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CLASS
Choose to Learn Adopting Sustainability Standard

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SUSTAINABILITY IN THE SCHOOL CURRICULA

How to develop Integrated Didactic Paths

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Summary

1. Introduction.

"COVID-19 is not only a global health crisis. It is a crisis affecting every aspect of our lives, and one that has revaled the fragility of our interdependence with nature. We have learned that as forests are destroyed, not only are wild animals endangered and ecosystems weakened, but also humans become exposed to unknown infectious agents that can threaten their lives. (...)

For our very own survival, we must learn to live together sustainably on this planet. We must change the way we think and act as individuals and societies. So, in turn, education must change to create a peaceful and sustainable world for the survival and prosperity of current and future generations."

FROM: Education for Sustainable Development: Towards achieving the SDGs (ESD for 2030), Unesco, 2020 – Introduction from Stefania Giannini (UNESCO Assistant Director-General for Education)

Education for Sustainable Development (ESD) is widely recognized as an integral element of Agenda 2030, working on 5 priorities action areas[1] such as Policy, Education and training settings, Educators, Youth, Local level action.

Its main aim is to contribute to a sustainable development by re-orienting all levels of education and learning, while reinforcing education and learning in all activities that promote sustainable development.

CLASS project expects to be part of this wide goal, working on all the priority action areas. Our aim is to give our national institutions and the EU some guidelines on how to better include in the school curricula the development of competences related to sustainability.

It is important to point that the concept of sustainability we use in CLASS project is not limited to environmental sustainability, but covers several areas in a logic of: legal and social sustainability;

[1] ESD Priority Action areas are:
1 – ADVANCING POLICY (integration of ESD in global, regional and national and local policies related to education and sustainable development)
2 – EDUCATION AND TRAINING SETTINGS (promotion of a whole-institution approach to ensure we learn what we live and live what we learn)
3 – BUILDING CAPACITIES OF EDUCATORS (empowering educators with the knowledge, skills, values and attitudes needed for the transition to sustainability)
4 – EMPOWERING AND MOBILIZING YOUTH (recognizing young people as key actors in addressing sustainability challenges and the associated decision-making processes)
5 – ACCELERATING LOCAL LEVEL ACTION (emphasizing the importance of actions in the communities, as they are where meaningful transformative actions are most likely to occur).

environmental sustainability and digital sustainability. In fact, Agenda 2030 cannot be limited to area 2 of Civic Education. It is not simply attention to the environment but it is much more. It is the right to solidarity education for global citizenship and it is the promotion of intergenerational, equal learning opportunities.

A stronger inclusion of Sustainability as a competence in the school curricula would help improving all the priority action areas:

Policy – it can strengthen synergetic relationships between formal, non-formal and informal education and learning. This may include, for example, policy measures to encourage project-based learning on sustainability issues in the community.

Education and training settings – having this subject in the school curricula would help placing emphasis on ESD among other competing priorities.

Educators – Teachers who successfully integrate ESD into their teaching, are actually making education more relevant to the demands of today's world, but they need to be enabled, motivated and provided with policy guidance and resource materials, in order to facilitate this integration.

Youth – Young people are key contributors and actors in all efforts to promote sustainable development, but they need to be properly trained to do so, as integral part of their school curriculum.

Local level action – Teaching ESD at school as part of a regular curriculum would certainly help the local communities to take an interest in the sustainability challenges, to embrace values and attitudes that support a more sustainable future and become more responsible members of the community.

As pointed before, this Vademecum aims to be a **Tool for Schools**, in order to help them to include Sustainability in the School Curricula.

We are aware that, even when the national legislation gives indication on this subject, the responsibility to apply those national guidelines falls on the teachers, who often struggle to fit this request into their workload.

This happens mostly because two cause/effect relationships are not apparent yet:

- Sustainability can be included into traditional school subjects and it can help teachers to give practical examples related to their own subject,
- Developing skills related to Sustainability can help the students to retain the competences acquired during traditional teaching.

Introducing Sustainability into the School Curricula is not only a way to follow the Agenda 2030 suggestions and train students to be more conscious and proactive on Sustainability, it's also a way to actually **help students to learn in a more andragogic way**, introducing into the school system some practical, reality-based references, that usually belong to the non-formal and informal education or to the education of adults.

