to all the actions organized by the University on the subject of sustainability, involving the entire university community, from students and staff to the governing bodies; on the other hand, it promotes and supports the launch of new initiatives, the development and implementation of good practices, their transfer and dissemination within the university community and outside, on the territory.

Objectives: commitment to social sustainability with actions that promote well-being, education, inclusion and equal opportunity. The University also emphasizes social justice issues to address the

urgent challenges related to the consequences of recent crises across a growing international dimension. On the environmental front, the University aims to arrange actions of experimental initiatives and pilot projects already in place by developing and implementing strategies and programs to reduce energy consumption and gas emissions, as well as to reduce its impact on the environment and ecosystems on a broader scale.

Methodology: the strategy is based on four lines of action that apply to the different areas in which environmental, social and economic sustainability are expressed (i.e. resources, environment and energy, mobility and transport, welfare and equal opportunities, inclusion and social justice, education and training), and to cross-cutting areas, such as membership of national and international networks, research, third mission and good practice, communication, monitoring and reporting.

Stages of implementation: the University of Padua identified its institutional commitment to support the objectives of the 2030 Agenda by launching the UniPadova Sostenibile project, organized and shared within the "Sustainability Commitments Charter 2018-2022".

Setting forth the guidelines of UniPadova Sostenibile for 2023-2027, this document reiterates and confirms the cornerstones that directed the University over the past five years, offering in the first place a global perspective in terms of the environment and the well-being of others to address sustainability.

Stakeholders: the UniPadova Sostenibile project includes the involvement of the entire local and academic communities. Affirming its role in the transition towards sustainable development models, the University witnesses the contributions of the entire community, including students, researchers, technical and administrative staff, professors, Alumni and the vital inclusion of local institutions and businesses.

Evaluation: Objective tools for monitoring and regular reporting have and will continue to support planning tools by drafting sustainability reports based on international standards. These reports offer a transparent dialogue to share information and an understanding of its performance with stakeholders.

Results: the University has achieved a reduction of its Carbon Footprint based on results that were calculated and certified according to international standards.

Numerous initiatives and actions were enacted to support the well-being of employees.

Such a commitment has positioned the University among the top 100 universities in the world according to the 2022 Times Higher Education Impact ranking.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The strategic plan to sustainability is based on 7 line of actions.

1. **Resources:** participation in various round tables at national, regional and municipal levels to establish Green Public Procurement (GPP) procedures; starting in 2019, elimination of single-use plastic in the beverage and food distribution service through the UniPadova Plastic-Free Project; together with the Municipality of Padua and the Hera Group, the University is committed to promoting differentiated waste collection in its facilities; dematerialization of administrative practices since 2017; commitment to reuse available materials before making new purchases.

2. **Energy and environment:** monitoring of energy consumption; collaboration with the Department of Industrial Engineering Center for Environmental Quality Studies since 2018 to prepare annual greenhouse gas emissions (GHG) reports, resulting in a significant decrease of GHG emissions; engagement in a wide range of building development programs valued 40 million euros spent over three years between 2021-2023; launch of the UNITreePD Project in 2018 aimed at providing cognitive and decision-making tools for the management of green spaces.

3. **Mobility and transport:** first survey on home-university travel in 2018 with the aim of mapping the habits of the university community; free marking service for those who use bicycles, organized in collaboration with the Municipality of Padua; discounts for local public transportation and for sharing services; sustainable mobility agreements since March 2022 including one with DOTT, which offers a special discount for the use of electric kick scooters for the entire academic community.

4. **Education for sustainability:** More than 50% of the course units offered by the University focus on at least one of the 17 SDGs outlined in the United Nations 2030 Agenda; studying support projects for students with disabilities; training activity project for inmates of the Triveneto Penitentiary Institute with the support of the Department of Penitentiary Administration of the Italian Ministry of Justice; Engineering for Africa Project developed with the School of Engineering and the African National School of Public Works in Yaoundé, a teaching programme that offers courses in civil and environmental engineering.

5. **Inclusion**: by adopting the Charter of Sustainability Commitments, the University has reaffirmed its commitment to spreading an inclusive culture, valuing heterogeneity and diversity and promoting full participation in academic life for all members of the University community. As part of the Inclusive University project, it organises training and information initiatives, participates in and promotes networks at national and international level and carries out concrete actions to build an increasingly inclusive university environment.

6. **Well-being and equal opportunities:** The University of Padova implements actions for wellness and physical health, offers psychological support services to the academic community and organizes welfare initiatives and political actions for networking and protection from discrimination. In February 2022 the University approved the Gender Equality Plan (GEP) 2022-2024. In May 2022 were approved the new Alias students careers guidelines, to simplify administration procedures and protect transgender people's confidentiality.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Resources: 93% of the special waste produced in 2020 by the University was recycled.

Environment and energy: 2% reduction in overall energy carrier consumption compared to 2017, In 2021 there was a 10.2% drop in energy consumption per student compared to the baseline (2017).

Mobility and transport: 300.000 € per year for the sustainable mobility of personnel under the University supplementary welfare agreement 2021-2023, 255 requests from University employees for annual public transportation subscriptions in 2021.

Wellness: 1.333 people involved in wellness projects in 2021 (1116 in 2020), 1.377.327 Euros towards the Conto Welfare di Ateneo (2021-2023 Integrative Welfare Agreement).

Inclusion: 1.197 students with disabilities and learning difficulties who chose to study at the University of Padua in 2020-2021 compared to 1085 in 2019-2020

Equal opportunity: 128 Staff members who attended the "Generi e linguaggi" online course

Education: 58,5% of University courses related to at least one of the 17 UN Sustainable Development Goals, 2.795 students involved in the Buddy project that supports the integration of international

students, 46.896 students who benefited from partial or total exemptions from tuition fees in 2021-2022.

Research: +98% budget increase dedicated to research related to the UN 2030 Agenda in compared to 2020, 729 publications related to sustainability in 2021.

Impact on policies and management processes: The University has embodied its commitment to sustainability providing itself with a strategy and launching a series of monitoring and reporting activities aimed at verifying and measuring the impact of its actions, communicating them and comparing itself, in a fruitful exchange of best practices, with other bodies and institutions.

Transformative value: the University affirms its central role as a public body and promoter of sustainable development in its three main areas: economic growth, inclusion and gender equality, environmental protection.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

- Sustainability Commitments Charter 2022-2027
- Sustainability Commitments Charter 2018-2022
- Sustainability Report 2021-2022

Website(s) / Social Media

https://www.sostenibile.unipd.it/en/commitment/unipd-sustainability-project/

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The University of Padua generates a significant impact on its stakeholders and local, national, and international economic systems by redistributing resources and wealth directly and indirectly. In 2021, the University's economic value increased by 7.7%, attracting 624.436.038 euros.

For the second consecutive year, the Veneto Region bestowed the University of Padua the CompraVerde Veneto Award – Education Category in 2022, in recognition of "attention given to the recovery and redevelopment of urban spaces, soil consumption, and compliance with the Minimum Environmental Criteria (CAM in Italian), enriched by the requirements and incentives linked to the sector of international certifications.

As part of the Evaluation of Research Quality (VQR) for 2015-2019 the UniPadova Sostenibile project received by the National Agency for the Evaluation of the University System and Research (ANVUR) an "excellent and extremely relevant" metric evaluation and was proposed as a reference model for other Italian universities, stating "The governance of the UniPadova Sostenibile project is highly innovative, effective, and proves to be the mark of best practices on a national level".

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Highly represented by the transfers of the MUR and other central administrations for the overall functioning of the University and for teaching and research activities, ministerial transfers represent about 64% of total operating income, which has increased by 33.143.741 euros compared to 2020.

As a multidisciplinary research institution in pursuit of excellence, the ability to attract competitive funding and talent to the University of Padua continues to be a strategic objective. Even in 2021, despite the persistence of the negative effects of the pandemic, the University allocated a considerable amount of resources to support research activities, with an overall budget of approximately 30.9M euros. Furthermore +98% budget increase is dedicated to research related to the UN 2030 Agenda in 2021 (equal to over 31 million euros) compared to 2020.

The University is an economically and financially sound institution. Over time, this has allowed the University to plan and make important investments in research (e.g. BIRD, Infrastructures and World Class Research Infrastructure projects), recruitment, teaching and construction to provide quality spaces for study, work and research. These investments have always created a virtuous path, leading to the acquisition of additional resources and allowing the University to improve and grow.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The University of Padua is committed to promote and disseminate academic programs related to sustainability, to carry out educational actions open to the local community by informing and creating awareness as well as to develop a culture of lifelong learning and employability for all students.

Starting from 2017 professors can include SDGs related to their programs, resulting in 58,5% of programs including one of the 17 SDGs in academic year 2021/2022.

The University has the ambition to be a fundamental institution for Italy and Europe, with the task of contributing to the change of society and its growth through Scientific Research, Teaching, the Third Mission and the social impact and dissemination of knowledge. The results achieved place the University in an extremely prominent position at a national level.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The University aims to stimulate dialogue and to share objectives with internal and external communities through broad participation in issues related to sustainability. The goal is to maximize the impact and scope of actions related to sustainability objectives to enhance the image of the "Sustainable UniPadova" project and expand the engagement of the academic and local communities across a wider context by encouraging greater coordination, interaction, and exchange both within the University and other institutions. It aims to heighten the University's role as a reference point for universities on environmental sustainability issues and increase its participation within national and international networks and platforms based on the development and implementation of sustainable development models. To merge partnerships between the public and private sectors in terms of developing best practices and new tools for administrative, managerial, economic, and social fields aimed at sustainable development. To raise awareness, educate and interact with the local and academic communities by implementing best practices and concrete definitions of environmentally responsible behaviours, habits, and lifestyles.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The University of Padua has committed to promote a culture of sustainability among University employees about resources, energy, the environment, climate change, inclusion, and human rights by organizing awareness-raising events and accredited training opportunities. Also aims at the dissemination of sustainability issues at the public, various communities, and specific groups of people, through shared agreements and projects with public and private organizations and institutions. The University adheres to and participates in numerous associations, consortiums, foundations, and national alliances engaged in promoting sustainable development goals.

Best Practice 3 (Presented BY MMC)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	Paving the Way to Education for Sustainable Development in Cyprus: Achievements, Findings and Challenges
Implementation lead/partner organisation(s)	Ministry of Education and Culture of Cyprus
Country or countries of implementation	Cyprus
Keywords	1. Holistic 2. ESD 3. Pedagogical 4. Education

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

The aforementioned Chapter 18 of the book "Schooling for Sustainable Development in Europe: Concepts, Policies, and Educational Experiences at the End of the UN Decade of Education for Sustainable Development" by Rolf Jucker and Reiner Mathar (2015), aims to explain and list the actions and practices that were used by the Cypriot Government and Ministries for the implementation and integration of Education for Sustainable Development in Cyprus. All these actions that are being described appear to be an example of Good Practice in the area of ESD in Cyprus.

This chapter describes the two phases (1996-2004, 2004-2013) of the implementation of ESD in the Educational System of Cyprus and the challenges that the third phase will phase. **The first phase** refers to three actions that were taken; the mandates/circulars that the Ministry of Education suggested and

the various disciplines that can be used for the enhancement of Sustainable Development, the projects regarding Environmental Education, and lastly the development of Environmental Education Centres.

During the second phase, a National Action Plan for Environmental Education with a focus on Education for Sustainable Development was developed and it is considered to be the most important and valuable policy document on ESD in Cyprus. A critical step towards ESD is the recreation and implementation of the new National Curriculum (NC) that combines innovative elements. A cornerstone is the promotion of important whole-school developments at all three levels of the school's operation. These three levels are:

The pedagogical (teaching and learning procedures)

Social/organisational (culture, social environment, educational policy)

Technical/economic (infrastructure, equipment)

The NC for ESD is expected to play a significant role in highlighting the principles, pedagogical processes, methodological approaches, organisational and social structures necessary for the promotion of a holistic school approach (whole school approaches) and the transformation of schools into a learning organisation: a dynamic system of learning, self-organising, interacting with the community, developing, transforming and evolving.

Promoting a **whole-school approach** in the Cyprus Education System is achieved through the planning and implementation of school SEEP's that integrates processes for self-evaluation at its pedagogical, organisational, and social level. The outcomes of these self-evaluations will help the continuity of the implementation of Sustainable Environmental Education Policy (SEEP).

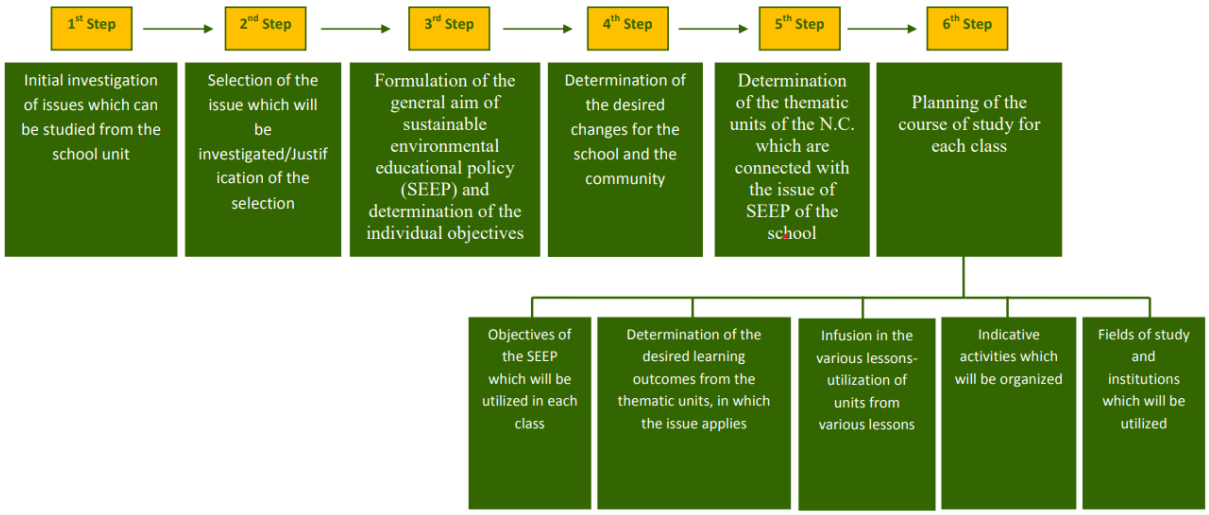

Figure 1: Steps for Developing an ESD School Plan in Cyprus Educational System

Taken from "Questionnaire for 2014 Informal Country Reporting on the Implementation of the Priority Action Areas"

Year by year the Government of Cyprus is increasing the budget of the grant schemes. For example, in 2018-2019 the Council of Ministers of Cyprus approved 65.000 euros which will be used in a school grant scheme which means 13.000 euros more than the last year. Moreover, each school that participates in the "Recycling Cooking Oils" initiative is granted up to 3000 euros for the implementation of various activities that are described in the school's SEEP (UNESCO, 2020).

1. ***Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)***

The integration of ESD in Cyprus took place in two phases; the first phase (1996-2004) and the second phase (2004-2013). The efforts taken, during the first phase, played an important role in the start of the effective promotion and implementation of sustainability in the educational system of Cyprus. Some noteworthy initiatives are the following:

1. **Mandates/Circulars** published by the Minister of Education and addressed to schools. These mandate/circulars were used as a means of suggestions and ideas for the teachers on how to apply EE/ESD inside and outside of the schools' setting.

2. **EE programmes and bilateral programmes** such as "Eco-Systems" and "Green Lead" respectively (pre-defined topics such as forests, waste management, water, energy, and biodiversity).

3. **Development of the first Environmental Education Centre**. Promoting experiential and empirical learning, facilitating social participation and connections between students and the local community of Lemithou (a village in Cyprus), as a field of learning for students and public groups.

The second phase of the implementation of ESD in the Cypriot Educational System started when Cyprus entered the European Commission in 2004. The second phase lasted from 2004 to 2013. During this period many actions took place:

1. **Adoption of UNECE's strategy for ESD.**

As a result of the adoption of UNECE's strategy, Cyprus' Ministry of Education and Culture developed its *National Action Plan for Environmental Development focusing on Education for Sustainable Development.* Towards establishing ESD at all levels of formal, informal, and non-formal education in a unified, systematic, and concise way NAPEESD proposes a series of central actions around:

- The organisational and institutional framework for supporting ESD
- The national curriculum
- The educational means and tools
- Research and evaluation
- In-service training of the educators
- The use of technology
- National and international cooperation and participation
- EE programmes
- EECs
- Sponsoring

2. **The rewritten National Curriculum of Cyprus**

The reform of the Cypriot Education System focuses on the principles of quality education where the knowledge, skills, values, and behaviours gained by the students and others can ensure a sustainable present and future. The new National Curricula of Cyprus was rewritten with the notion of a sustainable school, something that requires a holistic reform of the schools' operation including the curriculum and teaching.

3. **Obligatory and Optional Training Schemes**

Teachers needed to adapt to the new environment of EDF which led to the development of obligatory and optional educational programmes and training courses. The obligatory scheme consists of two programmes; the first is focused on the training of teachers for implementing the new curriculum of EE/ESD, and the second programme is close to the implementation of NC and this series is school-

based and practically conducted through school networks. The optional programmes are being offered in different types, forms, and duration to teachers of all formal education levels.

Based on more recent sources by UNESCO (2020), Cyprus has implemented 88% of ESD.

2. *Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)*

During the two phases of the implementation of ESD in the Educational System of Cyprus, many impressive actions have taken place considering that Cyprus does not share the same EE and SD culture as other countries in the European Union.

The new National Curriculum of the island is based on the principles of quality education. The philosophy of quality education is embedded in all levels of education and the curriculum and tries *to transform individuals* into active and motivated citizens inspired by democracy, boldness, courage, persistence, social justice, and solidarity (MoEC, 2008). People who will respect the natural environment, support Sustainable Development and encounter gender equity, understand and explain natural and social phenomena. The philosophy adopted in the new National Curriculum encourages the purposes, policies, and practices of sustainable schools where a holistic reform of their operation, curriculum, and teaching is required (Birney and Reed 2009: 13).

The significance of the rewritten NC for ESD to promote and embed whole school approaches is a result of principles, pedagogical processes, methodological approaches, and organisational and social structures (Henderson and Tilbury 2004). The new NC of Cyprus aims to transform the schools into learning organisations that will be characterised as dynamic learning systems, interactive with the community, developing, transforming, and evolving (Liarakou and Flogaiti 2007).

The progression of the ESD in Cyprus has been well observed, but it still has a long way to go to change to a transformational model for In-Service Training (INSET) in ESD.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

http://archeia.moec.gov.cy/mc/605/annual_report_2014_en.pdf

https://www.researchgate.net/publication/275153624_Paving_the_Way_to_Education_for_Sustainable_Development_in_Cyprus_Achievements_Findings_and_Challenges

https://www.researchgate.net/publication/343834560_Mapping_the_mainstreaming_of_Education_for_Sustainable_Development_across_SDG_47_a_comparative_analysis_of_the_mainstreaming_of_ESD_in_Cyprus_Greece_Malta_and_Turkey

Cyprus.pdf (unece.org)

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://www.researchgate.net/publication/275153624_Paving_the_Way_to_Education_for_Sustainable_Development_in_Cyprus_Achievements_Findings_and_Challenges

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The actions that were taken for the Cyprus Education System aim to promote a holistic school approach especially after the implementation of the new National Curriculum that supports education in three different levels; pedagogical, social/organisation, technical/economic. The ESD in Cyprus was set as a priority by the authorized policy (Zachariou and Kadji-Beltran, 2015). The initiatives that were taken for the integration of ESD in schools were mainly to pay attention to its people; teachers and students, and to create quality knowledge and a culture of diversity, open-mindedness and sustainability. The importance of the implementation of ESD can be identified by the development of training programmes, obligatory and optional, in order to educate and give the competencies that are needed to the teachers for their teaching. Most of the courses are both theoretical and practical and encourage the implementation of outdoor learning such as visits to environmental fields, museums, etc.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

During the first phase of the implementation of EE and ESD culture, the **first public Environmental Education Centre** was developed to connect the formal and non-formal education, and to transfer the learning procedures and study of environmental issues outside the classroom settings.

In 2007, the **Ministry of Education and Culture of Cyprus** elaborated the NAPEESD (based on the UNECE's Strategy for ESD) which was approved and enacted by the Ministerial Board.

The **search for sources of funding** at national and European level and the development of collaborations at different levels (national, regional, and international) for the implementation of common policies, and actions, in areas of common interest, should be encouraged by the state to address the arising challenges from ESD and ensure continuity, enhancement, development of everything achieved in the ESD sector in Cyprus (Zachariou and Kadji-Beltran, 2015).

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The implementation of the new National Curriculum (NC) in the Education System of Cyprus was the cornerstone in transforming schools into learning organisations. In addition to the NC, the development of the Sustainable Environmental Education Policy (SEEP) and its planning and implementation in schools promote the holistic school approaches in the Educational System of Cyprus through the cooperation of SEEP with the community and the formation of collaboration networks with organisations and institutions. The SEEP brings changes in the school and the community through activities and interventions that are determined by its planning.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

There were various challenges during the efforts of ESD implementation in the education system of Cyprus, nevertheless it is important to use everything achieved and use it as a tool for the future. Education in Cyprus can be characterized as politically-oriented, but ESD can give answers and responses through learning procedures. ESD can confront the primary models of non-SD by implementing sustainable local practices, and enabling students, educators, and locals to critically analyze issues from their own local perspective (Zachariou and Kadji-Beltran, 2015).

Additionally, an important step was taken in December 2018. The Ministry of Education, Culture, Sports and Youth (ECSY) established the Unit of Education for the Environment and Sustainable

Development (EESD) as a permanent horizontal structure to address the "the chronic problems that existed in the field, such as the fragmentation of issues within each Directorate, the overlap, and the absence of a unified policy in the field of ESD at all levels of education" (Republic of Cyprus, 2018a).

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The Education System of Cyprus and the Ministry of Education and Culture adopted the UNECE's Strategy for ESD and created a *National Action Plan for Environmental Education with focus on Education for Sustainable Development* where part of this action plan is the redevelopment of the National Curriculum to make an impact on the way that students and teachers think and to enhance the sense of sustainability in their lives. Obligatory and optional courses were created for the education of teachers on this new era of Sustainable Development (SD) in the Education System of Cyprus.

Best Practice 4 (Presented BY MMC)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	Competency Centre for Sustainable Development
Implementation lead/partner organisation(s)	University of Tubingen
Country or countries of implementation	Germany
Keywords	1.Networking 2. Institutionalization 3. Knowledge 4. Reporting

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

In 2013, the Ministry of Science, Research and the Arts of the State of Baden-Wurttemberg decided to fund the concept development and installation of a **Competence Centre for Sustainable development** at the University of Tubingen as part of a program "Science for Sustainable Development". In essence, the **whole-institution approach (WIA)** provided the starting point for creating the Competence Centre, which addresses a number of **stakeholders** namely researchers, teachers, employees, students, and governance structures at the same time. However, the establishment of the centre is a result of various **bottom-up** efforts at the university, especially by student initiatives, as well as researchers and teachers. (Schopp et. al., 2020)

The major **aim** is to combine different actions and measures, which all members of the university carry out at all university levels and functions in order to ensure the implementation of sustainable development in all the parts of the university. Additionally, the Competence centre is the core of an overarching **network-** not only in the University of Tubingen but also beyond. This approach is based on the crucial idea that the university has a societal responsibility and serves as a role model and blueprint for other societal actors and stakeholders. The Competence centre is associated with the International Centre for Ethics in the Sciences and Humanities as a major player for **sustainability**, and its main tasks are to bring together all activities in the field of sustainable development at the University of Tubingen, as well as to integrate **education** for sustainability into teaching activities of all curricula.

Figure 2: The Competence Centre in the University's Sustainable Development (SD) structure**.**

In the internal structure, the Centre plays a pivotal role in **implementing a whole-institution approach** with its demands of **interconnection, systems thinking** and **holistic outlook**. Therefore, the Board's work is now coordinated by the Competence centre. The Board for sustainable development is the main consultant of the president's office of the University concerning all questions on sustainability topics and processes. Moreover, the University's Environment and Energy management section, which is in direct and close contact to the Competence centre, is responsible for the regularly conducted Environmental Management System (EMAS) audits.

Lastly, the Competence Centre's staff regularly evaluates these activities. For this to take place in practical terms the assessment of the different understandings of sustainability among the various stakeholders in the university is of crucial importance; while, since the knowledge and competencies of the actors involved differ, a proactive response to this situation has taken place. The embodiment

of this response is the research project "SD@UT" which will be presented in detail in the next section of the given desk research. (Schopp et. al., 2020)

In summary, the Competence Centre is the university's network nexus point, which brings together people, knowledge, and competencies under the umbrella of sustainability. It provides contexts and structures to realize sustainability projects on all university levels. In the given higher education institution, at the University of Tubingen, the Competence Centre is the embodiment of best practice, through practical and coherent action towards the accomplishment of the **whole-institution approach to sustainability**.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

Today the Competence centre is active in every domain of sustainability in the University of Tubingen and cooperates with many members of the University. The centre uses its position to **create awareness** for topics of sustainability- with the university as well as the broader public. The Centre's employees **organize public events** such as sustainability slams, clothes-trading events or vernissages, as well as **workshops** for pupils to transfer ideas of and awareness for sustainability to practical action. Since students and young scientists are driving forces for change and take things into their own hands, the Competence Centre aims at **enabling students** to take over responsibility, to empower themselves, and to foster sustainability according to their own interests. For this purpose, the Centre mentor **students** who are planning to undertake sustainability projects or want to write their thesis in a field of sustainability. Lastly, the most important activity in this domain are the **sustainability network meetings** for all university members to create the necessary room they need for generating new bottom-up ideas. (Schopp et. al., 2020)

In 2016, the University of Tubingen participated in the joint research project HOCH-N (sustainability at higher education institutions: develop-network-report) which is the largest network on the topic of sustainability at higher education institutions in Germany. This research network identified six (6) fields of action where **sustainability can be realized in HEIs:**

1. **sustainability reporting, 2. governance, 3. teaching and education, 4. research, 5. operations, and 6. transfer.**

These fields of action are highly interconnected and sometimes overlap. Therefore, actors in each field can provide relevant **knowledge, experiences, and competencies**, and at the same time profit from relevant knowledge, experiences, and competencies of actors from the other fields.

On that aspect, the Competence Centre implemented an in-house research project, named "SD@UT", having as a goal to identify and record the above-mentioned HOCH-N action fields in the workings of the institution; through the equal inclusion of representatives from the various parts and functions of the University, and attempt a direct connection of the action fields with the Sustainable development goals. (Schopp et. al., 2020)

Since the goal was to include as many actors (teachers, researchers, administration, governance structures, students, employees) and their perspectives, insights, and knowledge as possible, a research approach aiming to foster the **whole-institution approach** was utilized. The idea that "a wealth of information is hidden in a variety of sources" (Mikkelsen,2005) was adopted since it serves the purpose of engaging with the issue in a **holistic** way. Having that in mind a well differentiated and balanced methodology (*table 1*) was utilized.

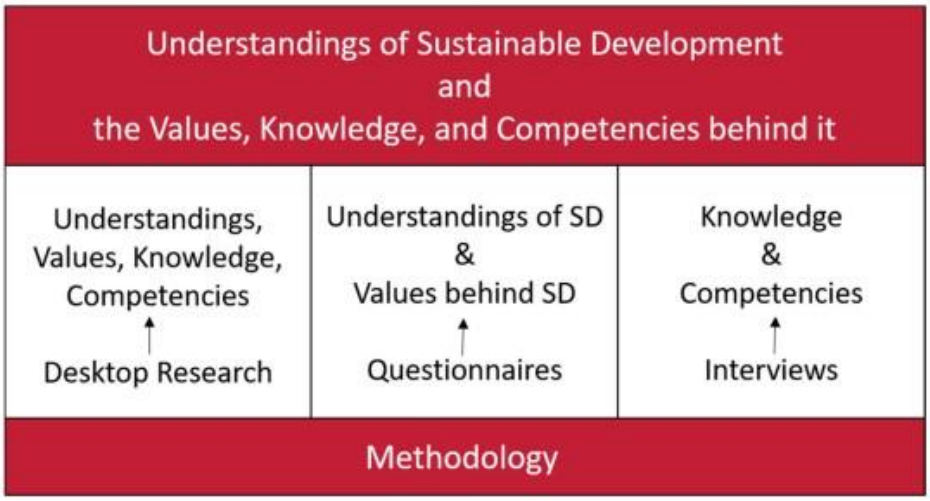

Table 4: SD@UT_Research methodology and research questions

Based on this data collection methodology the below research questions were attempted to be addressed:

- What is the **understanding** of sustainable development of the university's actors **who** are involved in SD?
- **How** and **where** shall SD be implemented at the University of Tubingen?

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- **What kind of knowledge** and **which competencies** do actors need to implement SD in operations, research, governance, transfer, teaching and education, and sustainability reporting?

In the table provided below (*table 2*), different activities to realize sustainability on a **whole- institution approach**, on the different levels of the university are already set in practice; with some to be **institutionalized** to a high degree (e.g., the EMAS certification or the Advisory Board for Sustainable Development) others are **project based** (e.g., Globus) which will come to an end. All in all, it was witnessed, during the field research, that many activities are carried out due to the personal commitment of individual members in various levels of the institution. However, to successfully anchor sustainability practices on all levels of the university, this commitment has to spill over and every stakeholder of the university has to be committed to sustainable development.

Research

1. Research project "GLOBUS"-Reconsidering European contribution to Global justice
2. Institute of Evolution and Ecology: main topics: climate change, invasive species, land use and species diversity
3. Collaborative Research Centre SFB 923: "Bedrohte Ordnungen"

Teaching and Education

1. ESD certificate program "Studium Oecologicum"
2. Courses for Students of Environmental Biotechnology: 'Sustainable Environmental Biotechnology Systems"
3. Series of lectures: "Gender justice in Muslim-Christian Readings"

Operations

1. Several rewards as "Recycling paper friendly HEI"
2. University members who come to work by e-bike can charge them for free
3. The university is using 100% eco-electricity

Governance

1. The Advisory Board for Sustainable Development

2. Representatives of the student body in the Advisory Board for SD

Sustainability reporting

1. The University of Tubingen is certified and managed according to the EMAS standards since 2011

2. The Competence Centre has together with 11 other German universities, applied a beta version of the HS-DNK

3. Every year, the university's environmental manager publishes the environmental declaration

Transfer

1. The university is a member of the "Action alliance for a low-waste Tubingen" and supports the ReCup system

2. The student initiative "Papierpliz" recycles single-sided printed paper

3. The Faculty of Humanities has university branches in Kyoto, Seoul and Peking

4. Sustainability Lecture and Sustainability Award for Bachelor and Master Thesis

Table 5: Sustainable development activities at the University of Tubingen

With the finding summarized in the given table it can be supported that for a higher education institution to realize sustainability at the whole university level is crucial a combination of **bottom-up** and **top-down** efforts and initiatives to be undertaken; while, coordinated and monitored consistently. According to Niedlich et al., 2019 an institution, such as a university, has to change its **institutional culture** if sustainability is to be put in practice because the specific concept concerns and affects the whole institution as an organization.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The establishment of the Competence Centre for Sustainable Development from its outset, set up as a main goal to address sustainability in a **whole-institution approach**. As it was presented the centre

organizes and realizes a wide range of activities across the university. However, more importantly it engages actively in research through which it is attempted the:

- understanding of the concept of sustainable development to be made explicit and clear to all the actors involved at all levels and functions of the institution.
- knowledge and competencies needed from the various actors to implement sustainability in their various functions to be determined.

Under this guiding rationale, the Competence Centre can be aware of all the above needed information so to plan and conceptualize future activities in cooperation with other actors in the University and thus apply in practice the **whole-institution approach to sustainability.**

On that premise, when it comes to **knowledge resources**, which are necessary to implement sustainability the Conference of the Swiss Scientific Academies refers to three forms of **a. system knowledge, b. target knowledge, c. transformation knowledge**.

Knowledge on the current situation is referred to as system knowledge. Target knowledge provides information on the condition, which is to be attained or avoided. Lastly, the notion of transformation knowledge refers to knowledge stocks that indicate the path to the goal. Schematically, with information on the unsatisfying current situation, on how this situation should be, and on how one could reach the goal, system and target knowledge alone will not change the current state of affairs. This is why another knowledge resource necessary to act for sustainability are **action-related competencies** in order to move from knowledge to application. Thus, the actors need targeted competencies to transfer this knowledge into practical actions through transformation knowledge. (CASS, 1997)

The Competence Centre of Sustainable Development in the University of Tubingen can be identified as a **transformative** practice, since it attempts to adopt a **whole-institution approach to sustainability.** Referring to *table 2* in the previous section there is a clear correlation of the exemplary activities carried out at the various functions of the University with regards the six (6) field of actions- **1. sustainability reporting, 2. governance, 3. teaching and education, 4. research, 5. operations, and 6. transfer.**

And the three (3) pillars- **Social, Pedagogical, Organizational** of the **Systemic Framework for WIA to Sustainability** introduced in the SUSEDI project. For example, the activities carried out under the "Teaching and Education" field fall under the Pedagogical pillar; while the activities carried out the 'Operations" field fall under the Organizational pillar and so forth.

The impact of the best practice towards all the functions and levels of the institution and towards the wider community can be witnessed through the results provided in the form of exemplary practical activities. More importantly, the Centre by acknowledging explicitly that higher education institutions should not focus solely on education for sustainability but in parallel should focus on research on the topics of sustainability, tailor made administrative tasks and processes oriented towards sustainability, disseminate research results into society, engage governance structures, build networks and promote synergies on the field of sustainability, reporting on sustainability performance all these tasks/initiatives focus on an **institutional culture transformation** through **a whole-institution approach to sustainability.**

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Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

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Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Home | University of Tübingen (uni-tuebingen.de)

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The establishment of the Competence Centre for Sustainable Development is relevant and attuned to the priorities set at an institutional, national and regional level on the issue of education of sustainable development and the achievement of that through a whole-institution approach.

More specifically, at an institutional level, the University's Competence Centre for Sustainable development strives to make knowledge, experiences and competencies at the six (6) action fields visible and promote them. The idea is sustainability to be realized through the engagement of all levels

and functions of the organization which is the main mission of the institution on the concept of sustainable development. (University of Tubingen, 2023) This mission is pursued with the work and initiatives of the Competence Centre and its networking efforts that focus on advancing sustainable development not only through the core function of the institution- education but through a holistic systems approach. The Centre forms the interface for promoting and monitoring commitment to sustainability in the six (6) distinct forms of action that take place in practice through the various functions of the university.

At the national level, the federal government intends to give all children and students the opportunity to receive and participate in education for sustainable development, invigorate further education programmes and embed education on sustainable development at a structural level across all levels of education. (German Council for Sustainable Development, 2023) In that sense, the effort of the Competence Centre to conceptualize sustainability in a coherent way and achieve a common understanding on the concept with the aim to facilitate the creation of more effective curricula for the students and trainings for the employees in the University is perfectly relevant with the national and educational priorities of the state.

Finally, the government of Baden-Wuttemberg in the area of educating and training professionals has as an objective to develop the potential for value creation and employment offered by a sustainable and circular bioeconomy through qualified professionals with interdisciplinary skills. (Badden-Wuttemberg Ministry of the Environment Climate Protection and the Energy Sector, 2019) On that aspect, practitioners from NGOs, cooperate in the Centre's activities so transdisciplinary approach to be fostered. To strengthen this and essentially promote the environmental priorities of the regional government the Centre organizes regular networking meetings and provides funding for small sustainability projects initiated and realized by students. Therefore, fostering bottom-up initiatives gives a strong incentive for future professionals in the field and takes part in value creation.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

In 2013, the Ministry of Science, Research and the Arts of the state of Baden-Wurttemberg decided to fund the concept development and installation of a Competence Centre for Sustainable Development at the University of Tubingen as part of the program "Science for Sustainable Development". The Competence Centre is associated with the International Centre for Ethics in the Sciences and Humanities, as one major player for sustainable development. The staff that is employed in the centre

possess the needed expertise and know how so to implement research projects, networking activities, mentoring programmes supported with the needed infrastructure, technologies and equipment and funding so to achieve its aim that is to drive the institution into a whole-institution approach to sustainability.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organization. (max 200 words)

The Competence Centre for Sustainable Development has assembled the first university-wide understandings of sustainability by trying to address the question "*What is the **understanding** of SD of Tubingen University's actors who are involved in the action fields of SD?"* included in the "SD@UT" research project. This question per se entails the basis for critical reflection on the practical value and merits of sustainability. The Competence Centre has as a basis of its understanding of sustainability the Brundtland Report of 1987; however, appreciating the fact that sustainable development has to and can only happen within the scope of limited technical possibilities and finite natural resources. (Schopp et.al., 2020)

The Centre by introducing the questionnaires and conducting the face-to-face interviews provided the opportunity to the participants to reflect on the concept of sustainability and how this can be attained in practical terms at all levels. Thus, the responses and the insights provided during the data collection stage of the research pointed out a variety of factors that affect and contribute to sustainable development.

More specifically, the personal dimension was demonstrated as crucial for sustainability in terms of changing lifestyles. Development politics have to be integrated to the discourse if sustainability is to attained to professional, institutional and political levels as well. The conservation of natural resources and the continuous protection of biodiversity are topics that were highlighted in the responses of the participants highlighting the environmental aspect of the concept which is an integral part and an end of the movement. Lastly, the role of the companies and the responsibility of the managers to include sustainability concerns in their decisions was pointed out, with CSR strategies to be incorporated in the business function by focusing not only in profit but also to people and planet according to Elkington, 1998.

As a result of this critical reflection triggered from the in-house research project the standard three-pillar model of Sustainable development was put by the Centre under academic scrutiny.

(Purvis et al., 2018) The model is not suitable for several reasons: a. it does not depict the complexity of the sustainable development understanding, b. it ignores the interdependencies between those pillars causing most of the problems in realizing SD in practice, c. it is a static model, which does not demonstrate the process-oriented nature of SD. (Schopp et.al., 2020)

However, the Competence Centre wants to establish itself as the university's nexus for sustainable development and have an effect on the university region through critical thinking, adoption of a holistic approach on the issue and promoting systems thinking in the way sustainability is perceived and attempted to be practiced that is closer to the paradigm that the European Sustainability framework promotes in dealing with sustainability (GreenComp, 2022)

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The Competence Centre by putting existing models under scrutiny, as discussed in the previous section, is flexible to the local and cultural settings and adaptive towards the dynamic nature of the concept of sustainability; not only in terms of knowledge generation but most importantly in terms of its application in a holistic way. The Centre avoids to be trapped in the notion of *"one size fits all approach to sustainability*". On the contrary it embraces the idea of the complex and dynamic interactions between natural and human systems and engages in the subject by adopting pluralism, open dialogue and a bottom-up approach which is crucial if is to be responsive and attuned with the needs and the views of the society as a whole. (Yarime et.al., 2012)

By taking under consideration and assimilating in its workings the priorities of the federal government and the objectives of the local government; by including practitioners from the local community in its activities; by fostering students initiatives and projects on the field; and by avoiding to be complacent through the conduct of research of "how as an institution we actually perceive and apply sustainability at all levels" these actions are all real time indications of the responsiveness of the Centre to the challenges posed and an effort not to comprehend and tackle all these interconnected systems with a simplistic and one-dimensional way.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The Competence Centre by the time of its establishment experienced that the members of the University of Tubingen possess different perceptions and understandings of what sustainable development is; as well about the set of competencies required to carry out activities on sustainability. Therefore, the need for the staff of the centre to know the actors' various expectations, perceptions, attitudes and differing sets and levels of competencies was of vital importance. (Sustainability, 2020)

Only with the attainment of this knowledge the centre could be in the position to plan and implement targeted activities that will facilitate the implementation of sustainability in a holistic and systemic way- functions and levels of the institution. As a result, the existence and workings of the centre could strive for **culture, operational and educational reformation** rather than merely advocating for the addition of a number of modules on environmental and SDG themes.

That was the pivotal purpose of the university-wide research project (SD@UT) that took place namely to examine understandings, practices and implications of sustainability within the whole university and not only amongst lecturers or teaching staff- heavily preoccupied with curricula, due to following the idea of the **whole-institution approach to sustainability.**

The given best practice is transformative since it attempts to comprehend the intricate connections in sustainable development (Hofman-Bergholm, 2018); and incorporates collaboration, engagement, action orientation and systems thinking to sustainability education which are all building factors of transformation. (Frisk and Larson, 2011) However, it is of major importance the practice of the Competence Centre to be supported by governance structures since is one of the most crucial facilitators in the implementation of a whole-institution approach to sustainability. Governance bears the responsibility to create a vision for a sustainable institution supporting organizational structures that enable a whole institution approach to sustainability. (European Commission, 2022) It can be stressed that the reformation of the institution to become a sustainability role mode l depends on what the concept of "turnaround leadership" entails and suggests. (Fullan and Scott, 2010)

Best Practice 5 (Presented By CPI)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	The Okayama ESD Project
Implementation lead/partner organisation(s)	Okayama ESD Promotion Commission
Country or countries of implementation	Japan
Keywords	1. Whole Institution Approach 2. Okayama ESD Project 3. Whole-city approach 4. Community transformation

Specific information on the best practice

2.1 Description, Activities, Results

1. Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

EXAMPLE: SYNERGIES IN JAPAN PROMOTING ESD IMPLEMENTING A "WHOLE-CITY APPROACH" : THE OKAYAMA ESD PROJECT

Japan is a pioneer country in the field of ESD. Having implemented and evaluated its 1st ESD Implementation plan, which included promoting domestic ESD efforts in accordance with the plan for implementing UNDESD (2006) and GAP (2016), in 2019, after a thorough review of this 1st implementation plan, the country put in place the 2nd ESD Implementation Plan, focused on commiting various stakeholders in an array of priority areas, including WIA. Main characteristics of this plan are cross-ministerial collaboration and policy making under the Inter-ministerial Liaison Committee on ESD for dissemination and advancement of ESD. In this framework, the government of Japan promotes the

formation of ESD consortia, facilitates collaborations between universities, schools, communities and other stakeholders and requires of universities to develop or expand WIAs and strengthen their own governance system to realize WIAs (Japan Interministerial Liason Committee on ESD, n.d.).

The city of Okayama, located in the Okayama Prefecture, west of Tokyo is a world leader in the promotion of ESD and also a UNESCO Learning City. Under this framework, a citizen-led environmental education project in Okayama was initiated, which was materialized through close cooperation between schools, service learning and adult education organisations, and local communities. In the beginning of UN-DESD, Okayama City launched the citizen-led "Okayama ESD Project" and the city was one of the first seven cities in the world to receive RCE certification from the United Nations University. In 2016, the Okayama ESD Project received the UNESCO-Japan Prize on ESD, a biennial prize that honors outstanding projects that advance the role of education in connecting the social, economic, cultural and environmental dimensions of sustainable development.

The aim of the project was to empower ESD-related organizations to participate and cooperate in order to develop their knowledge on SD and expand the activities of building a sustainable society. Additionally, the project aimed to help each organization/institution accelerate their activities and play an important role in promoting ESD effectively while cooperating with the entire region. Transparency on organizational management was also an aim.

Objectives include clarifying and solving challenges to promote ESD based on the specific characteristics of each region by conducting ESD activities illustrated by the UN University, to increase the number of organizations participating in initiatives building a sustainable society and to accelerate the promotion of DESD by rallying exchange and cooperation among ESD practitioners. Stakeholders include school districts, over 150 organizations in the region and involve more than 10% of the population in the region.

Participating organizations are categorized as "core", "intermediary" and "research", formulating the Okayama ESD Network. Each organization cooperates with other stakeholders and plays a role in practicing ESD activities according to the specific characteristics of the region. This approach facilitates and strengthens inter-organizational bonds. Each organization utilizes existing resources. The Okayama ESD Project brings together organizations promoting ESD and facilitates a whole-city approach to ESD. The project involves the local community through both formal and non-formal education. It offers various activities and training organized in *Kominkans (Community Learning Centers)*, schools, parks and shopping malls as well as in places close to nature.

A timeline was set, from 2005 until today, with reporting every two years and policies were formed based on these reports, to enhance ESD in the region. First, based on achievements and challenges of the first four years of implementation, a plan was set to promote voluntary participation of local associated organizations and to enhance collaboration, to develop projects and educational programs, providing opportunities for dissemination in the region. Second, there was a term dedicated to developing a framework through which each organization can longitudinally sustain its ESD actions. Finally, the Okayama ESD Promotion Commission was initiated by the UN University and recognized as a Regional Core of Expertise on ESD, which supports and coordinates organizations promoting ESD and facilitates a "whole city approach to ESD". Currently, more than 350 organizations are members of the Commission, including educational institutions, *Kominkans,* civic organizations, non-profit organizations, companies, and governmental agencies.

To further accelerate ESD, the Commission developed the new Plan (2020-2030) focusing on eight main action areas: promotion of collaboration and cooperation to build a sustainable society in Okayama; promotion of initiatives that lead to the practice of creating sustainable society; development of youth and ESD leaders; promotion of ESD at local communities, *Kominkans* and schools; recognition of good ESD practices; expansion of ESD activity bases; promotion of ESD and SDGs to businesses; and further collaboration with relevant national and international organizations.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The Okayama ESD Project follows a collaborative, community-based approach. More than 160 groups of citizens, from youth to elderly people, out of more than 350 member organizations have taken part in these activities, working to achieve environmental preservation, global understanding, and disaster reduction. Ultimately, the initiative's strength is the promotion of civic collaboration to solve regional issues, deepen learning, and carry out activities reflecting local life. Embracing this spirit of action, Okayama City's whole-city approach is successfully paving the way for a more sustainable future for its citizens and communities. Three indicative examples are:

Kominkans are non-formal structures serving as learning centers for residents and visitors, offering multiple educational courses, and encouraging the community to initiate localized learning programs. Based on a whole-city approach, residents play a major role in planning and implementing ESD projects, incorporating issues that are important to them into the activities. This collaborative effort has

allowed *Kominkans* to organize lectures and workshops based on ESD and civic collaboration that aim to solve regional issues, deepen learning, and create locally relevant projects.

Capacity building of ESD coordinators: ESD Coordinator Trainings are free and accessible workshops and activities that build the capacities of educators and youth. University students are also offered the opportunity to complete ESD internships with local NGOs. The internships strengthen youth participation and action in support of sustainable communities.