2. Guidelines to include Sustainability in the School Curricula

We have worked on the different approaches outlined by the partner countries, in order to create a consistent proposal on how to integrate Sustainability into School Curricula.

Our proposal takes into account that some countries have in their School Curricula a subject specifically aimed to help citizens to become more active and responsible (ie: Civic Education in Italy), while other countries are integrating broader issues like Sustainability into the main school subjects.

Our proposal is divided into 4 main areas:

A. **INSTITUTIONS** – about THE VALUE OF RULES
B. **ENVIRONMENT** – about the ECOLOGICAL FOOTPRINT
C. **DIGITAL** - about the CONSCIOUS USE AND NETWORK HAZARDS
D. **SOCIAL** – about the VALUE OF HUMAN RIGHTS.

For each main Area we have outlined our indicators, from broader to smaller, from mainstream to practical:

1. Key Competence involved
2. Students' attitudes to mobilise
3. Agenda 2030 SDGs (Sustainable Development Goals)
4. School Subject involved
5. Theoretical thems to develop
6. Pratical actions (or: the challenging tasks)
7. Suggested activity of cooperation with school, family and territory.

These Guidelines will also be published as a single attachment, named IO3 – Guidelines 1.

We invite the readers to read the annexed **National Reports**, in order to find more details and more materials on National Policies.

INSTITUTIONS

About the VALUE OF RULES

Key Competence	Attitudes to be mobilised	SGDs 2030	Subjects	Theoretical themes	Practical action: the challenging tasks	Cooperation with school, family and territory
Competence of citizenship	The student respects the rules, human rights and principles contained in the constitution	5, 10, 16	Law	The value of rules. Historical origins of the Constitution . The fundamental principles of the Constitution.	We propose a real problematic situation (problem/challenge) and we invite the students to imagine to cover a given role, simulated or real (eg. Councillors, chairmen, manager of an activity, an executive, etc...) and to find a possible solution in terms of product or performance, to be proposed to recipients of the territory/ school/ family.	Participation in events organized by public and private associations present on the territory to know, reflect on issues related to the topics covered
	The student participates in democratic decision-making				Among the products/performances, we suggest:	Meetings with experts from the world of work and the professions.
					a)Multimedia presentations to illustrate the topics covered	Links to the PCTO experience
					b)Videos and interviews	Visits to Institutions and to Historic sites.
Cultural awareness and expression competence	The student respects personal, cultural and gender diversity. The students expand their cultural sensitivity.		History	The person subject of rights and respect for the rules in the reality in which it is formed and with which it interacts: the family, school, society, the State, supranational realities.	c)Reports on some topics covered	
					d) Simulations of workshops, or institutional fora, on the topics covered by the event.	
Personal, social and learning to learn competence,	The student respects diversity of others and their needs and being prepared both to overcome prejudices and to compromise		Sports sciences	Road safety rules for pedestrians and cyclists/mopeds/scooter		

ENVIRONMENT

About the ECOLOGICAL FOOTPRINT

Key Competence	Attitudes to be mobilised	SGDs 2030	Subjects	Theoretical themes	Practical action: the challenging tasks	Cooperation with school, family and territory
Competence in mathematics, science, technology and engineering	Give attention to safety; to environmental sustainability; to scientific progress and technological; to big global problems.	11, 12, 13	Biology	Biodiversity and its preservation.	We propose a real problematic situation (problem/challenge) and we invite the students to imagine to cover a given role, simulated or real (eg. Councillors, aldermen, manager of an activity, an executive, etc...) and to find a possible solution in terms of product or performance, to be proposed to recipients of the territory/ school/ family	Promotion of sustainable behaviour and dissemination to families through the school website
	Consumption, consumer behavior and decisions, for example with regard to mobility, health, leisure, digital living environments.		Chemistry	The Greenhouse Effect and the climate changes.	Examples of n product or performance terms, to be proposed	Participation in social initiatives to raise awareness on environmental protection, in collaboration with bodies, associations and on the occasion of the celebrations of the World Days on environmental issues
	Raw materials and their processing into consumer goods, as well as questions of waste and recycling.		Earth Science	The water: a precious asset to protect	Informative signs on separate collection	(E.g. World Earth Day - We clean the World- Festival of Sustainability- World Environment Day- World Water Day,.....)
	Economic growth, growth concepts and ecological and social consequences.		Business Administration	The ecological footprint of human activities	Implementation of the handbook, regulations	Visits to natural sites, both well preserved and ruined by mankind.
	Security policy and international peacekeeping in a multipolar world.			Circular economy and sustainability.	Popular video production	Volunteering with the school to keep the neighbourhood clean (paint the graffiti, clean the green areas, etc.)
	The student shows a sense of initiative			Innovative startup	Presenting the European policy as an example of transnational policy.	
	Hw/she shows that you care for people and the world		Physics	New sources of finance for startups in the field of innovative finance	Creation of school events or participation in social events, debates.	
Entrepreneurship competence	He/she accepts the responsibilities				Recycling to transform waste into resources	

DIGITAL

About the CONSCIOUS USE AND NETWORK HAZARDS

Key Competence	Attitudes to be mobilised	SGDs 2030	Subjects	Theoretical themes	Practical action: the challenging tasks	Cooperation with school, family and territory
Digital competence	The student knows how to interact with technologies and digital content with a thoughtful and critical attitude	4, 5, 9	Information Technology	Law 71/2017 for the prevention and fight against cyberbullying	A real problematic situation (problem/challenge) is proposed and the students are invited to imagine to play a specific role, simulated or real (e.g. Councillors, councillors, member of an organization, responsible for an initiative...) and to find a possible solution in terms of product or performance, to be proposed to recipients of the territory/ school/ family.	Participation in initiatives proposed by the institution and/ or proposed by associations, organizations, institutions present in the territory.
	He/she knows how to use technologies with an ethical, safe and responsible approach			Online violence: the phenomenon of cyberbullying	Among the products/performances, we suggest:	Sharing and reflection on the online learning regulation;
Technical competence	The students learn to use technology to advance civilisation. The students learn a sustainable behaviour toward tech products and raw materials, how to reuse and recycle.			Opportunities, limits, web and social media risks, privacy policy and responsible behaviour	- Debate on the subject to stimulate critical reflection	Meetings with experts in digital communication and security and cyberbullying;
			Techical subjects	History of Technology	- The creation of a multimedia product to raise awareness of the subject among the school's students at the events organised by the school for the "Cyberbullying and Safer Internet Day Week".	Awareness raising activities by the Postal Police;
Literacy competence	The student use his/her language in a positive and socially responsible way		Mother tongue	What is digital citizenship		Educational workshops with members of local associations.
				The respect of the rules for a conscious use of information technology and the prevention of related issues such as cyberbullying, body shaming...)		
Multilingual competence	The student appreciates and respects cultural diversity and different languages for intercultural communication.		Foreign tongue	Cyber Crimes (Cyber Crimes) and Network Security (Cybersecurity)		
				On-line information and disinformation (source verification, fake news)		

SOCIAL

About the VALUE OF HUMAN RIGHTS

Key Competence	Attitudes to be mobilised	SGDs 2030	Subjects	Theoretical themes	Practical action: the challenging tasks	Cooperation with school, family and territory
Social Science competences	The students learn different lifestyles and living conditions of people in Europe and in other parts of the world.	3, 8, 10	History	History of religions, history of European colonization.	Safeguarding the natural foundations of life for future generations through sustainable economic activity as well as socially and ecologically compatible action.	Raising awareness on social themes through school projects.
	The identification of opportunities and risks associated with increasing globalization.		Geography	Economic Geography and map of wars.	Ensuring peaceful coexistence through intercultural understanding.	Volunteering with local associations.
	The students are aware of the negativity of all forms of violence.		Economy	Unemployment and approaches to fight it.	Responsible handling of the availability, processing and dissemination of information and its use in history.	Visit to Ethnographic museums, Cultural tradition museums, Musée de l'Homme, etc.
	The risks of alcohol and drug addictions are oulined.		Social Sciences	Cultural awareness.	Prevention of violence and addictions.	
					The reduction of disparities at various levels of scale through responsible action to create sustainable living conditions.	
Competence of citizenship	The students learn the importance of human rights and how to respect					
Competence of Inclusion	Development of intercultural knowledge and competences.					

3. Guidelines for matching Competences with Sustainability.

We present an idea of a match between Competences and Sustainability.