WSA at Yakage Upper Secondary School: This school integrates various fields of activities, such as biodiversity, disaster mitigation/disaster prevention, environment, cultural diversity, world heritage, intangible cultural heritage and local cultural assets, international understanding, welfare, sustainable production and consumption, and health. The three pillars of these activities are “community cooperation,” “environmental study,” and “international exchange,” and in line with these pillars, (1) classes, (2) events, and (3) extracurricular activities are systematically incorporated and developed. At present, the whole town of Yakage is supporting the activities of Yakage upper-secondary school, and the town’s PR magazine has a section introducing the school’s activities in the community. Integration of formal, non-formal and informal education is key. One of the reasons this kind of cooperation became possible was that teachers visited various facilities in the town when starting “Yakage Studies”, so that they could share their philosophy firmly and gain understanding. It is important that the students understand that the program is not simply an activity to gain experience or to supplement the labor shortage at the facilities. Rather, it is a collaboration to support the growth of the students throughout the town and to form a sustainable society, which will benefit not only the students but also the school and the local community. Additionally, a team was formed to support teachers’ community debut, holding weekly meetings where the team of teachers in charge of the “ESD Basics” class develop the annual plan and share the progress. The school offers pluralistic ways to participate in ESD activities, such as ESD extracurricular activities provide a variety of entry points, including participation as volunteers in local community actions.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements *or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)*

The Okayama ESD Project provides a framework to facilitate and standardize WIA in the area of Okayama aiming for schools to become agents of change of their communities towards sustainability, called the Okayama ESD Network. It provides a platform in which organizations can interact, exchange information and resources. Evaluation guidelines as to how effectively a school implements WIA are

provided as well as motivation for good practices through an award scheme. The project also provides opportunities for teachers' capacity building through the school and in the community in general. The most important impact of this project is that it does not merely focus on WSA/WIA but on whole-community/ whole-city transformation through actions taken by individuals (e.g., students in the community), schools or synergies between schools and other stakeholders. This foundation of the Okayama ESD Project has a direct impact on policy, which is designed to facilitate schools to find their place in terms of how their communities can be sustainable and it inspires them to form a vision in which the core assumption is that the school nurtures the future shapers of sustainability and can have a tangible impact on orienting its community towards sustainability. Therefore, the project encourages a sense of ownership and responsibility of schools regarding their contribution in making their communities sustainable. Synergies encouraged through the platform are for the mutual benefit of all stakeholders including better utilization of existing resources. The fact that opportunities for teacher capacity building are provided and also the fact that teachers' role in ESD implementation in the school is clearly defined provide for creative learning/professional development opportunities for teachers as well. Evaluation criteria for the schools are also provided through the Okayama ESD Network and award schemes are in place as a form of motivation.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Martín-Sánchez, A., González-Gómez, D. & Jeong, J.S. (2022). Service Learning as an Education for Sustainable Development (ESD) Teaching Strategy: Design, Implementation, and Evaluation in a STEM University Course. Sustainability, 14, 6965. https:// doi.org/10.3390/su14126965

Nomura, K. & Abe, O. (2010). Higher education for sustainable development in Japan: policy and progress. *International Journal of Sustainability in Higher Education*, 11(2), pp. 120-129. https://doi.org/10.1108/14676371011031847

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

- Japan: A whole-community service learning approach to ESD [https://www.wur.nl/en/show/japan-a-whole-community-service-learning-approach-to-esd.htm]

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- Okayama ESD project 2030 basic plan [https://www.city.okayama.jp/kurashi/0000029921.html]
- UN Transforming Education Summit 2022: Knowledge hub- Collection of best practices [https://transformingeducationsummit.sdg4education2030.org/system/files/2022-06/64_Promoting%20ESD%20through%20whole-society%20and%20whole-institution%20approaches.pdf]
- Okayama, a city united for ESD [https://www.unesco.org/en/articles/okayama-city-united-education-sustainable-development]
- ESD-Japan [http://www.esd-j.org/e/]
- Japan Ministry of Education, Culture, Sport, Science and Technology- Interministerial Liaison Committee on ESD: Implementation Plan for Education for Sustainable Development in Japan (The Second ESD Implementation Plan) - https://www.mext.go.jp/en/unesco/title04/detail04/sdetail04/mext_00030.html]

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The Okayama ESD project is an example of WIA within entire communities, aiming to form citizens that reflect upon issues holistically, systemically and critically. It is founded on the assumption that a school's mission is to nurture the shapers of a sustainable society; this mission is embedded in school culture. It facilitates synergies within the community and also promotes dissemination of results to solve tangible problems. ESD is implemented horizontally across all school subjects and domains in Japan, as is the case in our national context. Additionally, education initiatives incorporated in this paradigm are relevant initiatives in Cyprus- such as the creation of outdoor green spaces for teaching/learning, the encouragement of action and the involvement of non-formal education structures in supporting whole community transformation towards sustainability.

The Okayama ESD Project is relevant in the sense that the guiding framework of the realization of WIAs is an annual school plan or policy, aimed towards solving sustainability issues within the community,

integrating regional collaboration, realization of curricular goals or standards, professional growth of teachers and promoting positive results on the school as a whole, which is analogous to the School Environmental Education Policy implemented by schools in Cyprus. Finally, Okayama ESD Project is a good example of how to model synergies, and of how to facilitate the solving of issues in a systematic and coherent way.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

In terms of financing, the Okayama ESD Project requires that schools use their own resources for funding their actions and encourages them to seek funding from other sources, including corporate. However, the synergies that are realized through WIAs under these initiatives (e.g. synergies with business, local authorities, organizations within the community etc.) are a good example of effective use of existing resources, and their better utilization for all stakeholders involved in WIAs. Expertise is resourced in a variety of ways: First, the Okayama ESD Network, which was one of the results of the project, led to the creation of a system that allows teachers to tackle issues they encounter, resulting in their professional growth. Capacity building for teachers is one of the key principles in action in schools involved in the project, which also includes a requirement for weekly meetings where the team of teachers involved in the implementation of the project develop the annual plan and share the progress, which is a creative learning opportunity for teachers. These meetings involve actions to familiarize teachers with the community, especially since like in our national context, teachers in Japan often get transferred. The Okayama ESD Project encourages sustainable capacity in the sense that its overall framework is such that it is modelled after a vision for the transformation of the whole community in the long term, so it does not matter if teachers or students change over time because the vision of the project is sustainable. In addition, working with the community (e.g. local authorities, parents, businesses, NGOs etc.) brings multifaceted expertise in the school. In turn, this models systemic thinking towards sustainability.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The Okayama ESD Project has been in place since 2005. Schools implementing WIA in their communities report every two years. In the Okayama region, which is an ESD advanced region, results of past ESD activities are used to further promote ESD initiatives. This longitudinal process resulted in the accumulation of data regarding WIA and this knowledge has been used to make adjustments on

the way WIA is realized. The focus of Okayama ESD Project is the transformation of local communities towards sustainability through school-initiated action. ESD is at the core of each school functioning and is incorporated horizontally across curricula. WIAs include teacher capacity building not only on ESD pedagogies but also introduce them to the distinct characteristics of the communities where they work. Learners are viewed as the future shapers of sustainability in their communities and are motivated to implement individual or collective action and to collaborate with local stakeholders. This means that actions taken in school on ESD, have a direct and measurable impact on peoples' daily lives and serve the sustainability of the community. In this sense, all stakeholders involved in WIAs are in a process of constant critical reflection on how their schools and communities can be further mobilized towards sustainability. The creation of outdoor learning spaces, campaigns, synergies of schools with local stakeholders etc. empower students to understand the impact of their actions within their community, help them grow and realise their career goals.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

First of all, ESD actions in schools in the Okayama ESD Project are focused around tackling specific issues in local communities and improving or transforming communities through action taken by schools. Teacher capacity building involves familiarizing newly appointed teachers with the specificities of local communities. Students are mobilized to take individual and collective actions within their communities (e.g., to create green spaces, to initiate waste management practices and in general to actively address problems within their communities) and are facilitated to realize career goals based on collaborations with stakeholders in the community. "Environment courses" held at schools integrate activities that serve the well-being and sustainability of the community. Interestingly, there is dedicated time for students to engage in actions serving the community and, in this way, students' sense of purpose towards creating a sustainable society is clarified. This requires that the educational goals and vision of the school be well-defined in the yearly school action plan. The project, due to its structure, facilitates the creation of systems within the communities to face issues that need to be addressed and regional collaborations get in motion to tackle these issues.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The Okayama ESD Project is reformative, first of all, because it starts from an issue faced in the local community and secondly because it is developmental, in the sense that it cannot be completed in one

year and therefore it builds capacity and has an agenda that is sustainable over time. Also, the project is focused on putting ideas in practice to solve problems within the community, by engaging all stakeholders who might contribute with expertise, resources etc., to the actions taken by a school within the community. In turn, the community as a whole benefits from reformative action taken by schools and other education organizations so partnerships are beneficial for all stakeholders involved. Okayama ESD Project is structured in such a way that it facilitates schools to clarify interventions needed in governance, curricula, infrastructure, partnerships, research and action learning in order to achieve the school vision which is not focused on the school per se, but rather on transforming the whole community towards sustainability.

Best Practice 6 (Presented BY CPI)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	Green Free School (Den Gronne Friskole)
Implementation lead/partner organisation(s)	Individual initiative
Country or countries of implementation	Denmark
Keywords	1. Green transition 2. Project-based innovation courses 3. External authentic recipients – outdoor school 4. Mixed age groups – social learning

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Denmark: The Green Free School (Den Grønne Friskole)

The Green Free School (Den Grønne Friskole) is a self-governing, independent and non-profit educational institution based in the municipality of Copenhagen, Denmark. The school was established in 2013 and is operating in accordance with the national laws and other legal regulations for independent schools and private primary schools etc., in Denmark. The Green Free School's vision is to teach based on sustainable principles and with a view to strengthening the individual pupil's academic and social competences based on innovative pedagogic learning environments in mixed-age communities. The school is administered by the Board of Directors (parents and academic staff) and there is a great focus in involving the local population in the teaching and in the social network around

the school, emphasizing non formal education, particularly in learning for the urban and natural environment. The vision is also to focus on a broad academic concept with an equal timetable of creative, musical, movement, craft and academic subjects. Sustainability is sought horizontally and over time in terms of learning, the environment and society.

The main goals are: (a) to educate students to take part in the green transition, to actively choose and prioritize the future, which is based on a green and sustainable approach to resource, political and social systems, (b) to educate students to be able to find natural peace, joy and creativity in a changing time, (c) to educate students to have a relationship with nature and to think about nature in all contexts, (d) to preserve, appreciate and develop student's attachment and connection to nature.

Although the Ministry of Education (MOE) in Denmark publishes curriculum guidelines, “Free Schools” are provided with the autonomy to form their curricula and emphasize their own proficiency areas, but most follow closely MOE guidelines. So, Green Free School is free to teach subjects like urban farming and greenwashing. The Green Free School’s curriculum is based on systems thinking - a way of looking at the world in terms of its underlying patterns and interrelated systems. Students are encouraged to think about these systems through time spent outdoors, exploring the world and gaining hands-on experience growing vegetables, while learning about edible plants and climatic conditions. The school's teaching method combines project-based learning and design thinking. Students are involved in hands-on projects that are supervised by several teachers and span different subjects.

In order to support its goals, the Green Free School puts sustainable living at the heart of its syllabus. The school also implements project-based innovation courses and incorporates all the traditional subjects and skills in the courses. Through its curricula, activities and actions both in the school and in the community, the Green Free School emphasizes the development of students' competences and, through their experiential involvement in various actions, to unlock their potential through active participation and an innovative pedagogical framework that enables them to help shape the future. They form mix-aged communities as they believe that everyone can learn from each other and that students learn at different paces across ages. Project-based innovation courses have authentic recipients which become the school’s stakeholders, such as local businesses, the local community, researchers, parents, students, staff and every person who can help with the project. The results of the school projects are communicated at the end of the innovation projects, through a process lasting from 6 to 8 weeks, at the school and at the local level, and are disseminated in the community, since they concern interventions that the community itself is pursuing.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

At Green Free School, grading, national examinations and tests have been replaced with vocational and social objectives in the innovation courses, as well as with systematic assessment and feedback in cooperation with the student and parents. School works systematically with the projection of learning, targets and action options - e.g. using learning rubrics.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The Green Free School is a unique amalgamation of sustainability and innovation on a foundation of learning and well-being. The school has a strong focus on environmental, social, and economic sustainability. School life, both concerning classes and everyday school life, is infused with sustainable lifestyle actions. For example, there are specific school actions (e.g. activities, modules, etc.) on food literacy, interior design for green spaces, renovation of buildings, waste management, etc. which are offered not only to students but also to parents and, among others, through actions outside the school settings, e.g. during camping trips.

The Green Free School infrastructure is made entirely from sustainable, non-toxic and breathable materials. Its main building houses a workshop where pupils learn to sew and use materials such as wood, clay, wax, felt and metal. Also, furniture is made of untreated wood, and linseed oil paint is used only if paint is needed. All fabrics are free of brominated flame retardants and chemicals that evaporate. The schoolyard is full of different learning spaces. A circular economy model is used in the way goods are used, e.g. students learn how to repair their bikes, how to grow vegetables, how to make their own compost and how to collect rainwater for watering in the yard. All trees and flowers in the yard are insect friendly.

The school's learning process focuses on the development and implementation of innovation projects to find solutions to authentic problems with authentic solution recipients. Each project lasts approximately 6 to 8 weeks and incorporates all traditional lessons and competencies (Maths, Danish, 21st century competencies, etc). For the development of each project there is close collaboration with authentic recipients outside the school, for example local businesses, local authorities, local community, etc. The authentic recipients submit and analyse the authentic problem they are facing in the school community, asking for their help to address it, with the green transition in mind. The goal of each project is to solve such a problem, with the ultimate goal of a green transition. There are outdoor classes every day and, also, an outdoor school at least one day a week throughout the year, linked to it - nature studies and experiences, research in museums, workplaces, industry, the local library, etc.

The school focuses on social learning and well-being as a key element of community. It is organised in mixed-age family groups in order to foster social learning and altruism, and to promote the sense of belonging in a group. Each group consist of 15-20 students, mixed across two – three grade levels. Also, well-being lessons are systematically held at the school for all the groups.

At Green Free School grading, national examinations and tests have been replaced with vocational and social objectives in the innovation courses, as well as with systematic assessment and feedback in cooperation with the student and parents, using learning rubrics. The school organizes demonstrations and festivals to present the results of the projects and the solutions to the challenges raised and explored through the innovation process for the external authentic recipients, to the community, the country and the world, and all this process is the final evaluation of innovation projects.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Green Free School is a school that extends beyond the school context and into the lives of all those who are affiliated with the school. The school builds a community among parents and families, which aims to fulfill the school's vision, also for the adults. This community consists of (a) Parenting - Parental work creates and maintains the school's physical framework (b) communal dining - a social community for children and adults together with a focus on community, and (c) parenting academy - engaging the school's adults in a common learning and development process with a focus on green transition, linked with innovation projects.

Additionally, Green Free School inspires young teachers to apply its approach and expand it in other schools, as it contributes to capacity building for teachers who, by participating in school's projects to promote sustainability in school life, in the community and in the world, gain practical expertise on how to develop and implement Whole School Approach and implement it in other school organizations, when they move to another school.

Green Free School, as an institution operates and implements the totally sustainable framework that is needed in the transformation of society, by setting an example in terms of thinking, acting, habits and consumption. In Denmark it is illegal to publish school results and there is no formal mechanism for disseminating information about schools' methods, programs or academic results. Therefore, parents rely mostly on word of mouth for recommendations, and the school is still growing since 2013. Non-formal education for children aged 7–16 as a weekly 'outdoor school' day has found to add value to normal classroom teaching especially with regards to health, social and well-being perspectives

(Bentsen, Mygind, & Randrup, 2009). Green Free School's students at the age of 15 move on to further education at other schools, where they usually gain formal qualifications.

Furthermore, the Green Free School has a great impact on the community, since the school operates as an open development laboratory where stakeholders outside the school organizations are invited to be involved. In turn, the school, through innovative projects, provides assistance to the local community and industry to develop and implement solutions that will lead to the city's green transition. Some of the school's interventions in the community are: (a) the creation of a garden that helps to preserve and enhance the biodiversity of the area, (b) the cleaning the soil from chemicals by planting specific plant species, (c) creating a bird education space at Kofoeds Skole, an organization carrying out social work for adults.

Additionally, the Green Free School is mentioned in the European Commission's Final Report on Education for Environmental Sustainability, as one of the most important models for the adoption of the Whole School Approach in Europe.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Patrinos, H. A. (2001). School choice in Denmark. *World Bank, Human Development Department, Education Group, Washington, DC Processed*.

Clasper, J. (2020), 'Meet Denmark's school where education is all about sustainability'. DW, 19.02.2020. https://www.dw.com/en/denmark-copenhagen-sustainability-schooleducation/a-52341880

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Moos, L. (2014). Educational governance in Denmark. *Leadership and Policy in Schools*, *13*(4), 424-443.

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Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://www.facebook.com/DenGronneFriskole/?locale=da_DK

https://cr.linkedin.com/company/den-gr%C3%B8nne-friskole

https://www.instagram.com/dengroennefriskole/?hl=el

https://www.dingeo.dk/kommune/koebenhavn/skole/den-groenne-friskole

https://renover.dk/projekt/den-groenne-friskole/

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Green Free School is based on Copenhagen, which currently owns the title of the World's Greenest City, a city which has transformed itself from being Denmark's traditional hub of maritime trade to the world's leading model of urban sustainability. Denmark is a country where climate change is becoming a growing political focus, since the Danish parliament has already passed a climate law committing the country to reduce carbon emissions to 70% below 1990 levels by 2030. Green Free School is promoting its city sustainability, through the innovation projects. It is a school, which has transformed itself from being Copenhagen's most polluted area to a Sustainable School for the society and the country. Social sustainability, environmental sustainability, and economic sustainability are part of the school's vision and core values. Sustainability at all levels is reflected in the school's daily life, in teaching and learning, in innovation courses, as well as in authentic recipients' and other stakeholders' life and business.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

The school dedicates 5% of its funds to educating needy families. About 85% of its expenses are covered by funds from the local committee, the distribution secretariat, the pools under the Ministry of Education and the Ministry of Environment, and various foundations. The remaining 15% is covered by the students' tuition fees which amount to 350 euros per month. The funding gives life to the ideas of the parents, the board, staff and students of the Green Free School, who discuss their ideas for projects they would like to develop and implement and then they apply for grants.

One of the school's policies is to first ask parents and the community for the resources needed for each project, if available at home, in order to promote reuse. Only in the case where resources are not available from families, the school proceeds to purchase mostly second hand items and this is after research.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Green Free School is a learning organisation where the school and the local community work together for sustainability. Through their daily life and learning process, all stakeholders (students, teachers, parents, partners, etc.) develop critical thinking and reflection skills due to the innovation projects that are co-designed, co-created, co-implemented and co-presented to the wider community. In addition, the schools' great focus on providing activities training stakeholders to live in a circular economy engages them in a dynamic process of evaluation, reflection and creativity.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

Green Free School is a school that rejects a one-size-fits-all approach to sustainability and insists on exploring real school and community problems with the ultimate goal of bringing about change towards sustainability at the personal, school and community levels. Continually exploring real, authentic, unstructured problems through projects helps to recognise the complexity of the challenges and build not only student's capacity to solve them, but community capacity as well.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The ability of the green free school to shape its curriculum on the basis of the green transition to create environmentally literate citizens with the skills to tackle real unstructured problems is evidence of the reconfiguration of the whole educational experience towards sustainability. School and local communities work together and act for sustainability through innovation projects, but also through their everyday pro-environmental habits. Everything bears witness to this effort (sustainable building, transport, nutrition, circular economy, etc.).

Best Practice 7 (Presented By DIMITRA)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Drøbak Montessori schools
2.Implementation lead/partner organisation(s)	Drøbak Montessori secondary school
3.Country or countries of implementation	Norway
6. Keywords	1. Modessorian pedagogy 2. Montessori 2030 strategy 3. Powerhouse educational building 4. Sustainability

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

To Drøbak Montessori secondary school is one of the 91 Montessori schools which are under their own Montessori 2030 strategy. In the context of Montessori 2030 strategy, the schools are institutions which purchase products and services. Drøbak Montessori schools (a kindergarten, primary and lower-secondary) created and committed to their own 2030 strategy and are part of the local community. The school strategy was part of the inspiration behind Montessori Norway's national agenda and is an example of how individual schools can support change on a national level. More specifically, the Secondary Schools vision is grounded upon 5 principles 1. Freedom, 2. Individualisation, 3. Independence, 4. Cooperation, 5. Harmony with Nature. The School aims to involve students in their own learning experience/ process. Overall, Drøbak Montessori secondary school vision is to assist the adolescents to develop a strong sense of self-worth, identity and a clear understanding of their

meaningful role in society at large. To prepare the students for adult life, to be able to feel a strong sense of independence both socially and economically.

Drøbak Montessori secondary school uses the "top-down" influence and all teachers have this focus included in their contract. The Human Resource Development and staff hiring strategies consciously looks for people who are attuned to the school's philosophy and the SDGs. Elements of the school are non-hierarchical, especially in the classroom, the aim is to work side by side with the student. All the teachers and school leaders eat, play sports and free-time games with the students, there is no separate "teachers' lounge". The school has the freedom to develop its own localized curriculum which is supported by the wider Montessori school network (nationally and internationally). Also, teachers are encouraged to follow their interests and go on different types of training course, such as, bee keeping courses – both students and teachers have attended this.

Other top-down support includes Montessori Norway providing administrative support for teacher training course related to numerous aspects embedded a WSA ESD. The School also have close cooperation with various other national and international organisations such as United Nation Norway.

At board meetings, each school is required to give progress reports in connection to their yearly plan concerning the 2030 agenda, and within this ESD. While teacher autonomy is respected in these schools (historically teacher autonomy in Norway is very strong), this top-down requirement, that goes beyond the commitments upheld by following a national curriculum, helps support a whole school/staff commitment to a common goal. However, it is important to note that there needs to be flexibility and the ability for each teacher to find their own way.

As a building, the Drøbak Montessori secondary school is the first powerhouse school in Norway, which means that during sixty years of use will produce more energy than it has used. The calculation includes the entire process, from material production, transport and construction to operation and finally disposal.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

At Drøbak Montessori Middle School, the school day starts at 8.15 and lasts until 14.00 on Mondays and Fridays. On Tuesdays, Wednesdays and Thursdays, the youngsters end at 15:15 p.m. The school emphasizes long work sessions so students can develop stamina and concentration.

Lunch is a central part of everyday life at Drøbak Montessori secondary school, where students and teachers plan, cook and eat together at the long table. This is an important arena for socialization, unity, cooperation, independence and economic understanding, as well as increased knowledge about cooking and diet.

The school also offers physical activity in the schoolyard in the morning, where students and teachers play ball, field hockey, padel tennis, table tennis, go for walks, etc. Moreover, the school offers flextime (optional attendance) between 7.30 – 8.15 and 15.15 – 16.00. Here, the students can continue to work on assignments and subjects with the supervisor present. Student-led learning is promoted, for example, through the in-depth projects where the students get to learn about whatever they want for 6-week periods at a time.

All the students have responsibilities for daily tasks such as cleaning, making warm lunches, feeding the hens, beekeeping, gardening, doing the hives, etc. Students directly contribute to the running of the school, they maintain the school grounds, cook and clean. Beekeeping is a classic example of what the school focuses on. It is a good thing for the local environment, and it puts money into their microeconomy. In terms of challenges, being a small school, staff is always vulnerable when, for example, a teacher leaves or gets sick for a period of time.

Another example of student-driven education is when all the students and teachers focus on and clean up the small pond they have in the neighborhood. The result is a really nice pond, bird boxes, a cleaner stream of water, etc.

At Drøbak Montessori Middle School, they used to have a boat for fishing, but now they had to look for other sustainable resources in the sea. They focused on seaweed. Now they collect seaweed and use it for food, soap, etc.

Students make money by giving guided tours to visitors of the school, showcasing the sustainability features inside and out. Students are also part of school decision making—democratic decision-making in action. Young people are involved in school life and school facilitates a high degree of student democracy and citizenship. A council meeting is held once a week, where students have the main responsibility for content and implementation. All school staff and students are present here.

Citizenship science in the surrounding community, such as working with local charities on water quality issues and beach and nature clean-ups initiated by students. Students take part each year in Montessori Model United Nations connections to the international community through UN-School Norway-National Community Connections.

Student participation has been a focus here as well, even in designing the building.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The school's vision is to assist the adolescents in developing a strong sense of self-worth and identity and a clear understanding of their meaningful role in society at large. To prepare the students for adult life and to be able to feel a strong sense of independence both socially and economically. Elements of the school are non-hierarchical, especially in the classroom, where the aim is to work side by side with the student.

Students have a major role in decision-making in the school community. At Drøbak Montessori Middle School, they have a council meeting every week where the students lead in front of other students, teachers, and the principal. It is very important for students at this school to be involved in their own learning experience or process. Students are involved in the decision to complete daily tasks. In this way, students directly contribute to the running of the school.

Through everyday life and teaching methods, students will get real experience with different actors in society, and therefore cooperation is important to the school community.

In addition to the students, there are representatives from teachers, school management and parents who have participated in the process and embraced the Environmental Council's ideas for the school's outdoor area, the environment (both at school, at home, and in the local community), and the Green Flag process. Moreover, students have been very concerned about littering. With increasing media coverage of marine litter, the environmental council decided to take action and they made the trip to Hamborgstranda in the hope of making an effort for the local community and hopefully being an inspiration to others.

References

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Mathie, & Wals. (2022). Norway - Montessori Students as changemakers. In *Whole School Approaches to Sustainability: Exemplary Practices from around the world* (pp. 48–53). Education & Learning Sciences/Wageningen University. https://doi.org/10.18174/572267

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Drøbak Montessori – Med barnet i fokus (drobakmontessori.no)

Montessori Norway (montessorinorge.no)

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The Montessori mission extends far beyond raising children to be able to adapt to norms or to be suited to a particular profession. Montessori pedagogy is based on the view that the child is at the center and that social, emotional, physical and intellectual development are considered equally important. One of the most important goals is to give children an understanding of how everything in the world is connected. Montessori's responsibilities are to care for the environment, understand it and respect it. This is central to Montessori pedagogy.

The school strategy was part of the inspiration behind Montessori Norway's national agenda and is an example e of how individual schools can support change on a national level. The founder of Drøbak Montessori, has spearheaded this national 'Montessori Norway' commitment to the SDGs and is also committed to inspiring schools around the world to do the same. Another 'top-down' influence, offering the authenticity and assurance needed to live up to this commitment to the SDGs, is that all teachers have this focus included in their contract. At board meetings, each school is required to give progress reports in connection with their yearly plan concerning the 2030 agenda and within this ESD.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

The Drøbak Montessori Secondary School is highly committed to environmental issues and has built the world's first Powerhouse educational building. This means that the building produces more energy than it consumes. The construction is part of the Montessori 2030 strategy, where the vision is to live up to the UN's sustainability goals. It is gratifying that this has had ripple effects globally.

The school has an environmental council with representatives from both groups, and this group has ensured that the school has achieved the status of a Green Flag school. In addition to the students, there are representatives from teachers, school management and parents who have participated in the process and embraced the Environmental Council's ideas for the school's outdoor area, the environment (both at school, at home and in the local community), and the Green Flag process. Students have worked for increased integration of the school garden and outdoor areas in a teaching context, and here the school has made a great effort to merge this in a natural way in line with Maria Montessori's pedagogy. The garden is an arena where the pupils get the opportunity to develop healthy attitudes and become environmentally responsible participants in society.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The school has the freedom to develop its own localized curriculum which is supported by the wider Montessori school network (nationally and internationally). The school vision is to assist the adolescents to develop a strong sense of self-worth, identity and a clear understanding of their meaningful role in society at large. To prepare the students for adult life, to be able to feel a strong sense of independence both socially and economically. Elements of the school are non-hierarchical, especially in the classroom, the aim is to work side by side with the student. All the teachers and school leaders eat, play sports and free-time games with the students, there is no separate "teachers lounge".

The Human Resource Development and staff hiring strategies consciously looks for people who are attuned to the school's philosophy and the SDGs. The Drøbak Montessori Middle School is really stressing the importance for students to be involved in their own learning experience/process.

Finally, students gain skills like autonomy, critical thought, equality etc., through the school activities. Equality, solidarity, freedom, democracy and charity are values that have a central place in the Montessori School's holistic education plan.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words

At Drøbak Montessori School, they have a global and holistic focus, with the thought of all people as equally world citizens. This forms an important framework for the values they want to cultivate and preserve in their society. The school creates space for youth to develop as independent and secure individuals with faith in themselves and their future. They will learn to know their culture, society and themselves. Meanwhile, the school puts them in contact with humanity and how the entire history connects the region with different human cultures and with the interaction of the universe between all living and non-living beings.

In Drøbak Montessori School, knowledge and competence can be viewed in the light of four different areas: the physical environment, the intellectual environment, the creative environment and the social/ethical environment. Knowledge and competence in these areas revolve, among other things, around how students take care of the materials and the environment outside or within, how the interaction is in the group and between the team and him, to what extent they develop skills for collaboration, problem-solving and ethical reflection, how they demonstrate responsibility for the community, and how virtues are developed in the individual and in the team.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

Montessori focuses on assisting students in creating a more sustainable, fairer and peaceful world. In Drøbak School, pedagogy is often referred to as "peace education". The values in Montessori pedagogy are intricately linked to and in line with human rights and the UN's SDGs.

The concrete implementation of the curriculum must take into account the individual's preconditions and possibilities while preserving the community's perspective and needs. Each student has the right to be treated in a way that safeguards their self-worth and recognizes their personality, abilities and assumptions. No student shall be discriminated against and all students shall be given equal opportunities to make independent choices. The school should take into account the diversity of students and make it possible for everyone to experience belonging to the school and society.

The school focuses on acquiring knowledge and connecting all knowledge. The student's experience of the various subjects should be experienced as a substantial set where different types of knowledge help determine the common and individual understanding of the knowledge of the subject. The school

focuses on engaging students with a technique, idea, concept, etc., where the teacher helps the student further into his understanding and development.

Best Practice 8 (Presented By DIMITRA)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Eco-Schools
2.Implementation lead/partner organisation(s)	Lead organisation: Foundation for Environmental Education (FEE) Partner organisations: Schools from 73 countries (FEE member organisations) and 26 countries (International Schools) Institutional Partners: UNESCO, the UNEP, UNWTO, ISESCO, YMP, Earth Charter, the GAP and eTwinning Corporate partners: Mars Wrigley Foundation, Alcoa Foundation
3.Country or countries of implementation	Countries of: Africa, Asia & Pacific, America, Europe & Central Asia, Middle East.
6. Keywords	1. Eco-schools 2. Sustainability 3. Environmental education 4. 7 steps

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Eco-Schools is a growing phenomenon, which encourages young people to engage in their environment by allowing them the opportunity to actively protect it. It starts in the classroom, it expands to the school and eventually fosters change in the community at large. Through this programme, young people experience a sense of achievement at being able to have a say in the environmental management policies of their schools, ultimately steering them towards certification and the prestige which comes with being awarded a Green Flag. The Eco-Schools programme 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.

The aim of the project is to raise awareness, educate and change the attitudes of students on environmental issues through participatory processes in decision-making, planning and implementation of actions, so that schools become communities of sustainable living together on a pedagogical and practical level. This is achieved through the formulation and implementation of the "Eco-Code" (a set of rules of environmental behaviour), as well as the implementation of an Environmental Action Plan (concerning the surrounding school space and its transformation into a clean, beautiful, humane and friendly environment).

The Eco-Schools programme is addressed to the whole school community (pupils, teachers, parents, school employees) and is designed to encourage the whole school to mobilise and take action for the environment. It also encourages cooperation between students, teachers, parents and the local community to achieve more effective environmental action.

In each school, an Environmental Committee is set up, made up of students and teachers, to work on the issues of energy, waste and water. (Later they can work on the issues: transport, healthy living, biodiversity, consumerism, etc.). At the same time, it ensures the implementation of the "Action Plan" and the "Eco-Code" with the participation of the whole school community (See the 7 steps).

When the school completes the Action Plan and after being evaluated by the Network's Pedagogical Team, it is called an "Eco-School" and is rewarded with the Network's Green Flag bearing the Network's

logo. After two years from the award, it is re-evaluated so that it can continue to deservedly carry the title.

Finally, in order to open up to the local community and raise awareness, events and actions are organised in cooperation with the Local Authorities. Educational material is offered for all the Network's thematic modules.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

Since 1992, eco-schools have planned and implemented a lot of activities related to energy, waste, water, etc. Below are some of the activities applied in eco-schools around the world.

Challenges bringing the best in Us!: A twinning project between Ulidia Integrated College, Northern Ireland and Lycee Pole School, Madagascar brought the two schools together to understand sustainability challenges. While in Northern Ireland they were trying to find ways to reduce their water consumption, students across Madagascar were working to secure access, quality and sanitation. The project started in 2016 and involved students (14–15 years old), teachers, parents, the school principal, Municipality and Education Department. The resources needed to complete the activity/project are a twinning platform, online and offline communication tools, and stakeholder involvement for the financial and practical implementation of installing boreholes.

Waste Not!: The project started in 2016 by the Government Lower Primary School, Pura, South India and was implemented by students (6–11 years old), teachers, parents, School Principal, Municipality, Education Department and CEE India. The school's activities aimed to achieve segregated waste collection both at the school and community grounds, as well as composting of all wet waste generated within the school campus. The compost utilised in the school was also sold to farmers and generated revenue from the collecting waste and institutionalising a system of efficient waste management. Citric peels were collected separately by students and these were utilised for making bio-enzyme, which the school has been using for cleaning the school toilets. The bio-enzyme was found to be very effective and some of the community members started making it in their individual homes too. The resources needed to complete the activity were: financial resources, space, time and knowledge of the technology.

We Eat Responsibly! (WER): The WER is an EU-funded sustainable food project implemented in eight countries through Eco-Schools. The project helped students understand the direct/indirect

consequences of climate change, the use of resources like water and land and people's ability to feed themselves and live decent lives. The project involved 12,895 students (5–18 years old) and reached out to 6,683 households to carry out a review of their food consumption impact and identify positive actions towards sustainability. The project's timeframe was 2015–2018. The Eco Committees at the participating schools carried out an environmental review of the food theme in their school and back home. In Latvia, students and teachers decided to procure more environmentally friendly products, focusing on local and seasonal food. They organised a green market where children, parents and school staff had the chance to meet local producers, taste and buy their food products and understand the food circle. In Slovenia, children focused on reducing food waste. Their plan addressed the connections between global and local dimensions of food production by exploring the origins of their region's most common recipes. Children prepared their own menu using vegetables from the school's garden. Throughout the year, students measured food waste and managed to significantly reduce both consumption and waste levels.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Eco-Schools programmes and activities contribute positively and effectively to the protection of the environment, the powerful relationship between school stakeholders and the government, as well as the self-improvement of each student. Eco-Schools focusing on developing generations of sustainability-minded and environmentally conscious people through active learning, participation and motivation, ultimately changing behaviour.

Teachers, students and parents consume less water, food and energy while producing less waste, the progress of which is monitored and controlled by the students. Eco-schools have also improved school grounds and the surrounding environment in turn tackling environmental degradation. Environmental and student health has improved at Eco-Schools, including through the development of school vegetable gardens that have improved student nutrition, as well as through student-led actions to improve water access and in turn hygiene.

Eco-Schools activities make students more autonomous and confident, encouraging some of them to become innovators themselves with cheap and easy technology. By challenging students to tackle environmental problems that lead to tangible results, they are instilled with a sense of responsibility and ownership to really make a difference at school, at home, within their community, etc. The Eco-Schools programme has not only increased student learning but also encouraged student

engagement, increased student empowerment and confidence and created leadership and real-life skills (public speaking, problem solving, soft skills, etc.).

Eco-Schools projects are those that have built strong partnerships with the government, non-governmental organisations and the private sector. National operators play an important role in facilitating such partnerships, including by providing Eco-Schools with the opportunity to engage in micro-projects that can ultimately generate sustainable income. Eco-Schools programmes strongly rely on involving local communities by raising awareness on environmental issues, as well as by involving community members (parents, neighbours, governors, etc.) in training and encouraging them to participate in Eco-School actions.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

EU. 2018. Eco-Schools: Environmental Education and Sustainable Development. *Greening EU Cooperation–Integrating Environment & Climate Change*. Retrieved May 30, 2023, from https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/60d3050632ac8c0b3e09f5d4/1624442120462/Eco-Schools+-+Environmental+Education+and+Sustainable+Development.pdf

Eco-School. (2017). Eco-Schools and the United Nations Sustainable Development Goals. Retrieved May 30, 2023, from https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/591adab6197aead051a14054/1494932151856/Eco-Schools+and+the+SDGs.pdf

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Foundation for Environmental Education (FEE). Eco-Schools as a whole school approach. Retrieved May 30, 2023, from https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/645260833a682a7da422eebe/1683120264318/Eco-Schools+as+a+Whole+School+Approach+%282%29.pdf

Foundation for Environmental Education (FEE). (2019). Changing together - Eco-Schools 1994-2019. Retrieved May 30, 2023, from

https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/5e4bb262190cbb27f15a2077/1582019198413/1.+changing+together+-+eco-schools+1994-2019_introduction.pdf

Foundation for Environmental Education (FEE). (2019b). ECO-SCHOOLS Engaging the youth of today to protect the planet of tomorrow. Retrieved May 30, 2023, from https://static1.squarespace.com/static/552bcd30e4b02ed06b97c76d/t/5c6bccddf9619a97a6e50db6/1550568726955/Eco-Schools_brochure+2018-compressed.pdf

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Eco Schools

Foundation for Environmental Education Foundation for Environmental Education (fee.global)

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Eco-Schools is the most extensive programme of its kind, involving 20 million students and 1.3 million teachers worldwide. Eco-Schools aims to change behaviours in everyday school life. They are linked to the school's hidden agenda, e.g. where to throw away our trash, how to save water and energy, how to use the schoolyard sustainably and, most importantly, how we make decisions. The Eco-Schools programme is aimed at the entire school community (students, teachers, parents, school staff) and is designed to encourage the whole school to mobilise and take action for the environment. It also encourages collaboration between students, teachers, parents and the local community to achieve more effective environmental action. The educational material on "water", "energy", "waste" and "sustainable school" has several references in the curriculum for basic, pre-primary and secondary education. As a result, the eco-school aims at a holistic approach to the school curriculum in order to achieve the relevant goal of forming responsible citizens.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Eco-Schools can try and get financial support from their respective ministries and governments. The broadest shoulders have to carry the biggest burdens and that has been kept in the organisation as a way to think socially. If an organisation should get into severe financial problems, FEE can lend a helping hand due to the contingency fund, for a short period of time. This is also something that has contributed to the success of the organisation, an expression of solidarity within the organisation that goes hand in hand with democracy. The financial support has to be continued, over lengthy timeframes without "quick fixes'. Program supported by facilitators and coordinators, professional exchanges and networking opportunities. In addition, investments in monitoring and evaluation to inform development and effectiveness of initiatives. This will ensure that the organisation is able to sustain its operations and achieve its goals in a transparent and accountable manner. Furthermore, it will enable the organisation to adapt to changing circumstances and respond to emerging challenges with agility and resilience. Moreover, waste management in the school, on the one hand, contributes to clean classrooms and courtyards and on the other hand helps to save money and increase revenue from paper recycling.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Through the programme, the socialisation of students, the formation of environmentally friendly values and attitudes and of “environmentally responsible citizenship” is supported. Also, through the programme, students learn to defend their ideas without aggression, to influence those around them through dialogue and arguments, to be restrained and autonomous in their decision-making, and to take responsibility for their actions. The programme also encourages critical thinking and problem-solving skills, as well as creativity and innovation in finding solutions to environmental challenges. Ultimately, it aims to prepare students to become informed and active global citizens who are committed to protecting the environment for future generations.

One of the main aims of the programme is therefore to understand and promote the necessity of collective decision-making and action by students and teachers, both at school and local community level. This involves fostering a sense of responsibility and ownership towards the environment, as well as developing critical thinking skills to evaluate the impact of human activities on the planet. By

empowering students and teachers to take action, the programme aims to create a ripple effect that can lead to positive change on a larger scale.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

Throughout the years, because of the experiences Eco-Schools provide, students have developed important skills such as research, analysis, problem solving, and critical thinking, that otherwise would have been very difficult to achieve. These students, as adults, are becoming the sustainable citizens the planet needs. Those who become the next generation of leaders will be able to make better decisions, assume responsibility and take action. Citizens who, because of their experiences, will face life ensuring that the right economic development decisions are made without compromising our natural world. This is definitely what Eco-Schools is achieving in school communities: true leadership, environmental awareness and a true love for their country and the planet. Through Eco-Schools, students are empowered to become change-makers and advocates for sustainability, promoting a culture of environmental responsibility that extends beyond the classroom and into their daily lives and communities. By engaging in Eco-Schools activities, students learn about the interconnectedness of environmental, social, and economic issues and are equipped with the knowledge and skills needed to address them in a holistic and sustainable way.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The Eco-Schools programme which is centred on active learning through hands-on action, provides a flexible approach to facilitate student learning based on local realities. Blending active learning (developing a renewable energy system, government lobbying, enterprise, etc.) with traditional learning (integration with STEM subjects) improves student learning, increases student confidence and develops leadership skills. The provision of teaching resources and curriculum material, as provided by Eco-Schools and other programmes, as well as support to teachers and schools to adapt teaching material to local circumstances, is important to support the transition from traditional to active learning approaches. Additionally, involving students in the decision-making process and giving them ownership over their learning can further enhance their engagement and motivation, leading to better academic outcomes. It is crucial for educators to continuously evaluate and improve their

teaching methods to ensure that they are providing the best possible learning experience for their students.

Best Practice 9 (Presented By PELLOPDDE)

Basic Information	
Title of the best practice (e.g., name of policy, programme, project, etc.)	Ecological Schools - Environmental Education Network
Implementation lead/partner organisation(s)	Hellenic Society for the Protection of Nature
Country or countries of implementation	Greece
Keywords	1. networking 2. eco-school 3. environment 4. collaboration

Specific information on the best practice

Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Eco-Schools - Environmental Education Network in Greece.

Eco-Schools is an international network, launched in Greece in 1995. It is approved by the Ministry of Education, Lifelong Learning & Religious Affairs, with the Directorate of Secondary Education of Athens as coordinating body and the national operator, since 1995, the Hellenic Society for the Protection of Nature (EEPF). Schools of all educational levels are eligible to participate.

The aim of the programme is to raise awareness and change the attitude of students toward environmental issues. This is done through the design and participatory implementation of actions, so that schools become sustainable communities on a pedagogical and practical level. This is achieved through the formulation and implementation of the "Eco-Code" (a set of rules of behaviour), as well

as the implementation of an Environmental Action Plan (concerning all the school area and its transformation into a clean, beautiful, humane, and friendly environment).

The Eco-Schools Program is addressed to the whole school community (students, teachers, parents, and school employees) and is designed to encourage the whole school to mobilize and take action for sustainability. It also encourages cooperation between students, teachers, parents, and the local community to achieve more effective action. In each school, a school committee, made up of students and teachers, is set up to deal with issues such as energy, waste, and water. The committee works on the implementation of the 'Action Plan' and the 'Eco-Code' with the participation of the whole school community.

In order to open up to the local community and raise awareness, events and actions are organized in cooperation with the local authorities. Educational material is offered for all the network's thematic modules.

To participate in the network, interested schools start by submitting an application.

When the school completes the action plan and is evaluated by the network's education team, it is named an "Eco-School" and is rewarded with a Network Green Flag bearing the network's logo. After two years, the award is re-evaluated so that it can continue to deservedly carry the title.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500

The formation of an environmental committee drives the school's initiative. It connects students, teachers, parents, school personnel, the local government, and other entities. It represents all school community members (primarily students) in decision-making. It oversees school research, the issues that arise, helps create the action plan, supervises its execution, and generally ensures the success of all other processes. The environmental committee should best reflect the school and community (director, teachers, students, non-teaching school personnel, parents, guardians' representatives, municipal representatives, environmental organizations, and other entities).

An initial study shows the school's "current situation" on sustainability issues. This research pinpoints the short- and long-term alterations needed. The research can be a checklist or a questionnaire that generally represents the school's position on the issue. Each school may tailor the method to their requirements. An action plan relies on this research. A good action plan: a) is related to the school's

curriculum and topics; b) contains clear, realistic objectives and mechanisms to measure their performance; and c) typically anticipates the amount and source of funds required.

Monitoring the implementation of the action plan and the evaluation that follows immediately after is necessary in order to measure the degree of achievement of the goals, judge the success of our activities, keep the school interested in the program, and plan the necessary corrective actions and changes.

Monitoring the plan is done with tools like:

- Measurements (weighing garbage for recycling, burial, etc.)
- Photographs before and after (to illustrate action progress)
- Data entry and opinion log comments, post-environmental tests.

Integrating "Eco Schools" into the curriculum. Education level, curriculum structure, and instructor availability determine the integration. At this level, teachers might use new approaches to insist on tough ideas, improve sustainability concepts, and "lighten" the project.

The school community's and local society's engagement is crucial to the program's goals. It allows the program to maximize its potential (information, technical, economic, etc.) and promote the school's "profile" in the community. Some methods used are: school-wide campaigns; dissemination of data from school research; promotion of awareness via drama, music, presentations, school website, local newspapers, etc.

"Eco-code" development. The eco-code must clearly and creatively indicate the school's commitment to sustainability. The steering school committee of the program reviews the school's progress. After the evaluation, the school can be named "Eco-School".

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

In terms of policies, participation can lead to the development and implementation of new policies or the enhancement of existing ones. Schools may adopt tactics that prioritize environmental protection, waste management, energy efficiency, or the inclusion of environmental and sustainability education

in the curriculum. These policies create a framework for sustainable practices within the school and can influence wider educational policies at the regional or national level.

Participation requires the establishment of a dedicated team or committee responsible for overseeing and coordinating the implementation of the project. This requires effective planning, resource allocation and monitoring mechanisms, leading to better management practices overall. In this way the management capacity of the organisation is also improved.

The project's delivery arrangements, such as waste segregation systems, recycling programs, etc., can directly contribute to reducing the school's environmental footprint. These arrangements serve as tangible examples for students and the wider community, demonstrating the feasibility and benefits of sustainable practices.

Education monitoring also has a positive impact. Schools introduce monitoring systems to track progress, evaluate outcomes, and identify areas for improvement. This fosters a culture of accountability and continuous learning, as the project's success relies on ongoing evaluation and adaptation.

Teachers play a crucial role. They are involved in curriculum development, teaching relevant topics, and guiding students in hands-on activities. Such engagement enhances teachers' knowledge and pedagogical skills, enabling them to deliver comprehensive, sustainable education.

Learners, on the other hand, benefit from the project through increased awareness, knowledge, and practical experience. They develop a deeper understanding of the issues, learn valuable skills, and become agents of change within their communities. These projects nurture a sense of responsibility, empowerment, and awareness among students.

Finally, participation can create opportunities for community engagement, collaboration, and knowledge sharing. By involving the wider community, schools contribute to the development of sustainable practices beyond the school premises, leading to a broader positive impact on the environment and society as a whole.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://ec.europa.eu/programmes/erasmus-plus/project-result-content/360e3a02-40e9-4c17-b4f9-ca552f0cd970/A%20Whole%20School%20Approach.pdf

Henderson, K., & Tilbury, D. (2004). Whole-school approaches to sustainability: An international review of sustainable school programs. Australian Research Institute in Education for Sustainability: Australian Government.

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://www.ecoschools.gr/

https://www.eepf.gr/en/project/education/eco-schools-network

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Promoting environmental awareness and sustainability aligns with the schools' mission of providing quality education and preparing students to become responsible citizens. By incorporating environmental education and sustainable practices into the curriculum schools can fulfil their mission of developing well-rounded individuals who are aware of their impact on the environment and society.

Promoting sustainability is a national educational priority. The government has recognized the importance of environmental education and has included it in the national curriculum. Promoting environmental awareness and sustainability in schools can contribute to achieving this national educational priority.

The whole process can enhance the community identity of the school. By engaging in environmental initiatives and promoting sustainable practices, the school can become known as an environmentally conscious institution that cares about the well-being of the community and the environment.

Region may have specific environmental challenges or priorities, such as reducing waste or conserving water resources. By promoting environmental awareness, the school can contribute to addressing these environmental priorities and creating a more sustainable future for the region.

In conclusion, promoting environmental awareness and sustainability in schools is relevant to the institution's mission, national educational priorities, community identity, and environmental priorities of the region. By engaging in environmental initiatives and promoting sustainable practices, schools can contribute to creating a more sustainable future for the community and the environment.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Participation in the eco-schools network requires expertise, resources, and technologies to carry out the project.

The formation of a committee linking students, teachers, parents, school staff, local government, and other stakeholders should include representatives of environmental organizations and other stakeholders with expertise in sustainability and learning for sustainability. These experts can provide guidance and support to the school community in developing and implementing the action plan.

The transition to a more sustainable school environment also requires economic resources and technologies. For example, waste separation systems, recycling programs, or renewable energy installations require natural resources and technologies to be implemented. These resources can be obtained through partnerships with local businesses, government agencies, or non-profit organizations.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Participation in the network encourages students and staff to develop critical thinking competencies by analyzing and evaluating the impact of their actions on the environment. This helps to foster a culture of critical reflection and evaluation at all levels of the institution, from individual actions to institutional policies.

By encouraging staff and students to reflect on their actions and evaluate their impact on the environment, the institution can identify areas for improvement and implement changes to become more sustainable. This helps the institution to continuously learn and improve its practices, policies, and procedures.

Finally, promoting the evaluation of the actions taken helps to develop a sense of responsibility and accountability among staff and students. By reflecting on their actions and evaluating their impact on the environment, staff and students become more aware of their role in creating a sustainable future. This helps to foster a culture of responsibility and accountability, where everyone takes ownership of their actions and works towards creating a more sustainable future.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

Participation requires a flexible structure that adapts to local and cultural settings. The formation of a school committee that connects students, teachers, parents, school personnel, the local government, and other entities ensures that the initiative reflects the opinions of the school and community. The community engagement methods can promote awareness via drama, music, occurrences, computer presentations, the school website, local newspapers, etc. This flexibility allows the initiative to adapt to the local and cultural settings of the school and community.