Our proposal has a hands-on approach: we have started from the necessity to help the teachers to fit Sustainability into their own subjects, with a view both to competences that should be enhanced in a School Curriculum and to the key-competences for education, as outlined in the Council Recommendations of 22nd of May 2018.

We have created a table, where each key-competence is paired with sustainability-related skills to develop at school, with the mention of the single subjects where those competences can be included.

Our idea is that, working transnationally, we should create an easy system that can be adapted to different school legislations.

We consider our model as a work-in-progress tool, that can be a starting point to develop further associations between competences and school subjects.

These Guidelines will also be published as a single attachment, named IO3 – Guidelines 2.

KEY COMPETENCE	SKILLS FOR SUSTAINABILITY	SCHOOL SUBJECTS
by Council Recommendation of 22 May 2018	*by Education to Sustainable Development Goals (UNESCO, 2017)*	*Depending on National Curricula*
Literacy competence	Competence of critical thinking:	Mother tongue
	ability to question rules, practices and opinions;	
	ability to reflect on one's own values and perceptions and actions;	
	ability to take a position on sustainability.	
Multilingual competence	Competence of systemic thinking:	Foreign languages
	ability to recognize and understand relationships;	
	ability to analyze complex systems;	
	ability to think about how systems are embedded within different domains and scales and to manage uncertainty;	
	ability to communicate effectively with people who have a different point of view.	

KEY COMPETENCE	SKILLS FOR SUSTAINABILITY	SCHOOL SUBJECTS
by Council Recommendation of 22 May 2018	*by Education to Sustainable Development Goals (UNESCO, 2017)*	*Depending on National Curricula*
Mathematical competence and competence in science, technology and engineering (STEM)	Integrated problem-solving expertise:	Math
	fundamental ability to apply different problem-solving frameworks to complex sustainability problems	
	the ability to develop sound, inclusive and equitable solutions that promote sustainable development	Physics
	Competences on Environmental Awereness:	
	Being able to recognise a biodiversity issue in the daily life	Earth Science
	Being able to explain a biodiversity issue among other young people	
	Being able to explain the greenhouse effect and its impact on climate change	Chemistry
	Being able to explain the usefulness of green/alternative energies for struggling against climate change.	
Digital competence	Strategic competence:	Information Technology
	ability to collectively develop and implement innovative actions that promote sustainability at local level and beyond	
	Digital skills:	
	ability to use a computer at several levels and use an email system;	
	ability to access Social media and use applications on a smartphone.	
	Social skills:	
	ability to use Social media in a conscious way;	
	ability to recognize and fight cyberbullying;	
	ability to recognize fake news.	

KEY COMPETENCE	SKILLS FOR SUSTAINABILITY	SCHOOL SUBJECTS
by Council Recommendation of 22 May 2018	*by Education to Sustainable Development Goals (UNESCO, 2017)*	*Depending on National Curricula*
Personal, social and learning to learn competence	Competence of self-awareness:	Sports sciences
	ability to reflect on one's role in the local community and in (global) society;	
	ability to continuously assess and further motivate its actions	
	ability to manage your feelings and desires	
	Social and personal skills:	
	ability to recognize gender equality	
	competences on health and sex education.	
Citizenship competence	Legislative competence:	Law/History
	ability to understand and reflect on the norms and values that lie behind the actions of each;	
	ability to explain the main sustainable issues on a national and international level;	
	ability to explain the usefulness of associations in the defence of environment;	
	ability to negotiate the values, principles, objectives and targets of sustainability, in a context of conflicts of interest and compromises, uncertain knowledge and contradictions;	
	ability to talk about main associations defending environment or sustainable issues (WWF, Oxfam…);	
	competences on the European Union and on a European dimension of Education;	
	competences on road safety.	
	Human rights:	Geography/History
	ability to understand the issues of human rights in different parts of the world;	
	ability to understand the flow of migrations from various countries and the inevitability of refuge seeking;	
	ability to recognize the role of religions in creating a cultural environment.	

KEY COMPETENCE	SKILLS FOR SUSTAINABILITY	SCHOOL SUBJECTS
by Council Recommendation of 22 May 2018	*by Education to Sustainable Development Goals (UNESCO, 2017)*	*Depending on National Curricula*
Entrepreneurship competence	Powers of foresight:	Economics & Business Administration
	ability to understand and evaluate multiple futures - possible, probable and desirable;	
	ability to create their own visions for the future;	
	ability to apply the precautionary principle;	
	ability to determine the consequences of actions and to manage risks and changes;	
	ability to explain to other students the green strategy of a firm and the explanation for its strategy	
	ability to explain to other students the green strategy of a state and its impact on sustainability .	
Cultural awareness and expression competence	Collaborative competence shall:	Art/Music
	ability to learn from others;	
	ability to understand and respect the needs, perspectives and actions of others (empathy);	
	ability to understand, relate to and be sensitive to others (empathic leadership);	
	ability to manage conflicts in a group;	
	ability to facilitate a collaborative approach and participate in problem solving.	

4. Guidelines for Sustainability in the school practice.

The practices here listed have been collected by the partners. They have all been tested and can help teachers to find some useful tools for introducing sustainability into a learning activity.

The general age group we have in mind for these activities is that of **students in secondary school (age 14-18)**.
Some of the activities can seem structured for a younger or older age group, but as they want to be a **guideline in a flexible frame**, we have chosen to leave space for adaptation, instead of building a strict frame.

We invite all the teachers interested in using the practices to look at the ideas more than the details, and to take from our guidelines all that is interesting for their classrooms, leaving what they may consider not perfectly suited to their students.

We have divided them into the **4 main Areas defined in our Guidelines** 1:

- **INSTITUTIONS**
- **ENVIRONMENT**
- **DIGITAL**
- **SOCIAL**

The activities usually overlap more Areas, the teachers can choose how to use them in their classroom.

4.1 INSTITUTIONS

4.1.1 Guerrilla Gardening

Activity title:	**Guerrilla Gardening**
Idea:	THINK OF THE UGLIEST PLACES OF YOUR SCHOOL AND YOUR CITY: WHY DON'T WE MAKE THEM LOOK GOOD AGAIN?
Subject:	- Earth Science - Sports Sciences - Art - Law
Key Competence	- Mathematical competence and competence in science, technology and engineering - Personal, social and learning to learn competence - Cultural awareness and expression competence - Citizenship competence
Skills for sustainability	**Competence of self-awareness:** - to reflect on one's role in the local community and in (global) society; - to continuously assess and further motivate its actions **Collaborative competence shall:** - to learn from others; - to understand and respect the needs, perspectives and actions of others (empathy); - to facilitate a collaborative approach and participate in problem solving **Legislative competence:** - to understand and reflect on the norms and values that lie behind the actions of each;
Suggested age group	15-18
SGDs 2030	11; 16
Methodology	Service learning
Description	**Step 1:** Let's explore the territory The sports sciences teacher takes the students around the city to photograph the degraded places and get to know the territory better. **Step 2:** The importance of protecting cultural, social and environmental heritage The law teacher explains the importance of the protection of property and presents the laws against the offences of defacing or defacing of movable or immovable property of others **Step 3:** floriculture to restore beauty to the territories Guerrilla gardening actions are planned with the Professor of Earth Sciences and Art. For this step local agricultural associations can be involved. The route proposes the use of the experience of Guerrilla Gardening as an educational street. The boys and the girls are involved in improvised actions of recovery of a flowerbed, of embellishment of an untreated place, through the resources of narrative mural painting and writing to leave and launch a message in the face of a green and nonviolent action. Where acts of vandalism or destruction have been carried out, the site becomes a resource to rebuild and flourish, to bombard with flower seeds. **Step 4:** self-assessment tool