An action plan that contains clear realistic objectives and mechanisms to measure their performance. The evaluation and monitoring of the implementation of the action plan help to see the degree of achievement of the goals, judge the success of the activities, and plan the necessary corrective actions and changes. This helps learners recognize the complexity of sustainability challenges and the need to continuously adapt to changing circumstances.

Each action plan includes adapted resources, measures, and initiatives that reflect the capacity of the school and the community. The level of commitment of each 'player' may vary according to their priorities. This leads to a variety of approaches to sustainability goals and a rejection of the one-size-fits-all approach.

In conclusion, networking schools is responsive in several ways. It embraces a flexible structure and adapts to local and cultural settings, develops learner capabilities that help recognize complexity as well as the changing nature of sustainability challenges, and rejects a one size fits all approach to

sustainability. This allows the initiative to be tailored to the specific needs and context of the school and community.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The whole process of participation transforms the educational experience. Integrating sustainability into the curriculum promotes the learning experience, and problem solving promotes critical thinking and creativity. Students are helped to develop a deeper understanding of the interconnectedness of environmental, social, and economic issues and how they can contribute to solving them.

Moreover, this practice encourages schools to adopt a holistic approach to education, where environmental awareness and sustainability are integrated into all aspects of school life, including policies, management processes, delivery arrangements, and education monitoring (WSA). This approach helps to create a culture of sustainability within the school, where sustainable practices are not just taught but also practiced and modelled by all members of the school community.

Best Practice 10 (Presented By PELLOPDDE)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Cooperatie Leren voor Morgen (Learning for Tomorrow)
2.Implementation lead/partner organisation(s)	Non applicable
3.Country or countries of implementation	Netherlands
6. Keywords	1. networking 2. quality education 3. circular skills 4. SustainaBul

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

https://www.mdpi.com/2071-1050/12/3/861

https://www.wur.nl/en/education-programmes/wageningen-pre-university/whole-school-approach.htm

https://www.iau-hesd.net/sites/default/files/documents/iauhesdcluster_reportactivities2021_final.pdf

In the Netherlands, the Cooperatie Leren voor Morgen (Learning for Tomorrow) initiative (https://lerenvoormorgen.org/en) consists of a network of associate organizations with the goal of promoting learning for sustainable development. The cooperative seeks to incorporate sustainability

into the DNA of education by employing a Whole School Approach (WSA), an integrated approach in which all domains influencing learning contribute to the question of how to make the transition to a social and environmentally sustainable world. The activities of the network relate to the Sustainable Development Goals (SDGs), specifically SDG 4 (quality education).

The network develops a variety of activities and curricula on various sustainable development-related topics, such as blogs, articles, publications, and news. It highlights both best practices and inspiration sources within the field of sustainability education. Schools are part of a network with a variety of actors and have close ties to sustainable societal development. They can work as experts or educate themselves and make deliberate decisions about how to proceed. They are utilizing an interdisciplinary curriculum to incorporate all aspects of sustainable development (the SDGs) into their curriculum. In addition, schools have established with all stakeholders sustainable business practices that structurally support learning for sustainable development. Schools such as Stanislas Pro Rijswijk and Helen Parkhurst Almere, which have implemented sustainability initiatives involving students, instructors, artists, local businesses, and municipalities, are cited as examples of best practices. These initiatives concentrate on topics such as sustainable entrepreneurship, biology, physics, chemistry, and geography.

In addition to highlighting best practices, the network emphasizes the significance of preparing students to meet the challenges of establishing a sustainable planet for future generations. It recognizes education as a potent instrument for transforming students into global citizens who are aware of and able to contribute to the world's sustainability. Upcoming events and knowledge-sharing meetings will focus on a variety of education stakeholders, including instructors, managers, students, and policymakers. These activities will facilitate networking, creativity, and practical experience. More than 100 organizations (schools, research centers, and others) are members of the network. The Ministry of Agriculture, Nature, and Food Quality, the Ministry of Infrastructure and Water Management, the Goldschmeding Foundation, and Sustainable Through are financial supporters.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

A wide range of activities are carried out for all levels of education and for different stakeholders (students, teachers, schools).

PO for Tomorrow and VO for Tomorrow HO for Tomorrow actions involve the networking of primary, secondary and tertiary education staff respectively. The participants play an important role in the

network by contributing to the activities and sharing knowledge. They also receive updates for events and new developments on sustainable development in all level of education.

MBO for Tomorrow is a network for anyone who wants to get involved in sustainability or wants to be informed about it. It reaches out within and beyond participating organizations and provides updates, inspiration, and ways that people can get involved. It consists of 1600 people inside and outside of MBOs who want to work on sustainability.

Participation in all these networks is free.

Knowledge Development In the area of sustainable education.

Network develops online learning tools, articles, teaching materials, reviews, and others. Many projects and campaigns about sustainability at all levels of education are also running. 11 of them can be found on the webpage: https://lerenvoormorgen.org/en/project/

Development of knowledge is a common job in this network. Network partners, members, and other important players contribute. The results are shared through projects, meetings, articles, tools, and teaching materials. An overview of all articles, teaching materials, and reviews can be found at: https://lerenvoormorgen.org/en/kennisontwikkeling/

Projects.

11 projects can be found at: https://lerenvoormorgen.org/en/project/

The projects have as themes: school in transition, sustainable skills. people and wellness, climate and biodiversity, and others. Each has a specific target audience at an educational level or stakeholder (students, teachers, etc.).

As an example, "SustainaBul VO" aims to make a positive contribution to the improvement of the quality of education and the development of a sustainable society. This aim is tried to achieve through competition between schools, but also by sharing knowledge and experiences.

The SustainaBul is an annual cooperative benchmark and ranking of secondary school sustainability. Based on a questionnaire, the schools map out how they develop sustainability in their schools. This gives them insight into where they stand and what next steps can be taken. Through progress and ranking sessions, the participants discuss and evaluate the progress and results with each other. Based on this, the participants draw up an annual ranking. In recent years, the approach has been positively received. More than 30 MBO institutions participate annually and form an inspiring and collaborative

network. Last year, 14 schools participated in the SustainaBul webpage: https://mbo.sustainabul.com/overzicht

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Analysing the results of the above best practice, we believe that it creates immediate and long-term results in the participating school unit. In order for a school to improve, it is forced to use the whole school approach and involve all members of the school community (students, teachers, parents, etc.) in the effort. Also, important aspects of the educational process are involved: school environment, didactics, curriculum, school management, and professional development. This is an integrated approach, similar to WIA, that leads to a total upgrade of the school's organization.

The evaluation through a questionnaire in the context of a community of school units allows the exchange of views and the development of ideas for improvement in the effort for sustainability.

It is worth noting that in this effort, schools are developing new good practices that help ensure success. Examples of such practices can be found on the website: https://mbo.sustainabul.com/good-practices.

These practices have been collected during the past year of the “SustainaBul MBO”. These practices are to be updated every year.

In conclusion, we can say that engagement in this action leads to a virtuous cycle of continuous improvement for the school unit, provided that participation and effort are matched.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://lerenvoormorgen.org/wp-content/uploads/2022/09/Leren-voor-Morgen-Jaarverslag-2021-definitief.pdf

Tilbury and Henderson (2006)

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://lerenvoormorgen.org/en/

https://lerenvoormorgen.org/en/whole-school-approach/

https://guides.co/c/circular-skills

https://sustainabul.com/

https://lerenvoormorgen.org/en/

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The relevance of such good practices to the needs of the school is linked to the acceptance of the vision of sustainability, which has already been accepted by the organization. It is ideally a participatory process involving all stakeholders. In the context of a school leadership that fosters inclusivity, all stakeholders can be engaged in the effort.

Using the national curriculum of Greece as a model, we could argue that this particular commonality of good practice is compatible with the requirements of the curriculum. Besides, the curriculum has integrated sustainability education to a considerable extent. It also allows teachers to undertake activities and participate in competitions, but often outside the timetable. In any case, compatibility depends on the requirements of the national curriculum.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

In terms of sustainability expertise, the practices developed in the network allow for the transfer of knowledge both within and outside the network. There are training materials, tools, and texts introducing sustainability education. The creation of this community of good practice provides the necessary networking for a circular form of knowledge transfer and knowledge development for

newcomers to this network. In relation to funding, no specific ways or procedures were identified other than the government funding received.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The results of the competition and the use of a questionnaire with benchmarked dimensions - factors allow the participating organizations to identify strengths and weaknesses in relation to sustainability. In this way, an objective inventory of the current situation can be made, and 'gaps' in knowledge, attitudes, and competencies in the organization and its members can be identified. Identifying and addressing the knowledge gap is essential for a learning organization to remain adaptive, innovative, and sustainable. Participation and engagement in such networks can foster a culture of learning where teachers are encouraged to participate, seek new knowledge, and share their expertise with others. This particular community in the Netherlands adopts collaborative learning processes such as group problem solving, knowledge sharing platforms, and communities of practice.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

In terms of flexibility, we could not identify specific requirements for each school to participate in the network or the competition. From the overall study conducted, no strict procedure was identified whereby the educational material is posted, allowing for asynchronous study. The variety of educational materials provides learners with the opportunity to recognize the complexity of sustainability challenges.

The network has developed a range of resources and tools that can be adapted to different contexts and learning environments.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The diversity of the issues addressed by the network allows to some extent to incorporate the complexity and evolving nature of sustainability challenges. However, it should be noted that the targeting is for SDG 4, as it is not possible for a network of schools, universities and other organisations to address all the targets.

The use of WSA is integrated into the network's programmes and activities. In this way the capacity to change, according to new ways of thinking, in a comprehensive way is promoted. WSA contributes to the integration of sustainable development in all areas affecting learning. These relate to the school environment, the curriculum, professional development, administration and the teaching and pedagogical process.

Best Practice 11 (PREPARED BY ITEE)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	**Guidebook for training of Sustainable Development Goals' trainers (**Capacity Building Programme for Public Administration to support the implementation of the Sustainable Development Goals' in Poland for the Structural Reform Support Programme)
2.Implementation lead/partner organisation(s)	OECD, EU, Ł-ITEE
3.Country or countries of implementation	EU
6. Keywords	1. knowledge 2. skills 3. competencies 4. continuous education of adults

Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation)

One of the eleven key principles of Effective Governance in the Context of Sustainable Development, which were issued by the UN Committee of Experts on Public Administration, concern "competence". A fundamental pillar for the successful implementation of government policies and programmes linked to the 2030 Agenda and the Sustainable Development Goals is a competent and efficient public administration. This handbook is dedicated to motivated and professional officials, whose commitment is the basis for success in achieving the intended goals of sustainability.

Civil servants are a special group of professionals who have specific skills and bear responsibility for the welfare of the country. They are deeply motivated and focus primarily on concern for the general welfare. As experts in their fields, they possess both professional as well as personal and social competences that are required for the positions they hold. Nevertheless, it seems that they do not

always (in fact rarely) see their actions in the broader context of global developments related to other issues, such as poverty, peace, environmental protection or resource conservation, which are highlighted in the the Sustainable Development Goals (SDGs) under discussion.

Those acting as trainers for such a group of professional civil servants should bear in mind that members of the civil service have high expectations not only in terms of training, but also with regard to the preparation of the trainers themselves. This requires having sound knowledge subject matter, andragogical skills, as well as personal and social competences. The guide, which is the good practice described, refers to education based on competence-based and transformational and refers to the European Competence Framework in Sustainability. This framework provides a 'common ground for learners' and provides guidance for educators, contributing to a consensus on the definition of sustainability and related competencies. The framework provides twelve competences, with descriptions, which are divided into four areas. Each trainer in the area of sustainability (SDG trainer) should be aware of these competencies. An important socio-educational aspect that should also be taken into account is the influence of authorities.

The competences and personalities of employees, including civil servants, are largely shaped by authority figures who show the way to professionalisation and professional excellence, supporting the pursuit of the ideal. The main objective of the study was to identify the competencies needed by future SDG sustainability trainers and to identify the means and methods of support that enable candidates to perform this social role efficiently, particularly emphasising the importance of self-learning. The guide shows that being an SDG trainer is a process of continuous learning, similar to the role of teachers who strive to become the 'perfect teacher'. It includes chapters on learning and training, training effectiveness, description of the training programme and evaluation using appropriate methods. You can also find the requirements legal requirements and standards related to sustainability.

Please mention the activities implemented (what, when, where, key actors and collaborators, resources needed)

Nowadays we are faced with numerous challenges related to globalisation, the fourth industrial revolution and the idea of Work 4.0 and Society 5.0. Alongside these changes there are dynamic technological and organisational there are dynamic technological and organisational changes, which place increasingly diverse demands on the employed people with increasingly diverse professional requirements. As a result continuous improvement of skills, updating of knowledge and self-education skills become necessary. Professional development, the development of "soft" competences and

discovering the value of self-learning are key factors leading to professionalism. An important part of the lives of today's professionals are the Sustainable Development Goals, which aim to aim to address global challenges holistically. When preparing trainers under the 'Civil Service Capacity Building Programme', it is important to have relevant

competencies in the professional, sustainability and socio-personal domains, taking into account pedagogical and andragogical knowledge, skills and attitudes. When we think about competence profiles of trainers training future trainers in the field of sustainability, we need to take into account all the above areas required of trainers, but at a higher level, with more experience and authority. In the current situation of the COVID-19 pandemic, sustainability trainers and their trainers must master the use of teaching tools and information and communication technologies (ICT), such as software, applications or e-learning platforms, to be used during courses, trainings or workshops (e.g. TEAMS, ZOOM, etc.).

The manual defines training and its functions, distinguishing between knowledge, skills and competences. It also describes the minimum competences of a sustainability trainer and discusses relevant issues in the psychology of education and coaching. It provides a compendium of knowledge on methods and techniques that support trainers in a variety of educational situations related to sustainability in the broadest sense of the term. sustainability.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities)

Technological progress and changes in the organisation of work are forcing adaptation in the context of professional context. The competence profile of a sustainability trainer is a response to current requirements. The intergenerational transfer of competences among civil servants is inevitable with a view to the goals of future generations. This process of transfer mainly takes place in the workplace and through transformational learning, involving not only the transfer of soft and hard skills, but also the shaping of the entire social personality of the future official. In the context of sustainable development, this process includes the acquisition of knowledge, skills, attitudes and values. In the future, it is expected that SDG trainers will also train officials from local and regional government units, as OECD research indicates that the success of Agenda 2030 implementation largely depends on the regions. Successful implementation of the Sustainable Development Goals and Agenda 2030 in Poland (and other countries) will strongly depend on the involvement of public administration in long-term and strategic planning, taking into account multidimensional and interdisciplinary aspects. It will also

be important to actively participate in the creation of the common good and to cooperate within networks and communities, going beyond competence divisions in ministries (Draft Roadmap and Action Plan, p.4). The involvement of public administration professionals in the area of sustainability should be deliberately supported by a group of leading leaders with expertise in specific areas of sustainability.

Training of SDG trainers is one of the seven modules of the OECD Programme for the Development of capacity of the civil service. The CPB programme focuses on developing leadership and strategic in the public institutions sector to enable the introduction of an integrated (economic, social and environmental) approach to decision-making and policy implementation.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://ec.europa.eu/jrc/en/greencomp OECD 2021, Diagnostic Report-Poland

https://sdgwatcheurope.org/sdg-training-handbook/

https://sustainabledevelopment.un.org/content/documents/19409Poland_VNR_20180615.pdf

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://sdgwatcheurope.org/sdg-training-handbook/

https://sustainabledevelopment.un.org/content/documents/19409Poland_VNR_20180615.pdf

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Guidebook for training of Sustainable Development Goals' trainers, is an example of a a holistic institutional approach to sustainability, which is linked to the Polish educational priorities of lifelong and lifewide learning and environmental priorities. lifelong learning, and environmental priorities. Firstly, the Guidebook focuses on the training of trainers related to sustainable development, which reflects the educational priorities for lifelong and lifewide learning in Poland.

Continuing and lifelong learning in Poland and the region. Modern times require people in the workforce to continually update their knowledge and skills in response to dynamic technological and organisational changes. This practice enables trainers to acquire new competences and skills related to sustainable development so that they can effectively transfer knowledge and train others.

Secondly, the Guidebook brings together environmental priorities related to sustainable development. The process of training trainers is not only about transferring knowledge and skills, but also attitudes and values related to sustainability.

This holistic perspective takes into account concern for the environment, community and economic sustainability as integral elements of sustainable development. In addition, the Guidebook emphasises the importance of technological and organisational change in the training process. The use of modern tools and technologies information and communication technologies is in line with educational priorities related to lifelong learning. Preparing trainers to use e-learning programmes, applications and platforms reflects the need to adapt to contemporary technological trends and the effective use of educational tools.

The handbook provides theoretical and practical knowledge on sustainable development development. By discussing the principles, goals and challenges of sustainable development and presenting concrete tools and techniques, the handbook develops the knowledge of trainers on the topic of sustainability. It gives them a theoretical and practical basis that they can pass on to others. It provides support for trainers in sustainability training. The handbook offers practical tips, scenarios and training methods that can be used by trainers in their work with others. This provides trainers with concrete help and support in designing and delivering training related to sustainability. The Guidebook can serve as a tool for building support networks and knowledge exchange. Trainers who use the Guidebook can share their experiences, ideas and best practices in sustainability training. This creates a platform for knowledge sharing and learning between trainers, who can support each other in further improvement and development.

The manual forces you to think critically and evaluate your learning opportunities in sustainability at every level. The self-assessment tests included in the manual are helpful in this.

The manual has a flexible structure. It's the kind of manual that doesn't necessarily have to be read from start to finish. It can be used as an auxiliary material for future ones SDG trainers who have some experience in implementing the principles of sustainable development, but feel deficiencies in the field of coaching skills or areas of the 2030 Agenda, with with whom they had no contact in their

previous professional work. It can also be read and used by people who want to learn the basics of education in sustainability.

The main goal of the study is to identify the competences necessary for future SDG trainers in the context of sustainability and to indicate the means and methods of support that will enable candidates to effectively fulfill this important social role. In particular, the importance of self-education, which plays a key role in the improvement process, was emphasized myself. The manual shows that being an SDG trainer is a continuous learning process, just like teachers. Taking this approach into account, it can be concluded that the study does not it adds and summarizes the curriculum but changes the formula of the learning experience in sustainability.

The handbook not only adds additional content to the curricula, but also changes the approach to the ways of learning about sustainability.

Best Practice 12 (PREPARED BY ITEE)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Be.Eco
2.Implementation lead/partner organisation(s)	Fundacja Digital University PL
3.Country or countries of implementation	PL
6. Keywords	1. climate 2. education 3. partnership 4. balance

Specific information on the best practice

Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

The Be.Eco project, which is the work of Digital University and its partners, is a program worth analyzing due to its numerous educational values and a modern approach to the issues of education in sustainability. In specialist reports, it is mentioned as an exemplary method of creating sustainable development goals. A nationwide educational project for primary and secondary schools addressed to teaching staff. Teachers - participants of the program received the knowledge and tools necessary to include ecological and climate education in their work in a way that helps to strive for a comprehensive transformation to sustainability. The project meets the need to build a just and sustainable society and to develop effective solutions to the climate crisis and to achieve diversity and sustainability in pedagogical institutions.

The main goals are to supplement the gaps in formal education in the field of sustainability, and to develop the environmental awareness of the institution through the education of the teaching staff. The effects of the project in a broader perspective is a real impact on shaping social responsibility for action to improve the situation in the field of sustainability. As part of the program, free webinars and workshops were organized, the participants of which enriched and updated their knowledge on contemporary challenges of sustainable development goals. In total, thirty expert workshops and ten inspirational workshops were organised.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The aim of the program is to build environmental awareness among teachers, therefore the topics of numerous expert meetings concerned the climate, biodiversity and important environmental initiatives. During the meetings, workshops and webinars, 1,340 schools and their teachers actively participated in them. 40 workshop meetings were conducted (thirty workshops with the participation of sustainability experts and ten inspirational workshops) attended by a total of about 2,090 teachers. The training was attended by teachers from schools from all over Poland from all voivodships. The greatest interest in participating in the workshops, as well as the percentage participation of teachers and teachers, was recorded in the Mazowieckie voivodship 18%, Dolnośląskie voivodship 13%, Śląskie voivodship 11%, Wielkopolskie 10% and Małopolskie 9%. On the other hand, the fewest training participants came from the Lubuskie voivodships - less than 1%, Opolskie 0%, Świętokrzyskie 2%, Podlaskie 3% and Warmińsko-Mazurskie 3%[1].

Participants have access to free educational materials and tools that they can use in their teaching activities. The BeEco program enabled trainings conducted by specialists and educators from the world of science and the field of ecological education and the goals of sustainable development. During the project, an ecological knowledge tournament and a hackathon were organized. Teachers received certificates of participation in the training for participating in expert workshops. Expert workshops were conducted by trainers with the support of experts from the partner of the Be.Eco program - the Deloitte Foundation. All participants were mobilized to change the acquired knowledge into habits, and transfer them to their educational institutions, which is associated with an increase in awareness of the goals of sustainable development of the entire educational community.

1 https://www.beeco.edu.pl/wp-content/uploads/2022/10/Be.eco_Raport2022.pdf

Awareness surveys carried out during the program, in which a total of 465 teachers from various levels of education took part, showed that the knowledge of the participants is quite superficial and needs to be deepened. Most of the participants of the classes conducted in the project expressed their willingness to participate in the next edition. The program also included an ecological knowledge tournament among participants and a film competition on the dissemination of sustainability goals.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The goal of the project, i.e. raising the level of awareness and knowledge about sustainable development, has been achieved. The project has equipped teachers with knowledge and skills that allow them to act effectively in their areas of work and transfer the acquired knowledge to their environment. Participation in the project will certainly translate into building attitudes open to ecology and not indifferent to the goals of sustainable development. The project made excellent use of the available IT tools, helping to promote it widely while complying with the principles of protecting the natural environment and its resources. The dissemination of the program was based mainly on the Internet (mainly social media). The main audience was women (75 percent) aged 35-45.

A wide range of content and materials available in social media and on the website translated into its widespread dissemination and served to transform the consciousness of its participants from superficial to close to expert. 88 percent of the involved participants declared their willingness to participate in possible subsequent editions. The Be Eco project, in the 21st edition of the Deloitte report "Responsible Business in Poland." has been recognized as one of the best good practices in pursuit of sustainable development goals.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://odpowiedzialnybiznes.pl/wp-content/uploads/2022/05/Raport2021.pdf

https://www.beeco.edu.pl/wp-content/uploads/2022/10/Be.eco_Raport2022.pdf

https://www2.deloitte.com/pl/pl/pages/zarzadzania-procesami-i-strategiczne/articles/Dziesiec-dobrych-praktyk-Deloitte-w-raporcie-Odpowiedzialny-Biznes-w-Polsce-Dobre-praktyki.html

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://beeco.edu.pl/

https://www.facebook.com/BeEcoEdu

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD: (max 200)

1. The project raises awareness of the goals of sustainable development, is in line with the educational and environmental priorities in force in Poland.

2. The project uses the latest, cheap and widely available technologies to help reach the widest possible group of recipients. It supports teaching about sustainability and is user-friendly.

3. The project has drawn effective conclusions from its course and in the next edition the scope of the target audience will be expanded. Its participants so far have raised awareness of sustainability goals and are transferring it to their working environment.

4. The project has drawn effective conclusions from its course and in the next edition the scope of the target audience will be expanded. Its participants so far have raised awareness of sustainability goals and are transferring it to their working environment.

5. The project is ecstatic, the foundation that runs it plans to develop it through subsequent editions. At the same time, it runs complementary projects such as Be.Net or the University of Success, addressed mainly to women.

6. The program was not only about adding new materials related to sustainability issues, but it tries to reform educational activities.

Best Practice 13 (PRESENTED BY INNOHUB)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Enredando redes de escuelas hacia la sostenibilidad (ESenRED) "*Networking school networks towards sustainability*", in English
2.Implementation lead/partner organisation(s)	Participants: • 16 networks of 15 Autonomous Communities: Diputación de Albacete, C.A. de Andalucía, C.A. de Principado de Asturias, C.A. de Canarias, C.A. de Catalunya, C.A. de Illes Balears, C.A. de La Rioja, Madrid (municipality), C.A. de Madrid, C.A.R. de Murcia, C.A.R. de Murcia, C.F. de Navarra, C.A. de País Vasco, Diputación de Palencia, Diputación de Valladolid, C.A. Valenciana and C.A. de Ceuta. A. of Ceuta. • 4,225 non-university educational centers. • More than 1,500,000 students. • More than 100,000 teachers.
3.Country or countries of implementation	Spain
6. Keywords	1. Network 2. Educational centers 3. Sustainability 4. Collaborative work

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Definition

ESenRED is a national network of networks of non-university educational centers that work for sustainability promoted by the initiative of public administrations (Autonomous Communities, City Councils, Provincial Councils).

Background

ESenRED was formally established in 2011, although its origins date back to 2009. It stemmed from the International Children and Youth Conference: '*Let's Take Care of the Planet'* (CONFINT), organized by the Brazilian Ministries of Education and Environment. The conference aimed to address planetary ecosocial issues and encourage responsibility and action. Several sustainability-focused educational networks participated, forming a lasting relationship and ending drafting the International Charter of Responsibilities. Then, the Xarxa d'Escoles per a la Sostenibilitat de Catalunya (XESC) was officially formed in Barcelona, proposing a statewide network of networks for experience sharing and joint activities. The National Center for Environmental Education (CENEAM) supported the network's construction, and representatives from 53 different countries met in 2010 to discuss strategies.

Mission & Objectives

Its mission is to empower students in environmental education to take responsibility for the ecological and social crisis affecting the life of the planet. They pursue four main goals: 1. Facilitating meetings, collaboration, and the sharing of actions among different networks; 2. Promoting reflection, evaluation, and innovation in order to collectively build reference models for sustainable education; 3. Developing joint projects that enhance students' learning competencies and teachers' professional and; 4. Establishing connections, relationships, and collaborative projects with other international school networks, all of them focused on sustainability.

Institutions & Stakeholders

ESenRED counts with 16 networks of 15 Autonomous Communities in Spain; 4,225 non-university educational centers; more than 1,500,000 students and 100,000 teachers. Furthermore, the network has a close collaboration with National Center for Educational Innovation and Research (CNIIE), and the National Center for Environmental Education (CENEAM), under the Ministry of Education, Culture and Sports and the Ministry of Ecological Transition and Demographic Challenge, respectively.

Methodology

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

The methodology of ESenRED is built upon five key principles:

1. Shared leadership: Decision-making is a collaborative and democratic process involving the technical staff of ESenRED networks. They assume the responsibilities outlined in the Action Plan and evaluate its outcomes at the end of the course.

2. Education for sustainable development and global citizenship: ESenRED projects in environmental education are closely aligned with the Sustainable Development Goals (SDGs), while also contributing to the 2030 Agenda and promoting respect for human rights.

3. Responsibility: ESenRED processes foster student participation and a commitment to the planet. Students take individual or collective responsibility for their actions to enhance sustainability and improve quality of life.

4. Student protagonism: The ESenRED methodology prioritizes the active engagement of students. Teachers serve as facilitators, guiding educational processes to develop students' skills, motivation, and social and ecological awareness. The three primary dynamics are: a) youth educating youth, b) youth selecting youth, and c) intergenerational learning.

5. Transformative action: ESenRED emphasizes education for action. As a result of the processes, students propose and implement transformative actions in their local contexts that contribute to sustainable changes on both local and global scales.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

ESenRED plans four activities:

Seminar of ESenRED

This space for meeting, debate and common construction of the staff responsible for the networks is an annual event that takes place in autumn, at the CENEAM headquarters. To date, XIII editions have been held, being the last one in November 2022 with the participation of 17 representatives.

The Caring for the Planet Youth Conference (CON-FINT)

The Ministry of Education and Vocational Training has included it in the collection of successful educational practices for sustainable development (No. 3). It takes place every 2 years. The first

national conference was held in Vitoria-Gasteiz in 2012, with more than 170 participants. The most recent was held in Guadarrama in October 2021, involving 70 youth, 54 schools, and 10 communities. Additionally, there have been two European conferences (2012, 2018) and one international in 2010.

These conferences serve as important platforms for sharing knowledge and experiences in sustainable development and occur in cycles of approximately three school years, taking place at three levels: regional, national, and European. The CONFINT process follows a bottom-up approach. Initially, the school selects students to lead the project, who then analyze the global and local reality from an eco-social perspective. They identify problems in their immediate environment, which vary depending on the chosen topics by each school. These topics may include mobility issues, biodiversity improvement, waste reduction, air and noise pollution, coexistence, inclusiveness, among others.

Subsequently, the students establish an improvement objective and devise actions to achieve this objective during the school conference. They also plan and select delegates who will participate in the regional conference. Emphasizing the principle of "Youth chooses youth," they appoint delegates to represent the school at the regional conference. Finally, the results and the overall process are evaluated.

ESenRED Teachers Symposium for Education for Sustainable Development

It has been also included in the collection of successful educational practices (No. 2). This is an annual gathering of teachers from Pre-school, Primary, Secondary, Vocational Training, Baccalaureate, and Special Education Centers. The main aim is to share successful practices, receive training from notable figures in environmental education for sustainability, and collaborate altogether.

Every year, a specific educational institution is selected as the focal point. So far, there have been six editions held at CENEAM during the first week of July, with an average attendance of 80 teachers. The event spans three days and features around four workshops. On the first day, there is a keynote speech delivered by national/international experts who present their latest research related to the topic. The second is dedicated to exchanging experiences where each teacher presents a successful practice. Finally, the third day is for evaluation.

ESenRED Action June 5th

Every year, ESenRED suggests a shared theme for schools to commemorate World Environment Day. For this year (2023), the designated theme is climate change. Schools are required to create a video

showcasing an action taken against climate change, based on the "*52 gestures against climate change*".

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

ESenRED has made a significant impact on students and teachers by engaging in projects that bring about eco-social transformations in their environments. The strengths include the accumulated experience within its networks, the peer learning, the successful organization of seminars and conferences, the ability to collaborate on common projects, and the recognition received for their work. In numbers, there have been more than twelve seminars of technical personnel in CENEAM; hundreds of School CONFINTs; dozens of Autonomous CONFINTs, 5 State CONFINTs; and 6 symposiums of ESenRED teachers, among others.

One of the key strengths is the empowerment of students, providing them with a voice and creating opportunities for real decision-making and collective action. Each school develops its own contextualized project while aligning with common objectives. For example, in the Albacete network, the representatives for the next provincial CONFIT were chosen.

The diversity of networks, approaches, and projects also contributes to ESenRED's strength. Some member of the network work together to develop some didactic materials, such as in La Rioja, where we find the curriculum sheets integrating the CEHS methodology into the school curriculum.; or the project Naturaliza, which was born with the aim of introducing the environment in the classroom and bring the classroom to the environment.

Furthermore, ESenRED has established partnerships with ministries and organizations. Recent alliances with the Ministry of Education and Vocational Training, the integration of the Sustainable Development Goals (SDGs), and connections with initiatives like the Spanish Urban Agenda have provided new opportunities for collaboration (see Servei d'Educació Ambiental-Programa de Centres Ecoambientals (caib.es))

Despite its achievements, ESenRED faces challenges such as the lack of representation from some Autonomous Communities and the need for a stable organizational structure. To address these challenges, it may be necessary to establish a legal identity and create internal bodies such as a technical secretariat.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Buenas Prácticas de Educación para el Desarrollo Sostenible. Ministerio de Educación y Formación Profesional. (n.d.). https://www.educacionyfp.gob.es/mc/sgctie/educacion-para-sostenibilidad/rec-edu-desarrollo/public-desarollo/buenas-practicas/castellano.html

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Gutiérrez Bastida, J.M. (2021). *Buenas prácticas de educación para el desarrollo sostenible. Escuelas hacia la sostenibilidad en Red - ESenRED.* Secretaría General Técnica. Centro de Publicaciones. Ministerio de Educación y Formación Profesional.

Programa ESenRED. Programas educativos. (2022, November 3). https://programaseducativos.es/programa-esenred/

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Blog - https://esenred2030.blogspot.com & https://esenred.blogspot.com

Twitter - https://twitter.com/esenred21?s=20

Youtube - https://www.youtube.com/channel/UCVken_1NINbTxfog_YjZ0Sw

Ministry of Education and Profesional Education

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Padlet - https://padlet.com/esenred21

E-mail – esenred21@gmail.com

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Firstly, ESenRED promotes ESD principles by encouraging cooperative networking and shared responsibility. Members participate together, and with equal opportunities. Thus, in my view, ESenRED provides a collective space to exchange experiences and perspectives that contribute to environmental education and address socio-environmental challenges.

On the other hand, ESenRED aligns with the WIA approach through its promotion of collaborative work within a network, where individuals from each network contribute with distinct roles and responsibilities. This fosters a distributed and shared leadership, facilitating interaction and the integration of diverse topics and viewpoints within the realm of environmental education.

In terms of aligning national educational priorities, ESenRED provides a framework for action to improve environmental education projects and promote innovation, evaluation, quality and a culture of sustainability. Additionally, it addresses regional environmental concerns by promoting environmental education and sustainability practices within educational institutions. Through the exchange of experiences and knowledge, ESenRED facilitates informed debates and goal-setting to improve the projects of each network. This collective learning can have a positive impact on educational policies, contributing to the advancement of key areas. Furthermore, ESenRED strengthens the identity of local communities by encouraging active participation and collaboration among members in their quest for environmental solutions.Final del formulario

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

In terms of sustainability, the ESenRED would need the following:

1. Continuous networking. The network cannot remain stagnant but must maintain the partners it already has and seek more for the future.

2. Sharing responsibilities and organizing the structure. This entails distributing leadership and equal contributions well defined within the network.

3. Encouraging shared projects that challenge outdated educational structures. These projects foster collaboration and reflection among individuals of equal and promoting ongoing adaptation to achieve increasingly sustainable outcome.

4. Establishing a comprehensive state-level support structure. This structure would encompass a wide-ranging framework designed to provide resources, guidance, and technical assistance. Its primary objective would be to facilitate the seamless integration of sustainability principles into educational practices.

5. Diversity of approaches based on the SDGs.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The ESenRED serves as a space for students to engage in reflection and enhance their competence in sustainability. The way in which the network tries to foster eco-social ethical values, emphasizing the assumption of individual and collective responsibilities, is perfect to cultivate values and mindsets that support sustainability. They have the sense of being the future generation. During their actions, they maintain ongoing dialogue, knowledge exchange, and the sharing of experiences and perspectives, so that ESenRED facilitates critical reflection and evaluation.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

Participants of the network of networks (students, teachers) are encouraged to challenge existing paradigms, explore alternative viewpoints, and consider the broader implications of their choices. Within this context, individuals are provided with a platform for reflection, enabling them to critically analyse and evaluate their actions, choices, and beliefs in relation to sustainability.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

ESenRED exemplifies a model for reframing the entire educational experience by acknowledging that sustainability goes beyond a standalone topic and should be integrated holistically into all aspects of education.

The entities of the network surpasse superficial integration of environmental and SDG themes by embracing a comprehensive, collaborative, experiential, and value-driven approach of education. They try to involve students through actively into a real-world projects and activities. In this way, they gain the ability to analyze the consequences of their actions and cultivate values and mindsets that support sustainability and a sense of responsibility. In essence, this experience gives them deeper understanding of ESD principles, enabling them to comprehend the interconnectedness of various components within a system and their significance in everyday life.

Best Practice 14 (PRESENTED BY INNO HUB)

1.Title of the best practice (e.g., name of policy, programme, project, etc.)	The world we want. A globalizing experience through project-based learning.
2.Implementation lead/partner organisation(s)	CEIP Maestro Monreal ("Maestro Monreal Infant and Primary School" in English)
3.Country or countries of implementation	Spain
6. Keywords	1. Environment 2. Collaboration 3.Projects 4. Activities

Specific information on the best practice

2.1 Description, Activities, Results

1. Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Definition

This is a collaborative and globalizing didactic methodology implemented in the Maestro Monreal School of Infant and Primary Education (Ricla, Zaragoza). It strives to capture students' ideas regarding the concept of a sustainable future and their reflections on the importance of caring for the environment and implement them through projects.

Background

Project-based learning was incorporated into the Center's Training Plan. This made it possible to acquire the necessary prior knowledge to transfer it to teaching practice during the 2020/2021 academic year.

Mission & Objectives

The mission is to attain sustainability within the municipality of Ricla. In terms of objectives, for teachers, the primary goal is to contribute to the holistic development of students by providing enriching experiences and learning opportunities that foster the realization of their potential. As for the students, the objective revolves around appreciating their town, and finding ways to improve and preserve their environment.

Institutions & Stakeholders

The participating institutions include the following:

- Primary Schools: The activities of the projects have been carried out by students from 2nd, 5th, and 6th grades of Primary School. The management team and the teaching staff have consistently supported these initiatives.
- Families of the students. They have accompanied them throughout the learning process.
- Ricla City Council: It has actively promoted collaborative actions with the school.
- Sustainability Committee and Municipal Council for Children: Every quarter, two student representatives elected by their peers from each Primary Education group meet with the school principal and the Councilor for Education. These meetings provide a direct channel

for students to engage with local institutions, enabling them to express their concerns and contribute their ideas.

Methodology

The methodology employed follows a structured path that begins with the students' interests, allowing their prior knowledge to come into play. It enriches their understanding through guided investigations and the development of skills, both individually and through teamwork, leading to the creation of a final product. The curricular contents encompass the following areas:

- Natural Sciences:
    - Search, treatment and presentation of information in a guided manner.
    - Skills to favor personal autonomy and teamwork.
    - Energy sources.
    - Everyday machines and their usefulness.

Social Sciences:

- Interpretation of information in a guided manner.
- Skills to work individually and in teams with an increasing degree of autonomy, with an attitude of collaboration and participation, favoring coexistence and showing an entrepreneurial spirit.
- Landscape.
- Elements of the landscape.
- Means of communication.
- Means of transport.
- Traffic signs and basic rules of road safety education.
- The professions.
- Changes over time.

- Materials.

- Language:
  - Oral expression of ideas.
  - Oral presentation of information.
  - Oral and written comprehension of information.
  - Comprehensive reading of texts.
  - Written expression through school texts.

- Artistic-Plastic Education:
  - Plastic and visual works in the environment.
  - The poster.
  - The model.
  - Elaborations with volumes.
  - Valuation of the artistic works of the environment and attitude of care and respect.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The activities have been divided by grade levels during the 2020/2021 academic year.

Second grade of primary education.

Projects include:

a) Excursions to various locations within Ricla and its rural surroundings were organized. Each visit was accompanied by a range of activities, including the creation of a locality booklet, expressing gratitude through thank-you cards, and collaborating on a collective storytelling project.

b) Debates and assemblies aimed at raising students' awareness of environmental issues caused by human activity and finding solutions, explaining the concept of sustainability and its importance, and linking the content to the Sustainable Development Goals (SDGs).

c) Posters. The students designed posters in order to promote environmental care and then displayed them in various locations around the locality.

d) Collaborative model-making using recycled materials. Each student chose an element they wanted to include in the future world (wind turbines, buildings with solar panels on the roofs, electric transportation, green areas, libraries, schools).

These activities sparked further initiatives that were coordinated through the Sustainability Committee (Realidad Sostenible program), fostering actions within the school community and involving families. Furthermore, proposals for enhancements were submitted to the municipality through the Municipal Council for Children (Escuelas Amigas de la Infancia), aiming to improve sustainability and promote the well-being of children in the local community.

Fifth and sixth grade of primary education.

The main activity was the creation of a municipality book that incorporated QR codes representing the most prominent sites within the area. These QR codes offer multilingual information (Spanish, Romanian, English, and French) about various monuments and buildings in Ricla. The dual purpose of these QR codes is to both exhibit and spread awareness of the locality's historical and cultural heritage, while also aiding in the integration of newcomers, including residents, migrants, and tourists, into the town.

3.Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Project-based learning was incorporated into the Center's Training Plan. As a result, the teachers working at the center acquired the necessary prior knowledge to transfer it to the classroom.

Another result is the exchange of experiences with other educational centers. This has made possible to establish collaborative networks and to plan and coordinate this project according to certain guidelines.

From the beginning, this project was open to the participation of students from different educational levels. Through feedback from the students themselves, it has been proven that they benefit greatly from this interaction. For example, in the 2nd grade of primary school, the evaluation of the curricular contents was carried out within the teaching-learning process of each of the visits and debates. The students' awareness of environmental care and their taste for discovering and manipulating different materials was such that they came up with the idea of making a model.

A presentation of the model was made to classmates from other educational levels and a group self-evaluation was made orally on the aspects that had required the most effort, what they had liked the most, other elements that could have been included in the model and the impressions they had had when making and sharing their work.

As external recognition, the students received the creativity award at the 1st Ideas and Answers Digital Fair, organized by the Department of Education of Aragon for the centers participating in the educational program Sustainable Reality. This was a recognition of the effort and dedication they had put into this project and made the students aware that their ideas for a more sustainable future are valued.

Regarding the 5th and 6th grade students, they presented their QR codes and made an evaluation, which showed the importance of their contribution within the municipality and the quality of their final product. At the school, the team of teachers carries out a monthly evaluation of the teaching practice that allows them to exchange opinions, detect aspects to be improved and intervene in the different elements of the teaching-learning process in a coordinated manner, sharing the observations with the Management Team. The reflection that is implicit in this evaluation process contributes to the correct development of the projects, as well as to adapt the methodology to the different learning rhythms and to the existing needs in order to provide an adjusted educational response at each moment.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Buenas Prácticas de Educación para el Desarrollo Sostenible. Ministerio de Educación y Formación Profesional. (n.d.). https://www.educacionyfp.gob.es/mc/sgctie/educacion-para-sostenibilidad/rec-edu-desarrollo/public-desarollo/buenas-practicas/castellano.html

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López Gutiérrez, D.; Balsa Latorre, E. (2022). *Buenas prácticas de educación para el desarrollo sostenible. El mundo que queremos. Una experiencia globalizadora a través del aprendizaje basado en proyectos.* Secretaría General Técnica. Centro de Publicaciones. Ministerio de Educación y Formación Profesional.

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Shool website: https://ceipmaestromonreal.es/

School Youtube: https://www.youtube.com/@maestromonreal/ You will find videos made by the students as part of the activities of ' The world we want'. For example, videos about recycling.

Flick: https://www.flickr.com/photos/ceipmaestromonreal (pictures of the activities)

Twitter: https://twitter.com/maestromonreal

Ministry of Education – Best Practices Collection: https://sede.educacion.gob.es/publiventa/coleccion-de-buenas-practicas-de-educacion-para-el-desarrollo-sostenible-n-5-el-mundo-que-queremos-una-experiencia-globalizadora-a-traves-del-aprendizaje-basado-en-proyectos/gestion-de-centros/26466

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

This exemplary practice demonstrates the integration of the WSA/WIA and ESD in relation to the SDGs. The school has implemented various activities as projects to engage students with the SDGs and the 2030 Agenda, such as crafts, watching short films, discussions and excursions. These initiatives also aim to raise awareness within the entire community. In my opinion, the school serves as a crucial catalyst and agent of change, recognizing the immense power of children to transmit values to those around them through their enthusiasm, which can be the key to driving change.

In addition, it is essential for students to develop a sense of community identity. The students actively participate in public life and engage with local government agencies, gaining knowledge about the functioning of the City Council and familiarizing themselves with the individuals who work there. They regularly contribute their ideas to the Municipal Council of Children, actively participating in decision-making processes. As a result, students are developing a sense of belonging to their municipality and understanding the significance of being part of citizen participation bodies. Additionally, this participation contributes to the creation and maintenance of collaborative networks between the school and the community.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

To develop a project of this scale in terms of sustainability, the following elements are essential:

1. It is crucial to have a deep understanding of the students and their interests. This awareness enables the design of a project that not only provides them with opportunities but also contributes to their social and emotional development.

2. Setting a challenging goal for students allows them to take ownership of the project.

3. Offering a diverse range of activities and experiences is necessary for students to actively acquire knowledge using all their senses.

4. Building collaborative networks with nearby institutions and organizations is important in order to leverage the expertise and resources available in the community. Like the City Council of Ricla.

5. Concluding the project with a collaborative final elaboration provides an opportunity for students to apply the skills and knowledge they have acquired.

6. Ensuring the promotion of the project is vital. This can be achieved through various means, such as social media platforms, organizing exhibitions or fairs to showcase students' work, inviting other school groups to participate.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

For me, one crucial aspect of this practice is the cultivation of critical reflection and evaluation skills at all levels. The School encourages their students and staff to engage in thoughtful analysis and assessment of their actions. And this entails nurturing the ability of thinking critically about their own behaviors and outcomes they want to reach. The participants are equipped to understand the complexity of sustainability challenges and to suggest alternative solutions. The dialogue between them is openness to respect, feedback and continuous improvement.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

This methodology embraces a flexible structure and adaptation to local and cultural settings, firstly because it adapts the activities to the region of Ricla. Here the projects have been developed around the needs of the municipality of Ricla. A small municipality, in a rural environment, whose main economic activity is agriculture. This means that the School or whatever institution shall customize the activities to suit the unique characteristics, resources and challenges of the local environment and we must be aware that what may work in one setting may not be suitable or applicable in another.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The strength of this methodology is that it is not only based on environmental education, but also in transversal lines such as equal opportunities and emotional education. On the one hand, the School tries to develop interaction skills in their students through teamwork and inclusiveness. In this case,

most of the students the school receives are foreigners, whose parents have moved away for work in the countryside. It is important to take these actions into account and create a sense of community in order to reframe the entire educational experience.

Best Practice 15 (PRESENTED BY LODZ)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	XXI CHALENGES – MAN, PLANET AND ECONOMY
2.Implementation lead/partner organisation(s)	University of Lodz
3.Country or countries of implementation	Poland
6. Keywords	1. consciousness 2. sharing knowledge 3. XXI century challenges 4. reflexion

Specific information on the best practice

2.1 Description, Activities, Results

1. Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

XXI CHALENGES – MAN, PLANET AND ECONOMY - is an educational project, under the patronage of the Rector of the University of Lodz, created in response to the observed and experienced changes generated on Earth as a result of the development of modern civilization.

The content of scientific reports on climate change, psychological, socio-economic analyzes of our march towards a global catastrophe and comprehensive concepts of reversing negative trends - all this penetrates the common consciousness in a very superficial form, served by mass-media and the internet. In times of progressive disinformation, ubiquitous fake news about the climate and

general reluctance to talk about environmental and socio-economic changes, we have a special role in providing reliable and complete knowledge, in overthrowing the myths and explaining the mechanism of their creation. Classes are free and are part of the extracurricular offer. Registration for classes lasted in March 2023 via the intern student's communication platform at the University. Only 50 places were available in the first stage of the project. There was a possibility to sign up for one module per semester. In the following semesters, students are able to take part in classes from other modules.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The offer of classes has been addressed to students from various faculties in the form of open lectures, for which recruitment was open access. Classes were taught by different academics' lecturers, experts in the following three modules. Here below the titles of the main presentations are described: MODULE "MAN" – 'Do you know how much it really costs?', 'Supplements, antibiotics, vaccines - popular beliefs versus scientific facts', 'Obesity - an epidemic of the 21st century', 'Conspiracy theories and their rhetoric', 'On the trail of human stress'. MODULE "PLANET"- 'Our climate is changing - mitigation and adaptation', 'Breath of the Earth (truths and myths about CO2)', 'When natural resources become a curse', 'Why do humans need other species?', 'The barcode of life, or a new look at biodiversity'.

MODULE "ECONOMY" – 'Intergenerational solidarity and current economic and political gains', 'Why

it would be good if gasoline was even more expensive - taxes on environmental services', 'Earth as a blue planet - what does it mean for man', 'Intense rainfall and prolonged droughts - adaptation to implement sustainable development in modern enterprises'.