4.1.2 Civil Protection Club

Activity title:	**CIVIL PROTECTION CLUB - CIVIL PROTECTION ARE US!**
Idea:	Foster a culture of individual responsibility and proactivity in the face of risk situations and develop a safety culture
Subject:	Understand the importance of adopting and promoting a safety culture. - Know the concept of risk. - Become aware of their duties in situations of 3:3, accidents and catastrophes. - Reveal appropriate behaviours and attitudes in emergency situations. - Understand the importance of Civil Protection in relation to risks. - Know the structure of Civil Protection action. - Identify and recognize the different agents and cooperating entities intervenient in Civil Protection.
Key Competence	- Personal, social and learning to learn competence - Cultural awareness and expression competence - Literacy competence - Mathematical competence and competence in science, technology and engineering (STEM) - Digital competence
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society; - ability to manage your feelings and desires **Collaborative competence shall:** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving **Competence of critical thinking:** - ability to question rules, practices and opinions; - ability to reflect on one's own values and perceptions and actions; - ability to take a position on sustainability **Competences on Environmental Awereness:** - Being able to recognise a biodiversity issue in the daily life - Being able to explain a biodiversity issue among other young people - Being able to explain the greenhouse effect and its impact on climate change - Being able to explain the usefulness of green/alternative energies for struggling against climate change **Strategic competence:** - ability to collectively develop and implement innovative actions that promote sustainability at local level and beyond.
Suggested age group	12 to 18
SGDs 2030	4,13,15
Methodology	Learning by doing; Outdoor learning
Description	Training citizens to be supportive and aware of protection and assistance involves working closely with schools on the various aspects of the national civil protection system: - Technical and scientific component - risks considered in advance, identified, studied, disseminated, trained; - Public information actions that motivate citizens to join projects that increase their preparation for an emergency situation; - Emergency planning processes, including the training and exercise component; - Accident, emergency and catastrophe response operations, empowering and stimulating the citizen to react pro-actively in the processes. The approach to these contents in a referential applicable either in teaching activities or in transversal projects, proposes a more informal and playful perspective of approach to these subjects, associated to social and autonomy skills.

4.2 ENVIRONMENT

4.2.1 Make a Fertilizer

Activity title:	**Make an organic fertilizer**
Idea:	WHAT CAN I DO WITH ORANGE PEELS?
Subject:	Chemistry
Key Competence	Mathematical competence and competence in science, technology and engineering
Skills for sustainability	**Integrated problem-solving expertise:** - to apply different problem-solving frameworks to complex sustainability problems - to develop sound, inclusive and equitable solutions that promote sustainable development
Suggested age group	15 - 18
SGDs 2030	15
Methodology	Learning by doing
Description	**Step 1:** The miracle of orange peels The chemistry teacher shows an orange peel to the students and asks: What's an orange peel for? The students try to answer this question. Then he proposes the vision of a video: "Il miracolo delle arance: dalle bucce rinasce una foresta. Ecco come è successo" **Step 2:** in the laboratory In the laboratory try to use the orange peels in order to make a fertilizer **Step 3:** follow up At the end the students are invited to find other organic elements in order to make different types of bio-fertilizer. Then students can use the fertilizer created in the school's garden, use it in their homes, or invite farmers and share the experience and the product with them in order to spread good practice. **Step 4:** self-assessment tool

4.2.2 FIGHTING WASTE

Activity title:	**Fighting waste and sorting food-waste at the canteen**
Idea:	- Volunteering as a Sustainable Practice - Digital Volunteering during COVID-19 emergency
Subject:	Economics
Key Competence	Entrepreneurship competence
Skills for sustainability	**Powers of foresight:** - Being able to explain the reason for the economic crisis of the 1970s and its impact on the awareness of a sustainability approach - Being able to explain to other students the green strategy of a firm and the explanation for its strategy
Suggested age group	15 - 18
SGDs 2030	9
Methodology	The issue is tackled when explaining the economic crisis and oil crisis of the 1970s worldwide - world economic crisis: - this is explained in a long term approach of unemployment - this is also presented as a main issue in geopolitics - in a microeconomic perspective, there is also the approach suggested by firms including in their communication a “green approach”.
Description	This activity is usually a daily process (as for recycling) but it may also be in the framework of a weekly or monthly workshop for instance with a step by step approach assigning a goal to each of the workshops in order to raise awareness among the students; a one shot action is useless.

4.2.3 Recycling

Activity title:	**Recycling**
Idea:	- Volunteering as a Sustainable Practice - Digital Volunteering during COVID-19 emergency
Subject:	History and Geography
Key Competence	Citizenship competence
Skills for sustainability	**Human rights:** - Being able to explain the main sustainable issues on a national and international level - Being able to explain the usefulness of associations in the defence of environment - Being able to talk about main associations defending environment or sustainable issues (WWF, Oxfam…)
Suggested age group	15 - 18
SGDs 2030	7; 17
Methodology	- Theoretical approach with the explanation of the so-called "greenhouse effect" and the climate changes to be expected. - As a complement, explanation of the alternative energy or green energy such as the solar energy or wind energy (eolienne) - A practical approach with visits at the Cité des Sciences et de l'Industrie or any museum focusing on sciences and the main critical issues
Description	This activity may be conducted in the school on a daily basis, included in the school activities (this is long term learning process) or this may take the form of a specific activity prepared in advance with an action conducted on the ground for instance cleaning the banks of a river, a forest or a beach or a public gardens, depending on the location of the school.

4.2.4 Living Seas

Activity title:	**LIVING SEAS**
Idea:	- Raise awareness in the educational community - Identify the risks - Acquire safety habits - Promote appropriate attitudes and behavior in emergency situations - Promote security plans - Promote personal safety
Subject:	- Historical, legal and civic framework of the lifeguard - Morphology and Beach Material - Classification, Risks and Safety Devices in Swimming Pools - General approach to basic first aid notions - First Aid specific to rescue in the aquatic environment - Rescue techniques applicable to rescue in the aquatic environment - Physical condition training
Key Competence	- Personal, social and learning to learn competence - Cultural awareness and expression competence - Literacy competence - Mathematical competence and competence in science, technology and engineering (STEM) - Digital competence
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society; - ability to manage your feelings and desires **Collaborative competence shall:** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving **Competence of critical thinking:** - ability to question rules, practices and opinions; - ability to reflect on one's own values and perceptions and actions; - ability to take a position on sustainability **Competences on Environmental Awereness:** - Being able to recognise a biodiversity issue in the daily life - Being able to explain a biodiversity issue among other young people - Being able to explain the greenhouse effect and its impact on climate change - Being able to explain the usefulness of green/alternative energies for struggling against climate change **Strategic competence:** - ability to collectively develop and implement innovative actions that promote sustainability at local level and beyond
Suggested age group	16 to18
SGDs 2030	13, 14
Methodology	Learning by doing
Description	- Identify the main environmental problems - Promote the application of good practices for the environment - Characterise sea, river and lake beaches - Identify the factors that influence waves, tides and currents - Identify risky behaviours - Describe how to activate the medical emergency system using the European emergency number "112" - Identify the concept of chain of survival and its links - Explain the importance of the chain of survival and what is the principle behind each link - Identify the safety rules - Characterize the phases of rescue - Identify the types of shipwrecked - Apply techniques for the triage of shipwrecked - Apply the techniques of rescue with and without means - Perform swimming techniques - Perform running techniques

4.3 DIGITAL

4.3.1 Video & Podcast Manufacture

Activity title:	**Video- and Podcast Manufacture**
Idea:	Creating online videos or podcasts to support people in difficult situations;
Subject:	- Social learning - Math & Economies - Technology and IT lessons - Geography - German (language)
Key Competence	- Social competence, intercultural competence - Mathematical, econometric and ecological competences - Digital & social skills and group projects - Ecological competences - Linguistic competences (Mother tongue)
Skills for sustainability	**Digital skills:** - ability to use a computer at several levels and use an email system - ability to access Social media and use applications on a smartphone **Social skills:** - ability to use Social media in a conscious way
Suggested age group	15-18
SGDs 2030	4, 5, 9
Methodology	In projects, students- accompanied by teachers- learn to explore topics of interest to them independently or in group work and to make lasting learning experiences. Many of the projects are linked to sustainability-related topics and promote content- related learning, social learning and independence of the students in the course of group work.
Description	**Creating online videos or podcasts to support people in difficult situations:** The pandemic situation brings many challenges. Homeschooling and social distance make familiar activities partially impossible and lead to great overwhelm for some people. Volunteer work could record videos or record podcasts for various groups in which the creators of the videos talk about their own experiences and recipes for success and, if necessary, provide instructions for interventions that provide relief.