All resources were guaranteed by the University of Lodz.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The initiative is in line with SDG number 4, it also has an indirect impact on the other SDGs. Graduates of the course are able to answer the following questions and have an environmental impact. (1) How

do investment projects affect the local and regional environment, indigenous peoples and the natural environment in which they live? (2) How are human rights defined and what do they look like in practice? (3) How to shape competences in the field of applying Green HRM practices in business practice? (4) How to optimise waste management in the economy and the creation of sustainable mobility? Moreover, students together with their academic learners have touched on important topics related to the functioning of men on earth in the context of well-being and their impact on the environment, also in the local perspective.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Project webpage (only in Polish): https://www.uni.lodz.pl/ksztalcenie/projekty-edukacyjne/wyzwania-xxi-wieku?fbclid=IwAR2yiYVACq_VA-upAQVJYk2gGNSpSmjZTpEufn1O8za--UFUKIHQkOuGVyw

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Project webpage (only in Polish): https://www.uni.lodz.pl/ksztalcenie/projekty-edukacyjne/wyzwania-xxi-wieku?fbclid=IwAR2yiYVACq_VA-upAQVJYk2gGNSpSmjZTpEufn1O8za--UFUKIHQkOuGVyw

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The described initiative is consistent with many strategic documents. At the national level, with the the *Constitution of the Republic of Poland* (art. 5 and art. 74), at the local level with the *Integrated Development Strategy for Lodz 2020+*, at the organizational level with the *Strategy of the University of Lodz*. One of the strategic goals of the UoL Strategy for 2021-2030 is to strengthen the

importance of the University of Lodz as an institution that creates reality in the environment, operationalized by raising awareness of environmental responsibility.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

All resources were guaranteed by the University.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The lectures are conducted in the stationary form, well planned and communicated to the students from various faculties at the University of Lodz. During courses, students are asked questions to develop their critical thinking competences.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The prepared series of lectures, carried out in three modules: Man, Planet, Economy, covers the issues of changes, preparing students for them. More specifically, it supports:

1. Awareness of the changes that are taking place before our eyes and the near and far-reaching effects of these changes;
2. Realizing how we can oppose these changes here and now. What depends on our consumer behavior, what arsenal of behaviors we have related to the rational use of natural resources and respect for the natural environment;
3. Awareness of new opportunities in the sphere of business, the possibility of transformation of the economic system.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The initiative has been thought out in a comprehensive way and the activities are complementary. Each lecture is conducted by a different lecturer, an expert in a given field, which further strengthens the interest of students.

Best Practice 16 (PRESENTED BY LODZ)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	An initiative “Race to Zero”
2.Implementation lead/partner organisation(s)	Lodz University of Technology
3.Country or countries of implementation	Poland
6. Keywords	1. Higher Education Sustainability Initiative 2. Race to zero initiative 3. Reduction of greenhouse gas emissions 4. Reduction of carbon footprint

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

In 2022 Lodz University of Technology joined Race to Zero initiative (there are 3 Universities from Poland), which required to commit to the ambitious goal and join the ranks of institutions striving to achieve climate neutrality by 2050. Within the framework of the described initiative, ten main tasks have been defined. The coordination and implementation of activities is handled by the interdisciplinary team - Sustainable Development Panel. There are many interested parties, both internal (e.g., employees, students) and external (e.g., suppliers, government, local community) ones.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

As part of the reviewed initiative, a number of activities have been undertaken, including, for example building local energy sources, mainly to reduce energy from fossil fuel combustion. This practice

affects the reduction of greenhouse gas emissions and thus will reduce the level of adverse climate change. In order to rationalize costs and optimize the efficiency of energy systems, there have been identified feasible technologies and prepared technical documentation, mainly in terms of the use of photovoltaic sources and further advanced eco-energy activities.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Until 2021, photovoltaic installations had been in operation at Lodz University of Technology at three buildings on campus A. The installations date back to around 2012, with a total capacity of 112 kWp; a number of them had also served research purposes. In 2022, 148 kWp of new PV capacity was developed at Lodz University of Technology. The passive building, powered solely by solar energy from photovoltaic panels whose capacity is 96 kWp, was put into operation. The building is also equipped with a 36kW heat pump. The planned next technical solutions concern - development of photovoltaic sources - the installed capacity of the solar panels is planned to be 3,500 kWp, which means more than 8,600 panels at 400 Wp each, - utilization of heat pumps and waste heat, - geothermal drilling. In addition, there are plans to switch to a hydrogen economy (Lodz University of Technology joined the Mazovian Hydrogen Valley).

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

- "REPORT ON ACTIONS COMPLETED IN 2022 AT LODZ UNIVERSITY OF TECHNOLOGY WITHIN THE FRAMEWORK OF THE RACE TO ZERO CAMPAIGN", available on: https://p.lodz.pl/en/about-tul/sustainable-development/race-zero
- Lodz University of Technology action plan for Race to Zero, available on: https://p.lodz.pl/en/about-tul/sustainable-development/race-zero

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

- Race to Zero initiative : https://p.lodz.pl/en/about-tul/sustainable-development/race-zero

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- The university's activities for Sustainable Development and Goal 7 presented in the reports for 2021-2022 and 2020-2021 "Lodz University of Technology on the path of sustainable development": https://p.lodz.pl/en/about-tul/sustainable-development/sustainable-development-goals-implemented-tul/goal-7-affordable-and-clean-energy

6. **Partner's reflection on the best practice**

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The construction and operation of local sources of electricity and heat in comprehensive terms is important both to the University itself and to its stakeholders. In addition to tangible financial or environmental benefits, it is the foundation for shaping environmental awareness and related activities under the Race to Zero initiative, for example: energy efficiency buildings.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Implementation of the practice described requires implementation of WIA to ESD. The work of an interdisciplinary team, the development of documentation, the acquisition of financing and then then skillful exploitation by the entire academic community.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Practice implementation is not a one-time initiative. Subsequent activities are planned on an ongoing basis, which requires both competence and an approach based on the principle of continuous learning and improvement of the entire organization

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The solutions applied and planned take into account the specifics of the organization, its resource capabilities, as well as the needs and expectations of stakeholders, in accordance with the

CSR concept implemented. Local (including, for example, technical capabilities for geothermal) and cultural conditions, significantly determine the subsequent investment in the construction of sources

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

Lodz University of Technology offers a number of courses that cover subjects related to the production and processing of clean, local energy. In addition to typical didactics, a number of stakeholder-activating activities are implemented, for example through various inventions or activities (ex: A team from the Technical University of Lodz took second place in the International Small Wind Turbine Competition 2022, organized by Delft University of Technology in the Netherlands and held in June 2022

Best Practice 17 (Presented by Frederick University Cyprus)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Sustainability at Frederick University (Sustainability Report 2022)
2.Implementation lead/partner organisation(s)	Frederick University
3.Country or countries of implementation	Cyprus
6. Keywords	1. Holistic 2. ESD 3. Authentic learning 4. Agency

Specific information on the best practice

2.1 Description, Activities, Results

1. *Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)*

Sustainability is one of the long-term goals of Frederick University's Strategic Planning. Within this strategy, sustainability holds a central role as described below: "Our Purpose is to provide an environment in which faculty, staff and students can reach their full potential. Through our research to advance knowledge for the good of society and through the provision of holistic education so our students can face global problems and become agents of change".

The current document presents the case study of Frederick University and the report of its Sustainability strategy and goals for 2020-2022. During this period the University set specific targets addressing four dimensions of activity: Research, Outreach, Teaching and Governance and operations.

Figure 3: The four dimensions of SD activity at Frederick University (excerpt from FU report 2021-2022)

The dimension of Research seeks to encourage university's academic research and collaborations and consulting activities with a variety of stakeholders, public and private.

Outreach concerns actions that target local society and seeks to establish connections between the University and its environment including policy development and advocacy.

Teaching refers to actions and targets connected to teaching and learning either in formal university education (programs of study), or through informal and non-formal activities such as lifelong learning actions.

Finally, Governance and operations embraces and coordinates all the university policies with the aim of adopting best practices and leading towards the SDGs by example.

The assessment of the university's targets achievement is documented through a statement about their implementation (applied or not) and by using quantitative performance indicators.

Figure 4: Codification of performance used (excerpt from FU report 2021-2022)

Exceeded or met	▲	4 targets
On track	●	13 targets
Partially met	■	6 targets
Not met	▼	- targets

The report, documents the progress made during 2020-2022 and presents the excellent results in the Times Higher Education Impact Rankings 2022 obtained. The Times Higher Education Impact Rankings for 2023 results were recently released and document even more progress as the university has moved from the top 301-400, to the 201-300 Universities worldwide, (1st in Cyprus and Greece) and number 44 worldwide in quality education. This achievement is the result of the University's efforts to integrate sustainability in the teaching and learning process following authentic and action-based methodologies. The SDGs are integrated in in all the curricula of Frederick University, and are addressed through student-centred learning and teaching approaches. The curricula aim to help students develop knowledge, skills and mindsets to "*become committed to building a more sustainable future and by offering SDGs relevant programs of study*" (FU 2022, p.7).

The achievement also acknowledges the University's networking and collaboration with other institutions in Cyprus and abroad aiming to exchange good practices and develop strategic synergies for the achievement of the SDGs.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

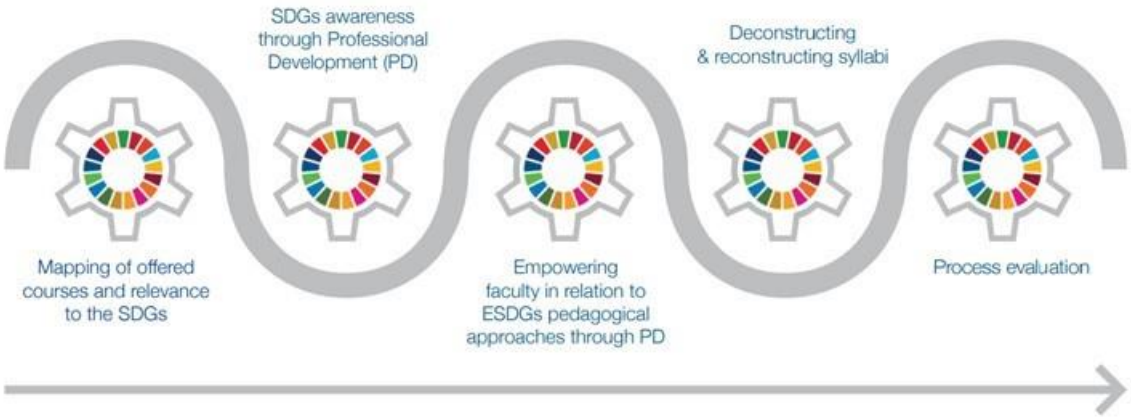
The activities implemented target the 4 axes mentioned above. Probably the most evident and important actions are the ones concerning education for both the students as well as the academic and administrative staff. This effort followed a linear methodology starting in 2021-2022 (see fig. 3, an excerpt from the FU Sustainability Report p.7). It began with an exploration of what takes place, through mapping the courses offered to the SDGs to identify the level of relevance to the SDGs. Parallel to that, professional development was offered to academic and administrative staff.

The training of academic and administrative staff is regulated by the Personal and Professional Development Center at Frederick University (P_2DF) Center. The P_2DF Center at Frederick University (https://www.frederick.ac.cy/en/p2df#:~:text=The%20Personal%20and%20Professional%20Development,ultimately%20reach%20their%20full%20potential) is responsible for providing a range of professional development opportunities to faculty and staff that will enable them to enhance their professional and personal skills and ultimately reach their full potential. Under the P_2DF run 7 sub-committees:

1. Personal & Professional Development
2. Teaching & Assessment
3. Building Strong Relationships with internal and external stakeholders
4. Integration of SDGs in the Operations of the University
5. Research & Innovation
6. Regulations - Procedures
2. Information Systems & Software

Committee 4 is responsible for the training on the SDGs and supporting the integration of the SDGs in the university's operations through education and professional development of all staff. The trainings that took place since its establishment include training and awareness raising on the SDGs and the importance of universities with the support of the SDSN network and other agents (2021-2022). In 2022-2023 trainings aimed to empower academic staff on ESDGs, and help them address critically their syllabi in order to ensure that through their teaching they develop sustainability competences to their students. Capacitation on ESDGs is of course a long process and within the university's plans are further trainings for faculties on deconstructing and reconstructing their curricula in order to facilitate the integration of the SDGs within them, examples of good practices within the staff and further training of the administrative staff.

Figure 5: Methodology for the integration of the SDGs in University Curricula (excerpt from FU report 2021-2022)



At Frederick University of Cyprus, education for the students follows a holistic approach to enable learners to address the SDGs through their current or future roles.

In order to strengthen even more this priority, Frederick University has developed "FULL" (https://www.frederick.ac.cy/en/welcome-to-the-full). FULL stands for Frederick University Living Lab and it is a pedagogical initiative based on a student-centred learning and teaching approach. It aims to offer to the students of FU the necessary knowledge (head), the appropriate skills (hands) and care (heart) so that upon their graduation, they will be able to tackle the turbulent future laying ahead and have the desire to become agents of change.

Figure 6: Three H for a sustainable future (excerpt from FU report 2021-2022)

FULL combines project-based, participatory and experiential learning through community connections and partnerships. Students are invited to employ their disciplinary knowledge, skills and competences in order to address real-world problems and issues in real professional settings, through

interdisciplinary approaches and activities. FULL projects draw their topics from the United Nation's Sustainable Development Goals (SDGs). The overall aim is that each and everyone of Frederick University's students during their studies will have at least once, the opportunity to engage in a project on the SDGs in a real-life, professional context.

Figure 7: The FULL context (excerpt from FU report 2021-2022)

FULL addresses the Teaching dimension of the University's strategy, but also enables stronger ties with the community, therefore it also is connected to the outreach dimension too.

A mapping activity also took place for the Research dimension reporting on the funded projects, new projects and publications connected to the SDGs (see FU Sustainability Report). Frederick Research Center hosts a number of research projects connected to Sustainability (https://www.frederick.ac.cy/en/research/frederick-research-center) and Frederick's Nature Conservation Unit (http://www.ncu.org.cy/) activity focuses on research and action promoting and protecting Cyprus biodiversity. NCU also runs a number of research projects mainly connected to local ecosystems.

Within the governance and operations actions we can also mention collaboration memoranda, and other collaborations and participations of the university in international networks promoting sustainability (https://www.frederick.ac.cy/en/about-us/our-profile/awards-and-achievements) as a result of the university's effort for extroversion. For example, we can mention Frederick University's participation in the EU-Connexus Network, UNESCO's chair in Life Long Learning and Adult Education

and Member of the Sustainable Development Solutions Network (SDSN) and co-founder of its Cyprus branch.

The establishment of the P_2DF Center and initiatives such as the FULL initiative, can also be considered as actions of governance and operations, and are developed and implemented with the support of academic, research and administrative staff.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Results of the first mapping (2021-2022) has shown a moderate integration of the SDGs in the university's courses depending on the school and the programme. For example, all SDGs appear to be evident in the programmes of study offered by the School of Arts, Communication and Cultural studies and not all SDGs to the rest of the schools. There are of course courses and programmes of study specialising in sustainability issues which have a very high level of integration. This indicates that there is a lot of space for improvement, and based on these results, the university has planned and offered trainings for the empowerment of the academic staff to address SDGs in their classes. A second round of mapping is planned for the current academic year (2022-2023) and it will be interesting to see how the SDGs integration in the courses has changed.

The academic year 2022-2023 has been the kick off year of the FULL initiative. There are no formal results yet of the impact of this initiative to the students as the semester is just now concluding. Nevertheless, informal information from the faculty participating in the initiative, documents a drastic increase in students' agency, responsibility and motivation to address sustainability issues in a real-life professional context. The impact exceeds the students' personal awareness raising and sensitization and affects their professional behaviour, which is fundamental for a sustainable society and workplaces.

The Research aspect has reported a clear increasing trend in the number of research projects related to SDGs and aims to further increase this in the next target period.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://www.frederick.ac.cy/fu_documents/SUSTAINABILITY_REPORT.pdf

https://www.frederick.ac.cy/en/welcome-to-the-full

https://www.frederick.ac.cy/en/p2df#:~:text=The%20Personal%20and%20Professional%20Development,ultimately%20reach%20their%20full%20potential.

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

1. https://www.frederick.ac.cy/fu_documents/SUSTAINABILITY_REPORT.pdf
2. https://www.frederick.ac.cy/en/welcome-to-the-full
3. https://www.frederick.ac.cy/en/p2df#:~:text=The%20Personal%20and%20Professional%20Development,ultimately%20reach%20their%20full%20potential.

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

All actions and initiatives are connected to the institution's mission, vision, educational and other priorities. Overall the leadership style is inclusive, inspiring and visionary, and manages to channel individual initiatives and actions in a more organized and coordinated framework that contributes to a Whole Institution Approach. All actions will gradually undergo assessment (some already are) so as to monitor and document their impact and influence on students, faculty and other staff and the society in a longitudinal way.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

The most valuable resource is the university's human potential. Its empowerment and motivation is vital for achieving the university's goals concerning sustainability and the SDGs. We have already described initiatives that work towards that direction. Further there are award schemes for internal motivation (https://www.frederick.ac.cy/en/michael-frederickou-awards), as well as the developing networking with other organizations with similar vision and goals. As the University's campus is expanding, infrastructure is refurbished to minimize carbon footprint. There is still, nevertheless room for improvement, as the university's power is provided by the Electricity authorities in Cyprus, which rely on fossil fuel. The University is fully aware of these limitations and is exploring ways for addressing the issue.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

The existence of a strategic plan, that is structured in a short and long-term planning and includes monitoring and assessment processes with specific KPIs in several areas, leads to critical reflection and provides information that can lead to optimisation and maximisation of the outcomes.

Besides that, Frederick University pursues to provide Quality Education, and that entails the transfer and development of horizontal competences. Sustainability competences permeate training programmes and some of our programmes of study, with the intention to reach all schools and departments.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The strategic planning is flexible. Many of its axes follow a "dialogic" approach, that leads to adjustments and rectifications for the optimization of the results with the participation and contribution of both the governance as well as the practitioners (academic and administrative staff). This is also facilitated by the short – long-term planning. Adjustments can be small and take place in the short run.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The agenda's ultimate purpose is to lead to change. The steps undertaken seek to provide a holistic learning experience, where learning about sustainability will not be limited in the theoretical level, but also learned through the example of the institution and become connected to the future professional life of the students (since university is preparing future professionals). The experiences offered (e.g. FULL) are designed to be transformative and have a deep impact on learners towards sustainability practices.

Best Practice 18 (Presented by Galway)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	University of Galway Sustainability Strategy: Leading the Transition to a Sustainable Future
2.Implementation lead/partner organisation(s)	University of Galway
3.Country or countries of implementation	Ireland
6. Keywords	1. Research & Learning 2. Governance & Leadership 3. Whole Institution Approach 4. Sustainability

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

University of Galway recognises that the future of humanity is threatened by unsustainable interactions between our societies, economies and our environment and is on a journey to lead the transition to a sustainable future. University of Galway launched its inaugural sustainability strategy in November 2017. The University of Galway Sustainability Strategy 2017-2020 set out an ambitious vision to establish the University as a top-class, green, smart and healthy campus. Progress over the last three years has resulted in demonstrable impact in Galway and globally.

As a bilingual university, University of Galway acknowledges the deep-rooted connection between people and place, in Ireland and around the globe. There is an understanding that language is essential

to the creation of knowledge of the environment and sustainability, and communicating that knowledge to others. University of Galway recognises that different language cultures capture environmental phenomena that would otherwise remain hidden. Incorporating an understanding of linguistic and cultural diversity is essential in understanding environmental heritage and helping to reframe a shared and sustainable planetary future.

As a university community there is a deep commitment to sustainability; sustainability has been identified as one of four core values. At an institutional level, sustainability is a key pillar of the University of Galway Strategic Plan: *Shared Vision, Shaped by Values* and University of Galway is a signatory to the SDG Accord.

The University of Galway Sustainability Strategy 2021- 2025 sets out a vision and commitment to lead the implementation of sustainability across the university campus and beyond. This is actioned by embedding sustainability in the University culture, operational policies and governance structures and empowering communities to be champions of sustainability. The vision is anchored in the *Shared Vision, Shaped by Value*s ambition to lead the transition to a sustainable future on the campus, in the city and region and around the world.

The Strategy was developed by the Community University Sustainability Partnership (CUSP) team following campus-wide consultation. Building on successful first steps, the Strategy is based on a Learn-Live-Lead model organised around 6 themes (Research and Learning, Energy and Greenhouse Gas Emissions, Nature and Ecosystems, Health and Wellbeing, Built Environment and Governance and Leadership). Each theme is comprised of a series of aims, objectives and targets for the next five academic years. The Strategy identifies 25 key measures of success across the six themes of the Learn-Live-Lead model. The Strategy is a roadmap for the *Shared Vision, Shaped by Value*s commitment: *'Building on the work of our Community and University Sustainability Partnership and its approach to learn live lead sustainability across the university mission, we will embed sustainability in our culture, operational policies and governance structures and empower our communities to be champions of sustainability'.*

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

University of Galway through teaching and research activities, using the UN SDGs as a framework, aims to will develop the next generation of students, researchers and innovators for tackling society's evolving sustainable development challenges. Sustainability will be embedded across all learning,

research and student experience opportunities so that individuals across the entire campus community gain the necessary knowledge and skills to become sustainability role models and leaders.

Building on past progress, University of Galway aims to exceed targets set out in the Public sector Energy Efficiency programmes and act as a leader in the sector through project demonstration, community engagement and collaboration with energy users across all campuses. University of Galway aims to embrace proven new technologies to increase our buildings' energy efficiency and Building Energy Rating by integrating sustainability in all Buildings and Estates planning and development under the auspices of the Climate Action Plan. University of Galway will develop a pathway to move ambitiously towards carbon neutrality by 2030.

University of Galway will become a role model for positive impact on the environment. University of Galway aims to continue to enhance the management of the campus environment in ways that are sensitive to associated ecosystems, in keeping with aspirations to be an exemplar in biodiversity research and learning.

Using a whole-of-university approach, University of Galway aims to improve the health and wellbeing of students and staff who live, learn, work and play in the community by helping them to attain full physical, social, sexual and mental health and wellbeing.

University of Galway will raise awareness with staff, students and visitors of water as a critical and limited resource that must be used responsibly. University of Galway will eliminate all unnecessary water usage on campus, to maintain and further improve the water usage reductions achieved on campus in the last period. University of Galway eliminate the reliance of staff, students and visitors on single use plastics for water consumption.

CUSP will provide leadership in the transition to a sustainable future through teaching, research, professional support services, actions and impacts. University of Galway will sustainably manage the campus and all external affairs and become a role model for similar organisations, through a positive impact on the environment and society. University of Galway will develop our graduates as future sustainability leaders in Ireland and globally, developing the next generation of students, researchers and innovators for tackling the world's evolving sustainable development challenges.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Ongoing and emergent actions yielding results include:

- Continuation of a two-way dialogue with communities, with an open and respectful mindset, to improve and deepen communications.
- Communicate the CUSP General Board/working groups as a platform for students and staff to progress sustainability on campus.
- Development of a communication and engagement framework within each working group to organise and deliver engagement schemes across the six core theme areas of the sustainability strategy.
- Provide continuous opportunities for student and staff involvement in sustainability on campus e.g. through involvement in working groups, workshops, consultation days, seminars and networking events.
- Develop working group case studies that communicates sustainability initiatives to the wider University and external and global communities.
- Recognising that sustainability emerged as a core value of the campus community, work with Internal Communications to build an effective, robust communication network on sustainability throughout the university e.g. website, newsletter, social media platforms.
- Support the work of the University Sustainability Advisory Board in raising the profile of University of Galway among key national and international audiences including aligning the identity of the university with the concept of sustainability.
- Partner with the NUI Galway Explore Programme to provide seed funding for innovative student projects and student-staff collaborations that engage students and staff to tackle on-campus sustainability challenges. Seek opportunities for engagement with Professional international organisations to support student internships on key sustainability projects, where the campus is used as a living laboratory.
- Engage with, mentor and support sustainability themed student societies. Integrate sustainability into student events to normalise it as a cultural practice.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- Establish network of staff sustainability champions and student brand ambassadors as a resource of expertise and experience to progress the University of Galway Sustainability Strategy.

- Host University-wide events to reward and recognise the sustainability champions within the community. Continue to roll-out Student Sustainability Awards Programme to foster student leaders in the area of sustainability. Extend awards programme to include staff recognition award.

- Engage with community groups and organisations in the Galway region and develop new community-engaged learning, volunteering and outreach opportunities in the area of sustainability.

- Actively engage with government bodies, state bodies, development agencies, the Saolta hospitals group, other educational institutions, European and International partners to maximise the contribution to regional, national and international sustainable development.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

University of Galway: https://www.universityofgalway.ie/

University of Galway Sustainability Report 2021/22: https://www.universityofgalway.ie/media/sustainability/files/Sustainability-Report-22.pdf

University of Galway Sustainability Strategy: https://www.universityofgalway.ie/media/sustainability/files/NUI-Galway-Sustainability-Strategy-2021-2025.pdf

5. **Website(s) / Social Media**

Indicate the website(s) and/or social media where the best practice was presented on.

University of Galway: https://www.universityofgalway.ie/

6. **Partner's reflection on the best practice**

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

University of Galway's Sustainability Strategy is an example of a WIA across a multi-disciplinary third level setting that embraces the local, regional, national and global ecosystems within which it exists. In that sense the strategy is relevant to both proximal and distal actors. The focus on community engagement as part of the university identity allows the development of pathways towards sustainable practices that are informed by those in the community and as a consequence aligned to the environmental priorities of the region.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

University of Galway is a University of Sanctuary, a movement aimed at promoting the inclusion of International Protection Applicants, refugees and Irish Travellers within the community in meaningful ways. As part of the University of Sanctuary initiative, University of Galway operates a specific University of Sanctuary Scholarship Programme. The University of Sanctuary Scholarship Programme is designed to increase participation at University of Galway for International Protection Applicants, refugees, vulnerable immigrant groups, and Irish Travellers. For AY 21-22, 12 University of Sanctuary scholarships were filled, including 6 at undergraduate level and 6 at postgraduate level.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

University of Galway is actively contributing towards the achievement of the UN's SDGs. In the 2021/22 report on progress for the implementation of the Sustainability Strategy ongoing critical reflection is published on the progress towards the SDGs.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The situation of community at the heart of all actions within the context of suitability is key to the capacity of the University of Galway to continually consider how the achievement of the SDGs can be

at the heart of both existing and new practices. Education is constantly evolving and as a consequence the University is well positioned to be responsive.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. "(max 200 words)

It is clear from the published Sustainability Strategy and the subsequent 2021/22 report, particularly when considering pedagogical innovation for teaching and learning at higher education, that the University of Galway is leading on reformation practice and that this work is considered as a core consideration at all levels of the institution.

Best Practice 19 (Presented by Galway)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	SDG Champions Programme
2.Implementation lead/partner organisation(s)	Government of Ireland
3.Country or countries of implementation	Ireland
6. Keywords	1. Education 2. Inclusivity 3. Whole Community Approach 4. Partnerships

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

The SDG Champions Programme was established by the government to raise public awareness of the SDGs through partnership and promotion. The Programme illustrates practical ways in which organisations and individuals can contribute to achieving the SDGs, using the champion organisations' practices as examples.

Each champion organisation focuses mainly on a select number of SDGs but all campaigns are built around the core message that the SDGs are for everyone in society and that each of us can make a contribution, large or small, to their success.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

Established in 2019, the SDG Champions Programme was developed to raise public awareness of the SDGs and to demonstrate, through the examples provided by Champions, that everyone in society can make a contribution to Agenda 2030.

Following an open call for expressions of interest in 2019, 12 Champions were chosen to take part in Ireland's first SDG Champions programme based on the significant public profile they were able to leverage to raise awareness of and promote the SDGs among both the general public and within their own sectors. The Champions, through their organisational practices, helped illustrate ways in which organisations and individuals can contribute to achieving the SDGs.

Originally intended as an annual programme, challenges arose from the COVID 19 pandemic and the tenure of the 2019-2020 Champions was extended to allow for the fulfilment of planned actions and activities as COVID 19 restrictions were lifted.

As part of the 2021 SDG consultation process, existing champions and interested stakeholders were asked to review the programme to ensure its potential was being fully utilised. Feedback indicated it was a popular and successful initiative but certain improvements could be made, including the need for:

- A well-publicised, accessible and inclusive recruitment campaign to attract a diverse range of Champions
- A more resourced Programme which include introductory workshops to support chosen Champions
- A well defined Programme structure, including a work plan setting out clear objectives and outputs for Champions
- More reporting and follow up to showcase Champion activities and allow for peer and industry learning
- Ahead of relaunching the next Champions Programme, a dedicated sub-group will be established to develop an improved Programme format based on this important feedback.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The establish of an initial SDG Champions Programme sub-group to develop improved Programme format based on Public Consultation feedback has been completed and informed the subsequent delivery

Resources have been developed to support SDG Champions including a central repository for SDG brand assets, communication strategies and reporting templates to capture Champion activities

An open call for applications to the 2023 Champions Programme was launched and chosen Champions were published and promoted through various communication channels.

The results of this initiative are not yet in the public domain.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://storymaps.arcgis.com/stories/0649f3af1e1d48d7abfc4b060ce5c1cf

https://www.gov.ie/en/publication/cc350-sdg-champions-2023/

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

https://www.gov.ie/en/publication/cc350-sdg-champions-2023/

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

It is clear that the Government of Ireland is committed to the attainment of the UN SDGs through community engagement. The SDG Champions programme allows a diverse set of stakeholders across

the state, who are embedded within communities, to progress towards the SDGs that they can effect as member of the communises that they support.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

While is clear, with many of the champions, that appraise expertise and support in sustainability is available - for example University of Galway, is is yet unclear if this is the case for all of the organisations within the programme.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Not yet available

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

Not yet available

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

Not yet available

Best Practice 20 (Presented by UM)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	Local Environmental Programmes and Conservation of Natural Heritage Sites
2.Implementation lead/partner organisation(s)	Nature Trust (Malta)
3.Country or countries of implementation	
6. Keywords	1. Environmental Education 2. Wildlife Protection 3. Whole Institution Approach 4. Environmental Activism

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

NATURE TRUST (MALTA) is a non-profit non-governmental environmental organization working in the Maltese Islands. Founded in 1962, it is also a privileged partner of World Wildlife Fund (WWF).

Nature Trust (Malta) is one of the oldest and largest environmental NGOs in Malta dealing with natural environment of the Maltese Islands. Over the years Nature Trust (Malta) has worked and lobbied hard to get legal protection for various plants and animals in the Maltese Islands, helping to save from extinction some of the local endemic species. Today, Nature Trust (Malta) is very active in environmental education in schools around the islands of Malta and Gozo. This is done through various means, including the educational programmes, as it strongly believes that education is the best tool

to create awareness on nature conservation. The organisation is also carrying out many environmental projects in Malta such as afforestation, habitat conservation and the creation of marine protected areas. These projects are very demanding, but the NGO feels that this is the mission environmental NGOs should carry to help conserve the Maltese natural heritage.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

- Nature Trust (Malta) works on site management and habitat restoration in various parts of the Maltese Islands. It ensures that heritage sites and nature reserves are protected and well-maintained.

- Nature Trust (Malta) also organises nature visits for schools in its nature reserves and other sites in the countryside. It also organizes talks about marine life in various schools. Nature Trust (Malta) is the FEE Malta coordinator running the programmes of *EkoSkola* (Green Flag), *Young Reporters for the Environment* (YRE). *Learning About Forests* (LEAF), *Blue Flag for Beaches and Marinas*, and *Green Key for Hotels*.

- Nature Trust (Malta) also organizes activities for adults, youths and children outside of school hours. Such activities include guided walks, talks, outdoor activities, and seminars.

- Nature Trust (Malta) also promotes eco-tourism to increase the appreciation of nature and local heritage as an invaluable resource in need of protection. In recent years, it published its own walking guide to the Maltese Islands and collaborates with tour operators for nature walks.

- Nature Trust (Malta) slow works closely with international institutions. These include WWF (Worldwide Fund for Nature), ACCOBAMS (Agreement on the Conservation of Cetaceans of the Black Sea, Mediterranean Sea and contiguous Atlantic Area), and the Mediterranean Information.

- Nature Trust (Malta) is involved in the rescue of injured marine turtles and stranded dolphins, where a group of dedicated rescue volunteers, who are professionally trained, work to save marine creatures.

- In order to keep its members updated with the latest information, Nature Trust (Malta) publishes an electronic newsletter too.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Nature Trust (Malta) strongly believes in maintaining natural sites around the Maltese Islands. Therefore, it manages several natural sites around the islands in order to conserve the natural habitat therein.

Education is believed to be key to achieving sustainable development. Therefore, Nature Trust (Malta) promotes Education for Sustainable Development as a means of raising awareness and paving the way for a more sustainable present and future for all. To achieve this goal, big percentage of the its budget is dedicated to the promotion of ESD in schools. Nature Trust (Malta) is also active on the media, where it creates content to help education the general public about local and global environmental issues. It is also involved in formal, informal and non-formal settings, where it organises nature visits for schools and for the public, as well as several pro-environmental campaigns and publications intended to raise environmental awareness across generations. It is also involved in the management of several educational programmes in local primary and secondary schools, including EkoSkola (EcoSchools), YRE (Young Reporters for the Environment) and LEAF (Educating about Forests). Each of these activities are not conducted in isolation but rather one compliments the other. Participation is these educational programmes is very high.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

Nature Trust (Malta): https://naturetrustmalta.org/

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Nature Trust (Malta). *https://naturetrustmalta.org/*

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Nature Trust (Malta)'s mission is relevant to Malta's environmental priorities in that it identifies the most important local issues to deal with and works within the community to help individuals come up with the best solutions for these. Thus by engaging in a participatory process with multiple individuals, NTM helps promote sustainable development across institutions in Malta.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

By engaging multiple stakeholders to develop critical thinking competences, NMT helps individuals and organisations alike to work co-operatively together to solve local environmental issues. Even though such issues may be only local ones, on a larger scale, these could have a global impact too. Therefore, by working towards educating the Maltese public to lead more sustainable lifestyles, NMT is contributing towards the achievement of the UN's SDGs.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

NTM does not adopt a one-size-fits all approach to solving local environmental issues. Rather, each issue is tackled on its own merits and when necessary, local and foreign experts are called upon to help the community come up with the best solution. That way, both the community and the environment would benefit.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. " (max 200 words)

The several formal, non-formal and informal activities organised by NTM help individuals gain environmental awareness in a variety of contexts, sometimes away from schools. This also leads to

lifelong learning, where different members of the community work and learn together towards reaching a common goal – to protect the local environment.

Best Practice 21 (Presented by UM)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	EkoSkola
2.Implementation lead/partner organisation(s)	Nature Trust (Malta) – EkoSkola programme, internationally known as the EcoSchools progamme.
3.Country or countries of implementation	
6. Keywords	1. Environmental Education 2. Environmental Awareness 3. Whole School Approach 4. Environmental Activism

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

Nature Trust – FEE Malta has in the past years given great importance to education for sustainable development (ESD) in our Islands so much so that we have become a reference point for ESD implementation. Besides being one of the three pillars on which our NGO is built, we strongly believe that ESD is an essential component in a strategy for a mentality change in the Maltese Islands towards sustainable lifestyles and choices. These principles spurred Nature Trust – FEE Malta to become the proud representatives of FEE in the Maltese Islands since 2002. Through FEE's programmes we have been promoting ESD in the formal, non-formal and informal education sectors based on internationally approved standards. One such programme, that has become the feather in our cap, is the EkoSkola programme that has become synonymous with ESD at all levels of formal education.

Thanks to our EkoSkola programme co-ordinator Prof Paul Pace and our six EkoSkola Officers, the number of schools participating in EkoSkola has kept increasing over the years. Partcipating schools that have engaged in the integration of ESD in the curriculum through a whole school approach are awarded the Green Flag – an international certification based on international quality criteria for ESD. Local research results have corroborated international findings that the programme is bringing about a personal and an institutional change of behaviour towards sustainability. Moreover, EkoSkola has been very proactive in promoting young people's voices on sustainability in local and foreign fora.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

The Eco-Schools programme was launched in 1994 by the Foundation for Environmental Education (FEE) and now includes over 43,000 schools distributed around the world.

Eco-Schools aims at mobilizing the whole school to empower students to adopt an active role in environmental decision-making and action in their school and in their community. Schools that have successfully achieved achieved this goal are awarded a Green Flag – a prestigious eco-label testifying the school's commitment to fostering sustainable lifestyles.

The Malta Environment and Planning Authority (MEPA), in collaboration with the Ministry for Resources and Rural Affairs and the Ministry of Education, Culture, Youth and Sport, launched a project to pilot the programme in Malta in October 29th, 2002. After the success of the pilot project, Nature Trust (Malta) representing FEE (Malta) decided to co-ordinate the initiative, known in Malta by the name of EkoSkola.

EkoSkola is an opportunity to improve the quality of life of your school community by:

- Democratising the process of decision making.
- Setting relevant targets for the improvement of the school's environment.
- Designing and implementing a plan, in line with the school's resources, to achieve these targets.
- Integrating curriculum work with the day-to-day realities of the school community.
- Exploring ways of fostering team work within your school as well as the community in which it is housed.

- And networking and sharing experiences and expertise with other local and foreign schools.

EkoSkola seeks to develop environmental responsibility by adopting a whole school approach in the design, implementation and monitoring of a School Environmental

Policy that is intimately integrated into the School's Development Plan. The ultimate goal is to infuse, through deliberate choices, sustainable lifestyles into the school's day-to-day functioning so that this environmental ethic gradually becomes an integral part of the school's ethos. When a school gives evidence that it has achieved this goal, it is awarded the EkoSkola award – the **Green Flag**.

Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

Nature Trust – FEE Malta organizes a number of teacher training seminars about EkoSkola and Education for Sustainable Development (ESD), inviting all teachers to attend and learn more about the programme.

The EkoSkola programme is run every year and this year, in 2023, it had a special focus on sustainable mobility, an important issue in the Maltese Islands. Almost all schools in Malta participate in this programme and most of them have already achieved the Green Flag award.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

EkoSkola: https://ekoskola.org.mt/

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

Nature Trust (Malta). *EkoSkola*. https://naturetrustmalta.org/environmental-education/test/

Since the EkoSkola programme is implemented in almost every school in Malta, examples of best practices are usually showcased on the schools' websites and on social media.

6. **Partner's reflection on the best practice**

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

In our opinion, the EkoSkola programme in line with the national priorities for education for sustainable development. It is also in line with a WIA since in order to achieve the Green Flag award, participating schools need to have involved a number of people in the process, including students, teachers, parents and members in their community. Therefore, an element of community identity is also recognised and celebrated in this programme. Also, the programme is helping to raise environmental awareness among children and their caregivers.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

Within the EkoSkola programme, children and adults are encouraged to work together to help solve local environmental issues that are important to them. In working towards this goal, children learn to think critically and develop critical thinking skills to enable them to solve the issues. What is interesting is that such skills are transferrable and so, children are able to use critical thinking skills in other contexts (outside of the EkoSkola programme) too.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

The EkoSkola programme is flexible and can be adapted to the needs of its school and its community. From a socio-cultural perspective, the programmes recognises the different needs within a school community and encourages children and adults to work together to meet those needs, while protecting the natural environment.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

The aim of EkoSkola is not only to raise environmental awareness amongst children but also to reframe their entire educational experience in the sense that they do not simply follow the steps to achieve the Green Flag Award but they also learn to take action. As a result, they are encouraged to become active citizens within their community.

Best Practice 22 (Presented by CCC)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	STEAMFreak_is a Centre for Innovation, Research and Education related to STEAM/ SD Education. It has an innovative STEAM makerspace and developed innovative blended learning (FLIP CLASS) k-12 educational programs in STEAM/ SD Education built in 5 levels with the 5th Level leading to STEAM Ambassadors. STEMFreak also offers STEAM/ SD Counselling services to other organizations and Training programs.
2.Implementation lead/partner organisation(s)	Cyprus Certification Company
3.Country or countries of implementation	Cyprus
6. Keywords	1. Holistic 2. ESD 3. Pedagogical 4. Education

Specific information on the best practice

Description, Activities, Results

1. Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

The aim of STEAMFreak, is to advance research and innovation in the fields of cognition and E2STEAM/ SD Education. The company strives to develop certification schemes, innovative curricula, learning management systems, educational kits, assessment tools, and multimodal learning environments. The

objectives include promoting authentic assessment, designing digital tools for cognitive profiling, and accelerating cognition through innovative methodologies.

STEMFREAK is one of the three legal entities belonging the same mother company and therefore work in close collaboration collaborates with various institutions, including the Cyprus Certification Company, the Ministry of Trade and Industry, and the International Network of Certification Bodies (IQNET). The company engages stakeholders such as researchers, educators, students, and funding agencies from the EU and other sources.

STEAMFreak focuses on research and innovation related to E2STEAM /SD (Entrepreneurship, Environment, Science, Technology, Engineering, Arts, and Mathematics and Education for Sustainable developemnt). The company aims to develop and implement various projects and initiatives in collaboration with stakeholders, external funding sources, and educational institutions. Here is a summary of the best practices for each component:

STEAMFreak, as a Centre for Innovation, Research, and Education in E2STEAM/SD Education, follows best practices in various areas to achieve its objectives. Here is a summary of these practices:

1. Vision, Ethos, Leadership & Coordination:
    - The aim is to promote STEAM/SD education and create a positive impact in the field.
    - Strong leadership and effective coordination among staff and stakeholders ensure the successful implementation of programs.
2. Institutional Practice:
    - Engaging in on-location experimentation and learning helps in developing sustainable practices.
    - The organization implements innovative approaches to model sustainability within its own operations.
3. Capacity Building:
    - Providing professional development opportunities for all staff members ensures we have the necessary skills and knowledge in STEAM/SD education.

Professional Development Opportunities for STEMFREAK Educators.
All STEMFREAK teachers participated E2STEAM Program

4. Community Connections:

   - Establishing strong connections between the school and the wider society fosters collaboration and community engagement.

Events and programs open to the public

STEMFREAK

Linking with outside the school world

- Organising Girls in STEAM Seminar as part of an EU funded project in collaboration with UNIC

STEMFREAK

Linking with outside the school world

- Participation in Summer School organised by StemFreak. Students level 4 and 5, work as assistants or offering their own workshop.
- Participation in E2STEAM festival since StemFreak is co-organising E2STEAM festival, all of our students participate. Students level 4 and 5 work as assistants.

STEMFREAK

5. Curriculum:

   - Designing, developing, and implementing curriculum materials for E2STEAM/SD education across K-12 levels.
   - The curriculum aligns with educational standards and emphasizes hands-on learning experiences.

Pedagogy & Learning:

   - Implementing new and alternative learning processes and environments to foster creativity, critical thinking, and problem-solving skills.
   - Blended learning methodologies, such as the FLIP CLASS approach, enhance student engagement and participation.
   - Innovative learning model that is validated through Delphi methodologies and evidence based research based on measuring students outcomes through multiple authentic sources, interviews with parents, teachers etc.
   - Conducting research on effective teaching practices, assessment methods, and the impact of E2STEAM/SD education on student learning outcomes.
   - Developing curriculum materials for E2STEAM/SD education in K-12 schools and other educational settings.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- Providing professional development opportunities for E2STEAM/SD teachers through workshops, conferences, and online courses.
- Advocating for E2STEAM education and promoting policies to integrate it into mainstream education systems.
- Engaging with the community to raise awareness and build support for E2STEAM education.

Methodology:

The research and innovation activities are led by Dr. Andri Vrioni, the Director for Research and Innovation. The research conducted is presented in conferences, demonstrating the learning outcomes of blended learning programs, measuring STEAM learning outcomes, and promoting authentic student assessment. The company also publishes books through the Institute for STEAM Education to disseminate knowledge and share interdisciplinary activities. The evaluation of STEAM/SD learning outcomes ensures the effectiveness of the implemented initiatives.

In summary, STEMFREAK closely collaborates with the Institute for STEAM Education, and ROBO.cy, implements best practices in research and innovation in cognition and E2STEAM/SD Education. The company collaborates with institutions, engages stakeholders, follows a systematic methodology, and evaluates the results to promote authentic learning and prepare individuals for the evolving workplace and to address global challenges.

1. ***Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)***

1. Development and pilot testing of Innovative Learning Management System (LMS) to offer E2STEAM education in levels align with the E2STEAM Cyprus Certification Company Curriculum
2. Development and pilot testing of state of art STEAM learning scenarios, learning activities and STEAM Educational kits.
3. Development and pilot testing of STEAM authentic assessment tools (VR, games, apps etc).
4. Evaluation of E2STEAM Learning Outcomes.

5. Design of Multimodal Learning Environments.

6. Design Digital Tools to build up students' cognitive profile and accelerate cognition through innovative Brain Train methodologies, programs, and modern technological tools (VR, Gamification).

7. Collaboration with Cyprus Certification Company, which belongs to the Ministry of Trade and Industry and is a member of the International Network of Certification Bodies (IQNET) for the development of Certification Scheme (Procedure, Tools for evaluation, Trainings Curriculum) for STEAM Students, Schools, and Educators.

8. Research and Development of Interactive Educational STEAM Program applying the innovative model of interdisciplinary (unique worldwide- There is the effort in which engineering is integrated with science or technology but in no other program and all 5 included subjects). This program has been pilot tested and validated through its application for 7 years to 100 students from 5-18 years.

    - 2011-2012 Investigation of needs, study of good practices, development of work methodology
    - 2012-2013 Methodology design and validation process through DELPHI STUDY
        - 2015- 2016 Level 1 planning and development
        - 2016-2017 Level 2 planning and development, Level 1 piloting and evaluation.
        - 2017-2018 Improvements, Level 3 design and development, Level 2 piloting and evaluation.
        - 2019-2020 Improvements, Level 4 design and development, Level 3 piloting and evaluation.
        - 2021-2022 Improvements, Level 5 Planning and Development, Level 4 Piloting and Evaluation.
        - 2022-2023 Improvements, Increasing the interactivity of the electronic platform and multimedia piloting of level 5 and evaluation.

9. Offer STEAM Educational Program at STEAMFREAK Center. The various levels of the program will be offered through an E-Learning Platform to students at STEAMFREAK training center. It is offered in English and Greek live, and this year we are working on translating to Spanish, French and German

10. STEAM Program to go -through franchise packages- to other educational organizations for blended delivery.

    The package includes:

    - Ability of students and teachers to access an electronic learning platform, which utilizes the principles for quality distance and blended education and allows flexible interdisciplinary teaching of STEAM knowledge subjects synchronously and asynchronously.

    - Preparation of students attending the STEAM, Programming, Robotics program of STEAMFREAK can be certified at five levels with the last one leading to our certification as a STEAM Ambassador and preparation of interactive resume portfolios for each student.

    - Training of school instructors for the autonomous offering of the program.

    - Consulting Services for Certification of your School as a STEAM School by the Cypriot Certification Company member of the International Quality Network (IQNET) obtaining an international distinction.

    - Ability to participate in a STEAM and Robotics learning community.

    The learning material:

    - is evaluated and approved by the Ministry of Education and Culture, Sports and Youth, differentiated at each level.

    - is harmonized with the Student Certification Process for STEAM of the Cypriot IQNET Member Certification Company which is open to the Ministry of Trade and Industry.

    - is comprehensive including learning objectives, lesson plans, learning activities and assessment tools utilizing modern technology.

11. Distributing basic robotics components in Cyprus and EU

12. Designing and producing innovative platforms aimed for education, R&D and entertainment

13. Designing and producing Educational STEAM KIT that are tailored to STEMFREAK STEAM Program

14. Offering hardware B2B services

15. Actively empowering the maker community in Cyprus

2. Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)

The results of STEMFREAK's best practices in the field of cognition and STEAM/SD education can be identified as transformative due to our significant impact on various aspects of the education ecosystem. These transformative results can be observed in the following areas:

1. Impact on Policies: STEMFREAK's best practices contribute to shaping educational policies by emphasizing the importance of integrating STEAM/SD education into the curriculum. The development of certified STEAM programs and collaboration with educational organizations and certification bodies provide evidence-based recommendations for policymakers to prioritize and support STEAM/SD initiatives.

2. Impact on Management Processes: STEMFREAK's best practices influence management processes within educational institutions. The development of an innovative E2STEAM curriculum, learning management system (LMS), and multimodal learning environments necessitates the adoption of effective management strategies. This includes resource allocation, teacher professional development, and implementation plans to ensure smooth integration of STEAM/SD education.

3. Impact on Delivery Arrangements or Education Monitoring: STEMFREAK's best practices impact the delivery arrangements and monitoring of education. The development of learning scenarios, educational kits, and authentic assessment tools provides educators with effective resources to deliver STEAM/SD education. Additionally, the implementation of the Learning Management System facilitates the monitoring and

tracking of student progress, enabling personalized learning experiences and targeted interventions.

4. Impact on Teachers: STEMFREAK's best practices have a transformative impact on teachers. Through the development of innovative curricula, professional development opportunities, and access to digital tools, teachers are empowered to adopt student-centered and inquiry-based pedagogical approaches. We gain the necessary skills and knowledge to effectively integrate STEAM/SD education into our teaching practices, fostering creativity, critical thinking, and problem-solving skills among students.

5. Impact on Learners: The best practices of STEMFREAK result in transformative outcomes for learners. The implementation of the E2STEAM/SD curriculum, multimodal learning environments, and authentic assessment tools enhances the learning experience and promotes active student engagement. Learners develop a deeper understanding of STEAM/SD concepts and acquire skills that are essential for future careers in the digital age.

6. Impact on Beneficiary Communities: STEMFREAK's best practices extend our transformative impact beyond individual learners and teachers to beneficiary communities. By promoting STEAM/SD education, these practices contribute to the development of a highly skilled workforce that can drive innovation, entrepreneurship, and sustainable development within our communities. This, in turn, can lead to economic growth, increased opportunities, and improved quality of life.

7. Integration of Sustainability into the Curriculum: STEMFREAK's best practices contribute to the integration of sustainability principles and concepts into the curriculum. The development of the E2STEAM curriculum ensures that students are exposed to interdisciplinary learning experiences that incorporate environmental, social, and economic dimensions of sustainability. This integration enables learners to develop a holistic understanding of sustainability challenges and solutions.

8. Promotion of Sustainable Practices: STEMFREAK's best practices actively promote sustainable practices within educational institutions and communities. By designing learning scenarios and educational kits that focus on real-world sustainability issues, students are encouraged to explore and implement sustainable solutions in our daily lives. This empowers learners to become agents of change and contribute to sustainable development in our communities.

9. Development of Sustainable Learning Environments: STEMFREAK's best practices emphasize the design of sustainable learning environments. The creation of multimodal learning environments incorporates various modes of learning, including hands-on activities, virtual reality, and digital tools. These environments foster a culture of sustainability by promoting experiential learning, critical thinking, and problem-solving skills within the context of sustainable development.

10. Incorporation of Sustainable Assessment Tools: STEMFREAK's best practices include the development of authentic assessment tools that align with sustainability goals. By utilizing virtual reality, games, and apps, the company enables the evaluation of students' understanding and application of sustainable concepts and practices. This form of assessment encourages learners to think critically, analyze complex sustainability issues, and propose innovative solutions.

11. Community Engagement and Collaboration: STEMFREAK's best practices foster community engagement and collaboration to promote sustainable education. By partnering with stakeholders such as educational institutions, the Ministry of Education and Culture, and the Cyprus Certification Company, the company creates a network that supports the dissemination of sustainable education practices. This collaboration extends the impact of sustainable education beyond the classroom and ensures the involvement of the broader community in sustainable initiatives.

12. Long-term Sustainable Impact: The results of STEMFREAK's best practices in sustainable education aim to create a long-term sustainable impact. By equipping learners with the knowledge, skills, and values necessary for sustainable living, the practices contribute to the development of environmentally conscious citizens. These citizens are more likely to make informed decisions, adopt sustainable behaviors, and actively contribute to a more sustainable society.

Through these outcomes, STEMFREAK's best practices in sustainable education demonstrate our commitment to addressing the urgent sustainability challenges of our time. By integrating sustainability into the curriculum, promoting sustainable practices, creating sustainable learning environments, incorporating sustainable assessment tools, fostering community engagement, and aiming for long-term impact, STEMFREAK contributes to building a more sustainable future through education.

We can provide documentation of these upon request.

References

Please a dd references on the best practice (papers, reports, books, guides, official archives, any other published work)

1. See the self-presentation of STEMFREAK as submitted to Cyrus Certification Company as part of our evaluation and certification procedure as “STEAM Educational Centre” https://onedrive.live.com/edit.aspx?resid=ADFE96457112CC92!33223&ithint=file%2cpptx&authkey=!AEY5wcYPZ2U9FDI

2. See research related to STEAM/ SD Education learning outcomes (at STEMFREAK) presented in Conference.

3. We can provide access to our learning platform upon request.

4. See research results with regards learning outcomes of STEAM/SD Education presented in Conferences

Conferences:

- Vrioni, A., & Ioannou, I. (2023). Measuring different cognitive types learning outcomes in innovative STEAM learning program. Education Conference (CEC) 2023, Nicosia, Cyprus, May 2023.

- Vrioni, A., Neokleous, K., Panagi, V. Polidorou, A. & Frangoudes, F. (2023). Learning outcomes from a VR/AR- STEAM-Astronomy blended learning environment. Education Conference (CEC) 2023, Nicosia, Cyprus, May 2023.

- Vrioni, A. (2022). Learning Outcomes of an "Astronomy/STEAM" Blended Learning Program. Proceedings of the 7th Panhellenic Conference Integration and Use of ICT in the Educational Process, Patra, Greece, September 2022.

- Vrioni, A. & Ioannou, I. (2021). Measuring STEAM Learning Outcomes with an Authentic Assessment Tool. Proceedings of the Panhellenic and International Conference on STE(A)M Education and Educator (MCIS), Patra, Greece, May 2021.

- Vrioni Andri, 2022. Educating tomorrow's inventors. « Discovering the universe and the world of astronomy. Integration of astronomy into STEAM. Educating the inventors of tomorrow,

cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities to diversify teaching and create an enriched learning environment. ISBN 978-9925-7629-5-8.

- Vrioni, A. & Ioannou, I (2021). Measuring STEAM Learning Outcomes with an Authentic Assessment Tool. In Proceedings of the Panhellenic and International Conference on STE(A)M Educations and Educator, (MCIS), Patra, Greek, May 2021.

5. See samples of our students' portfolios

   STEAM ambassadors

   https://savvydev.me/

   STEAM/ SD level 4

   STEAM/SD level 3

6. Books Published by Institute for STEAM Education:

   - Vrioni Andri, 2022. Educating tomorrow's inventors. «Discovering the universe and the world of astronomy. Integration of astronomy into STEAM. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities for level 1,2 and 3. Institute for STEAM Education Publications. ISBN 978-9925-7629-5-8.

   - Vrioni Andri, 2019. Educating tomorrow's inventors. Cultivating 21st Century Innovation and Skills at secondary school ages. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities for level 3 and 4. Institute for STEAM Education Publications. ISBN 978-9925-7629-2-7.

   - Vrioni Andri, 2019. Educating tomorrow's inventors. Cultivating 21st Century Innovation and Skills at Kindergarten ages. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities for level 1. Institute for STEAM Education Publications. ISBN 978-9925-7629-0-3.

   - Vrioni Andri, 2019. Educating tomorrow's inventors. Cultivating 21st Century Innovation and Skills at Elementary ages. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities. Cultivating innovation and skills of the 21st century." STEAM

interdisciplinary activities for level 1 and 2. Institute for STEAM Education Publications. ISBN 978-9925-7629-1-0.

- Vrioni Andri, 2019. Educating tomorrow's inventors. Cultivating 21st Century Innovation and Skills at secondary school ages. Cultivating innovation and skills of the 21st century." STEAM interdisciplinary activities for level 3 and 4. Iinstitute for STEAM Education Publications. ISBN 978-9925-7629-2-7.

- Avraam Avraam and Vrioni Andri, 2019. Learning Robotics in a Smart City. Starting with robotics and cultivating 21st century innovation and skills. STEAM interdisciplinary activities to diversify teaching and create an enriched learning environment for level 1 and 2. Institute for STEAM Education Publications. ISBN 978-9925-7629-4-1.

- Vrioni Andri, 2019. Why Christmas is so STEAM finally! Cultivating 21st Century Innovation and Skills. STEAM interdisciplinary activities to diversify teaching and create an enriched learning environment for level 1 and 2. Institute for STEAM Education Publications. ISBN 978 9925 7629 3 4.

Website(s) / Social Media

Indicate the website(s) and/or social media where the best practice was presented on.

www.stemfreak.com

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

The best practice implemented by STEMFREAK in sustainable education can be considered an exemplar on the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) based on the following characteristics:

1. Relevance to the Institution's Mission: STEMFREAK's best practice aligns with the institution's mission of research and innovation in the fields of cognition and E2STEAM/ SD Education. By incorporating sustainability principles into the curriculum and promoting

sustainable practices, the practice reinforces the institution's commitment to holistic education and the development of environmentally conscious citizens.

2. Alignment with National Educational Priorities: The best practice is in line with national educational priorities by addressing the need for STEAM and sustainable education. As sustainability becomes an increasingly important issue globally, many countries have recognized the significance of integrating sustainability into education to prepare future generations for the challenges ahead. STEMFREAK's practice responds to this priority by providing innovative and effective approaches to incorporating sustainability into the education system.

3. Community Identity and Environmental Priorities: The best practice considers the community's identity and the environmental priorities of the region. By engaging with stakeholders such as the Cyprus Certification Company, the Ministry of Education and Culture, and educational organizations, STEMFREAK ensures that the practice reflects the specific needs and priorities of the local community. This approach strengthens community involvement and ownership of sustainable education initiatives, making them more relevant and effective.

4. Contribution to Environmental Priorities: STEMFREAK's best practice directly addresses the environmental priorities of the region. By developing sustainable learning environments, promoting sustainable practices, and integrating sustainability into the curriculum, the practice fosters environmental awareness, responsible consumption, and sustainable development. This contribution to environmental priorities supports the region's efforts in mitigating environmental challenges, conserving natural resources, and promoting a sustainable future.

In summary, STEMFREAK's best practice in sustainable education demonstrates relevance to the institution's mission, national educational priorities, community identity, and the environmental priorities of the region. By aligning with these characteristics, the practice becomes an exemplar on the WSA/WIA and ESD platforms, showcasing innovative and impactful approaches to integrating sustainability into education and contributing to the broader goals of sustainable development.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

STEMFREAK best practice in sustainable education can be considered an exemplar on the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) based on the following characteristics:

1. Expertise and Support in Sustainability and Learning for Sustainability: STEMFREAK's best practice is resourced with expertise and support in sustainability and learning for sustainability. The company engages in research and development in various fields, including neuroscience, cognitive psychology, engineering, computer science, and robotics. This interdisciplinary expertise enables them to design and implement effective strategies for integrating sustainability into education. Additionally, our collaborations with stakeholders like the Cyprus Certification Company and educational institutions provide access to a network of expertise and support, further enhancing the quality and impact of our practice.

2. Physical Resources and Technologies: The best practice is supported by the availability of physical resources and technologies necessary for making the transition towards sustainable education. STEMFREAK's development of a state-of-the-art Learning Management System (LMS) aligned with the E2STEAM curriculum exemplifies our commitment to leveraging technology for effective education delivery. Furthermore, the creation of STEAM learning scenarios, educational kits, and assessment tools demonstrates our utilization of physical resources to enhance learning experiences and outcomes.

3. Medium-Term Finance: STEMFREAK's best practice is backed by medium-term finance to execute our plans. The company secures external funding from the European Union (EU) and other sources, allowing us to sustain our initiatives and invest in long-term projects. This financial stability enables us to carry out research and development, pilot testing, evaluation, and dissemination of our findings. The availability of medium-term finance ensures the continuity and scalability of our sustainable education programs, making them an exemplar in terms of sustainable resource management.

4. Funding from participants in programs and research

In conclusion, STEMFREAK's best practice in sustainable education exemplifies the characteristics of being resourced. It is supported by expertise and collaboration in sustainability and learning for sustainability, making effective use of physical resources and technologies, and backed by medium-term finance. These characteristics contribute to the success and sustainability of our initiatives,

positioning them as an exemplar on the WSA/WIA and ESD platforms, where resource availability and management are crucial for driving impactful and transformative sustainable education practices.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organisation. (max 200 words)

STEMFREAK best practice in sustainable education can be considered an exemplar on the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) based on the following characteristics:

1. Skilled in Critical Reflection and Evaluation: STEMFREAK demonstrates a strong emphasis on critical reflection and evaluation at all levels of our organization. The company engages in research and development activities, pilot testing, and evaluation processes to assess the feasibility, effectiveness, and impact of our sustainable education initiatives. By critically reflecting on our practices, we can identify areas for improvement and make informed decisions to enhance our programs.

2. Development of Critical Thinking Competencies: STEMFREAK places importance on developing critical thinking competencies in both our staff and students. Through our innovative E2STEAM curriculum and learning activities, we foster an environment that encourages analytical thinking, problem-solving, and creative exploration. By equipping staff and students with critical thinking skills, we enable them to engage with sustainability issues, understand complex problems, and develop innovative solutions.

3. Striving to Become a Learning Organization: STEMFREAK strives to become a learning organization, characterized by a culture of continuous learning, adaptation, and improvement. By actively engaging in research and innovation, collaborating with stakeholders, and disseminating research findings, we demonstrate our commitment to ongoing learning and development. This

4. focus on becoming a learning organization allows them to stay at the forefront of sustainable education practices, adapt to emerging challenges, and continuously refine our approaches.

By embodying the characteristics of being reflective, STEMFREAK exemplifies our commitment to critical reflection, evaluation, and the development of critical thinking competencies. This approach fosters a culture of learning and improvement within the organization, enabling them to deliver

sustainable education that addresses the challenges and priorities of the WSA/WIA and ESD agendas. Our dedication to reflective practices ensures that our initiatives are continuously refined, making them an exemplar in promoting transformative education for sustainable development.

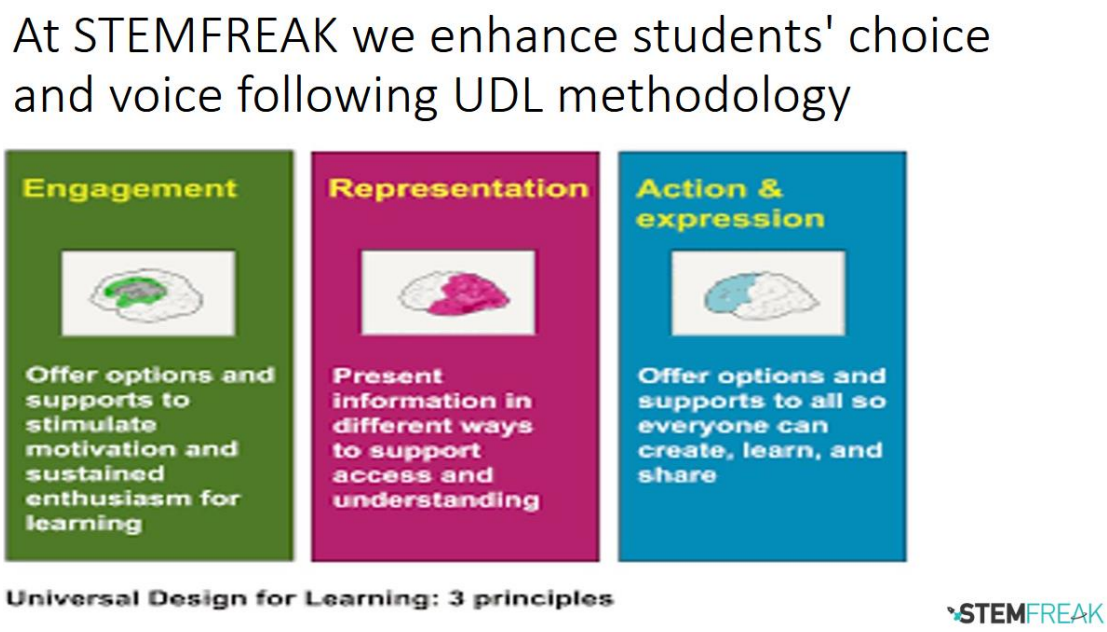
Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

STEMFREAK best practice in sustainable education aligns with the characteristics of being responsive, making it an exemplar on the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) initiatives. Here's why:

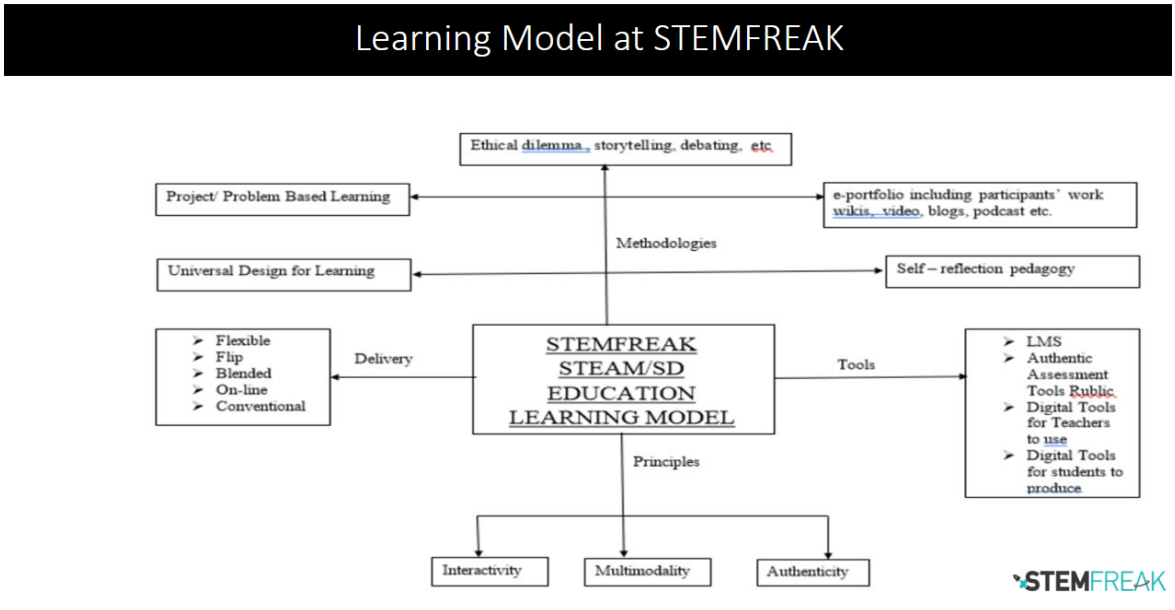
1. Embraced a Flexible Structure and Adapted to Local and Cultural Settings: STEMFREAK recognizes the importance of embracing a flexible structure and adapting our initiatives to local and cultural settings. We collaborate with various stakeholders, including the Cyprus Certification Company and the Ministry of Education and Culture, to ensure that our programs align with national educational priorities and community identities. By understanding and respecting local contexts, we can effectively tailor our sustainable education initiatives to meet the specific needs and cultural values of different regions.

2. Developed Learner Capabilities to Recognize Complexity: STEMFREAK focuses on developing learner capabilities that help recognize the complexity of sustainability challenges. Through our innovative E2STEAM/SD curriculum and learning activities, we encourage students to engage with real-world problems, understand the interconnectedness of environmental, social, and economic issues, and develop critical thinking skills. By nurturing learners' abilities to recognize and navigate complexity, we prepare them to become active and responsible agents of change in addressing sustainability challenges.

3. Rejected a One-Size-Fits-All Approach to Sustainability: STEMFREAK rejects a one-size-fits-all approach to sustainability.



We understand that sustainability challenges vary across regions and that solutions need to be context-specific. By developing state-of-the-art learning scenarios, educational kits, and assessment tools, we provide diverse and adaptable resources that can be customized to different educational settings. Our Learning Model is presented below:



This approach allows them to accommodate the unique needs and priorities of various communities, ensuring that our sustainable education initiatives are relevant and effective.

Through our responsiveness, STEMFREAK demonstrates our commitment to adapting our practices to local and cultural settings, recognizing complexity, and rejecting a uniform approach to sustainability.

By embracing flexibility and tailoring our initiatives, we ensure that our programs are inclusive, contextually relevant, and capable of addressing the diverse sustainability challenges faced by different regions. This responsiveness makes them an exemplar in promoting transformative education for sustainable development in the context of the WSA/WIA and ESD agendas.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

STEMFREAK best practice in sustainable education exemplifies the characteristics of being reformative, aligning with the goals of the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) initiatives. Here's why:

1. Reframing the Entire Educational Experience: STEMFREAK recognizes that the sustainable education agenda is not simply about adding environmental or SDG themes to the curriculum as isolated topics. Instead, we appreciate the need to reframe the entire educational experience. We actively engage in the development of an innovative E2STEAM curriculum that integrates entrepreneurship, environment, science, technology, engineering, arts, and mathematics (STEAM) disciplines. By reframing the curriculum, we ensure that sustainability concepts and practices are seamlessly woven into the educational journey, transcending traditional disciplinary boundaries. This holistic approach allows for a comprehensive understanding of sustainability and fosters a transformative educational experience.

2. Going Beyond Surface-Level Themes: STEMFREAK understands that sustainability goes beyond surface-level themes and requires deep-rooted changes in how education is delivered. We strive to reform the educational experience by incorporating sustainability principles throughout the learning process. This includes the development of multimodal learning environments, the design of digital tools for cognitive profile building, and the creation of state-of-the-art learning management systems aligned with the E2STEAM curriculum. By embracing these transformative elements, we actively reshape the educational landscape and create opportunities for learners to develop a profound understanding of sustainability and its interconnectedness with various disciplines.

3. Embracing the Whole System Approach: STEMFREAK recognizes that addressing sustainability challenges requires a whole system approach. We appreciate that sustainable development cannot be achieved through isolated efforts but requires a

comprehensive transformation of educational systems. By collaborating with stakeholders such as the Cyprus Certification Company, educational institutions, and research organizations, we foster partnerships that promote systemic change. We actively engage in research and development, pilot testing, evaluation, and dissemination of our findings, contributing to the larger knowledge base and influencing educational policies and practices. Our commitment to system-wide reform is a key characteristic of our exemplar status in the context of WSA/WIA and ESD initiatives.

Through our reformative approach, STEMFREAK actively reframes the entire educational experience, goes beyond surface-level themes, and embraces a whole system approach to sustainable education. By integrating sustainability principles into the curriculum, reimagining learning environments, and promoting systemic change, we exemplify the transformative goals of the WSA/WIA and ESD agendas. Our efforts contribute to a profound shift in education, nurturing learners who are equipped with the knowledge, skills, and mindset to actively participate in shaping a sustainable future.

Best Practice 23 (Presented by CCC)

Basic Information	
1.Title of the best practice (e.g., name of policy, programme, project, etc.)	UNIVERSITY OF AEGEAN
2.Implementation lead/partner organisation(s)	UNIVERSITY OF AEGEAN
3.Country or countries of implementation	Cyprus
6. Keywords	1. Holistic 2. Sustainability 3. Quality 4. Education

Specific information on the best practice

2.1 Description, Activities, Results

Please briefly describe the best practice (aim, objectives, institutions, stakeholders, methodology, stages of implementation, results, evaluation) (max. 500 words)

University of AEGEAN was founded in 1984, the UAegean aims to introduce new approaches in tertiary education and promote regional development through innovative educational programs and interdisciplinary fields of study and research. The decision to develop in more than one University Units is based on firm strategic and geopolitical criteria.

The University of the Aegean is a multi-insular entity with Units/Schools and Departments located on six (6) Aegean islands and in this regard is the most geographically dispersed university of the country.

The University of the Aegean represents a historical attempt for the Greek University area, since its foundation in 1984, in fact, was a “re-establishment” as a continuation of the vision of the prominent Greek mathematician Konstantinos Karatheodori (or Constantin Carathéodory) at the University of

Berlin, who proposed the foundation of an Ionic University based on the indisputable fact that the Greek world is a mediator of the Slavic and Turkish-Arab world and the world of the West. This international prestigious scientist considered that Athens, as the unique education center of Hellenism, is no longer sufficient for its needs, especially in terms of its eastern part. Therefore, he proposes three possible seats for the establishment of the new University: Smyrna, Thessaloniki and Chios, with numerous for each advocated selection criteria. The first plans predict the establishment of Schools related to the exploitation of the area as a neuralgistic point for the overseas Hellenism, while in the final course of the preparation works, the University was considered as equivalent to the big European Universities. Nevertheless, it has never been able to operate due to the Asia Minor Catastrophe.

The twofold aim of UAegean, i.e. focusing on academic excellence and development and unifying the geographically fragmented and culturally diverse Aegean area, with respect to its particular features, has been accomplished through the effective organization and interconnection of academic and administrative units and the standardization of required procedures via the use of ICTs and the multifarious connection and mutual support to local communities and their agencies.

Three-cycle education is provided via:

- 1st cycle of studies: Undergraduate studies – a bachelor's or a Degree of five-year studies;
- 2nd cycle of studies: Postgraduate Studies, a MA, a MSc or a MBA; and a
- 3rd cycle of studies: Ph.D. Studies, a Ph.D.

In addition to three-cycle institutional education, additional short programs of scientific, interdisciplinary and professional specialization – such as Programs to support the training of new Researchers (International Summer Schools), Lifelong Learning Programs, are provided in order to continuously cover the needs of science and society.

Basic and applied scientific research is also applied at international, national, regional and local level in all Departments by the scientific staff of the University through various projects, publications and conferences (applied research, development interventions, etc.).

The entire University Community has a strong sense of responsibility regarding:

- the University's contribution and intervention on a national level

- the support of local communities by contributing to the development of the regions where the University is located (i.e. the Regions of North and South Aegean), on an educational, cultural and developmental level.

Please mention the activities implemented (what, whePlease mention the activities implemented (what, when, where, key actors and collaborators, resources needed) (max. 500)n, where, key actors and collaborators, resources needed) (max. 500)

1. **Development of a Gender Equality Committee**

The establishment of the Gender Equality Committee of the University of the Aegean was in accordance with article 33 of Law 4589/2019 (Government Gazette 13/issue A'/29-01-2019), according to which, following a decision of the Senate, an unremunerated Gender Equality Committee (GEC) will be established at every University, acting as a consultative body of the Senate and Administrations of Schools and Departments and aiming at forwarding equality on all levels of operation and in all procedures of the academic life.

The Gender Equality Committee consists of nine (9) members: i.e. six (6) members of the academic staff, one (1) member of the Special Scientific Staff (E.E.P.) or the Laboratory Teaching Staff (E.D.I.P.) or the Specialised Technical Laboratory Staff (E.T.E.P.), one (1) administrative employee and one (1) student.

The Gender Equality Committee has the following responsibilities:

- Drafting action plans to promote and safeguard substantive equality in educational, research and administrative procedures of the Institution and an annual report which is submitted to the Senate.
- Making proposals to the responsible bodies about measures to promote equality and combat sexism.
- Informing and training members of the academic community on gender issues and equality.
- Providing consultation services in cases of complaints about discriminatory treatment or stalking/sexist behaviour.

- Promoting and developing Postgraduate Study Programs and the organisation of seminars and lectures focusing on the study of gender.

- Promoting and elaborating studies and research on issues related to its mandate.

- Supporting victims of discrimination who report discriminatory treatment. Issues regarding the support of victims of discrimination by the Gender Equality Committee are further regulated by the internal Regulation of Universities.

2. **Blue Development Committee "Aegean Archipelago"**

The University Blue Development Committee "Aegean Archipelago" is responsible for issues regarding the planning of a strategy harmonized with the aims of the strategy for Blue Development and Insularity in order for the University of the Aegean to promote, support and coordinate its activities directly or indirectly related to the long term strategy of the EU for the sustainable development of the marine and the shipping sector and described in brief under the term "Blue Development". Blue Economy has particular significance for the economic development and the creation of new jobs, both for Europe and especially for Greece and its islands. This strategy recognises that seas and oceans are levers of the European economy with a large potential for innovation and growth.

In brief the "Blue Development" strategy consists of three components:

- Integrated Sea Policy and measures applied (a. Knowledge about the sea, b. Sea spatial planning, c. Integrated sea monitoring).

- Sea basin strategies (a. the Adriatic Sea and the Ionian Sea, c. the Arctic Ocean, c. the Atlantic Ocean, d. the Baltic Sea, e. the Black Sea, f. the Mediterranean Sea, g. the North Sea) which aim at safeguarding the most appropriate combination of measures to promote sustainable development.

- Strategies for the five (5) priority areas of Blue Economy (a. Blue energy, b. Aquaculture, c. Sea and costal tourism and cruise line tourism, d. Sea mineral resources, d. Blue biotechnology).

The Committee aims at shaping a common strategy based on the following objectives:

- Supporting research and deepening knowledge about all sectors of Blue Economy and using research results for the benefit of the academic/ research community, local communities of the Archipelago and society in general.

- Coordinating the research work of the University and focusing on modern research subjects which are at the forefront of international interest and at the same time serving the basic components of Blue Development.

- Disseminating and promoting activities regarding research and innovation in the sea and shipping, in order to better understand the sea environment and its anthropogenic burdens and also the impact of climate change on coastal environments, infrastructure and natural resources.

- Promoting the effective protection of coastal and marine ecosystems and the sustainable use of marine resources by taking into consideration regional socioeconomic development and the need for a more effective marine spatial planning.

- Promoting smart, sustainable, integrated Blue Development in the context of "The 2030 Agenda" adopted by UN member states and consisting of the 17 Sustainable Development Goals for economy, society, the environment and governance.

3. **Environmental Management Committee "The Green University"**

In order to respond to current challenges regarding active participation and the need to play an essential role in the protection of the environment and sustainable development, the University of the Aegean has established an Environmental Management Committee (EMC) entitled "the Green University". The EMC aims at a) organising the environmental policy, the culture and activities of the Institution for the benefit of the academic community, local Aegean communities and society in general, b) highlighting the current environmental direction of the Institution with the objective to promote interventions for environmental governance, based on the principles of sustainability and focusing on:

- the improvement of the University's environmental performance.

- awareness raising and activation of all members of the academic community.

- the strengthening of the environmental and sustainable dimension of study programs, research and academic or social initiatives of the University.

- highlighting, supporting and expanding voluntary initiatives and actions taken by members of the academic community for environmental and sustainability issues.

3. *Please describe the results of the best practice and how can it be identified as transformative. (Impact on policies, impact on management processes, impact on delivery arrangements or education monitoring, impact on teachers, learners and beneficiary communities) (max 300)*

1. Develop methodology to measure the University's environmental performance.
2. Strengthen of the environmental and sustainable dimension of study programs, research and academic or social initiatives of the University.
3. Promote the effective protection of coastal and marine ecosystems and the sustainable use of marine resources by taking into consideration regional socioeconomic development and the need for a more effective marine spatial planning since the University is situated in AGEAN islands.
4. Awareness raising and activation of all members of the academic community.

References

Please add references on the best practice (papers, reports, books, guides, official archives, any other published work)

https://www.aegean.edu/sustainability/

Website(s) / social media

Indicate the website(s) and/or social media where the best practice was presented on.

https://www.aegean.edu/who-we-are/

Partner's reflection on the best practice

Explain according to the characteristics below why this best practice is an exemplar on WSA/WIA and ESD:

Relevant - to institution's mission; national educational priorities; community identity; as well as environmental priorities of the region. (max 200 words)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

All actions and initiatives taken by the University are connected to the institution's mission, vision, educational and other priorities. Especially initiatives such as the effective protection of coastal and marine ecosystems of the area and moreover the influence that it has on local Aegean communities and society in general.

Resourced - with expertise and support in sustainability and learning for sustainability; physical resources and technologies to make the transition; and medium-term finance to execute plans. (max 200 words)

Though the research and all training courses provided by the University, all sustainability actions are promoted with the with the contribution of students, teachers, faculty and researchers. The assigned Committees have the responsibility to monitor all actions and KPIs set for each task in order to have high quality results and sufficient implementation of sustainable practices.

Reflective - skilled in critical reflection and evaluation at all levels; developed critical thinking competences in its staff and students; striving to become a learning organization. (max 200 words)

UAegean strategy is structured in a long-term planning including all pillars of sustainability, measuring and monitoring specific KPIs to optimize all procedures in order to transform the University to a sustainable / green University.

Responsive – embraced a flexible structure and adapted to local and cultural settings; developed learner capabilities that helped recognize complexity as well as the changing nature of sustainability challenges and rejected a one size fits all approach to sustainability. (max 200 words)

UAegean best practice in sustainable education aligns with the characteristics of being responsive, making it an exemplar on the World Summit on the Information Society/World Information Accessibility (WSA/WIA) and Education for Sustainable Development (ESD) initiatives.

The strategic planning includes different pillars and consists of a holistic approach towards WIA. The pillars are monitored and measured in order to achieve the desired results.

Reformative – appreciated that the agenda is not simply one of adding on environmental or SDG themes to the curriculum but that of reframing the entire educational experience. (max 200 words)

UAegean's, best practice in sustainable education aligns with the characteristics of being reformative having the target to change the whole approach and become a Sustainable University. The policy focuses on academic excellence and development through the effective organization and

interconnection of academic and administrative units and the standardization of required procedures via the use of ICTs and the multifarious connection and mutual support to local communities and their agencies.

Annex 2

Field Research Data

Annex II: Field Research Data

INTERVIEW 1:

Conducted by DIMITRA

Information about the interviewer: Maria Karagianni is Environmental Scientist working at EU Projects Department at Dimitra Education and Consulting.

Country: Greece

Organization that conducted the interview: Dimitra

Justification for choosing the particular interviewee as an expert on ESD: Mrs. Ioanna Chatzopoulou is experienced in primary and secondary education, as well as in the implementation of EU projects concerning education and sustainability.

A. **Information about the interviewee:**

Interviewee

Name: Chatzopoulou Ioanna

Institution s/he represents: Regional Directorate of Primary and Secondary Education of Thessaly

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc): Mrs. Ioanna Chatzopoulou is experienced in primary and secondary education, as well as in the implementation of EU projects concerning education and sustainability.

Professional Identity (youth leader, teacher, please see point 2 identification of experts): Principals in pre-primary, primary and secondary schools, Researcher

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain): Curricula, research, education

Level of action: (local, national, regional international) (can she/he engaged in various levels- identify the levels and explain): Local, national, international (development and implementation of local, national and EU projects for primary and secondary education)

Years of experience: 15

B. **General questions for ESD implementation in national level.**

1. **Please briefly describe if you have any policies or regulatory measures for ESD in your country.** There are no policies or regulations in the Greek curriculum for the ESD. There are courses as the “free zone” (in primary and secondary school) where students can do various activities related to the environment and the sustainable development.

2. **These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?** Since there is no ESD in the curriculum, any related to sustainable development are included in non-formal education. The aims, objectives and results are to inform and familiarize students with concepts such as "sustainable development", "circular economy" etc., through activities that are not included in the core curriculum.

3. **How ESD integrate in formal education; (all levels of educations including Higher Education):** ESD adapts to formal education through courses such as "free zone", "physics" and "technology".

4. **What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?** The biggest gaps for ESD implementation in formal education is that it does not exist in the curriculum.

5. **How is ESD integrated in non-formal education?** ESD integrated to non-formal education through relevant projects (EU, local) involving the school unit.

6. **What are the main gaps for ESD implementation in non-formal Education?** There are gaps, as non-formal education includes a wide range of activities that can promote the implementation of ESD.

7. **What are the main gaps/obstacles/challenges for ESD implementation in your country?** The foundations and knowledge for the field of sustainability do not exist. The Ministry of Education is responsible for integrating environmental and sustainable concepts into education and the curriculum.

8. **How is ESD integrated in your organization (please explain briefly)?** ESD is implemented through programmes (local, national, regional and European) in which the Agency is a partner. It is also implemented through individual actions (e.g. recycling).

9. **What are the strong and weak points for ESD integration in your organisation?** The strong points are that there is a strong will. However, the agency and the school units are not autonomous organizations and operate under the regulations of the Ministry of Education. Employees, teachers and students are doing all they can to ensure that ESD is implemented, even outside the curriculum.

10. **What are the next steps for the ESD integration in your organisation?** There are no next steps if there is no autonomy. Participation in projects can help integrate ESD into the organization.

C. **Questions for WSA/WIA and ESD**

1. **What do you think WIA is?** WIA is a policy applied to institutions and aims at sustainable development.

2. **How WSA/WIA can support ESD effective implementation?** When a school is eco it adopts the WIA/WSA.

3. **Does WSA/WIA applies in your national context; If yes, explain how; If no, why?** The WSA/WIA applied at national level through the establishment of eco-schools. The Eco-Schools Programme is an international network, launched in Greece in 1995 and addressed to schools of all educational levels. It is approved by the Ministry of Education, Lifelong Learning & Religious Affairs with the Directorate of Secondary Education of Athens as coordinating body and the national operator, since 1995, the Hellenic Society for the Protection of Nature (EEPF). Schools of all educational levels are eligible to participate. In our country, 205 schools are participating for the school year 2017-2018 and 387 schools have been awarded since the launch of the Network.

4. **Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:**

Best practice: “Financial literacy”

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Economic Literacy is a Europe-wide survey on sustainable development and the green/cyclical economy. In essence, the survey looks at whether there are organisations involved in sustainable development. In this context, chambers of commerce and some banking institutions are running programmes on youth entrepreneurship and games aimed at children. The programmes include online courses and basic modules for analysing concepts such as climate change, carbon dioxide, circular economy, etc. In addition, some courses include games/activities for children to understand these concepts through interactive/experiential activities. The research project was then piloted mainly in vocational high schools, but also in other educational levels. In conclusion, the project is not included in the curriculum of the schools, but was implemented in parallel with the learning education in order for the students to acquire/enhance their environmental and sustainable knowledge and skills.

- **Vision, Ethos, Leadership & Coordination**
- **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)
- **Capacity building** (professional all staff)
- **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)
- **Community connections** (School-society interface)
- **Curriculum** (design, content and assessment)
- **Pedagogy & Learning** (new/alternative learning processes and learning environments)
- **Any other strand?**

5. **Which strand(s) do you think your school/college strengths lie in?** Schools rely on the autonomy and strong will of the stakeholders (students, teachers, school staff, parents, etc.) to learn and implement activities (outside the curriculum) that are experiential processes for knowledge acquisition/enhancement.

6. **What are you most proud of and think would be inspiring for other institutions to learn from?** For the “Financial literacy” research project.

7. **Which strands do you think need developing further?** Why? Institutional practice needs improvement due to the limited range of subjects taught in primary and secondary education

8. **Which strands needed more support? Why?** The curricula and the practical application of the knowledge acquired through the theory of the courses need more support. The reasons for this have already been mentioned and analysed in previous publications.

D. **WSA/WIA recommendations/further development/next steps**

1. **What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?**

   a) **Strengths:** There are many organizations involved in environmental education in Greece.

   b) **Challenges:** There is a lack of understanding of the need to implement environmental information and education.

   c) **Opportunities:** Unfortunately, opportunities in Greece are negative circumstances and disastrous natural phenomena such as floods, earthquakes, natural disasters, etc.

   d) **Threats:** Threats are the financial interests that large (usually) organizations have. That is, in order for a company to become "green" it must change policy, respect the citizen, the environment, etc., which costs it.

2. **Which dimensions of WSA/WIA on ESD needs to strengthen? How?** All dimensions of the WSA/WIA for ESD must be changed with official policies, otherwise WSA /WIA will not apply to the ESD.

3. **How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?** The sustainability and long-term implementation of the WSA/WIA for ESD can be implemented with political will. That is, the WSA/WIA for ESD should be included in the school regulations and curriculum so that it can be applied.

4. **Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?** Regional and international initiatives, funding, and policies support and facilitate the implementation of WSA/WIA at the national level. More specifically, there are too many international and national initiatives that

can positively encourage the implementation of WSA/WIA at the national level. However, measures need to be taken at the level of regulations and policies.

INTERVIEW 2

Conducted by PELOPPDE

Interviewee

Name: *Theodoros Mardiris*

Institution s/he represents: *Regional Education Directory of Western Macedonia and Environmental Centre of Kastoria (ex. Director in both organizations)*

Experience (explain his/her experience on ESD for e.g. studies, research, experience in the field etc)

He holds an PhD in Ecology and Ecosystems Management, Department of Environmental Sciences, from University of Aegean. He has more than 27 years of experience in ESD (Environmental Centre of Kastoria) and more than 5 years as Regional Education Director of East Macedonia.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Teacher, researcher, director.

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

ESD and research

Level of action: (local, national, regional international) (can she/he engaged in various levels- identify the levels and explain)

Local and national as ESD teacher, and international as researcher in European projects.

Years of experience:

35

Please briefly describe if you have any policies or regulations on ESD in your country.

In Greece, ESD policies are in place. The framework is generally set by the Ministry of Education and issued through the initiatives of schools, which run programs mainly on the environment. The main institution for education in sustainability are the Sustainability Education Centres. They have been operating for decades and have essentially 'brought' this education to our country.

Some teachers have been appointed and work in a supporting role as Environmental Education Supervisors or School Activities Supervisors. They mainly provide administrative support for projects that schools may run.

Sustainability Education Centres initially focused on environmental education and, over the years, have managed to raise awareness of ESD in the educational community. These centres run a great many sustainability-related projects in which students and teachers can volunteer to participate.

Voluntary participation and a lack of integration of ESD in the curriculum are the main problems in Greece. Usually, schools are forced to use the free time reserved for extracurricular activities. This time is drastically reduced in secondary education.

In higher education and in the context of institutional autonomy, there are university departments dealing with ESD that even have an international presence, such as the University of Ioannina, Aegean and the University of Athens. The main actions concern postgraduate programs, international projects, teacher training, etc.

These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

These policies apply to all types of education. The formal education in sustainability has the general objective of acquiring knowledge, skills and attitudes in relation to sustainability. Sustainability Education Centers focus on schools, running many programmes for hundreds of different groups of students each year. At the same time, they are linked to the local communities and develop activities related to the educational needs of each place. They often collaborate with bodies that provide specialist knowledge such as universities or other organisations. They also run professional training actions for teachers.

Non-formal education is characterized by a fragmentation. The field of lifelong learning is occupied by many non-governmental organisations, which implement actions in their area of specialization, but without any real integration. However, some of them are doing excellent work.

How ESD integrate in formal education; (all levels of educations including Higher Education)

'Skills workshops' and the 'flexible zone' are utilized to provide opportunities for learning in ESD in elementary school settings. This is a great opportunity for educators to create lessons and projects that students may use all year to learn about and practice sustainable practices. This is in part due to the elementary curriculum's more adaptable structure in comparison to that of secondary education.

It's fair to say that secondary school is a more challenging environment overall. ESD is often included in the curriculum via extracurricular activities and group projects. If teachers are eager and competent, they can lead these kinds of activities. The only period in the curriculum that may be used for anything, including sustainability education, is during the "flexible zone" in high schools only.

The curriculum at a senior high school is too restrictive to enable such extracurriculars to be included, but vocational high schools provide more opportunities.

As I said, in higher education, ESD refers to national or European initiatives and collaboration between universities and elementary and secondary schools to provide students training.

What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

A comprehensive transformation of education for sustainability is needed. At present there is no holistic approach, and this is the problem. What is needed is an ESD that includes interdisciplinary trainings, innovative actions and activities that broaden and put them in synergy with each other, highlighting their social and political dimension and orienting them towards sustainability.

At present ESD does not empower people to transform themselves and the society in which they live towards developing global citizenship and addressing challenges both locally and globally, now and in the future.

Although it seeks to develop knowledge, attitudes, values, skills and competencies such as critical and systems thinking, problem solving and decision making, this does not reach a comprehensive level.

It also needs an alternative perspective that moves education from the dominant technocratic approach to a socially critical approach and action.

How is ESD integrated in non-formal education?

Some non-governmental organisations are strongly involved in environmental or sustainability issues. In my opinion, fragmentation predominates, which is to be expected, as there is a lack of relevance. Several European programmes and actions are being carried out.

What are the main gaps for ESD implementation in non-formal Education?

I believe it is mainly the lack of relevance and fragmentation between the tasks undertaken, but also the lack of support.

What are the main gaps/obstacles/challenges for ESD implementation in your country?

In Greece, the fundamental challenge in sustainability education is the need to go beyond traditional approaches to the topic. It has to do with the holistic approach, which is the focus of the project you're running. There must be a major shift to a more comprehensive strategy that takes global needs into account. Greencomp, or the 17 sustainability targets, applies to all of them. There must also be dedicated training time and course integration with the curriculum. The activities are optional, and I think they do not assist in properly incorporating sustainability education into formal education. The Ministry of Education still needs to build a comprehensive support structure for the activities to provide better assistance at the administrative level. This calls for a dedicated team and more personnel. And money is, of course, essential. Unfortunately, none of this is available in sufficient form at the present time.

How is ESD integrated in your organization (please explain briefly)?

The Sustainability Education Centres are a network of decentralized public educational structures. The aim of this network of state-run environmental and Sustainability Education Centres is environmental and sustainability education. They are specialized schools.

We operate not only through the programs we develop but also as a community of learning and practice on local sustainability issues. In this way, we work as nodes between the educational community and the local community.

Educational programs for primary and secondary school students are carried out in collaboration with school staff, and an effort is made to ensure that the program implemented by the school is integrated in a functional and pedagogically integrated way into its strategy, if such a context exists. Schools are also supported in their journey towards sustainability; we continuously produce and make freely available educational materials to schools and the community in print and/or digital format. Training programs are carried out for teachers, adult groups, and citizens in general, either in person, at a distance, or in a mixed format. We often cooperate with universities for research and educational activities.

What are the strong and weak points for ESD integration in your organisation?

Strong points

We are a small organization, and therefore I find it easier to integrate ESD into all our activities, as coordination is easier.

There is a lot of passion among our staff. Everybody loves the subject of sustainability, which is why they are involved in activities that often take place outside of working hours.

Innovation is linked to organizations like ours. This helps to ensure that, overall, we are ready for change and progress. We monitor all developments and discuss them frequently.

Weak points

Difficulties in financing the actions we carry out.

Lack of support, mainly administrative, from the official structures of the Ministry of Education.

Need for more staff, although there are trained staff, no motivation for their participation in EECs is provided.

What are the next steps for the ESD integration in your organisation?

We continue our actions in the best way we can. We plan and hold conferences related to innovation and ESD with international participation. We hope that the legal framework and political will enable us to move forward in a more integrated way.

What do you think WIA is?

The Holistic Approach to Sustainability in the school unit (whole school approach) or in organization is a proposal for the overall transformation of the organization, with a radical change in its culture, structure and operation in all aspects of the organizational dimensions, in accordance with the framework defined by Education for Sustainable Development.

How WSA/WIA can support ESD effective implementation?

All three levels included in the holistic approach to sustainability in the school unit can be covered. In particular, the first and second levels, pedagogical and organizational-social, respectively, are covered directly, while the third level, technical-financial, can be covered in the context of a five-year strategic plan.

Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

There is no national framework for action on WSA and WIA in Greece. The continuous underfunding of relevant institutions such as the Centers for Environmental Education but also the school units for such actions has been noted. Although there were legislative initiatives in the past in which the holistic approach was introduced, these were not implemented and subsequently changed. In a centrally organized education system, the systematic implementation of principles and approaches is left to political will.

Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

A very nice example was that of the 6th High School of Volos with its participation in the network of "Ecological Schools". Many schools have participated in the competition from time to time.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

a) **Vision, Ethos, Leadership & Coordination** *Raising awareness through education and changing students' attitudes on environmental issues through participatory decision-making processes was the reason for participation in the contest.*

b) **Institutional Practice** *The school actively participated in the project with awareness-raising activities on environmental issues. Groups of students, teachers, parents, and the relevant department of the Municipality of Volos dealt with two thematic units: the schoolyard and waste. They transformed areas of the schoolyard into a botanical garden, and the schoolyard became more functional and attractive to all pupils, providing them with an educational space and a variety of educational stimuli.*

c) **Capacity building** The *students reduced garbage, keeping the school clean and beautiful. By collecting plastic caps, the Volos large families Association helped purchase two wheelchairs. The students realized that garbage, although it has lost its original value, eventually hides another great value inside it.*

d) **School infrastructure** *All that was required was the installation of recycling bins, which separated waste into paper, plastic, and plastic covers.*

e) **Community connections** *There was the requisite cooperation with the parents' association and the outstanding cooperation with the Municipality of Volos.*

f) **Curriculum** *No change in the curriculum.*

g) **Pedagogy & Learning** *The whole process was characterized by the application of experiential learning methods, teamwork, and student-centered teaching.*

Which strand(s) do you think your school/college strengths lie in?

A lot of work has been done, and many educational resources have been developed in previous years that teachers have access to. All educational resources are open access, and teachers can use them as is or adapt them to their needs. There has been a lot of expertise in the field of sustainability education over the decades that have passed. There has also been a strong development of collaboration between educators at different levels, to the extent that a common level of understanding and operation has been established. In all environmental education centers where this has been done, there is also a great deal of specialization by sector.

What are you most proud of and think would be inspiring for other institutions to learn from?

Over the last decades, environmental education centers (EEC) have proven their importance for education. EEC has established itself in the consciousness of students and teachers as the institution that brought ESD to Greece.

Which strands do you think need developing further? Why?

We need an organized new policy for sustainability. A central ESD structure in the Ministry, supporting a policy aimed at trying to transform the school into a sustainable one. Through a strategic planning process, each school can formulate its own sustainable education plan that corresponds to all three dimensions of a sustainable school in a flexible way and in line with its specific circumstances and particularities.

Similarly, each environmental education center will be able to draw up long-term plans in line with the corresponding objectives and adapt the programs it offers accordingly.

Which strands needed more support? Why?

We need more funding. The development of new activities and the strategic planning, which I mentioned earlier, lead to new actions and require more funding. Also, human resources are very important. ESD structures in Greece are unfortunately understaffed, and this needs to change.

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

Strengths

Greece has a rich cultural heritage that places importance on nature and the environment. This cultural value can provide a strong foundation for the integration of WSA/WIA and ESD principles in education.

Greece has various environmental initiatives, such as environmental education programs, NGOs, and eco-schools. These initiatives can serve as models and resources for implementing a whole school approach and ESD.

Greece is a signatory to international agreements and frameworks that promote sustainable development and environmental education, such as the United Nations' Sustainable Development

Goals and the UNESCO Global Action Programme on ESD. These commitments can provide guidance and support for implementing ESD in schools.

Challenges

Teachers play a crucial role in implementing ESD, but they may require additional training and professional development opportunities to effectively integrate ESD into their teaching practices.

The Greek education system has faced financial challenges in recent years, leading to limited resources for implementing new initiatives.

A lack of support, mainly administrative and financial.

The existing curriculum in Greece may not fully accommodate the integration of ESD principles. The curriculum may need to be revised or adapted to incorporate interdisciplinary and holistic approaches that align with ESD goals.

Opportunities

Collaboration can foster a supportive network for implementing a whole school approach and ESD.

Involving local communities in ESD initiatives can enhance their impact and sustainability.

Educational reforms can present an opportunity to incorporate ESD principles into the revised curriculum.

Threats

Resistance to change from teachers is a common challenge when implementing new educational approaches.

Gaps between policy objectives and on-the-ground implementation.

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

Equipping teachers with the necessary knowledge and skills to effectively implement ESD is crucial.

Engagement of local communities is also crucial.

Changes in curriculum is necessary. We need more time specially in General High Schools.

But in the end, in a centralised system like Greece's, we need the political will. This can push towards the implementation of WSA in the EAA.

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

Ensuring the viability and long-term implementation requires a comprehensive and strategic approach. Strong leadership and commitment from school principals, staff, and key stakeholders are essential.

Public policies need to be developed that support ESD integration and the implementation of WSA and WIA.

We also need strategic planning in schools to ensure that a holistic approach is taken throughout its implementation.

Continuous teacher training is very important.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

Greece has signed all the international treaties on sustainable development. There are several financial tools to support schools in their efforts to adopt a holistic approach, especially in the financial field. Participation in European programmes helps partially to implement such approaches. But the most important factor remains the political will at the national level, which we have not seen so far.

INTERVIEW 3

Conducted by PELOPPD

Interviewee

Name: Maria Pliota

Institution s/he represents: School of Tripolis

Experience (explain his/her experience on ESD for e.g. studies, research, experience in the field etc)

She holds a master degree in ESD from University of Athens, she also participated in two European projects in the ESD (Horizon), has enrolled in Environmental Education Centres and has run many environmental projects as a teacher.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Teacher, researcher school counsellor.

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Curricula and research

Level of action: (local, national, regional international) (can she/he engaged in various levels- identify the levels and explain)

Local as teacher and school counsellor and international as researcher in European projects

Years of experience:

13

Please briefly describe if you have any policies or regulatory measures for ESD in your country.

Of course, there are policies on sustainability. There are specific frameworks that are proposed by the Ministry of Education and, in particular, we have to do with the 17 UN goals on sustainability.

In relation tothe institutional framework, there have been sustainability education centres in Greece for many years, initially focused on environmental education. These centres run many, many programmes, which are related to sustainability, in which students and teachers can participate.

In the previous institutional framework there was also a school counsellor who focused on sustainability, which no longer works. At the same time, there are environmental education officers in the country's major directorates, mainly in Attica and Thessaloniki, while there are also school activity officers who provide administrative and pedagogical support for all the activities and programmes that a school can undertake. They operate at local level, in each of the country's education directorates.

In relation to the institutional framework, there is still the possibility of using school time as part of skills workshops, which is a flexible activity that can be carried out mainly in primary education and to a lesser extent in secondary education. In this context we can perform for actions related to sustainability.

In higher education and in the context of institutional autonomy, there are university departments that deal with sustainability education, mainly through postgraduate programmes, teacher training and workshops.

These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

Sustainability education policies apply to all forms of education. With regard to school, which is my main area of work, we can say that activities can start in kindergarten and go all the way to high school. There is also the possibility of involving non-formal education institutions in these activities.

Furthermore, environmental education centres can run training and professional development programmes for teachers and other actors in the context of non-formal education.

The aims of these policies relate to the triad: knowledge, skills and attitudes, trying to change the attitudes of learners, whether they are students or teachers.

However, I cannot say that I am satisfied with the results achieved. From my experience I can say that we mainly stay at the level of knowledge and perhaps skills. Personally, I believe that the programmes do not succeed in changing the attitudes of a significant number of learners.

There are several difficulties in implementing these programmes both in terms of time and administration.

How ESD integrate in formal education; (all levels of educations including Higher Education)

There is a variation in the way in which activities related to sustainability education can be carried out and this has to do with the educational level.

In primary education the possibility provided by 'skills workshops' and the 'flexible zone' is used. In this time teachers have the opportunity to plan and develop activities related to sustainability, which run throughout the school year. This is helped by the more flexible format of primary school curricula compared to secondary school curricula.

In junior high school we can say that things are more difficult. The integration of sustainability education is mainly done through activities and school programmes, which are voluntary. Teachers. if they can and are willing, can run such programmes. The ***flexible zone*** *is the only time given by the curriculum to run various activities which may include sustainability education activities.*

In the general high school the curriculum is too tight without actually allowing such activities to be run. This is mainly due to the general high school's focus on the national examinations. On the contrary, in vocational high schools more time is available in the curriculum.

According to my knowledge, in higher education, sustainability education has to do with involvement in European or national projects, the possibility of cooperation between universities and primary and secondary education for student internships in schools.

What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

In relation to schools, the main problem is lack of time. The focus on knowledge and learning is certainly right, but I think at least in secondary education things have become very difficult, reducing, if not eliminating, the opportunity for other activities.

Very important is the fact that there are no incentives at all, Engaging in such activities, which are not foreseen or compulsory, is purely about the willingness of the teacher or the student, without actually expecting any change.

In general, the pressure of time and the orientation of high school towards the national examinations do not leave much room for manoeuvre.

Still, funding for such actions is not adequate, and there is no staffing of the services required.

I think it is a problem of time and resources.

How is ESD integrated in non-formal education?

I am not an expert in non-formal education. From my knowledge I can say that some non-governmental organisations often deal with environmental issues. Their involvement may come through European projects and activities such as conferences and others.

What are the main gaps for ESD implementation in non-formal Education?

Without being an expert, I believe that such actions are not complete.

What are the main gaps/obstacles/challenges for ESD implementation in your country?

You started by discussing the holistic approach. I think this is the main problem with regard to sustainability education in Greece. There is no universal approach in practice, that is there are possibilities to do certain things but they have to be planned and implemented in the context of a school, without the necessary knowledge and resources.

Thus we often end up with actions that are mainly related to environmental problems and are detached from a more general framework. Unfortunately, the lack of time in schools contributes to this. Teachers are called upon to do a huge amount of work and at the same time to promote sustainability education along with other priorities given by the ministry.

On the other hand, there are many stereotypical perceptions with regard to how such activities should be carried out. Most people think that these activities are specific to specific teachers from specific disciplines. This is due to the lack of knowledge about a comprehensive approach to the issue of sustainability.

Often the teachers who deal with issues of environmental sustainability education are considered to be a bit "different" from the rest.

I believe that the main challenge we have to face in order to integrate sustainability education in formal education (and especially in primary and secondary education) has to do with changing this mindset, gaining knowledge and understanding what we consider sustainable. If this is understood by teachers then it will be much easier to engage more people in this process. The prerequisite is that there is always the time.

How is ESD integrated in your organization (please explain briefly)?

In our school we also run certain programmes. I personally ran a project on the 17 sustainable development goals last school year. Yes in my own school there is a mentality of specialising some teachers in certain types of programmes.

There are other environmental activities. Actions for the environment and plants that we can grow in the school gardens in order to withstand the summer. Plant identification through web applications and a recycling project.

What are the strong and weak points for ESD integration in your organisation?

I consider the strengths of my organization, specifically my school, to be the use of new technologies in sustainability education. We also see the cultivation of students' critical thinking as a result of the activities we have done and the acquisition of specific skills, on which we build our next activities.

The weak points must include the fragmentation of these actions, holistic approach, but unfortunately also the indifference of the other teachers to this subject.

What are the next steps for the ESD integration in your organisation?

Our effort in the coming period is about "discovering" sustainability education in the context of more courses. We want to show colleagues that it is possible in all subjects to find aspects that enable sustainability education.

For some time now we have been trying to create a strategy for the school in which a holistic approach will dominate. This has not yet been developed, but I believe that it has been realised and will allow us to develop a holistic approach to the issues of sustainability education.

What do you think WIA is?

For me it is a holistic approach to education and beyond. It unites all parts of an organisation in a common approach which is good to be linked to its strategy. The long-term application of such principles and approaches can lead to the development of a very positive culture in both educational organisations and schools.

How WSA/WIA can support ESD effective implementation?

Since sustainability education is a long-term process that needs to be best integrated into education, applying a holistic principle either at school or organisational level helps to involve more

people in the effort. In this way, activities are carried out at multiple levels, more resources and means are available, and the school's strategy and long-term planning is strengthened.

Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

At the national level we cannot say that a holistic approach is being applied. The reason has to do with the central planning by the Ministry of Education, which is called upon to satisfy many different objects and objectives. The application of such approaches is praised in the effort of school units. From my experience I can say that it has been applied in very few cases, due to participation in competitions such as bravo schools. In any case, the lack of incentives for such activities should be emphasised.

Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

https://aeiforum.eu/

a. **Vision, Ethos, Leadership & Coordination** Sustainability is an ethical principle or recognition of equal rights between present and future generations.

A school action plan is drawn up by the Sustainable School Committee.

This plan includes definition of the goals to be achieved, descriptions of the individual actions - linking them to the Sustainable School Indicators. A timetable of the actions, allocation of responsibilities, monitoring the progress of each action, a Sustainable School Diary an evaluation of achievements against the objectives.

b. **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

c. **Capacity building** The idea is for each teacher to teach about climate change from the point of view of their own science, to carry out experiments, video and other presentations, to organise a dialogue, a dilemma, a theatre game and whatever else they see fit.

d. **School infrastructure** The infrastructure may need to be designed to promote inclusiveness and accessibility. The infrastructure should support collaborative learning, with open spaces, flexible furniture, etc.

It should prioritise student well-being and provide technological infrastructure as well as digital resources. Finally, attention should be paid to sustainable infrastructure, with environmentally friendly buildings, energy efficient systems and open spaces.

e. **Community connections** Involvement of the parents' association, communication with the school board and the municipality (usually to secure funding), cooperation with organisations and businesses that can contribute to the project.

f. **Curriculum** Not normally applicable

g. **Pedagogy & Learning** Development of collaborative teaching practices by teachers of the same subject as well as different subjects. Utilization of school spaces, other than classrooms, to conduct lessons.

Which strand(s) do you think your school/college strengths lie in?

Due to the type of school I work in, there is the possibility and flexibility to design and implement activities that cannot be done within the formal curriculum. It is possible to carry out programmes and change the timetable when required.

In addition to the institutional framework, as in all schools there are inspiring teachers who are interested in doing more than what the official curriculum provides.

The combination of a flexible institutional framework relating to model schools and the existence of the relevant teaching staff offers opportunities for the development of this school.

What are you most proud of and think would be inspiring for other institutions to learn from?

Certainly, the flexibility. I hope that more opportunities to change and adapt the curriculum will be given to the other gymnasiums as well. Something like this I believe could change the way the educational process in secondary education works and results.

Which strands do you think need developing further? Why?

The area that needs further development in our school has to do with strategic planning, as I said before. It is necessary for the school to know where it wants to be in the coming years, what it wants to offer students and in what way. Sustainability education is certainly a very important part and we very much want to be a pioneer in this.

The implementation of a holistic approach (WSA or WIA) I believe is essential as part of this planning. It can be used as a tool many different cases, connecting different stakeholders and creating synergies.

Which strands needed more support? Why?

The areas that need more support are more or less well known in Greece. The need for training is a permanent situation and the lack of logistical infrastructure is another such situation. Therefore training, resources and infrastructure are considered necessary. Adequate guidance is also needed since not all teachers have the relevant knowledge and skills.

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

Strengths

There is a significant number of teachers with a keen interest in sustainability education.

The subject matter often inspires students.

There is information for students. On which a teacher can build.

Challenges

A problematic mindset has settled in the teaching staff.

A hard and tight framework which is offered by a formal curriculum.

A lack of support, mainly administrative and financial.

A lack of guidance and direction in relation to sustainability education at school level.

Opportunities

There are a significant number of programmes that can be implemented.

The state of the planet itself in relation to sustainability is often discussed in the classroom.

Threats

Changes in the teaching profession.

The job insecurity that teachers say they feel.

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

A key area of WSA that can be strengthened to increase the effectiveness of sustainability education I believe is the integration into the curriculum and professional development of teachers in the subject matter.

School community engagement also needs to be leveraged. Schools can actively engage parents, local businesses, organizations and community members in sustainability initiatives.

Sustainability of school infrastructure is needed or needs to be improved through a holistic approach.

Empowering students to take an active role in sustainability initiatives is also important.

Finally, all this should be evaluated in the context of continuous improvement.

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

Strategic planning plays a key role in this. Integrating the principles of a holistic approach to sustainability into a long-term strategic plan ensures that they are used throughout its implementation.

The expected success of such efforts can also serve as good practice for other schools that would like to integrate these principles.

Ongoing evaluation efforts, both initial and formative, combined with incentives and rewards, can also work positively.

As knowledge is necessary at all levels, teacher training is a permanent issue.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

I have not personally identified any funding or policy initiative that supports the implementation of the holistic approach at national level. School participation in conduits, such as https://aeiforum.eu/, obliges schools to at least partially implement the approach. In this way they are trained to implement the holistic approach at school level. In any case, this is a 'parallel' activity that schools are obliged to carry out in order to succeed in the competition.

But often European programmes help to implement such approaches, and I believe that there are cases where even in skills workshops WSA can be partially applied.

INTERVIEW 4

Conducted by

Interviewee: Michał Ślusarczyk

Name: phd Andrzej Stępnikowski

Institution s/he represents: Łukasiewicz Research Network

Education: phd on social sciences, faculty of pedagogy (University of Special Pedagogy-APS), graduate of doctor al studies in Labour economy (Institute for Labour and Social Affairs-IPISS), post-graduate studies on EU project's management (UKSW), master of international relations – faculty of EU integration (Warsaw University), technic mechanic.

Professional experience: Head of the Research Support Department, senior researcher in the Centre for VET Research and Innovation Management, previously 14 years in Nation-wide Polish Craft Association (as a deputy director for VET&Social Affairs Dept.) For 10 years (2010-2020) member of CEDEFOP's Managing Board and Advisory Committee for Vocational Training (ACVT). In the period 2018-2020 member of ministerial Programme Council on Competences. Nowadays (since 2018 – till now) member of CEDEFOP's Experts Community (Thessaloniki) and OECD's Group of National Experts on Vocational Education (Paris). Starting from IV.2021 expert of Foundation Platform of Future Industry (FPPP) in the fields of „Green economy" and „Competences of the future" .

Coordinator of around 15 EU funded projects (including LdV, Erasmus+) in the field of IVET, CVET and Green economy education

Professional Identity

Lecturer, researecher

researcher, director.

National as ESD expert, international as researcher in European projects.

Years of experience:

15

Please briefly describe if you have any policies or regulatory measures for ESD in your country.

- The basic document regulating sustainable development in Poland is the "Strategy for Sustainable Development of Poland until 2025".
- In Poland, most of the regulations on education in sustainable development concern environmental issues. Curriculum frameworks in these areas are developed by the Ministry of Education and Science. In this framework, there are recommendations for integrating the topic of sustainable development into the content of teaching.
- In addition, there are many social initiatives and educational projects on sustainability, such as ecology, ethics, economics of sustainable development.
- In Poland, there are teacher training programs that include ESD topics. They consist of the organization of trainings and courses to develop their competence in teaching sustainability.
- Work is underway to revise the educational content and examination requirements for crafts professions in the construction industry in order to close the competence gap in terms of sustainable development goals.

These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

- srategy for Poland's sustainable development until 2025 is supported by appropriately structured sectoral policies
- Raising awareness of ESD
- Building skills AND competencies such as systems thinking sustainable approach
- Promoting and activating ESD through social, economic and political actions

How ESD integrate in formal education; (all levels of educations including Higher Education)

Integrating sustainability education (ESD) into formal education is important for promoting environmental awareness and building a sustainable future. Here are some ways ESD can be integrated at different levels of education, including higher education:

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

- Adding ESD-related content to official curricula at all levels of education is a key step.
- Ensuring that teachers are adequately trained in ESD is key to the successful integration of the subject.
- Organizing projects and hands-on activities that engage students in sustainable development,
- Establishing partnerships with local communities, NGOs, businesses and other institutions can provide hands-on experience and live learning
- Maintaining a system for evaluating and monitoring ESD progress is important to ensure continuous improvement and follow-up.

What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

- Lack of consistency and uniformity of nationwide standards
- Many policy variables depending on the goals of municipalities AND regions
- Insufficient integration of ESD standards into curricula
- Lack of an inclusive approach to ESD in all fields of study
- Need for better alignment with labor market needs, especially at universities
- Lack of specialized ESD teaching and coaching staff
- Lack of a systemic approach, ESD is often implemented ad hoc.
- Insufficient resources AND support, lack of adequate educational AND financial resources

How is ESD integrated in non-formal education?

ESD should be regarded as an interdisciplinary approach, it aims to develop the skills, values AND attitudes necessary for better future development of society And as such it is generally combined with modern non-formal education. Non-formal education, outside the traditional school framework, allows a more flexible approach to learning.

- Educational institutions create programs and projects that focus on ESD-related topics such as renewable energy, climate change and social responsibility.

- Non-formal education plays important roles in building awareness of sustainable development

- Cooperation between educational institutions promotes the integration of ESD into educational programs

- ESD promotes an interdisciplinary approach that integrates knowledge and skills from different fields. Non-formal education takes advantage of this interdisciplinarity by providing participants with the opportunity to explore sustainability topics from the perspective of different disciplines.

    - An example of this is the ENCORE educational platform, designed for construction stakeholders to familiarize and educate them about the Green Deal, GreenComp and the 2030 Agenda.

What are the main gaps for ESD implementation in non-formal Education?

The discussion about non-formal education is very difficult in Poland.

- Lack of uniform standards

- Insufficient training of staff

- Lack of adequate funding and available resources

- Lack of coordination and cooperation: Non-formal education often operates within different institutions, organizations or projects. Lack of coordinated activities and cooperation among them can lead to fragmentation and limited impact.

- Lack of evaluation and monitoring: Non-formal education often lacks systematic monitoring and evaluation of ESD progress. Many educational activities focus on short-term effects and do not track long-term changes in participants' behaviors and attitudes.

What are the main gaps/obstacles/challenges for ESD implementation in your country?

- Low awareness AND understanding of the goals

- Lack of tools necessary for teachers to acquire appropriate qualifications
- Inconsistent curricula, there is a need for greater integration of ESD topics at all levels of education
- Lack of resources, knowledge bases, educational platforms
- Blurring of sustainable development goals in local AND regional policies, linked to the mentioned lack of awareness

How is ESD integrated in your organization (please explain briefly)?

- The Institute's activities are based on linking the goals of sustainable development to each project carried out. Particularly promoted are programs linking educational values related to sustainable development in technical projects. The Institute conducts educational projects (e.g., CAPABLE, RENOVUP) dealing with the problem of education on the Sustainable Development Goals, cooperates with the private sector in the implementation of sustainable development practices, conducts social activities in this field, and has introduced an element of sustainable management.

What are the strong and weak points for ESD integration in your organisation?

Strengths:

- High specialization - we focus on advanced research where the strength is the ability to leverage the Institute's high specialization to develop innovative solutions
- Innovative potential - research into sustainable development, green technologies and solutions contributes to the creation of products with lower environmental impact
- Cooperation with the private sector - allows to spread awareness of ESD goals through joint projects

Weaknesses:

- Low priority - ESD goals always have a lower priority than commercialization recommendations
- Lack of resources - small number of ESD experts,

- Competition with other priorities - research AND technology

What are the next steps for the ESD integration in your organisation?

- Assessing the current situation
- Developing an ESD strategy
- Strengthening awareness
- Strengthen inter-institute cooperation
- Implementation of ESD projects
- Monitoring and evaluation

What do you think WIA is?

It is the way in which the organization makes ESD-related activities and decisions, taking into account all aspects of the organization, its goals and the needs of its stakeholders.

It shuld include a vision, mission and commitment of the entire board. In addition, it must include open and transparent communication, be consistent across the institution's operations and have a long-term approach.

How WSA/WIA can support ESD effective implementation?

Wia will be helpful by involving the board of directors, will be helpful by implementing a sustainable development policy to develop policies and courses of action in the ESD area.

The WIA approach also means integrating ESD into all areas of the organization. ESD activities should be an integral part of the activities of the entire institution in terms of WIA.

Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

Of course it has, the ia approach is very important for organizations that understand the importance of the balance aspects between economics, society and the environment.

Poland is active in global initiatives for sustainability (UN UR or Paris Agreement).

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

Most of the activities bearing the hallmarks of good practice are closely linked to ongoing projects and as such link to ESD, WIA and GreenComp. All these activities go towards professionalizing the staff (Capacity building).

The organization also creates strategies, goals and action plans related to sustainability, taking into account social, environmental and economic requirements.

Which strand(s) do you think your school/college strengths lie in?

I am not directly involved in any school, I mainly deal with VEt issues and from this perspective I can say that my organization's strengths in WIA issues are definitely pedagogy and teaching related to lifelong learning issues, capacity building through the professionalization of staff, and creating sustainability in the workplace by developing educational projects.

What are you most proud of and think would be inspiring for other institutions to learn from?

From the educational potential and fully aware of the sustainable development goals of the staff of the Center for Education and Innovation Management. And from the interdisciplinary approach to sustainability issues, involving cooperation between the Institute's technical and educational departments.

Which strands do you think need developing further? Why?

All threads related to WIA and ESd require constant work AND continuous development. Innovation is an ongoing process.

Which strands needed more support? Why?

The most important AND basic direction is to constantly build awareness of the goals AND the need for continuous learning.

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

From my own perspective, I see mainly the weaknesses of implementing ESD and WIA.

- Blurring of competencies
- Decision-making inertia
- Insufficient financial resources
- Insufficient information base
- Lack of trained experts

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

A coherent strategy should be developed that includes the goals and directions of ESD, strengthening the education and training component, integrating ESD into all areas of the organization's activities, building strong partnerships, continuous awareness-building.

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

Engaging the board of directors, building an organizational culture, i.e. creating sustainability priorities in the organization, building a base of conscious employees. But for this you also need a global movement.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

The overall institutional approach is not very firmly established in e all the initiatives mentioned. It is to be hoped that in the near future the WIA elements contained in the various policies and initiatives will come together and result in a coherent WIA policy.

INTERVIEW 5

Conducted by LODZ

Information about the interviewer: Agata Rudnicka

Country: Poland

Organization that conducted the interview: University of Lodz

Justification for choosing the particular interviewee as an expert on ESD: The expert has over 30 years' experience in teaching and research on sustainability issues. He uses innovative teaching methods to attract students. Additionally he is an author and co-author of many publications.

A) Information about the interviewee:

Interviewee Name: Janusz Reichel

Institution s/he represents: University of Lodz

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Dr hab. Janusz Reichel has been a lecturer at the University of Łódź, Faculty of Management, since 2004 (in academia from 1991). He deals with the issues of business ethics, social and environmental responsibility, and strategic management in organizations from various sectors (with particular emphasis on business, social enterprises, and non-governmental organizations). He participated, both as a team member and project manager, in national and international educational and research projects.

He has participated in many project granting procedures as an expert evaluator. Member of the

Scientific Council of the Center for Social Innovation of the University of Lodz. On behalf of the

University of Lodz, he participates in the work of the Technical Committee for social responsibility in the Polish Committee for Standardization. He is involved in cooperation with the non-governmental organizations sector.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

- Teacher
- Researcher

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

- Higher Education Institution

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

- Local – by teaching at the university
- National – by participation in conferences and publications
- International – by participation in many international projects Years of experience: over 30

B) General questions for ESD implementation in national level.

1. Please briefly describe if you have any policies or regulatory measures for ESD in your country.

As of my knowledge, there is a lack of specific policy for Education for Sustainable Development in Poland. Government here did not have specific policies or regulatory measures dedicated to ESD. I did not even hear that such policy is discussed on the governmental level. But Poland has implemented some policies and regulatory measures for environmental sustainability.

2. These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

[No answer, regarding the question 1]

3. How ESD integrate in formal education; (all levels of educations including Higher Education)

Generally speaking, Education for Sustainable Development can be integrated in formal education in many different ways and depend on different levels of education. In primary and even secondary education this could be more simple. We can integrate it into the curriculum across various subjects. Teachers can include ESD related knowledge into their lessons, promoting critical thinking, problemsolving, and sustainability awareness. Schools may organize some additional extra activities and projects that develop sustainability themes. Higher education as well as vocational education can offer more complex approach. Many universities' courses, programs, or degrees specifically focus on sustainability or sustainable development. ESD can also be integrated into various disciplines. Universities can open dedicated research centers or institutes. The related research and consultancy can be provided. But also the way the university function itself can be important and is an opportunity to demonstrate the responsibility in that respect. Sustainability principles may be incorporated into campus operations and practices. For example, this is about energy efficiency, waste management,

and sustainable transportation. In the above sense the formal education offers to students knowledge, skills and values necessary to understand and address complex sustainability issues.

4. What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

We could probably enumerate some gaps that can impact the implementation of Education for Sustainable Development (ESD) in universities. Limited integration itself can cause some problems. Sustainability this way can be perceived rather as an element of certain specialization rather than an essential component of the education. And a general message delivered by different courses can stay in contradiction to each other. There is necessity also to train all Faculty members. If the ESD has to be a background of all courses adequate training and support is crucial. It means that also limited resources and funding can play an important role and could be a significant barrier. Sometimes universities may value more traditional academic disciplines and research areas over sustainability-related topics and the response to current needs of societies. A lack of institutional commitment can hinder ESD integration and implementation. As sustainability in general requires an interdisciplinary collaboration and the ability or inability to create such collaboration between the elements of the university structure can matter. Lack of communication specially between disciplines can limit the development of holistic approach.

5. How is ESD integrated in non-formal education?

The discussion about non-formal education is usually very difficult. Very often it is difficult to say something general about it due to the fact it can have so many different forms. But of course ESD is not limited to only formal education. Many NGOs and educators engaged in non-formal and informal education presents a lot of unique approaches. The opportunity to develop non-formal or informal education can be found in any places outside of traditional school systems - can occur in various contexts such as community organizations, youth groups, environmental initiatives, and sustainabilityfocused local o country programs. Regarding the informal education I strongly rely on the non-centralise wisdom of society, civil society organisation, local groups and individual educators. From my perspective this informal education integrated many important elements of ESD even much earlier than the formal educational institutions. There is growing number of projects, campaigns and even informal learning opportunities. It is the visible proof of the power of dispersed spontaneous efforts.

6. What are the main gaps for ESD implementation in non-formal Education?

Well, non-formal education can suffer from several gaps and challenges exist. Even if we can present arguments that there exist a lot of different non-formal educational initiatives we can also rise the argument that most of them have limited access and reach. They are usual local. They base on limited resources. Probably some marginalized communities or remote areas can suffer also from the limited number of such educational initiatives. This evokes unequal access to ESD opportunities. As these informal initiative are dispersed and spontaneous the lack of coordination and collaboration can be a potential problem. Fragmentation can lead to duplication of efforts, inefficient use of resources, and even a fragmented approach to ESD implementation. Also the society could benefit from the integration and synergy between non-formal and formal education systems.

7. What are the main gaps/obstacles/challenges for ESD implementation in your country?

I think that the main obstacle is the approach presented by the current Ministry dedicated to education and science and the lack of ESD policy. The existing actions and initiatives are usually the efforts of the academic community, schools and NGOs – what usually means dedicated lectures, teachers and educators. All the gaps that I previously mentioned also apply.

8. How is ESD integrated in your organization (please explain briefly)?

From the institutional point of view the ESD is not formally integrated in our university. Both on the university level as well as on the Faculty level there is a lack of policy on that subject. All efforts present in the university happened because of the engagement individual academic teacher or their teams. Many lecturers include sustainability issues in their curricula because they feel that this is the imperative of our times. Some of them actively participate also in other social campaigns outside the uni. For some the area of sustainability has been a research and teaching area, sometimes even for decades, for example since the global discussion after the Earth Summit in Rio in 1992 took place. In our Faculty exists for example Center for Sustainability as a internal initiative of the Faculty.

9. What are the strong and weak points for ESD integration in your organisation?

The strengths are mainly connected with the fact that all things that happen in the area is because they are very well rooted in the fields of interest of engaged parties. It means that these actions are not just single efforts but constant subject of interest of those involved. We can expect they will remain with us for a long time.

The main weakness is that there is no formal policy of ESD also on the university level. And not always individual efforts and initiatives are supported by the university authorities. This lack of support can be sometimes very frustrating.

10. What are the next steps for the ESD integration in your organisation?

As there is no university policy for ESD integration there aren't any further steps planned. The expected activity would be the formal commitment to ESD. But I do not know if such action on the university level is being prepared.

C) Questions for WSA/WIA and ESD

1. What do you think WIA is?

My view of the Whole Institutional Approach is strongly influenced by my experiences with formal management systems promoted by management science and formal standards. I see this through the perspective of practicing by the organisation, namely university, in this case, sustainability in all areas of its influence. This means that sustainability should be present in the learning programme, in management of all organisational assets and relations with stakeholders.

2. How WSA/WIA can support ESD effective implementation?

Well, the Whole Institutional Approach can support ESD implementation probably in many ways. But the main point is that using this approach allow to internalize sustainability issues in the teaching programme, engaging teachers from all disciplines. Just including single subject titled "Sustainability" into curriculum is not enough. And WIA can break this old style of thinking. But well, every changes of mentality require time.

3. Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

Having in mind the above, I should say, that we will not experience implementation of this approach on the country level. Or maybe I am too pessimistic about politicians. Currently the WIA approach is not reflected in the way things are organised.

4. Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how

you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

a) **Vision, Ethos, Leadership & Coordination**

b) **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

c) **Capacity building** (professional all staff)

d) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

e) **Community connections** (School-society interface)

f) **Curriculum** (design, content and assessment)

g) **Pedagogy & Learning** (new/alternative learning processes and learning environments)

h) **Any other strand?**

Unfortunately I cannot show any good practices of implementation of the Whole Institutional Approach in my university. I do not know any institution I collaborated with that can demonstrate such approach. All current efforts that can be identified in the university are fragmented, bottom-up and spontaneous, dispersed inside organisation – very often people engaged in one initiative do not know anything about other actions undertaken by other members of the staff, from example from different Faculties or even from the same. Lack of coordination and communication are important constraints.

1. Which strand(s) do you think your school/college strengths lie in?
2. What are you most proud of and think would be inspiring for other institutions to learn from?
3. Which strands do you think need developing further? Why?
4. Which strands needed more support? Why?

D) WSA/WIA recommendations/further development/next steps

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

1. What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

I think that further development of systemic and holistic think will allow in the future fully use the opportunities that the Whole Institutional Approach creates. I think this is the long and winding road. I think that first we will see just the elements of this approach and only limited benefits that it can offer.

2. Which dimensions of WSA/WIA on ESD needs to strengthen? How?

The transformative power is very important but the most difficult. Changes in mentality and life styles – this will be the long lasting process. The positive side of it is that parallel changes in all aspects of our life cause that every person and institution impact one another and this way strengthen the transition in the expected direction.

3. How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

I think the changes on the global scale are crucial. And the critical mass of bottom-up effotrs will contribute too.

4. Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

I do not think so. The Whole Institutional Approach as a separate approach or concept is not rooted in all those initiative and activities. But maybe the elements of it that are present in many of observed activities and efforts will finally join together and we will finally see the whole puzzle. But this is not the nearest future, I think.

INTERVIEW 6

Conducted by INNOHUB

Information about the interviewer:

Miriam Fernández Picazo, project manager. She holds a Law degree at University in Valencia, with specialization on European Union, Fundamental Rights and Multi-level integration Master at National University of Distance Education (UNED). Miriam has skills related to project management, research and innovative training methods development, as well as coaching and mentorship, especially related to legality. Miriam has been involved in advising companies in the sustainable practices. She worked as an assistant in the world's largest garlic cooperative to define strategies to enable them to grow in foreign markets and international business, and to assist senior partners in research and preparation of strategies/policies. She has also experience in consultancy, internationalisation and export of national products; and has a high proficiency in projects implementation in different European programs.

Country: Spain

Organization that conducted the interview: Asociación Valencia INNO HUB

Justification for choosing the particular interviewee as an expert on ESD: Ernest, a professor emeritus at the Universitat de València, is widely regarded as an expert in ecological sociology. With over four decades of experience at the university, he has established himself as a prominent figure in the field. His extensive body of work includes the authorship of more than 200 books, articles, and research reports covering a range of subjects, including environment and society, ESD, social change, and sociology of education. In addition, he was responsible for the management of the Faculty of Social Sciences for 5 years.

A. **Information about the interviewee:**

Interviewee Name: Josep Ernest García García

Institution s/he represents: Universitat de Valencia, Faculty of Social Sciences.

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Ernest is a professor emeritus of the Universitat de València as a renowned ecological sociology expert. He has been working there since 1971 and retired four years ago.

Since his early days, he has been actively involved in sustainability research and the sociology of sustainability. He has held positions such as director of the Department of Sociology and Social Anthropology and the first dean of the Faculty of Social Sciences. Also, throughout his career, he has conducted research and taught at various institutes dedicated to sustainability and education, including the Autonomous University of Barcelona, the University of Paris-Sorbonne, and the University of Caen in Normandy.

In terms of publications, he is the author of more than 200 books, articles, and research reports on these topics. Some of his notable books include "Science, Myth, and Power in Sustainable Development" (1995), "Environment and Society" (2004), and "The Ecological Transition: Definition and Complex Trajectories" (2018). He has participated in conferences such as the Conference of the European Sociological Association in Barcelona, the V Intercongressional Meeting of the Committee 21 of the FES Environment and Society in Zaragoza, and the XXI International Conference Philosophy of Practice Facing the Crises of the Social Natural and Political in Berlin. Among his notable projects is "INCERCLIMA - Social Uncertainty and Climate Change in Spain" and "A Critical Review of Community Interventions and Identification of Drivers Which Compel Sustainable Behavior Change" conducted at the College of the Holy and Undivided Trinity of Queen Elizabeth near Dublin. Additionally, he is a prominent member of the Interdisciplinary Research Structure in Sustainability (ERISOST) at the Universitat de València.

Professional Identity (youth leader, teacher, please see point 2 identification of experts): Teacher/researcher.

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain): Curricula & Research

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain) Local

Years of experience: more than 50

B. **General questions for ESD implementation in national level.**

1. Please briefly describe if you have any policies or regulatory measures for ESD in your country.

I looked at the UNESCO Declaration of Principles, which is at the origin of everything. And more or less I get the news, the things of the Government, of the autonomous Government, of the city council.

There is a little bit of stuff everywhere, but no, it is not my subject of study that I have followed in detail.

2. These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

3. How ESD integrate in formal education; (all levels of educations including Higher Education)

4. What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

5. How is ESD integrated in non-formal education? (N.A.)

6. What are the main gaps for ESD implementation in non-formal Education? (N.A.)

7. What are the main gaps/obstacles/challenges for ESD implementation in your country?

8. How is ESD integrated in your organization (please explain briefly)?

9. What are the strong and weak points for ESD integration in your organisation?

10. What are the next steps for the ESD integration in your organisation?

If it is integrated, yes, but let's see for me there is a problem to answer that question, let's see if I can explain it well. The problem stems from the fact that the concept of sustainability has diversified in such a way that it is not clear what it means. And sustainable development, more of the same. Sustainable development? Today it seems, let's say the official label for development programs in the classical sense. When you want to check the Agenda 2030 the Sustainable Development Goals of the United Nations, it is the usual development, adding a point that has to do with the with environmental protection or things like that. So, whether it is integrated into the educational processes in a society like ours depends on what perspective you adopt to defend the definition. If you adopt it to the letter and in relation to, for example, the objectives of Agenda 2013, we would say that it is absolutely integrated. Moreover, the whole Spanish education system is set up to contribute to development (now to sustainable development).

The problem is that, if you ask yourself if the idea of sustainable development is integrated in the Spanish education system, referring to all systems, from infant school to university, the answer is that

not only is it integrated, but the whole system responds to promote or enhance it. If you restrict it and say "no, but I was only talking about the environmental element, about the ecological crisis in that context and I associate sustainability to this", then, I would say that the typical pattern, - but normally, as regulations are many and very diverse it is difficult - the most frequent thing is to find the following. First a favorable statement of principles. For example, if one looks at the statutes of the University of Valencia, one finds "*to defend the environmental agenda, etcetera*". Even sustainable development is possible with those words.

Secondly, some presence in the processes and contents of education. In the curriculum. Some practice associated with the idea of disseminating and promoting behaviors or attitudes. Well, the typical thing of teaching how to recycle plastic; an excursion to a natural park.

And thirdly, in some cases of larger organizations such as universities, even an institutionalization. The University of Valencia has a vice-rectorate of sustainability with that name, which is continuously reminding the 2030 Agenda, the SDGs, and so on. Now, the way in which it passes into practice. Sustainability considerations in a practical sense, that an educational institution are 3, one relating to the teaching of content taught, whether formal or informal; another relating to material infrastructures, for example, consideration of environmental sustainability issues in constructions, and the operation to energy consumption, to mobility, for example, which is a very important issue in the in universities for a reason. Because, as everywhere else, we have gone to mono-functional campuses, that is to say, that have from the urbanistic point of view the same meaning as after the big shopping malls or theme parks. They are large spaces where many people go and do only one thing. And when they stop doing it, they are empty. That's what happens here when school is out, there's nothing going on until 8:00 a.m. the next day. That means that thousands of people have to come and go every day and therefore there is a mobility problem with a big impact on the environment. I believe that I do not know of any Spanish university or less that has begun to seriously consider this problem. If you simply look at the space from above - the room where we were - and see the amount of space reserved for parking in relation to the total, it is understood at first glance. I dealt a lot with these issues, both the construction and the integration of renewable energies, when I was dean of the faculty. In short, I think that at this level, although it is institutionally integrated to the point that there are even vice-rectorates dedicated to the subject, the practices are rather primary or limited. So, of course, when you come up with a sustainability approach that takes into account all aspects in education, both the contents of education and what i the literature is called the 'demonstration effect'. If an educational center has a subject of sustainability, but then in its

constructions it is not sustainable, then we find ourselves with two messages that have pedagogical force and are contradictory to each other.

I believe that educational institutions in general have taken this on board. The University of Valencia and I think that many universities, if not all of them, have a part of their institutional structure specifically dedicated to the subject and working on the issue. In almost all degrees there is either a subject or some topics in some subject that inform or try to train on the issue. Also, almost without exception, the rest of the subjects and the rest of the contents within the same subject are rather favorable to development without a surname.

This is the framework, then it is difficult to answer because well, is it integrated, yes, if you look at it there are programs everywhere, declarations, principles, even institutional concretions. If you ask yourself about the scope or the concrete manifestations of this, separating or looking in particular at the issues that have ecological implications, then you have to nuance a lot.

Is the idea of sustainable development and ESD present in Spanish educational institutions? Yes, without a doubt, in all of them. We would have to see how effective they are. That requires another type of study, I think.

C. **Questions for WSA/WIA and ESD**

1. What do you think WIA is?

2. How WSA/WIA can support ESD effective implementation?

3. Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

4. Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

    a) Vision, Ethos, Leadership & Coordination

    b) Institutional Practice (Walking the talk: experimenting with and learning from creating sustainability on location)

c) **Capacity building** (professional all staff)

d) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

e) **Community connections** (School-society interface)

f) **Curriculum** (design, content and assessment)

g) **Pedagogy & Learning** (new/alternative learning processes and learning environments)

h) **Any other strand?**

5. Which strand(s) do you think your school/college strengths lie in?
6. What are you most proud of and think would be inspiring for other institutions to learn from?
7. Which strands do you think need developing further? Why?
8. Which strands needed more support? Why?

Well, let's see. I think I have already responded a little to what I know about the integrated approach, which from my point of view is that; bringing together these three parts or approaches within the educational institution (principles, subjects, construction). The most controversial thing for me is the measures to implement the approach, isn't it?

The measures on the information level from my point of view, the ones that are most needed are information related to the effects of university life itself. Here, 25,000 people come to this campus - Tarongers Campus - theoretically every day. And I believe that the vast majority are convinced that the University is an institution that does not have large environmental costs. That it is not a coal-fired power plant. Of course, it is true, it is not a coal-fired power plant, but it is not true that it has none; it has many. The energy consumption to come and go home and every day, the impact of construction, etc., no? It has many. So, acting on some or several of these issues that have to do very directly with the daily existence of the institution or of the people who participate in it, it seems to me that there is a deficit. There is a lot of declaration of principles and a lot of theoretical explanation (and I am not saying that this is wrong), but when you consider an integrated treatment of sustainability, the most delicate points are the information and the practices associated with them.

The energy consumption to come and go home and every day, the impact of construction, etc., no? It has many. So acting on some or several of these issues that have to do very directly with the daily existence of the institution or of the people who participate in it, it seems to me that there is a deficit.

There is a lot of declaration of principles and a lot of theoretical explanation (and I am not saying that this is wrong), but when you consider an integrated treatment of sustainability, the most delicate points are the information and the practices associated with them. To continue with the same example. When I was responsible for the management of this faculty, I tried two things, without success. One was to bring to light the environmental issues linked to mobility. I tried to provoke discussion, but I did not succeed because it was too crazy from the point of view of logic. Institutions spend so many millions of public money on building subway parking lots so that people who use cars can come and go every day. Then you say, well, why don't you do one thing that is whoever doesn't use it and gives up the parking space, it is subsidized as a transportation voucher. For example, I knew that this was not simply a way to promote discussion, right?

Of course, the answer is that public transport is subsidized, that is why I say that it was a way to raise the issue because otherwise it is not even seen, no? because it is integrated into the normality.

The same as the question of energy consumption. Here - referring to the University of Valencia - finally, after many years of discussion, solar panels were installed on the terraces of the buildings. But only when the cost of energy produced with natural gas became too high. You see, only at this time. Until that moment, for decades, informing or trying to transmit information that there were alternatives, that there were production systems, for example, photovoltaic panels, well, it was well heard because those things sound good, but the decision was not taken until there were no economic effects.

Therefore, I believe that if there is a fundamental deficit now, it is, on the one hand, this. To propose initiatives that affect aspects that are particularly sensitive or significant, in daily practices. That affect the life of the institution, regardless of whether it is an elementary school, a university or a research center, because the scale changes with the level, but the nature of the issue does not. And the second important issue is also to work to reduce the contradiction between the training content, educational content dedicated to disseminating sustainability and the rest of the content.

By the rest I do not mean what is being done in practice but what is being sold in the rest of the subjects. To the model of the units. For example, there is one subject of sociology and sustainability; and then 20 that have nothing to do with it.

I give the example of mine - I teach in the Sociology Degree - but it is the same in practically all of them. In the technical fields, such as engineering, this is more serious because it affects something that later has a lot of weight, what you learn to do. Any technician who has been doing one thing all his life, and who does it well, if you ask him to do it differently, he will tell you that I don't know how to do it. He hasn't learned that. And you, you know this is a very thick argument, isn't it? Because whoever asks him to do things, wants them to be done well, not to experiment with things that he has not done so far and that, therefore, he does not know how to do. So that all the information worked on in the educational centers is reviewed from this perspective would be the fundamental change, because if not, what happens is another one, I was saying, "Oh, and the educational contents on these sustainability issues? They are everywhere". I doubt that there is any elementary school, not even universities, where there is not. If you also add this in terms of Sustainable Development Goals, or Agenda 2030, then not only are there, but they are fundamental objectives or principles in the same institution.

About the achievements of the University of Valencia? Well... the truth is that I am not very proud of what has been achieved. I do know of other practices of nearby institutions, but it is in isolated aspects where you say "this one makes it better". For example, for being from a university where the vending machines for drinks, for chocolate, only put organic products. But does that change the meaning? No, it means that in that institution, for whatever reason, conditions have been created that have favored this, but that the institution as a whole is not a model of sustainability of the Spanish university system.

D. **WSA/WIA recommendations/further development/next steps**

1. What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

2. Which dimensions of WSA/WIA on ESD needs to strengthen? How?

3. How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

4. Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

Well, in the field of initiatives and public funding, the funding we are receiving from the State or from the Government of the Valencian Community to carry out education for sustainable development is sufficient. The problem here is not to have more money to introduce more elements. In order to make the changes that would really be significant, more money is not necessary. What is needed is to change the spirit.

For example, this controversial example or proposal that you raised to finance the public transport voucher, do you think it would be necessary or more money to divert money from one place to another? Well, everything that is done has an economic impact. I am not in economic management. But I don't think it's a funding problem.

*The interviewee is asked the following question. Valencia has been awarded the European Capital of Smart Tourism 2022 and European Green Capital 2024, do you think that for now the institutions have a greater obligation to adopt the WIA approach? To which he responds: Yes, I imagine so, although for me it doesn't mean much. Logically something will have been done right. And that somehow obliges all significant instances of the city to do something that year (2024). Maybe we'll get lucky and some things will change. What it has given it is visibility. It will be easier to spread the message, more meaningful and therefore, it is to be expected that there will be a good proliferation of initiatives. With what scope? I don't have the answer.

Another thing they look for in the institutions is public recognition. To be recognized by the City Council, by the Community. It is not their main goal, but they are looking for it, of course, and that is not bad either, is it? In fact, this one - referring to the University of Valencia - has an old environmental award. If you go outside, next to the Faculty of Law there is a round red brick building. That's the power plant, a natural gas power plant. And they gave it an environmental award on the basis that the European Union said that natural gas and nuclear power are green energy, and less polluting than if it was coal at that time. The University did that and they gave it an environmental award.

It's good to seek external recognition, because that helps and improves a lot of things. I'm not criticizing it, but I don't think seeking external recognition is the fundamental objective.

INTERVIEW 7

Conducted by FU

Interviewee

Name: Chrysanthi Kadji

Institution s/he represents: Frederick University

Experience (explain his/her experience on ESD for e.g. studies, research, experience in the field etc)

PhD in Education (Environmental Education) University of Warwick, UK

Associate Professor Education for Sustainable Development. Department of Education, School of Education, Frederick University (2007- academic)

Post-Doctoral research, University of Zurich, CH (Biodiversity Education) (2003-2005)

Teacher Educator (Ministry of Education and culture 1997 – 2003)

Her current research focuses on Educators' competence-based professional development in ESD; whole institution approaches to sustainability, synergies between ESD and Visual Arts education; and ESD as quality education.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Academic (teacher education)

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Research and Education

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

Local, national, international.

Years of experience: 26 years

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

A major strength, is, of course the existence of a strategic plan. Apart from that, though, I think, the fact that many of our staff, academic and administrative are aware and sensitised towards sustainability issues and the SDGs is also a strength. This provides a fertile basis for the actions and strategies planned by the university authorities concerning sustainability. It results to a combination of a top – to – bottom and bottom to top approach, that results to a fruitful collaboration, participation and dedication for the achievement of the goals set.

At the level of our country, again, the strength I think is the strategic planning and the existing policies. These provide the guidelines that can lead to sustainability. Nevertheless, the existing culture is a hindering factor and limits the effectiveness of the actions that the policies and strategies pursue. For education, the ESD strategic planning and overall educational policy, may be difficult to put in practice, due to several other priorities in school, that may be more obvious and urgent to address, for example immigrant children.

In the case of my organisation, stronger connections to the local community, is perhaps a challenge or weakness, but at the same time, it is an opportunity, because, there are no apparent reasons that hold us back. The new strategic planning, sets as one of its goals, the university's openness and networking and a closer collaboration with the local community. So, I expect that there will be more done in this area in the next few years.

The lack of engagement of citizens and the lack of actions for sustainability, is a challenge and at the same time an opportunity for education organistations and institutions. The engagement in Sustainability actions (of a university, or a school, or any community), can create a strong agency for addressing sustainability issues, and can be an effective way to gradually change the culture of indifference. Schools and universities can create these opportunities, and become starting points for action. The WIA requires and promotes these actions and connections with external parties.

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

The opening of the institutions is what needs to be strengthened. It is the place where the real commitment of the organisation will be visible and leave a practical benefit, as well as provide valuable opportunities for authentic learning.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

Viability and long-term implementation is possible through a strategic plan that builds on the past and envisions the future. A written strategy that reports what has been achieved and reflects on what has failed and what needs to be supported will ensure a continuum. Another factor is the inspiration and shared vision that a true leader can transfer to the rest of their institution's community. This motivates and encourages people to participate, and work towards the achievement of common goals, as well as the conservation of the achievements and their expansion.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

Yes, they do. Initiative and policies, provide a framework upon which to work, the guidelines, and in many cases supportive material. Policies, may set goals connected to ESD that are expected to be met, and accounted for, so it is also a lever towards ESD. Funding helps. Funding can support for example efforts for more sustainable infrastructures, training opportunities, enhancement of learning experiences through visits or other means for providing life experiences.

INTERVIEW 8

Conducted by Asnor

Information about the interviewer: Peppino Franco and Carla Colageo

Country: Italy

Organization that conducted the interview: ASNOR

Justification for choosing the particular interviewee as an expert on ESD: Professor Beltrami is an expert in the field of sustainability. He is a consultant as well as teacher in training courses dedicated to the education for sustainable development.

A. **Information about the interviewee:**

Name: Giorgio Beltrami

Institution he represents: University Bicocca, Milan - Italy

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Consultant and professor at the University of Bicocca, previously also professor for 15 years in higher education. Expert in education for sustainability.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Teacher and academic

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

- **Curricula**: Professor Beltrami designs his courses integrating the implementation of the 17 SDGs. Furthermore he has been teaching in a specific course which provides certification for professionals as "Sustainability Managers" in the last 3 years.
- **Policy**: Professor Beltrami is responsible for certification of quality in primary schools which adopt sustainable policies in order to reduce energy consumption (using renewable sources).
- **Youth and social engagement**: by adopting and certifying sustainable policies schools involve young people, their families and local communities by promoting sustainability as a way of living.

Level of action: (local, national, regional international) (can she/he engaged in various levels- identify the levels and explain)

- **Local engagement:** by working in schools and Universities involving local communities
- **National engagement**: by contributing to professional development of "Sustainability Managers" as emerging and always more required experts.
- **Years of experience**: more than 15 years in higher education, more than 3 years in designing curricula for Sustainability Managers.

B. **General questions for ESD implementation in national level.**

1. **Please briefly describe if you have any policies or regulatory measures for ESD in your country.**

Not provided

2. **These policies, which forms of education do they address? Formal, -non-formal, professional** development? What are the aims, objectives, and results of these policies regarding ESD implementation?

Not provided

3. **How ESD integrate in formal education; (all levels of educations including Higher Education)**

- Designing tailored courses which integrate SDGs in their curricula;
- Encouraging students to develop project works in order to boost their creativity and create innovative approaches to sustainable development;
- Adopting sustainable policies and initiatives, such as the use of renewable energies, so to provide a concrete example of sustainable actions;
- Providing training and promoting initiatives to show the importance of recycling products.

4. **What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?**

The importance of sustainability is not yet widely perceived, even if there is a rising awareness on the issue.

Yet it is not always easy to integrate sustainability in traditional courses not directly related to the topic, but this does not mean this is impossible.

5. **How is ESD integrated in your organization (please explain briefly)?**

- Curricula are integrated with the implementation of SDGs.
- Adopting sustainable practices such as: plastic free products, recycling, use of electric cars and sustainable vehicles.

6. **What are the strong and weak points for ESD integration in your organisation?**

Policies to promote sustainable behaviours in everyday life and a significant commitment to implement sustainability in every activity.

C. **Questions for WSA/WIA and ESD**

1. **What do you think WIA is?**

   I would define a WIA approach as the ability to conceive sustainability as a transversal topic to be implemented in all aspects of the private and public life, instead of an exclusive competence of experts in the field.

2. **How WSA/WIA can support ESD effective implementation?**

   Integrating institutional activities (training courses, seminars, certifications…) with concrete actions which have a significant impact on daily life.

3. **Does WSA/WIA applies in your national context; If yes, explain how; If no, why?**

   A comprehensive approach to sustainability is not yet structural, but there is an increasing awareness of the significant impact that sustainable policies and practices adopted at all levels can have.

   An example is given by the National Recovery Plan (PNRR) which provides fundings for projects dedicated to sustainability, which is recognized as a driver for change. Furthermore, it is often included as conditionality to obtain public funding for innovative projects designed by private as well public actors.

4. **Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:**

a) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

b) **Curriculum** (design, content and assessment)

5. **Which strand(s) do you think your school/college strengths lie in?**

My Institution has an effective approach with regard to designing curricula which integrate sustainability as a transversal topic as well as in terms of creating awareness about its importance in its training courses.

In primary schools concrete actions such as the use of renewable energies and recycling have had a significant impact in changing habits and creating awareness on the topic of sustainability.

6. **What are you most proud of and think would be inspiring for other institutions to learn from?**

Stimulating teachers to integrate SDGs in their training courses has created more awareness about sustainability as a transversal issue.

The commitment to switching to renewable energy in primary schools has been a considerable effort, well balanced by the gains in terms of reduction of energy costs.

7. **Which strands do you think need developing further? Why?**

In my University I think more investments in changing infrastructures to improve the use of renewable energy should be done.

In primary schools a more incisive communication should be adopted in order to emphasise the impact of the sustainable initiatives implemented, so that can be seen as good practices to inspire other educational Institutions.

D. **WSA/WIA recommendations/further development/next steps**

1. **What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?**

The main challenge is to overcome the idea that sustainability is related only to industries and production or it is something outside the academic sector in general.

In schools sustainability should be integrated with traditional topics such as civil engagement as well as more concrete initiatives should be adopted to show its impact in everyday life.

In Universities training should be designed courses with dedicated modules to ESD, involving also students' representations which are generally sensitive to the topic.

2. **Which dimensions of WSA/WIA on ESD needs to strengthen? How?**

The institutional and legal framework for sure. We all hope that sustainability is perceived as a fundamental value, but there is still need in this transitional phase of a top-down intervention to incentive the adoption of sustainable behaviours.

3. **How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?**

A clear regulatory framework and the creation of a system of incentives (also economic) would facilitate the long term implementation of WIA on ESD, supporting significant structural interventions. Otherwise there would be the paradox that implementing sustainability could become unsustainable.

4. **Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?**

National and international funding and policies should create concrete opportunities for sustainable development, rather than obstacles (such as too much burocracy).

INTERVIEW 9

Conducted by MMC

Information about the interviewer: Giorgos Kehagias

Country: Cyprus

Organization that conducted the interview: MMC

Justification for choosing the particular interviewee as an expert on ESD: Dr Konstantinos Korfiatis possesses extensive in-depth knowledge of the subject matter at the national and international level. He is responsible of a Masters program on Environmental and Sustainability Education in the University of Cyprus and has an extensive research work and personal interest on the field.

A) Information about the interviewee:

Interviewee

Name: Konstantinos Korfiatis

Institution s/he represents: University of Cyprus

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Dr Konstantinos Korfiatis is a professor of Environmental and Sustainability Education in the University of Cyprus in the Department of Education science. He studied Biology in the Aristotle University of Thessaloniki and he received his PhD in Biology from the same institution. He is since 2016 a member of the academic committee of ERIDOB (European Researchers in Didactics of Biology), he is also a member of the curriculum and text book development committees for primary school science, high school biology and environmental education in the Cyprus Ministry of Education and Culture. He has a prolific work of academic publications on the fields of biology, mixed-method education techniques on biology and environmental education, environmental conservation, sustainability research and policy.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Academic, Researcher, Policy advocate

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Higher Education Institution- curricula, research.

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

Dr Konstantinos Korfiatis with his teaching and research work is engaged in all levels of action.

Years of experience:

10 years

B) General questions for ESD implementation in national level.

1. Please briefly describe if you have any policies or regulatory measures for ESD in your country.

The short answer is yes, since definitely there are in place policies and a legislative framework with regards ESD in Cyprus. I could say that I am not the most appropriate person to answer this question; since the competent personnel to answer it is employed by the Ministry of Education and specifically in the unit of Sustainable Development. As of my knowledge, this body is responsible for the implementation of the given legislation which was firstly enacted in 2006 and has been updated frequently since that time. This body of policies and measures consists not only the general framework for the development of education towards Sustainable development but also determines specific actions of how the concept can be achieved in practical terms. Under that logic, the concept of the Whole Institution Approach to Sustainability is explicitly included in the policies and reflects the perception of the Ministry of Education on the issue of ESD, not to say, that they reflect the stance of specific experts that operate in the given institution and are mainly responsible for the implementation of the policies. In general, it could be stated that Cyprus is in a very good position with regards the legislative framework and policies set for ESD at the national level; but then again, more detailed information can be derived from the competent personnel of the Ministry of Education who bear the responsibility of implementation. Despite that fact, it has to be stressed that the concept of WIA to Sustainability is incorporated in a major extend in the existing and generated body of policies, with specialized clauses/decrees, that refer to the implementation of ESD in the country level.

2. These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

All the forms of education are being addressed proactively at a legislative level. Especially, non-formal education consists a significant part of the overall education on the issue of ESD and takes place mainly through the institution of the Centres of Environmental Education. The Centres operate under the jurisdiction of the Ministry of Education and work in close cooperation and relation with the institutions of formal education. As of my knowledge, despite the fact that this is not officially publicized, it is in the intentions of the competent Ministry the role of non-formal education bodies to continuously upgraded as to achieve in a continuous basis the optimization of the relationship between formal and non-formal education towards ESD. Importantly, ESD, especially on the environmental aspect, take place in a concrete way outside the secluded space of the classrooms and towards that goal many efforts are taking place in an attempt to continuously improve things. With regards the area of professional development the Ministry of Education, through targeted seminars and relevant trainings on ESD, for teachers and educators, it strives on an on-going learning process to educate sufficiently the relevant personnel on ESD as part of the overall training policy that it follows

to upgrade and promote internal staff. As far as it concerns higher education institutions with regards the training of educators, mainly teaching staff, ESD is part of their analytical program namely environmental education, sustainability education and acquisition of knowledge particularly on the whole-institution approach to sustainability. With regards the aims and objectives it has to be stressed that every school, operating in the public system, has as a task to set up a general policy with regards the concept of sustainability and the ways of how this could be attained through a specific action planning. For example, these actions can include a recycling project, or even more ambitious projects such as the decrease of energy consumption and/or the engagement with the community in a gardening project or the rationalization of transportation to and from the school premises. However, all these initiatives are under the discretion of the school unit but then again is part of the responsibility to form a policy towards the implementation of sustainability projects. In other words, it is clear, and partly institutionalized, that every education institution has to undertake actions that promote the concept of sustainability either by educating the teaching staff or by implementing specific projects. However, even though, a school unit sets up an overall policy towards the attainment of goals on sustainability this is not complemented with the set up of measurable and targeted objectives monitored through a relevant set of indicators.

3. How ESD integrate in formal education; (all levels of educations including Higher Education)

Starting with Higher Education there is no general framework, meaning a body of legislation, in which the institution has to conform in terms of ESD integration in the education programs offered. However, it has to be stressed that with regards Higher education institutions there is the disposition, will and strong tendency to move towards the path of sustainability. Talking about the institution that I represent, the University of Cyprus, the effort of this systemic transformation to sustainability through the whole-institution approach take place in various levels. For example, a specific committee has been established named “Ecological University” which works on the direction of promoting and supporting the sustainable operation of the university at all levels and functions. This comprises educational and pedagogical issues but also technical and operational issues. For example, many efforts are taking place, in all the faculties of the university, to include in the curricula modules on the concept of sustainability, environmental protection etc. On this direction, as a next crucial step is the improvement of the horizontal communication and networking capacity of all the faculties in an effort to have a common view about all the modules on ESD that are offered at the university level. The aim is to offer a homogenized and coherent set of modules on ESD in all the facultie

4. What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

Talking about the University of Cyprus the main gap that can be highlighted is what was stated previously with regards the lack of a homogenized and coherent set of modules on ESD in all the different faculties of the university. In other words, what is called education for sustainable development to become a distinctive curriculum that will be taught in a homogenous manner to all the different schools and faculties in the institution regardless their specialized field of studies. The general framework with regards the concept of sustainable development, the imperatives and technicalities of sustainability, the scope and purpose of existence of the 17 Sustainable Development Goals should comprise a common body of knowledge that will be delivered to all the students despite their major field of studies. This common curriculum on ESD should be tailor made in relation to the primary field of study while it should be made explicit its connection with the concept of sustainability. Even though it is known that modules on ESD are taking place in individual faculties there is a gap in terms of creating a common syllabus on ESD, at the university level, that will follow the whole-institution approach and not the fragmented logic that is followed in the present time.

5. How is ESD integrated in non-formal education?

In Cyprus the main institutions that work on the integration of ESD in non-formal education are the Centres of Environmental Education. Their primary role is to implement education programs that have to do with sustainable development and it can be argued that they are involved in all the distinctive aspects of sustainability including the whole-institution approach. It is worth to mention that these institutions are characterized for their high level of connection that they have with the community they operate in, while they have contributed to the rejuvenation of the local communities in economic and social terms. This is taking place by attracting schools, visitors not exclusively for education reasons but as a destination worthy to visit which creates a virtuous circle for the community per se. Thus, Centres of Environmental Education consist a very good example of institutions that work on the practical implementation of sustainability actions, including the whole-institution approach, that contributes on the integration of ESD in non-formal education. In addition, there is a number of NGOs which, among other actions, they are active in raising public awareness on the concept of sustainability and in implementing education projects on the given concept and practice. I believe that their work is significant on that aspect and that they play a crucial role in the integration of ESD in non-formal education. The mentioned organizations do not restrain their work to advocacy and lobbying towards governmental agents but they implement actions on environmental conservation and education (e.g., birdwatching and monitoring of endangered species) that belong to the domain of non-formal education. In addition, there are Centres of Environmental education that have been established by NGOs that contribute in the integration of ESD in non-formal education, in terms of school visits in

their premises in order to attend relevant education programs. Taking under consideration the size of Cyprus it can be stated that the current number and network of non-formal education organizations, including NGOs, is of considerable magnitude and of significant contribution to ESD at the country level

6. What are the main gaps for ESD implementation in non-formal Education?

It could be said that we cannot argue about gaps but mostly about obstacles because so far, I have described a very rosy picture which even though it exists; however, there is also another depiction of reality that presents mostly a contradictory social and political context. Meaning that there is a social and political modus operandi, which no matter the efforts of education, things will not move forward on ESD implementation not only in non-formal education but in general. Virtually, the people involved on the issue have the best of intentions but literally find an impenetrable wall. For example, the issue of the underdeveloped public transportation literally precludes in a sense the efforts of the University of Cyprus to become a sustainable institution. All the discussions with the Municipality of Nicosia and the relevant Ministry are fruitless with regards the establishment of sustainable public transportation that will guide and "direct" the students towards the use of public buses and the abandonment of their private cars. Obstacles, like the one used as an example, hinder the efforts to cultivate norms and stances towards sustainability due to the wider problematic political context which has difficulties to see and acknowledge the bigger picture. This reality feeds another discussion that has a provocative character with regards ESD in terms that treats the specific body of knowledge with scepticism with regards its value and practical merits. ESD the last 30 years, examining historical data derived from the US and Western Europe, prepares citizens to act and implement polices and practices if they will be given the opportunity to function in a facilitating social and political context. The essence of ESD, through the various forms of education, is not to prepare a group of rebels and/or activists but a group of responsible citizens capable to adopt sustainable practices in their personal and business practices.

7. What are the main gaps/obstacles/challenges for ESD implementation in your country?

The overall social and political context as described in the previous question poses the major obstacle and challenge for ESD implementation in the country. It is not primarily a matter of gaps in the education system but rather a matter of the political stance on the issue of sustainable development and the transition of the society and the economy towards sustainable practices.

8. How is ESD integrated in your organization (please explain briefly)?

Please refer to Q.3

9. What are the strong and weak points for ESD integration in your organisation?

The degree of autonomy with regards the allocation of funds and the freedom on setting the policy on ESD constitute two strong points of the University of Cyprus on the given field. Additionally, the academic autonomy is another strong point of the institution with regards ESD integration. Moreover, the stance of the operations (technical) and administration staff on ESD due to their studies or due to the overall culture that prevails in the institution consists another strong point of the organization on the issue of ESD. All these points help the organization to move to more sustainable paths than it currently does. Apparently, the wider political context, as it is previously mentioned, entails a weak point for the organization in terms of the obstacles that it faces to establish whole-institution practices to sustainability. In a certain extent, the great degree of autonomy hinders the communication among schools and faculties that weakens the integration efforts on ESD in terms of sharing information on curricula. However, autonomy by no means is perceived as a weak point but rather as a difficulty, at a certain extent, to communicate and cooperate effectively not only among academics but also among stakeholders coming from different strands such as academics and technical staff members who hold a different perception on the concept of ESD.

10. What are the next steps for the ESD integration in your organisation?

A distinctive curriculum that will be taught in a homogenous manner to all the different schools and faculties in the institution regardless their specialized field of studies is the crucial next step for the ESD integration in the University of Cyprus. The general framework with regards the concept of sustainable development, the imperatives and technicalities of sustainability, the scope and purpose of existence of the 17 Sustainable Development Goals should comprise a common body of knowledge that will be delivered to all the students despite their major field of studies. This common curriculum on ESD should be tailor made in relation to the primary field of study while it should be made explicit its connection with the concept of sustainability. Even though it is known that modules on ESD are taking place in individual faculties there is a weakness that can be transformed into an opportunity in terms of creating a common syllabus on ESD that will promote integration, at the university level; that will follow the whole-institution approach and not the fragmented logic that is followed in the present time.

C) Questions for WSA/WIA and ESD

1. What do you think WIA is?

I could say, as a general remark, that instead of using the term "whole" that it would be more appropriate the term "systemic" to be used. The justification for this selection in terminology has to do with the idea that changes have to take place in a systemic way in an organization so these changes to have practical outcomes. This line of argument can be perceived as a form of indirect criticism in the way the whole idea of environmental education was based on. In other words, changes are good when we virtually change things in a tangible way. Although it is a good thing to give lectures about recycling and talking about the thousands of trees that are saved; however, what really makes things change is to implement a recycling project or an energy saving project. Thus, the field of environmental education and sustainability education has undergone many changes through research which indicated the need to approach the issue in a holistic way at the level of the organization in order to achieve transformation towards sustainability. This holistic approach would have to go even further, beyond the boundaries of the organization, and attempt to connect and engage with the community in which it operates and act with the cooperation of the community. This is the way that actual change and transformation can take place in practical terms. Going back to the discussion of the appropriateness of the term "systemic" it could be said that system theory provides the tools and the cognitive framework to be used for the needed transformation to sustainability, at the organizational level; in relation to "holism" which it is more of an abstraction. Essentially, the way that a living organism is treated as a system by applying systems thinking the same principles could be applied in an ecosystem or the education system which is consisted of various parts (people, infrastructure etc.)

2. How WSA/WIA can support ESD effective implementation?

The whole-institution approach provides a general framework and a mode of thinking to the involved stakeholders to organize and implement the actions that make sense and will promote sustainability. About the education system of Cyprus, schools should have to compose a policy on the whole-institution approach to sustainability, during their yearly planning, which will have to make an effort to implement it. This action from the side of the schools could be based on the directive of the Ministry of Education that adopts the idea of the whole-institution approach to sustainability and urges the education institutions of Cyprus to work on this direction. However, this action should be accompanied with a monitoring system that will assess the level of implementation on the basis of indicators. By this way we could have the ability to check how the whole-institution approach is implemented in actual terms. Elementary schools are a good example of how WSA/WIA can support ESD effective implementation in terms of the projects that are implemented that focus on the environment and in a broader sense to sustainability. This is something that could not be said for the secondary education

due to increased intensification and specialization of the curricula that aims in gaining a position to the higher education level.

3. Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

Yes, it applies, it definitely works. Apparently in a greater extent in primary education due to the structure of this level of education and the overall philosophy that prevails in primary schools; and at a lesser extent in the secondary education for the structural reasons explained previously. This situation forces the students at that level to participate mainly in voluntary schemes outside the normal teaching hours that are fragmented and not structured in an organized manner. Thus, it is definitely needed to do something with regards secondary education starting with the curricula and the inclusion of scheduled hours that will promote creativity and the implementation of projects aiming sustainability. This situation has further implications in the discussion of the need to promote interdisciplinarity in education programs in which the studies for the environment should consist a part of them. The STEM acronym poses a challenge and an opportunity for the environment to find its place among the other fields of education.

4. Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

    a) **Vision, Ethos, Leadership & Coordination**

    b) **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

    c) **Capacity building** (professional all staff)

    d) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

    e) **Community connections** (School-society interface)

    f) **Curriculum** (design, content and assessment)

g) **Pedagogy & Learning** (new/alternative learning processes and learning environments)

h) **Any other strand?**

Firstly, I am responsible for a degree at a Master's level having as a subject matter the education for the environment and sustainability which is based on the idea of the whole-institution approach. Another practice has to do with the premises of the organization in which through big scale sustainable interventions we have achieved through the installation of photovoltaic panels to cover 30% of our energy needs and it is aspired through the expansion of this project to cover 80% of the energy needs of the university infrastructure. It is important to mention at this point that the University of Cyprus participates in the Sustainability Index scheme in order to rank its performance on a basis of specific indicators. The practices that were described involve all the above-mentioned strands. However, capacity building is a strand that is not addressed through the current practices that the University implements.

5. Which strand(s) do you think your school/college strengths lie in?

Vision and Ethos on WIA/WSA to sustainability constitute strong points for the given organization. Pedagogy and learning are other strong points of the institution with regards the attainment of sustainability through a whole-institution approach. As for the community connections it could be stressed that there is a strong will form the side of the organization to connect and involve the wider society meaning all the neighbouring municipalities and the overall public and political authorities at the country level.

6. What are you most proud of and think would be inspiring for other institutions to learn from?

The effort of energy autonomy is a very significant idea and initiative which already works in practice. In general the whole philosophy and stance of the University towards the whole-institution approach to sustainability is something that we work on continuously either with the initiative in place of the "Ecological University" or the participation of the institution in rankings on Sustainability performance All these practices which involve the various strands described could constitute practical examples for which I could talk and elaborate on them and which other institutions could learn from. Most importantly the vision creation and the established philosophy on the issue is something that I could talk and urge other colleagues to do something on that aspect.

7. Which strands do you think need developing further? Why?

The strands that need further development have to do mostly with capacity building, institution infrastructure, institutional governance/leadership.

8. Which strands needed more support? Why?

School infrastructure in order to undergone big scale sustainable interventions are costlier in relation to conventional building practices so funding support on that aspect is crucial. The autonomy of the institution to allocate funds on that strand should not be treated with scepticism in order the institution to achieve the gradual transformation to sustainability.

D) WSA/WIA recommendations/further development/next steps

1. What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

The challenges that are posed due to the problems that exist in the general social and political context were already mentioned in a previous stage of the discussion. Another threat is the low levels of interest of the young generation, talking about Cyprus, on the topic of sustainability and their willingness to undertake education programs on the specific field of knowledge.

2. Which dimensions of WSA/WIA on ESD needs to strengthen? How?

The overall political context needs to be strengthened in order to give the necessary strategic direction towards the whole-institution approach on ESD. Moreover, the concept of sustainability was connected until now mostly with the environment and the economy; despite the fact that sustainability includes also issues such as social justice and social equity. These aspects of sustainability have to be highlighted not only in the education system but at a wider societal level since these notions are still not adequately perceived and acknowledged by the general public. Raising public awareness through campaigns, publication of research work and open access of these resources, networking with various stakeholders and advocacy at the policy level are all actions that could be implemented to strengthen the dimensions of concern.

3. How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

For the long-term implementation of WSA/WIA on ESD the enactment and enforcement of policies, at a governmental level, is crucial for the viability of such initiatives. At a Ministerial level the continuation

of the support of the established framework at the level of primary education and its expansion to the secondary level, in the daily school practice and not merely in the level of decisions and decrees, are elements that can ensure the viability and the long-term implementation of WSA/WIA on ESD in the education organizations. Finally, a change in the perception that sustainability entails not only the protection of the environment but also job creation, new fields of studies is of major importance. This to take place needs not only the promotion efforts and awareness campaigns undertaken by the education institutions but also the active participation and genuine interest of the society as a whole.

4. Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

International funding definitely supports the implementation of WSA/WIA in a national level. The international context is certainly favourable on the implementation of the concept since it seeks this dimension to be incorporated in every project that they select to fund. The regional and national level initiatives, funding and policies need further improvement and an overall reprioritization of the issue.

INTERVIEW 10

Conducted by Cyprus Certification Company

Information about the interviewer: Chrystalleni Papadopoulou, Project Manager.

CHRYSTALLENI PAPADOPOULOU is a Lead Auditor of the Cyprus Certification Company Ltd, and also the companies' Training Centre Manager. She has a bachelor's in chemistry, master's in business administration (MBA) and Masters in Polymers Science and Technology (MSc). Chrystalleni is the coordinator of all Company's European Funded Projects. She is also a management system lead auditor (e.g., ISO 9001, ISO 14001, EMAS etc), specialized in Environmental management systems, a Green House emissions verifier, and a lead assessor of educational/ training programs against legislative or other requirements. She also participates as an observer in ISO committee TC 207 that is responsible for the development of Environmental Standards.

Country: Cyprus

Organization that conducted the interview: Cyprus Certification Company

Justification for choosing the particular interviewee as an expert on ESD: Dr Andry Vrioni

E) Information about the interviewee:

Interviewee

Name: Dr Andry Vrioni

Institution s/he represents: University of Nicosia, Director at Rectors' Office, and Director of Pedagogical Support Unit

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Dr. Andri Vrioni is currently serving as the Director at Rectors' Office, and Director of Pedagogical Support Unit at the University of Nicosia. She obtained her undergraduate degree in Educational Sciences from the University of Cyprus and holds a master's degree in Science Teaching. Her doctoral research focused on STEAM Learning in Multimodal Learning Environments.

Throughout her career, Dr. Vrioni has worked as a teacher and also served as the coordinator of the Evaluation Committee of Private Universities. She has extensive experience as a consultant and currently holds the position of Director of the Rector's Office and the Pedagogical Support Unit at the University of Nicosia. In this role, she is responsible for providing Professional Development and Training Programs to the university's academic staff.

Dr. Vrioni is an active member of the Board of Directors of the Cyprus State Scholarship Foundation. She also works as a consultant for the Cyprus Certification Company, where she contributes to the development of certification schemes for STEAM students, educators, and schools. She is the founder of SCI-FUN, a Science Center operating under the auspices of the Minister of Education and Culture. Additionally, she serves as an external advisor to the Institute for STEAM Education.

Furthermore, Dr. Vrioni is the coordinator of the K12 STEMFreak School, a STEAM Learning platform that facilitates blended learning. She holds the position of Director of the Cyprus E2STEAM Festival, an event endorsed by the Ministry of Education, Culture and Sports, the Deputy Ministry of Innovation, and the Environment Commissioner.

In her research endeavors, Dr. Vrioni has developed various training programs, learning materials, and certification materials. Her scientific interests encompass Multimodal Learning, Modern Technology and Learning, STEAM Teaching, skills-based learning, neuro-education, Project-Based Learning, and Universal Design for Learning. She specializes in designing enriched learning environments and programs, as well as creating assessment indicators and authentic assessment tools.

Dr. Vrioni's accomplishments include receiving the CASTME (Commonwealth Association for Science, Technology, and Mathematics Educators) award in 2002 for her interdisciplinary work titled "The Beast and the Beautiful" - A Greenhouse Effect Project. In 2018, she was awarded the second prize for Business Innovation in the Digital Champion Competition organized by the Ministry of Energy, Trade, and Industry for her CRiC Brain Train application.

She actively participates in various European research projects, presents her research papers at conferences and international journals, and has authored books related to E2STEAM Teaching and learning.

Professional Identity (youth leader, teacher, please see point 2 identification of experts):

Academic / Researcher

Researcher/ Administrative Staff

Sector that represents (Policy, Curricula, research etc) (can represent various fields – identify the sectors and explain): Academia & Research

Research and Academia

Level of action: (local, national, regional, international) (can she/he engaged in various levels-identify the levels and explain) International

Years of experience: more than 25

F) General questions for ESD implementation in national level.

11. Please briefly describe if you have any policies or regulatory measures for ESD in your country.

Cyprus recognizes the importance of integrating ESD into its education system and has taken steps to promote sustainability education. The Ministry of Education, Culture, Sports, and Youth in Cyprus has been actively involved in implementing ESD initiatives. The national curriculum includes aspects related to environmental education, sustainable development, and citizenship education.

In 2006, Cyprus became a member of the United Nations Decade of Education for Sustainable Development (2005-2014). During this period, efforts were made to enhance sustainability education in schools and raise awareness about sustainable development among educators and students.

The Ministry of Education, Culture, Sports, and Youth has encouraged the inclusion of ESD principles in school policies and practices. They have supported the development of teaching resources, guidelines, and training programs for educators to promote ESD in the classroom. The focus is on integrating sustainable development concepts across different subject areas and fostering a whole-school approach to sustainability.

12. These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

    ESD policies in Cyprus likely aim to incorporate sustainability education into the formal education system, including primary, secondary, and tertiary levels. The objectives may include integrating sustainable development concepts across various subjects, developing relevant curriculum frameworks, and promoting pedagogical approaches that foster critical thinking and active citizenship towards sustainability.

The results of these policies include increased awareness and understanding of sustainability issues among students, the development of knowledge and skills related to sustainable development, and the cultivation of environmentally responsible attitudes and behaviors.

Non-formal Education: ESD policies may also extend to non-formal education settings, such as environmental organizations, community centers, and NGOs. The objectives involve promoting non-formal educational initiatives that raise awareness of sustainability, provide practical experiences, and engage learners in addressing local and global sustainability challenges.

The results of these policies can include increased participation in non-formal ESD activities, enhanced environmental literacy and awareness, and the empowerment of individuals and communities to take sustainable actions.

Professional Development: ESD policies emphasize the professional development of educators to enhance their capacity to deliver effective sustainability education. The objectives might include providing training, workshops, and resources to educators, fostering collaboration among teachers, and integrating ESD into teacher education programs.

The results of these policies include improved pedagogical practices that incorporate ESD principles, increased confidence and competence of educators in delivering sustainability education, and the establishment of professional networks for sharing best practices.

13. How ESD integrate in formal education; (all levels of educations including Higher Education)

In formal education, including all levels from primary to higher education, Education for Sustainable Development (ESD) can be integrated through various strategies and approaches. Here are some common ways in which ESD can be incorporated into formal education:

Curriculum integration: ESD can be integrated into the curriculum by infusing sustainability concepts, themes, and values across different subjects and disciplines. This involves identifying relevant connections between sustainability and existing learning objectives, and designing lessons and activities that promote understanding of sustainable development issues.

Interdisciplinary approaches: ESD encourages interdisciplinary approaches that bridge different subject areas to explore complex sustainability challenges. By connecting concepts from science, social sciences, humanities, and other fields, students gain a holistic understanding of sustainability and its interconnectedness with various aspects of society and the environment.

Project-based learning: Engaging students in project-based learning experiences related to sustainability issues allows them to apply their knowledge and skills in real-world contexts. Students can investigate local or global sustainability challenges, propose solutions, and collaborate with peers and community members to implement their projects.

Experiential learning: Providing students with hands-on, experiential learning opportunities is an effective way to foster environmental awareness and develop sustainability competencies. This can include field trips to environmental sites, nature exploration, outdoor learning, and engagement in practical activities such as gardening, recycling, or energy conservation projects.

Teacher professional development: Equipping teachers with the necessary knowledge and pedagogical skills to incorporate ESD is crucial. Professional development programs can be offered to teachers to enhance their understanding of sustainability concepts, teaching methodologies, and assessment strategies related to ESD. This enables teachers to effectively integrate ESD into their instructional practices.

Sustainability initiatives and campus greening: Educational institutions, including higher education institutions, can promote sustainability on their campuses through initiatives such as energy conservation, waste management, sustainable transportation, and green building practices. By modeling sustainable behaviors and creating sustainable learning environments, educational institutions contribute to the overall implementation of ESD.

It's worth noting that the specific implementation of ESD in formal education can vary depending on the educational system, curriculum frameworks, and policies of each country or institution. In the case of Cyprus, referring to official educational documents and guidelines can provide more detailed insights into how ESD is integrated into formal education at different levels.

14. What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)? N.A.

15. How is ESD integrated in non-formal education?

Having as reference point STEMFREAK, Education for Sustainable Development (ESD) is integrated into non-formal education through various approaches and strategies.

Project-Based Learning: Non-formal education programs can incorporate project-based learning approaches that engage learners in hands-on, real-world projects with a sustainability focus. These projects can address local environmental issues, promote community engagement, and encourage critical thinking and problem-solving skills.

Experiential Learning: Non-formal education settings provide opportunities for experiential learning, where learners actively engage with their environment and communities. ESD integration can involve field trips, outdoor activities, and interactive experiences that foster a deeper understanding of sustainability concepts and encourage reflection on personal actions and responsibilities.

Learning Materials and Resources: Non-formal education programs can develop or adapt learning materials and resources that explicitly incorporate sustainability themes and principles. This can include integrating case studies, videos, interactive games, and other multimedia resources that highlight sustainable practices, global challenges, and potential solutions.

Partnerships and Collaborations: Collaborating with external organizations, NGOs, and community groups can enrich non-formal education programs with expertise, resources, and real-life examples of sustainable practices. Partnerships can offer opportunities for joint projects, guest lectures, and access to sustainability initiatives and facilities.

Professional Development and Training: Providing professional development and training opportunities for non-formal education facilitators and practitioners is essential for effective ESD integration. Training can enhance their knowledge of sustainability concepts, teaching methodologies, and pedagogical approaches that align with ESD principles.

Participatory Approaches: Non-formal education programs can incorporate participatory approaches, involving learners in decision-making processes, encouraging active engagement, and promoting a sense of ownership over sustainability initiatives. This can include involving learners in designing and implementing projects, conducting research, and taking part in environmental conservation activities.

Awareness and Behavior Change: ESD integration in non-formal education should aim to raise awareness and foster behavior change towards more sustainable practices. Programs can incorporate discussions, debates, and reflective activities that encourage learners to critically evaluate their consumption patterns, lifestyles, and environmental impact.

Community Engagement and Action: Non-formal education can empower learners to become active agents of change within their communities. ESD integration can involve community-based projects, campaigns, and initiatives that address local sustainability challenges and promote community resilience.

Monitoring and Evaluation: It is crucial to establish monitoring and evaluation mechanisms to assess the effectiveness and impact of ESD integration in non-formal education. This can involve gathering feedback from learners, tracking behavioral changes, and assessing the outcomes and sustainability of implemented projects.

16. What are the main gaps for ESD implementation in non-formal Education?

The implementation of Education for Sustainable Development (ESD) in non-formal education settings can face several gaps and challenges. Some of the main gaps for ESD implementation in non-formal education include:

Lack of Awareness and Understanding: One of the significant gaps is the limited awareness and understanding of ESD among non-formal education providers, stakeholders, and facilitators. Many may not fully comprehend the concepts, principles, and importance of integrating sustainability into their educational programs.

Limited Institutional Support: Non-formal education institutions may lack the necessary institutional support for ESD implementation. This includes insufficient funding, resources, and infrastructure to develop and deliver effective sustainability-focused programs.

Inconsistent Policy Framework: Non-formal education may operate under diverse policy frameworks that may not prioritize or mandate ESD integration. The absence of clear policies and guidelines can hinder the systematic integration of sustainability principles and practices into non-formal education.

Training and Capacity Building: Non-formal education facilitators and practitioners may require additional training and capacity building opportunities to effectively integrate ESD into their teaching methodologies. Without adequate training, they may struggle to develop and deliver ESD programs that meet the desired learning outcomes.

Evaluation and Assessment: There can be a lack of standardized evaluation and assessment mechanisms to measure the impact and effectiveness of ESD in non-formal education settings. The absence of proper assessment tools makes it challenging to monitor progress, identify areas for improvement, and ensure the quality of sustainability-focused programs.

Limited Collaboration and Networking: Non-formal education providers may face challenges in establishing collaborations and networks with other stakeholders, such as formal education institutions, government agencies, NGOs, and local communities. Collaborations can play a crucial role in sharing resources, best practices, and expertise for effective ESD implementation.

Addressing Diverse Learner Needs: Non-formal education often caters to a diverse range of learners, including different age groups, socio-economic backgrounds, and educational levels. Adapting ESD programs to meet the diverse needs and interests of learners can be a challenge, requiring careful consideration of context, cultural sensitivity, and inclusivity.

Sustainability Integration Beyond Environmental Education: While environmental education is an essential component of ESD, there is a need to go beyond a narrow focus on the environment and incorporate broader dimensions of sustainability, including social, economic, and cultural aspects. Non-formal education programs may need support in integrating these multidimensional aspects effectively.

Addressing these gaps requires concerted efforts from various stakeholders, including non-formal education providers, policymakers, funding agencies, and civil society organizations. Enhancing awareness, providing capacity-building opportunities, establishing supportive policies, and promoting collaborations can help bridge these gaps and promote the successful implementation of ESD in non-formal education settings.

17. What are the main gaps/obstacles/challenges for ESD implementation in your country?

In the context of Cyprus, there are several gaps, obstacles, and challenges that hinder the full implementation of Education for Sustainable Development (ESD). These include:

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Limited policy framework: Although Cyprus has taken some steps towards integrating ESD into its educational system, there is a need for a comprehensive policy framework that provides clear guidelines, strategies, and support for implementing ESD across all levels of education. The absence of a robust policy framework can hinder the systematic and coordinated integration of ESD into educational institutions.

Insufficient teacher training and professional development: Many teachers in Cyprus lack adequate training and professional development opportunities specifically focused on ESD. The limited knowledge and skills related to ESD among educators can hinder their ability to effectively integrate sustainability concepts into their teaching practices.

Curriculum constraints: The existing curriculum in Cyprus not fully incorporate ESD principles and competencies. The emphasis on content coverage and exam-oriented approaches can leave limited space for in-depth exploration of sustainability topics. The crowded curriculum can make it challenging for teachers to dedicate sufficient time and attention to ESD.

Lack of resources and materials: Access to relevant and up-to-date resources, teaching materials, and case studies related to ESD may be limited in Cyprus. The availability and affordability of sustainability-related resources can pose challenges for educators in implementing ESD effectively.

Assessment practices: Traditional assessment methods often prioritize rote memorization and recall, rather than assessing the critical thinking, problem-solving, and systems thinking skills promoted by ESD. Misalignment between assessment practices and the goals of ESD can discourage educators from prioritizing sustainable development in their teaching.

Public awareness and engagement: There is a lack of widespread public awareness and engagement with sustainability issues in Cyprus. Building a strong culture of sustainability requires raising awareness among students, parents, and the wider community. Engaging stakeholders and fostering collaboration between educational institutions, government bodies, and civil society organizations is crucial for effective ESD implementation.

Addressing these gaps and challenges requires a multi-faceted approach involving the commitment of policymakers, educational authorities, teacher training institutions, curriculum developers, and the wider community. Developing a comprehensive policy framework, providing ongoing teacher training and support, revising the curriculum to integrate ESD, ensuring access to relevant resources, and fostering public engagement are key steps in overcoming these obstacles and promoting effective ESD implementation in Cyprus.

18. How is ESD integrated in your organization (please explain briefly)?

ESD integration at STEMFREAK involves various strategies and initiatives aimed at promoting sustainability principles and practices throughout the institution. Here are some common ways in which ESD is integrated at STEMFREAK:

Research on Learning Outcomes: We conduct research on the learning outcomes of our STEAM education programs, including the impact of sustainability-focused activities and projects. This helps us understand how ESD can enhance students' knowledge, skills, and attitudes towards sustainability.

Student Content Creators: We actively involve students as content creators in our organization. Students create educational videos, tutorials, and blog posts that highlight sustainable practices, environmental conservation, and innovative solutions. They share their work through various platforms, promoting awareness and inspiring others to adopt sustainable behaviors.

E-Portfolios: Students are encouraged to develop e-portfolios to showcase their STEAM projects and achievements, including those related to sustainability. These e-portfolios allow students to reflect on their learning journey, document their sustainability-focused work, and demonstrate their growth and accomplishments.

STEAM Festival and Community Events: We organize annual STEAM festivals and community events that emphasize sustainability and ESD. These events provide opportunities for students, educators, and the community to engage in hands-on activities, workshops, and exhibitions that promote sustainable practices, environmental stewardship, and innovation.

Publications: We publish articles, research papers, and educational materials that focus on ESD and its integration into STEAM education. These publications contribute to the dissemination of knowledge, best practices, and innovative approaches to ESD implementation.

Workshops and Training: We conduct workshops and training sessions for educators, students, and the wider community to build their capacity in integrating ESD into their teaching and learning practices. These sessions provide insights into effective pedagogical approaches, resources, and strategies for incorporating sustainability into STEAM education.

Campaigns and Awareness Initiatives: We run campaigns and awareness initiatives that aim to promote sustainability and raise awareness about pressing environmental issues. These campaigns involve student-led activities, such as recycling drives, energy conservation projects, and awareness campaigns on topics like climate change and biodiversity.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

ESD integration in our organization ensures that sustainability is woven into the fabric of our STEAM education programs and activities. By nurturing a generation of environmentally conscious and socially responsible individuals, we strive to contribute to a more sustainable future.

19. What are the strong and weak points for ESD integration in your organisation?

At STEMFREAK, the integration of Education for Sustainable Development (ESD) brings both strong and weak points. Let's explore them:

Strong Points:

- Clear Mission Alignment: STEMFREAK's mission to promote excellence and innovation in STEAM education aligns well with the goals of ESD. This strong alignment provides a solid foundation for integrating sustainability principles into our programs.

- Research and Learning Outcomes: Conducting research on learning outcomes allows us to gather evidence and insights into the effectiveness of ESD integration. This research helps us continually improve our approaches and ensure that sustainability is effectively embedded in the learning experiences of our students.

- Student Content Creators: Involving students as content creators is a strong point for ESD integration. It empowers students to take ownership of their learning and encourages them to actively engage in promoting sustainability through their creative work.

- E-Portfolios: The use of e-portfolios to showcase student work related to sustainability is a strong point. E-portfolios provide a platform for students to reflect on their sustainability-focused projects, document their progress, and showcase their achievements, fostering a sense of pride and motivation.

- STEAM Festival and Community Events: Organizing STEAM festivals and community events with a focus on sustainability strengthens ESD integration. These events create opportunities for students and the community to engage in hands-on activities, share knowledge, and inspire others to adopt sustainable practices.

Weak Points:

- Awareness and Understanding: One weak point may be the level of awareness and understanding of ESD among stakeholders, including educators, students, and parents. Further

efforts may be needed to raise awareness and provide training and resources to enhance understanding and implementation of ESD principles.

- Policy Framework: The presence of a strong policy framework that explicitly supports ESD integration in non-formal education settings is crucial. If the policy framework is lacking or insufficient, it can be a weak point for ESD integration at STEMFREAK.

- Capacity Building: While workshops and training sessions are conducted, continuous capacity building for educators and staff in ESD integration could be strengthened. Providing ongoing professional development opportunities can enhance their knowledge and skills in effectively integrating sustainability principles into teaching practices.

- Evaluation and Assessment: Having robust evaluation and assessment mechanisms is important to measure the impact and effectiveness of ESD integration. Strengthening these mechanisms can help ensure that desired learning outcomes related to sustainability are being achieved.

- Inclusivity and Diversity: Ensuring that ESD integration considers the diverse needs and perspectives of all learners is essential. A weak point may be the need to further emphasize inclusivity and diversity in the context of sustainability to create equitable learning experiences for all students.

By addressing these weak points and building upon the strong points, STEMFREAK can further enhance the integration of ESD into its programs, fostering a culture of sustainability and empowering students to become responsible global citizens.

20. What are the next steps for the ESD integration in your organisation?

To address the challenges and continue the integration of ESD in our organization, the following steps must be taken:

1. Awareness and Understanding: Conduct awareness campaigns, workshops, and training sessions to educate university stakeholders about the importance and benefits of ESD. Emphasize the relevance of sustainable development across disciplines and highlight practical examples of ESD integration in various fields of study.

2. Resource Allocation: Advocate for increased financial and human resources to support ESD initiatives. Seek external funding opportunities, establish partnerships with sustainability-

focused organizations, and allocate internal resources strategically to develop and sustain ESD programs. Prioritize investments in infrastructure, curriculum development, faculty training, and student engagement activities.

3. Change Management: Implement change management strategies to address resistance to ESD integration. Engage with faculty, administrators, and other stakeholders through clear communication, highlighting the value of ESD and how it aligns with the university's mission and goals. Provide support and resources to help faculty integrate sustainability principles into their courses and research.

4. Coordination and Collaboration: Foster interdisciplinary collaboration and coordination among different departments and faculties. Establish sustainability committees or task forces to facilitate communication, knowledge sharing, and joint initiatives. Encourage faculty members and students to collaborate on research projects or extracurricular activities related to sustainability.

5. Overcoming Institutional Barriers: Advocate for policy changes and institutional reforms that prioritize sustainability. Engage with university leadership to incorporate sustainability principles into strategic plans, policies, and decision-making processes. Address bureaucratic barriers by streamlining processes and creating dedicated positions or units responsible for overseeing ESD integration.

6. Evaluation and Assessment: Develop mechanisms for evaluating and assessing the impact of ESD initiatives. Define relevant indicators, establish data collection methods, and analyze the outcomes of ESD programs. Regularly review and update strategies based on evaluation results to ensure continuous improvement.

G) Questions for WSA/WIA and ESD

9. What do you think WIA is?

10. How WSA/WIA can support ESD effective implementation?

The Whole Institution Approach (WIA) is a comprehensive strategy that involves integrating sustainable development principles and practices throughout an entire educational institution. Implementing a WIA can significantly support the effective implementation of ESD (Education for Sustainable Development) by fostering a culture of sustainability and providing a framework for action. Here's how a Whole Institution Approach can support ESD:

Institutional Vision and Leadership: A WIA emphasizes the importance of strong institutional leadership and a shared vision for sustainability. By developing a sustainability vision and setting clear goals, the institution can provide a guiding framework for ESD implementation. Leadership commitment is crucial in driving change and mobilizing resources to support sustainability initiatives.

Curriculum Integration: One of the key aspects of a WIA is the integration of sustainability principles and concepts across the curriculum. This involves revising existing courses, developing new ones, and infusing sustainability themes and interdisciplinary approaches into various subjects. By incorporating sustainability into the curriculum, ESD becomes a core part of the educational experience for all students.

Professional Development: A WIA recognizes the need for continuous professional development to empower educators with the knowledge and skills necessary to effectively teach sustainability. Providing professional development opportunities focused on ESD can enhance educators' understanding of sustainability concepts, teaching methodologies, and assessment strategies. It enables them to incorporate ESD principles into their teaching practice and engage students effectively.

Operations and Campus Management: A WIA extends beyond the classroom to include sustainable practices in the institution's operations and management. This involves adopting sustainable practices in areas such as energy and resource management, waste reduction, transportation, and facilities design. By practicing what they teach, institutions demonstrate their commitment to sustainability and provide practical examples for students.

Partnerships and Engagement: A WIA encourages partnerships and collaboration with external stakeholders, including local communities, businesses, NGOs, and government agencies. Engaging these stakeholders fosters community involvement, provides real-world learning opportunities for students, and enhances the relevance and impact of ESD initiatives. Partnerships can also provide additional resources, expertise, and support for the institution's sustainability efforts.

Monitoring, Evaluation, and Reporting: A WIA emphasizes the importance of monitoring and evaluating progress towards sustainability goals. By implementing effective monitoring and evaluation mechanisms, the institution can assess the impact of its ESD initiatives, identify areas for improvement, and celebrate successes. Regular reporting on sustainability progress helps to create accountability and transparency.

11. Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Yes, the Whole Institution Approach (WIA) can be applied in the context of Cyprus to support the effective implementation of Education for Sustainable Development (ESD). Here's how the WIA can be relevant in the Cypriot context:

National Commitment: Cyprus has demonstrated its commitment to sustainability and ESD through its national policies and strategies. For example, the Cyprus National Strategy on Sustainable Development outlines the country's vision for sustainability and sets specific goals and targets. The WIA can align with this national commitment by helping educational institutions in Cyprus integrate sustainability principles and practices throughout their operations and educational programs.

Curriculum Integration: In Cyprus, the WIA can support the integration of sustainability concepts and practices into the curriculum. This can involve revising existing subject areas, such as environmental education and social studies, to incorporate more comprehensive sustainability themes. Additionally, the WIA can encourage interdisciplinary approaches, connecting sustainability to various disciplines across the curriculum, fostering a holistic understanding of sustainable development.

Professional Development: The WIA can promote professional development opportunities for educators in Cyprus, focusing on ESD knowledge and pedagogical approaches. Training programs, workshops, and collaborations can enhance educators' capacity to effectively teach sustainability concepts and foster critical thinking and problem-solving skills in students. Professional development initiatives can be supported by the Ministry of Education, academic institutions, or partnerships with NGOs and educational organizations.

Campus Management and Operations: A few Educational institutions in Cyprus adopt sustainable practices in their operations and campus management. This can involve implementing energy efficiency measures, waste reduction strategies, sustainable transportation options, and greening initiatives. By demonstrating sustainable practices within their campuses, educational institutions can serve as living examples and engage students in practical sustainability experiences.

Partnerships and Community Engagement: The WIA can facilitate partnerships and collaborations between educational institutions in Cyprus and various stakeholders, including local communities, businesses, NGOs, and government agencies. Engaging with these stakeholders can provide opportunities for practical learning, community involvement, and shared resources and expertise. Partnerships can enhance the relevance and impact of ESD initiatives in Cyprus.

Monitoring and Evaluation: Implementing a monitoring and evaluation framework aligned with the WIA can help educational institutions in Cyprus assess their progress towards sustainability goals. By

regularly tracking and reporting on their sustainability efforts, institutions can identify areas for improvement, celebrate successes, and promote accountability and transparency.

12. Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

    i) Vision, Ethos, Leadership & Coordination

    j) **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

    k) **Capacity building** (professional all staff)

    l) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

    m) **Community connections** (School-society interface)

    n) **Curriculum** (design, content and assessment)

    o) **Pedagogy & Learning** (new/alternative learning processes and learning environments)

    p) **Any other strand?**

I can provide you with two examples of best practices/programs/activities that have been developed based on the principles of WSA/WIA

Curriculum (design, content, and assessment):

One best practice is the integration of digital literacy and internet skills into the curriculum across various subjects. This involves designing curriculum content that incorporates the use of technology, teaching students how to effectively navigate and evaluate online information, promoting digital citizenship, and fostering critical thinking in the digital age. Assessments can be designed to evaluate students' understanding of digital tools and their ability to apply them in real-life scenarios.

Pedagogy & Learning (new/alternative learning processes and learning environments):

Another best practice is the implementation of blended learning approaches. Blended learning combines traditional face-to-face instruction with online learning components. This approach allows for flexibility in accessing educational resources and engaging with content, fostering interactive and collaborative learning experiences. It can involve the use of learning management systems, multimedia materials, virtual classrooms, and online discussions. This approach empowers students to take ownership of their learning and promotes self-directed learning skills.

13. Which strand(s) do you think your school/college strengths lie in?

14. What are you most proud of and think would be inspiring for other institutions to learn from?

I am proud for the professional training offered at UNIC, consisting of 36 hours of blended learning delivery, focuses on 21st century demands for engaged to industry and society institutions. Training incorporates topics related to the institution's pedagogical model, modern pedagogical methodologies, and digital skills for educators.

Blended Learning Delivery: The use of blended learning delivery in the training program is a best practice. Blended learning combines online and face-to-face elements, allowing participants to engage with the content through various modes such as virtual classrooms, online modules, and in-person discussions. This approach provides flexibility, promotes active learning, and accommodates different learning styles.

Emphasis on Modern Pedagogical Methodologies: The training program focuses on modern pedagogical methodologies, which is crucial for incorporating sustainability effectively into education. By exploring innovative teaching approaches, educators gain insights into how to create engaging learning experiences that foster critical thinking, problem-solving, and collaboration – all essential skills for addressing sustainability challenges.

Digital Skills for Educators: Recognizing the importance of digital literacy, the training program includes the development of digital skills for educators. This aspect aligns with the need to leverage technology for sustainable education, such as using digital resources, online collaboration tools, and educational platforms that facilitate interactive and immersive learning experiences.

Practical Application: The training program goes beyond theoretical knowledge by emphasizing the practical application of sustainability concepts. Educators are encouraged to develop practical teaching

strategies, assessment methods, and learning activities that integrate sustainability into their specific subject areas and educational contexts.

Continuous Professional Development: By offering professional training, UNIC supports continuous professional development for educators. This commitment to ongoing learning enables educators to stay updated with the latest sustainability trends, research, and teaching practices. It also fosters a culture of lifelong learning and promotes the integration of sustainability principles throughout their teaching careers.

Overall, the professional training program at UNIC incorporates best practices for sustainability by providing comprehensive coverage, utilizing blended learning delivery, emphasizing modern pedagogical methodologies, developing digital skills, encouraging practical application, and supporting continuous professional development. These practices contribute to equipping educators with the knowledge, skills, and tools necessary to effectively integrate sustainability into their teaching practices and promote a more sustainable future.

15. Which strands do you think need developing further? Why?

16. Which strands needed more support? Why?

H) WSA/WIA recommendations/further development/next steps

5. What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

6. Which dimensions of WSA/WIA on ESD needs to strengthen? How?

ESD, or Education for Sustainable Development, is an important field that focuses on equipping individuals with the knowledge, skills, attitudes, and values necessary to contribute to a more sustainable future. Several strands within ESD could benefit from further development to enhance their effectiveness. Here are a few examples:

Systems Thinking: Systems thinking involves understanding the interconnectedness and interdependence of various elements within a system. It is crucial for comprehending complex sustainability challenges and developing effective solutions. Further development of this strand can help individuals recognize the dynamic relationships between social, economic, and environmental factors, enabling them to make informed decisions and implement sustainable practices.

Global Perspective: ESD should emphasize a global perspective to foster a sense of global citizenship and responsibility. Enhancing this strand would involve promoting understanding and empathy for diverse cultures, worldviews, and global challenges. It would encourage individuals to think beyond local contexts and consider the broader implications of their actions on a global scale.

Civic Engagement: ESD can empower individuals to actively participate in their communities and contribute to sustainable development. Further development of this strand would involve providing opportunities for meaningful engagement, promoting participatory decision-making processes, and encouraging collective action. It would also focus on fostering leadership skills, collaboration, and advocacy for sustainability.

Critical Thinking and Problem-Solving: These skills are vital for addressing sustainability challenges effectively. ESD should encourage individuals to question existing systems, challenge assumptions, and develop innovative solutions. Developing this strand further would involve incorporating activities that stimulate critical thinking, problem-solving, and creativity, enabling learners to analyze complex issues, evaluate different perspectives, and propose sustainable alternatives.

Ethical Considerations: ESD should explore the ethical dimensions of sustainability, emphasizing values such as justice, equity, and responsibility. Developing this strand further would involve engaging learners in discussions about ethical dilemmas, promoting ethical decision-making frameworks, and exploring the implications of their choices on present and future generations.

It's important to note that the development of these strands should be context-specific and tailored to the needs and priorities of different communities and educational systems. Collaboration among educators, policymakers, and stakeholders is essential to identify areas for further development and to implement effective strategies that integrate ESD into formal and informal education systems.

7. How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

To ensure the viability and long-term implementation of WSA/WIA on ESD on Education for Sustainable Development (ESD) in an organization, several elements are needed:

Leadership and Commitment: Strong leadership and commitment from top-level management are crucial. The organization's leadership should actively promote and support the integration of ESD across all levels and departments, ensuring that sustainability becomes an integral part of the organizational culture and vision.

Policy Integration: ESD should be integrated into the organization's policies, strategic plans, and decision-making processes. This includes developing sustainability policies, guidelines, and action plans that provide a clear roadmap for implementing ESD throughout the organization.

Capacity Building: Building the capacity of educators, administrators, and staff is essential for successful implementation. Provide training programs, workshops, and professional development opportunities that enhance their understanding of ESD principles, methodologies, and approaches. This empowers them to effectively integrate ESD into their respective roles and responsibilities.

Curriculum Integration: Incorporate ESD into the formal curriculum and educational programs offered by the organization. Ensure that sustainability concepts, values, and skills are integrated into different subjects or disciplines, fostering interdisciplinary approaches. Develop teaching resources, lesson plans, and assessment methods that promote active learning and critical thinking about sustainability issues.

Student Engagement: Engage students in ESD initiatives and decision-making processes. Encourage their active participation in sustainability-related projects, extracurricular activities, and student-led organizations. Provide platforms for student voice and action, enabling them to contribute to sustainability efforts within the organization and beyond.

Partnerships and Stakeholder Engagement: Establish partnerships with external stakeholders, such as local communities, NGOs, businesses, and government agencies. Collaborate with these entities to develop joint initiatives, share resources, and leverage expertise. Engage stakeholders in the planning, implementation, and evaluation of ESD activities, ensuring a participatory and inclusive approach.

Monitoring and Evaluation: Establish mechanisms for monitoring and evaluating the implementation of WSA/WIA on ESD. Define relevant indicators, collect data, and regularly assess the progress and impact of ESD initiatives. Use evaluation findings to identify strengths, areas for improvement, and make informed decisions for ongoing refinement and enhancement of ESD integration.

Sustainability Reporting: Develop a system for regular reporting on the organization's sustainability efforts and progress towards ESD integration. Transparently communicate achievements, challenges, and future goals related to sustainability to internal and external stakeholders. This promotes accountability, highlights achievements, and motivates continuous improvement.

By incorporating these elements into the organization's approach, the viability and long-term implementation of WSA/WIA on ESD can be ensured. It requires a holistic and coordinated effort involving leadership, policies, capacity building, curriculum integration, student engagement, partnerships, monitoring, evaluation, and sustainability reporting.

8. Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

Regional and international initiatives, funding, and policies can indeed support and facilitate the implementation of Whole School Approaches (WSA) or Whole Institution Approaches (WIA) at the national level in several ways:

Policy Frameworks: Regional and international initiatives often develop policy frameworks and guidelines that promote the integration of Education for Sustainable Development (ESD) at the national level. These frameworks provide a common reference point and set of principles for governments and educational institutions to follow when implementing WSA/WIA on ESD. They offer guidance on curriculum development, teacher training, stakeholder engagement, and monitoring and evaluation.

Capacity Building and Training: Regional and international initiatives may provide capacity building programs and training opportunities for educators, administrators, and policymakers. These initiatives equip them with the knowledge, skills, and tools needed to effectively implement WSA/WIA on ESD. Training programs can cover topics such as curriculum development, pedagogical approaches, student engagement strategies, and sustainability assessment methods.

Funding Opportunities: Regional and international funding mechanisms can provide financial support to national governments and educational institutions for the implementation of WSA/WIA on ESD. These funding opportunities may include grants, scholarships, and project-based funding to support activities such as curriculum development, teacher training, infrastructure upgrades, and the establishment of sustainability-focused initiatives within educational institutions.

Knowledge Exchange and Networking: Regional and international initiatives often facilitate knowledge exchange and networking among national stakeholders involved in ESD implementation. They organize conferences, workshops, and forums where policymakers, educators, researchers, and other stakeholders can share best practices, experiences, and challenges related to WSA/WIA on ESD. These platforms foster collaboration, mutual learning, and the exchange of innovative ideas.

Advocacy and Awareness: Regional and international initiatives play a crucial role in advocating for the importance of ESD and raising awareness at the national level. They can influence policy agendas, promote the integration of sustainability into national education strategies, and generate public discourse on the value of WSA/WIA on ESD. Through advocacy efforts, these initiatives can help create an enabling environment for the implementation of WSA/WIA on ESD by garnering support from policymakers, educational institutions, and the wider public.

Standardization and Quality Assurance: Regional and international initiatives contribute to standardization and quality assurance in the implementation of WSA/WIA on ESD. They develop frameworks, guidelines, and quality standards that support national governments and educational institutions in ensuring consistency, coherence, and effectiveness in their ESD efforts. These frameworks help in the alignment of goals, strategies, and assessment mechanisms across different contexts.

Interview 11

Conducted by Asnor

Information about the interviewer: CARLA COLAGEO – Labour Consultant, Career Guide and EU project Advisor - Member of ASNOR

Country: ITALY

Organization that conducted the interview: ASNOR

Justification for choosing the particular interviewee as an expert on ESD: Prof. Francesca Da Porto is Pro- Rector for Sustainability at the University of Padua, Professor of Infrastructure Technology, previously also Pro- Rector for Sustainable Building and Construction.

I) Information about the interviewee:

Interviewee

Name: Prof. Francesca Da Porto

Institution she represents: University of Padua

Experience (explain his/her experience on ESD for e.g., studies, research, experience in the field etc)

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

Prof. Francesca Da Porto is Pro- Rector for Sustainability at the University of Padua, Professor of Infrastructure Technology, previously also Pro- Rector for Sustainable Building and Construction.

She has been the promoter of the first Chart for Sustainability 2018-2022 adopted by the University, renewed and improved in its second version, considered the effectiveness of the policies adopted so far.

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Professor of Infrastructure Technology and Pro- Rector for Sustainability of the University of Padua.

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Professor Da Porto is actively involved in the design and implementation of policies for sustainability in multiple sectors:

Policy: Design of the Chart for Sustainability 2018-2022 and 2023-2027 integrated with the Strategic Plan, the Energy Plan and the Gender Equality Plan which are the main strategic documents adopted by the University of Padua.

Curricula: Integration of SDGs in more than 50% of the courses taught in the University of Padua. The whole academic offer is tailored to the topic of sustainability.

Research: Continuous considerable investment in research for improving sustainability initiatives, starting from re- investing the resources saved using sustainable technologies.

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

The project "UniPadova Sostenibile" has a considerable impact at local level, involving public authorities in sustainable initiatives like: co- financing sustainable mobility, ensuring public transport at night for students and young people; actively involving public authorities in the events dedicated to the promotion of sustainability organized by the University (as the "Sustainable Development Festival"), opened to all citizens; designing public procurement which include sustainability as a strict requirement for applicants, according to more advanced quality standards compared to the minimum standards currently required in public procurements.

The University of Padua adheres to and participates in numerous associations, consortia, foundations and national clusters engaged in the implementation of initiatives to promote the Sustainable Development Goals of the 2030 Agenda.

It is part of the Network of Universities for Sustainable Development – RUS which is about to set up a new Working Table for the student community, a meeting space where they can represent their university, stimulate intellectual and emotional commitment to sustainability, consistently with the RUS and UN Agenda 2030 goals, besides encouraging partnerships between students of different disciplines from different universities.

J) General questions for ESD implementation in national level.

21. Please briefly describe if you have any policies or regulatory measures for ESD in your country.

There are no general policies at national level for ESD, but sectorial policies such as the "Green Transition Plan" tailored to incentive sustainable development of enterprises.

22. These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

At national level there are mainly sectorial policies which incentives the green transition of the productive world. In the public sector there are only minimum standards required in public procurements.

23. How ESD integrate in formal education?

At the University of Padua we have introduced the SDGs as a transversal topic in more than 50% of the courses offered.

We actively involve students and professors in organizing activities to promote and assess sustainability. We have created general courses open to all students related to sustainability; one of them is addressed to students as "Ambassadors for Sustainability" who will be actively involved in laboratories where activities in the city will be implemented in partnership with local authorities (concerning the sustainable management of waste and recycling for instance).

24. What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

The main challenge is to coordinate policies for sustainability in our University which is structured in several different centres of costs with a substantial autonomy. For this reason we have stated in our strategic plan specific actions and objectives that need to be implemented by each Department and that will be measured on a continuous basis. Furthermore, we are committed to build a culture for sustainability to raise awareness of its importance also in practical terms, providing concrete examples (such as the use of no plastic bottles and the energy columns) of its effectiveness among students, professors but also the administrative staff.

25. **What are the main gaps/obstacles/challenges for ESD implementation in your country?**

A comprehensive policy on sustainability is lacking as well as financial incentives for the educational system to adopt a sustainable approach.

26. **How is ESD integrated in your organization (please explain briefly)?**

The University of Padua has adopted the "Charter of Sustainability Commitments" since 2018 which clearly states four main objectives: Environment, Inclusion, Impact on Sustainability, Network for Sustainability, so to decline sustainability in all its aspects. The Charter is linked to the Strategic Plan so to ensure its implementation, prescribing activities in six dimensions: Resources (i.e. Green Public Procurement), Environment, Mobility, Welfare and Social Inclusion, Education.

27. **What are the strong and weak points for ESD integration in your organisation?**

We have an holistic approach to sustainability which is integrated in the Multiannual Strategic Plan, in a way that its implementation is ensured and measured setting specific results and activities to be carried out.

We work in close collaboration with local authorities so to involve all citizens in the initiatives the University organizes to promote sustainability.

We should improve the coordination of several Departments each with its financial autonomy in order to implement sustainability in a more organic manner.

28. **What are the next steps for the ESD integration in your organisation?**

We are working to improve the coordination among Departments.

We are involving Associations of Students as main promoters of policies for sustainability.

We are working closely with the Municipality of Padua in order to achieve the objectives of the Mission "Net Zero Cities" as part of the "**Climate-neutral and Smart Cities Mission**", promoted by the European Commission which has selected 100 pioneer cities that will commit to achieving climate neutrality by 2030. The initiative will be funded by Horizon Europe with euro 360 million for the period 2022-2023. These include the city of Padua, along with nine other Italian cities.

K) Questions for WSA/WIA and ESD

17. What do you think WIA is?

The University of Padua adopts since 2018 a holistic approach declining sustainability in all its aspects: not only with regards to environment, green and circular economy, but also addressing to social inclusion and wellbeing. There are several initiatives the University has taken to improve the quality of life of professionals, students and administrative staff such as giving the opportunity to practice sport, yoga training and a nursery for young mums inside the Campus, with no costs for the users. We have concrete indicators that the more there is attention for wellbeing, the more people are motivated at work. Implementing sustainability has reflections in different aspects and when people are aware of its positive effects, they're more incentived to further promote responsible sustainable behaviours.

18. How WSA/WIA can support ESD effective implementation?

A strategic plan with a clear vision and specific goals needs to be adopted so that everyone can be a proactive promoter of sustainability, with a clear role to be assessed regularly. Furthermore the positive effects of implementing sustainability in one sector, i.e. sustainable public transport for students, have further positive effects, such as in terms of security and social inclusion. Furthermore, a strong communication supported by the organization of several events which involve the whole citizenship have the powerful effect to make people aware of the importance to behave in a sustainable way.

19. Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

At national level a comprehensive policy to incentive sustainability is lacking. Instead the University is strengthening its cooperation with local authorities which are more accountable in terms of responding to the needs of their citizens.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

20. **Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:**

q) Vision, Ethos, Leadership & Coordination

One of the main objective of the "Charter for Sustainability Commitments" is to promote a cultural change so to have a significant impact at local and national level and to be a reference model to be adopted by other Institutions.

r) **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

We have created a specific Pro- Rectorate for Sustainability which integrates its objectives with the general Strategic Plan of the University.

s) **Capacity building** (professional all staff)

t) **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

The CO2 emissions system of our University is certified by a third party. We have measured a reduction of CO2 emissions by 30% (40% per capita) since 2018, despite the significant increase in terms of students and workers and also of infrastructures in the last years (from 60.000 students to 70.000 in 3 years).

90% of chemicals and biological waste is recycled and re-used.

u) **Community connections** (School-society interface)

We actively carry out projects in close collaboration with the Padua Municipality such as: co-financing a new night bus line for students in 2019 so to ensure their safety, which is now become structural; we have developed a model to be adopted by public authorities of sustainable public procurements which include higher standards in terms of sustainability as requirements for applicants, compared to those generally adopted at

national level. Furthermore all the events (currently more than 90) to promote sustainability organized by the University are open to all citizens.

v) **Curriculum** (design, content and assessment)

More than 50% of training courses have integrated SDGs in their agenda.

w) **Pedagogy & Learning** (new/alternative learning processes and learning environments)

We have tailored courses for prisoners with the aim to give them a second chance for social inclusion.

x) **Any other strand?**

21. Which strand(s) do you think your school/college strengths lie in?

We have built a model able to decline sustainability in all its aspects, actively involving the students and professors as well as the local community, which is replicable by other Institutions.

22. What are you most proud of and think would be inspiring for other institutions to learn from?

We have integrated a plan for sustainability with specific objectives and results to be achieved which ensure that the activities are implemented.

23. Which strands do you think need developing further? Why?

We are working on improving the coordination of activities among Departments, starting from raising awareness about the importance of sustainability and making the personnel involved accountable for its results.

24. Which strands needed more support? Why?

Since there aren't significant incentives to promote sustainability, investing in sustainable initiatives can be challenging but we have had a significant return on investment thanks to the costs saved. We have planned to invest 29 billion in the period 2023-2027 for energy efficiency and we expect a return on investment in 12 years.

L) WSA/WIA recommendations/further development/next steps

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

9. **What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?**

   At national level a substantial system of incentives to sustainability is missing as well a modern regulatory framework.

   In my organization we have high levels of standards in terms of sustainability, but we need to improve the coordination among Departments.

10. **How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?**

    A structural plan with concrete objectives to be achieved and measured.

    A spread awareness proved by results of the effectiveness of adopting sustainable behaviours.

11. **Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?**

    A more structured and comprehensive policy on sustainability as well as more substantial incentives at national level should be adopted. Currently ore main documents of reference are the European “Green Deal” and the “UN Agenda 2030”.

Interview 12

Conducted by CPI

Interviewee

Name: Dr. Aravella Zachariou

Institution s/he represents: Chair of UNECE Steering Committee on ESD, Head of Unit for Education for the Environment and Sustainable Development at Cyprus Ministry of Education, Sport and Youth

Experience (explain his/her experience on ESD for e.g. studies, research, experience in the field etc)

>25 years experience in policy making on ESD, teacher, academic, researcher.

Ph.D. on ESD and extensive publications in the field

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Policy maker, academic, teacher

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Policy, curricula, research, academia

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

International level: Head of UNECE ESD SC, actively involved in the formation of the UNECE Strategy for ESD and its implementation at the national level, she has actively represented Cyprus in international for a on ESD such as UNESCO, GENE, etc. She is the Head of the Unit of ESD/EE in Cyprus who is responsible for the horizontal implementation of ESD across the state.

Years of experience: >25

Information about the interviewer: Dr. Stella Hadjiachilleos

Country: Cyprus

Organization that conducted the interview: CPI

Justification for choosing the particular interviewee as an expert on ESD: Chair of UNECE ESD Steering Committee, Head of Unit for Education for the Environment and SD in Cyprus, extensive experience in policy making, leadership in ESD, academia and research.

ESD implementation, gaps and challenges in formal education

Cyprus has the National Strategy for ESD is an umbrella integrating policies promoting ESD in formal, non formal and professional education and development. On this strategy curricula for pre-primary and primary education are built, the National Policy on Environmental Education Centers' Network for non-formal education, as complementary structure to formal, and the policy for professional development, under which series of mandatory and optional seminars are offered on issues of interdisciplinary learning, sustainable school, methodology, special issues of scientific interest such as SDGs, climate change, food waste, leadership of the sustainable school, etc.

ESD is horizontally integrated in other national policies on issues such as the national strategy for mitigation and adaptation to climate change, the national strategy for biodiversity conservation, the national strategy on ESD implementation and, in general it extends beyond school education to the society and to different groups of professionals.

Gaps in formal education refer to the following:

a. Different priorities between education levels as to how ESD is approached. In pre-primary and primary education there is a coherent, systemic and holistic approach. In secondary there is no continuation of this. In higher education the priorities are different and gaps grow bigger as we move up on the education level, especially in secondary where the focus is on measurable academic results and an attempt to succeed in exams.

b. In HEIs there is not a universal legislative framework or strategy to form the basis of ESD implementation. So each university sets its own policies and practices.

c. People promoting innovations (e.g. school supervisors, policy makers etc.) have inconsistencies on the way ESD is implemented. So there is absence of culture on the level of education to acknowledge sustainability from top to bottom and on how a school can function as an agent of sustainability. Even though there is extensive interest to implement ESD on the part of teachers, if there is no monitoring and control top down, this is a serious gap in establishing how a school functions as a sustainable organization and contributes to the effort to change lifestyles.

d. Inconsistency between theory and action. Specifically, even if there are excellent policies, guides, materials for its implementation, which are of high quality, yet the actual implementation of the strategy does not have the same high level of implementation a expected.

e. Objections/ resistance to the promotion of such reform as to how it should be implemented. this implies many different and innovating approaches, methodologies, pedagogies and particularly in terms of school governance and other interventions. There is no recipe for how to implement the strategy.

f. There is accreditation scheme to enable schools to promote reform through ESD and to incentivize, reward participants on a systematic basis.

g. While in school education there is methodical and coherent policy through strategy, this is not the case in higher education. So those who are called upon to implement such innovations usually do not have this competence and professional education bears the burden of preparing e.g. teachers for the implementation of ESD at the school base, but professional education does not always have this potential to cover all that should have been covered in teachers' initial training.

ESD implementation, gaps and challenges in non-formal education

Even though there is no legislation for ESD in non-formal education, there is a national strategy for the governmental network of environmental education centers. There are 7 EECs, offering more than 100 education programs on a one-, two- and multi- day basis for 16 years now with great acceptance among teachers, showing the acknowledgment of its added value in the work done in school. It has also the potential to enhance teachers' capacity building. Non-formal education complements formal and is ensured through different processes apart from the EECs (e.g. project- and action- based programs in the community, implementation of the school's sustainable education policy, participation in international programs such as the young journalists for the environment and EcoSchools). However, the most structured non-formal education structure is the environmental education centers. The targeting of their programs is such that it supports schools in implementing their sustainable education policy and extend it outside of the school. So the themes of the centers' programs also concern the school (e.g. if a school is looking at issues related to water in the community, it can follow programs about marine, lake or river ecosystems in the EE Centers and relate them to the school's context).

Gaps- challenges

a. The gaps relate to the recognition of non-formal education as a place- and project-based project, which is decisive in shaping a culture of the individual's engagement with things.

b. The work in the EE centers lacks depth in terms of how it continues in the school. The everyday life of the school does not leave time for in-depth engagement with the subjects examined in the context of non-formal education.

c. Classroom teachers are required to realize the importance of non-formal education in the educational process. This means that there must be empowerment and reinforcement of teachers in terms of the utilization of non-formal education.

d. Non-formal and informal education in ESD are not applied throughout the life of citizens. So there is no continuity after schooling. There are no adequate civil society empowerment programs in non-formal education in ESD.

ESD implementation, gaps and challenges in CPI

The CPI houses the Unit for Education for the Environment and Sustainable Development, which is the unit responsible for policies, professional development, design and creation of education materials, dissemination, non-formal education etc. In the CPI in general, there is also interest in joint interdisciplinary programs connecting ESD with e.g. gender equality, active citizenship, etc. There is strong interest on educating CPI staff on issues of ESD. There is also an interdisciplinary committee on global citizenship and ESD, gender equity etc. There is no specific policy for the staff but honorable efforts are being made for changes in the infrastructure (e.g. greening of spaces, creating open spaces for capacity building etc.) and intervention programs for the professionals in ESD. Even though there is not an official policy for educating CPI staff on issues of ESD, yet there are efforts and programs implemented to do so. Also there are efforts to upgrade/ green the infrastructure and spaces of CPI, creation of open spaces for learning etc. , to be compatible with sustainability principles. Different groups of people are working on the implementation of the SDGs and this requires group cooperation, which is done (e.g. there are European programs from the teacher training group and the Unit for EE/ESD which resulted in the creation of Teacher Academy for Sustainability targeting teachers from all over Europe).

Cyprus is one of the first countries to implement the WIA/WSA in ESD before it gained momentum in recent years. Since 2013, during the first education reform, ESD has been implemented through an interdisciplinary curriculum and through the schools' sustainable education policy with the aim of creating a sustainable school through WIA offering, at the same time, all the necessary tools and guidance to implement it. The philosophy of ESD implementation in Cyprus since 2013 is based on WSA. ESD implementation tools, guides, school unit self-assessment guidelines, seminars, teacher guidance and school governance training have been created and disseminated with the purpose of creating the sustainable school as a community of learning on sustainability. This required changes in the way the school is governed, in the teaching content and the way it is organized, on how the school works towards sustainability, how it cooperates with other stakeholders, on how stakeholders within the school cooperate. An important element is the fact that the changes promoted concern learning contents and syllabi. But it needs empowerment to create a learning community. Also an important need is the improvement of the infrastructure. For this purpose, Cyprus participates in the European PEDIA program. Now, 10 years after the implementation of the education reform on ESD and WIA, we

can identify main changes in the content of learning, in curricula within a social context, etc. but we cannot claim that we have moved to the creation of sustainable societies without substantial changes in school infrastructures so the emphasis now is how to create sustainable buildings, green technologies etc.

One practice we are proud of is the EAA curriculum and the design of the sustainable environmental education policy in each school. In this context, the entire school is committed to the realization of a common vision. This requires effective leadership (guidance, support). In the context of institutional practices, the holistic school approach to sustainability requires changes in the way the school operates to define and implement its policy, options for partnerships inside and outside the school, as well as a clear plan as to how the interventions contribute to the development of practices that they will be systematized and monitored and evaluated over time.

The infrastructure shows weaknesses and that is why, for example, elements such as reconstruction, green roofs, cooling systems, vertical gardens, etc. are promoted through the PEDIA program to upgrade the infrastructure of a large number of schools to respond to the needs of sustainability and its study.

2 strong points are

1) The way of structuring the curricula, which requires the sustainable environmental educational policy, which is based on the WIA (e.g. in the organizational, technical, social, pedagogical parameters) presupposes action and intervention for change on the issue examined by each school).

2) The school support mechanism for WIA and ESD, which takes the form of mentoring, school-based seminars, and supporting teachers to apply the holistic approach to ESD in their own context, based on specific needs and taking into account the particularities of the school unit.

2 strands that need further support are

1) The infrastructure

2) The culture of applying this approach. Because it is so rational, it requires more effort and interdisciplinary collaboration, it is important at the level of the school unit and especially from the leadership how the collaborations inside and outside the school are based on an interdisciplinary basis in order to be able to examine these issues as holistically as possible and to be able to capture in a comprehensive and systematic way the changes that need to be made in the school and in the community.

The viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization when schools realize that WIA does not begin and end with the beginning and end of the school year, that it aims at the quality of education and that this should be the basis of their way of organizing their school and subjects. Monitoring is related to supporting the school to improve itself and move forward with new ESD development plans in the school, holistically strengthening the holistic implementation of the SDGs in the school unit and in the community.

Cyprus invests a lot in international partnerships and ESD policies and strategies that can help implement ESD at school. Its national strategy is based on the UNECE ESD Strategy, UNESCO ESD2030 net, etc. It leads in international forums (e.g. UNECE ESD SC) and recognizes the value and contribution of transferring them at its national context. Through bilateral, ripartite and multilateral collaborations, it promotes exchanges of good practices, expertise and systematic participation in European programs for the implementation of the national goals of ESD, which cannot be met at the national level. These collaborations indicate how you can tackle challenges at the national level and take measures to remedy them. It acknowledges that its participation in European programs can contribute to the development and implementation of national targets and policies for ESD that, at the national level, sometimes are not adequately addressed. E.g. through the SUSEDI program, important elements are promoted for the improvement of the sustainable educational policy of schools, its monitoring mechanisms in the educational institutions, as well as the construction of a certification system. Through SUSEDI we will have tools that will enable us to improve the implementation of our national ESD policy, to improve our monitoring mechanism at the school level, and to build an accreditation system for the sustainable school based on WSA. Through the PEDIA program, it is sought to fill the state's gap in the improvement of school infrastructures, the installation of smart energy production and management systems and the greening of school spaces.

Interview 13

Conducted by Sapienza University

Interviewee

Name: Ruth Mansueto

Institution s/he represents: Mater Boni Consilii St Joseph Paola

Experience (explain his/her experience on ESD for e.g. studies, research, experience in the field etc)

Experience in the field as a teacher since 2003 and a leader for the last 8 years

Professional Identity (youth leader, teacher, please see point 2 identification of experts)

Assistant Head /DSO

Sector that represents (Policy, Curricula, research etc) (can represent various fields –identify the sectors and explain)

Including ESD in our SDP across the Curriculum as a whole school approach

Level of action: (local, national, regional international) (can she/he engaged in various levels-identify the levels and explain)

Local at school level

Years of experience: for the last 8 years as an Assistant Head**r ESD implementation in national**

Please briefly describe if you have any policies or regulatory measures for ESD in your country.

The work regarding ESD is chiefly carried out through NTM's Educational programmes such as Eco Schools (Eko Skola), Young Reporters for the Environment (YRE) and Learning About Forests (LEAF), the organisation has been actively promoting ESD in Malta for the last 20 years.

These policies, which forms of education do they address? Formal, -non-formal, professional development? What are the aims, objectives, and results of these policies regarding ESD implementation?

ESD is featured in the NCF and it mentions that it enables learners to develop knowledge skills and attitudes and values to make individual and collective decisions for a better quality of life. So formal and non- formal activities are mentioned.

How ESD integrate in formal education; (all levels of educations including Higher Education)

ESD so far has been treated as a subject – geography or science – and as long as this is not treated and supported as part of the vision of the organization it will remain so just another subject.

What are the main gaps for ESD implementation in formal Education, including universities or colleges (if the expert represents, HE)?

As mentioned before the ESD implementation is not yet regarded as a WIA as yet.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

How is ESD integrated in non-formal education?

ESD prepares citizens for action for sustainable development by promoting the development of critical and reflective thinking and prepares students to understand their ethical responsibilities and issues of respect and equity.

What are the main gaps for ESD implementation in non-formal Education?

ESD in non- formal education still needs to be backed up and supported systematically. And this requires much more effort and support because this has to do with shifting mind-sets.

What are the main gaps/obstacles/challenges for ESD implementation in your country?

Although ESD is part of the National Curriculum Framework it still is not given the importance it deserves. ESD is treated as an extra-curricular activity with educators giving up their free time to provide their students with this crucial dimension in their development as active citizens.

How is ESD integrated in your organization (please explain briefly)?

ESD in our organization is taken as a whole school approach in that we have followed and implemented all the steps to obtain Green Flag status for Echo School and have maintained it over the years since we first obtained it. To date we are holding the 9th flag and each cycle is 2 years so practically for the last 18 years.

What are the strong and weak points for ESD integration in your organisation?

The strength in our organization is that the leadership believes and supports all the work with regards to ESD and has taken on board and supported the whole school approach so much so that actions that need to be taken are included in the School Development Plan and the vision is shared with all stakeholders.

We are also fortunate to have a hard- working staff and committee who believe in ESD and so take the necessary steps to implement ESD in our school.

What are the next steps for the ESD integration in your organisation?**ns for WSA/WIA and ESD**

What do you think WIA is?

WIA I assume it means a whole institute approach – which means that ESD is included and factored in the decision making process of the organization in all aspects. Not only in taking decisions that do not

leave a heavy carbon footprint and in other aspects when too like leading sustainably and taking into consideration also decisions that have to do with governance – so ESG for organizations too.

How WSA/WIA can support ESD effective implementation?

WIA can support ESD to be more effective as only in this way can ESD be implemented fully and not be treated like another subject.

Does WSA/WIA applies in your national context; If yes, explain how; If no, why?

Although NTM's Educational programmes are widespread – there are still many school s who have refrained from taking on such initiatives. Adopting a whole school approach requires thought planning and support to make it really effective.

Could you please identify from your experience, career or from the organization that you are working for, 2 best practices/programs/activities that were developed based on WSA/WIA? Explain briefly these practices/programs/activities and describe under the 6 interconnected headings on how you work through the case study within each strand – Please address these following questions when explaining about how your school/college/organization relates to each strand:

a. **Vision, Ethos, Leadership & Coordination**

   The school has and Echo School committee and its members are made up of members of staff as well as students and the work carried out is shared and made known with all stakeholders. The key persons in leadership positions in the organization believe in the importance of ESD being part of the wider vision of the organization and so support it.

b. **Institutional Practice** (Walking the talk: experimenting with and learning from creating sustainability on location)

   Each cycle the school staff during SDP work upon Action Plans to implement the actions and reach the objectives set for that year.

   Each scholastic year a theme or rather an SDG goal is identified by the committee and the leadership of the school to work upon. These goals are made known to all who work in the school community. And also extended in to the students' families and community outside the school.

Best Practices: Whole Institution Approach (WIA) to sustainability [D2.1]

"The school continues to show its commitment towards the Environment, through the **Eko Skola, LEAF and Dinja Wahda** programmes as well as **Teaching for Sustainable Development.** In relation to Teaching for sustainable development the school is also collaborating on a project related to **ESG – Environmental and Social Governance in collaboration with HSBC." This is one of the main objectives set out in our SDP 2022-2023**

c. **Capacity building** (professional all staff)

From time to time the school invites guest speakers or other professionals who can help and assist or support the staff and the students in the training that they might need to empower them to fulfil or work upon the objectives set. The school maintains a close connection with key people from Nature Trust and Eko Skola as well as LEAF and makes sure that the staff and student participate in any staff or student development sessions organised for them for continuous learning.

d. **School infrastructure** (small or big scale sustainable interventions in school building such as green roofs, gardens, grey water, green technologies etc)

The school has taken it upon itself to instal LED lights, as well as to install a number of solar panels on the school roof to help lower the carbon footprint. The school also embarked on a Bore hole project whereby the rainwater collected from the canopy of the school is collected and fed back into a reservoir that then feeds back into the water table.

The school also had a waste management policy and tries its best to make use of digital technology when feasible to make less use of paper – though we are not yet completely paperless. Ove the years we have eliminated useless printing of circulars etc and make use of digital.

e. **Community connections** (School-society interface)

f. **The school works closely with the community and has reached agreement with the local council as well to make use of outer spaces that are in the village to conduct lessons in these spaces as well as to help maintain them and create awareness for their importance.**

g. **Surveys re transport and traffic data car count are also sent to the local council.**

h. **Curriculum** (design, content and assessment)

ESD is integrated in the SDP and the School makes an effort to teach ESD across the curriculum and mor importantly infuses it in the daily lives of the students and staff so that the goals /objectives to be reached are worked upon collectively as a school and it becomes second nature

i. **Pedagogy & Learning** (new/alternative learning processes and learning environments)

j. The school strives to look at ESD as a lifestyle choice and tries to impart this idea to both staff and students. More than looking at ESD as another subject as a school we try to look at those actions holistically, which will affect he lives of the students and the school community. If for example we are learning about waste management we try to deal with it from various angles. Learn about it, implement it at school and encourage the families to do so in their communities for example. More importantly we showcase our work regularly to promote awareness.

Which strand(s) do you think your school/college strengths lie in?

Our school has always believed in educating the students holistically so learning for life is also very important and when our educators plan for outings or learning outside school they seek those opportunities and initiatives in collaboration with entities in the community for learning experiences – for example this year the school worked with LESA – the street in our school to mention just one.

The school has also strived to share its good practices and the school is quite strong in dissemination and shares all the projects and activities that we are undertaking to create awareness and for others to get inspired from.

What are you most proud of and think would be inspiring for other institutions to learn from?

The school has been part of the Eko Skola since its inception, and is very proud to have been awarded the green flag time and time again over the years as it is quite challenging to maintain the status and to get everybody on board particularly when you have staff turnover. We are also proud that the school is striving to work and reach out to different entities in the community and work with them for the benefit of our students in our community and beyond. For example, in the last year or so the school has collaborated with HSBC to design and ESG course for teachers and educators online – so the school is also doing its utmost to give learning and training opportunities to other educators beyond our school.

Which strands do you think need developing further? Why?

Shifting mind-sets and making ESD a part of life and life long learning is always a challenge and there are always areas that we need to improve and work at.

Which strands needed more support? Why?

Trying to find time for certain activities that involve more stakeholders other than the students and the staff require more support and resources. Time management is always also a challenge.**endations/further development/next steps**

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

The barriers to maintaining ESD would be still the vast curriculum and the prescriptive nature in the way the education is organized – a lot of weight is still given to academic subjects and the emphasis is still on certification rather than skills. Unless ESD is taken as a whole school approach it will peter out when the individuals that believe in it cease to be part of that community, so continuity is the key

Our school has infused ESD as part of the SDP as foolows;

29. "The school continues to show its commitment towards the Environment, through the **Eko Skola, LEAF and Dinja Wahda** programmes as well as **Teaching for Sustainable Development.** In relation to Teaching for sustainable development the school is also collaborating on a project related to **ESG – Environmental and Social Governance in collaboration with HSBC." This is one of the main objectives set out in our SDP 2022-2023.**

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

Perhaps the work that is carried out within the committees for Eko Skola and so ESD should allocated on the timetable as well. So far the educators and students involved do this non- formally during their breaks. There is no compensation fo this other than the reward of appreciation and recognition within the community.

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

Within an organization the support of the leadership is essential and important, without such support the activities carried out will remain activities and there will be no cohesion. ESD needs to be part and parcel of the governance of the organization and part of the vision of that organization.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

Perhaps it is time that those organizations who have worked so hard to implement ESD should be awarded funds for such initiatives to be able to invest in their resources – be they human or otherwise to implement such programmes.

Interview 14

(Conducted by University of Galway)

What do you think are the major strengths, challenges, opportunities, threats that support and/or hinder the implementation of WSA/WIA and ESD in your organization and in your country?

So I think in terms of strengths, we have a very strong policy environment. That's really, I suppose, driving initiatives and driving things like publicity, marketing comms. So in our institution, strong policy has led to policies that have programs that institutions can sign up to frameworks that they can, or records, different charters, things that they can agree to. So it raises the awareness, I think, for sure, of elements of education for sustainability.

Yes, there are many [challenges]. I think there's that gap then between policy and practice. So what I can see, although people will say for example, we are in SDG champion as an institution. So that means that across our research, teaching and learning and our engagement, we should be mapping our work onto the SDGs. And really seeing where our impact is. That's what policies dictating but the the gap there, I think, is that a lot of colleagues across the institution, are not familiar with frameworks like SDGs have not incorporated them into their teaching and learning, have not got templates maybe to do that, or the knowledge that the existing material that they can lift and tap into their course programs. I suppose another weakness in relation to that, then is, how do you assess something that you don't necessarily have built into your content. So although I see really strong policy support, the actual practical support in terms of teaching and learning there, has yet to really emanate.

The opportunity, I think that's coming through is that we know particularly in our institution, that the funding is coming into place now, hopefully, for the new academic year, where there'll be two to three staff within our Center for Teaching and Learning who will be working with academics around okay, if

you had to incorporate this into your module, what that might look like. So I think, of course, there's going to be avenues where different disciplines are going to lean heavily into certain aspects of education for sustainability, there's going to be different interpretations within disciplines of what that might look like. And you'll have still the resistance around our curriculum is crowded, where do we fit? How do we fit? And so I think those particular degree programs that have external affiliations as well, so have to be approved by certain bodies, they're going to have to read and creatively around how to integrate this within to their existing framework. And staff will say, you know, already our teaching capacity and having to go back and relook at reading lists, even in courses that I'm bringing in material is a piece of work weekend development piece of work. And people potentially might be using opportunities like sabbaticals to look at this type of material and bring and stitch it in. But unless they're given that time and space to do that, it's a real challenge.

Which dimensions of WSA/WIA on ESD needs to strengthen? How?

Probably human rights will probably be one of I would consider the most fundamental components and yet the opportunity to actually have something as fundamental as human rights across all the disciplines is in doesn't feature. So I think that's a huge aspect of education business university that would, it would make a huge impact, I think if we could provide sort of a human rights basic framework an introduction.

I think we have traditional approaches in terms of students within their curriculum, or maybe they'll have research projects, where they'll have the opportunity to maybe do some key reading group work.

But ideally, you would have the opportunity to do some experiential learning, which, of course, is a huge aspect of education as well as your in hand that hands on approach, and you know, we're seeing the effects really, at the moment in our contemporary society, of when we have a disengagement with human rights. And, you know, we see, unfortunately, rhetoric around, this is our country, this is our place, and no room for others, this type of conversations that really need to be challenged and intellectually challenged. Our young people need the vocabulary in order to do that.

How can the viability and the long-term implementation of WSA/WIA on ESD can be ensured in an organization? Which elements are needed?

So if we're asking people to really upskill, essentially, in a whole area, that might not be their niche area, then what we're going to have to do is sustainably is support them with that training and resourcing, you have to recognize that additional time component that's going to take, but there

needs to be something built in and then we need to celebrate. So those that are achieving in this area, we have to link it to things like promotional opportunities, and we have to link it into the frameworks that are there in order to incentivize, you know, if that's, you know, an important area, I mean, we see it in the area of UDL, we see it in the area of technology and education, when there comes a change. And it requires an upskilling. There's the values, attitudes, the knowledge, there's all of those components that are almost like a CD, DVD or something for your staff in order to bring them. And that that includes your non academic staff as well. Right. So your non academic staff, or administrative project management, they are the, you know, very much often at the core of what's happening within the classroom, and are not often brought into conversations and brought along as well, on the journeys. I think research is a huge opportunity, we have lots of colleagues who publish on their type of teaching and learning activities that they do in the classroom. And that research that they do can sometimes be with students and CO developed. So I think that's a really exciting opportunities. I agree with ing to be able to co produce with your students around, listen, we're going to try something new module together, you know, let's let's document that process together. Let's document what's the experience and that lived experience and that that action research scale is in and of itself, just a huge bonus for students, as well as bringing them with us as scholars in this area is extremely important.

Do the regional and international initiatives, funding, policies, support or facilitate the implementation of WSA/WIA in national level? In Which ways?

I think that currently what's available is for higher education, very slim on the ground, and not accessible. In my experience, funding has been really made available to primary and second post primary environments, and to a lesser extent than adult education, lifelong. organizations seem to be able to tap into certain types of bonding. But for some reason, within higher education, the whole area, I think, is currently completely under resourced. Only grants I've seen in terms of applying for them. They've really been, I suppose, very narrowly focused maybe on niche areas like international engagement for students, which is a very specific thing. Whereas I think what we're what we need, in terms of more broader thinking around what es de is, and where it can potentially connect into the curriculum is there's a huge gap there, I think in terms of the research funding that's available or any questions?

One of the aspects of education for sustainability, that I focus on is addressing inequalities. And when it comes to addressing inequalities, we particularly I think, in Ireland have some really hard work to do to address things like white privilege, decolonization of higher education. So all of that scholarship that we can learn from colleagues around the world who've worked really hard in a theory, we need to be open to, I think we're still stuck, unfortunately, in these kind of soft pedagogies, which are about

raising awareness. And we need to move beyond raising awareness that we know this climate change, we know these inequalities to the root issues, and the root issues are stemming from things like racism, and inequalities in relation to white privilege, you know, those are really not necessarily easy things to address, yeah. 12 Week module, you might see your students for, you know, 10 weeks of that, right. So these are large structural issues that we do need to bring our students and staff on the journey with because if we keep individualizing the agenda down to just you need to recycle. You know, we're really missing out on some of that hard critical engagement stuff, which is about, actually, there's a lot of structural inequalities that we're perpetuating over and over again, when we're distracted by the individual motivation of a lot of this material.