4.3.2 Portfolio Factory

Activity title:	**Portfolio Factory**
Idea:	- Shopping for people in quarantine - Distribute food - Reading or playing music for other people on the phone or online
Subject:	- Social learning - Math & Economies - Technology and IT lessons - Geography - German (language)
Key Competence	- Social competence, intercultural competence - Mathematical, econometric and ecological competences - Digital & social skills and group projects - Ecological competences - Linguistic competences (Mother tongue)
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society **Collaborative competence shall:** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving **Integrated problem-solving expertise:** - to apply different problem-solving frameworks to complex sustainability problems **Human rights:** - ability to understand the issues of human rights in different parts of the world - ability to understand the flow of migrations from various countries and the inevitability of refuge seeking
Suggested age group	15-18
SGDs 2030	4, 5, 9
Methodology	Individual support plans and portfolio work provide students with a regular overview of their academic development. Regular discussions take place with the students in which old goals are reviewed and new goals are formulated. Teachers and students' parents are also in contact to discuss performance assessments and individual support options.
Description	**Shopping for people in quarantine:** People infected with the Corona virus are forced to maintain a home quarantine of two to three weeks. During this time, not everyone has the opportunity to ensure the supply (for example, with food) for themselves by friends, neighbors or family. A shopping service linked to an organization by volunteers manages to support the supply of these groups of people. **Distribute food:** Many needy people in Germany buy their food cheaply from charitable organizations such as "the Tafel". Volunteers could supply people who are not able to make the trip to the respective organization by themselves due to illness, corona infection or age. **Reading or playing music for other people on the phone or online:** Especially in times of social distancing, in the wake of the Corona Pandemic, but also outside this time of crisis, many people suffer from social isolation and loneliness. Volunteers could read to these people or even play music for them. This can be done online by phone or also under sufficient spatial conditions.

4.3.3 Group Work

Activity title:	**Group work (online/ offline)**
Idea:	Working outside institutions
Subject:	- Social learning - Math & Economics - Technology and IT lessons - German (language)
Key Competence	- Social competence, intercultural competence - Mathematical, econometric and ecological competences - Digital & social skills and group projects - Ecological competences - Linguistic competences (Mother tongue)
Skills for sustainability	**Collaborative competence** **Integrated problem-solving expertise** **Digital skills:** - ability to use a computer at several levels and use an email system - ability to access Social media and use applications on a smartphone **Social skills:** - ability to use Social media in a conscious way. **Competence of critical thinking:** - ability to question rules, practices and opinions - ability to reflect on one's own values and perceptions and actions - ability to take a position on sustainability
Suggested age group	14-18
SGDs 2030	4, 5, 9
Methodology	During group work, students are taught to cooperate with partners and to organize themselves. Topics relevant to sustainability, such as mutual understanding, discussion and compromise development, are linked to the content aspects. The implementation takes place online as well as offline. Promoting media literacy is one aspect of these interventions.
Description	**Working outside institutions (for example: gardening)** Many third sector organizations, as well as private individuals in need, are always in need of help with garden and outdoor maintenance. Such assistance can be part of volunteer work

4.4 SOCIAL

4.4.1 Sustainable Knowledge Workshop

Activity title:	**Sustainable Knowledge Workshops (online/ offline)**
Idea:	- Tutoring other students (online) - Giving technical support to others in using digital media
Subject:	- Social learning - Math & Economies - Technology and IT lessons - Geography - Country's language
Key Competence	- Social competence, intercultural competence - Mathematical, econometric and ecological competences - Digital & social skills and group projects - Ecological competences - Linguistic competences (Mother tongue)
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society **Collaborative competence:** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving.
Suggested age group	14-18
SGDs 2030	9
Methodology	Frontal teaching and lectures inform students about sustainability-related topics. In addition to the discussion, they receive in-depth teaching materials. Online implementation, as has become necessary in the past 12 months, promotes aspects of media competence.
Description	**Tutoring other students (online)** Even in pandemic situations, students sometimes need tutoring and support for schoolwork. Volunteers could organize and conduct tutoring online. **Giving technical support to others in using digital media:** Many people are overwhelmed when using technical devices. However, the use of computers, cell phones and apps are necessary in many areas. For example, making an appointment for a vaccination or a Corona quick test is often only possible via apps. Volunteers could support and teach people who feel overwhelmed in this regard.

4.4.2 Sustainable Enterprise

Activity title:	**Looking for a sustainable enterprise at my city**
Idea:	HOW MANY SUSTAINABLE COMPANIES DO YOU KNOW IN YOUR TERRITORY?
Subject:	- Business Administration - Mother tongue - Information Technology
Key Competence	- Entrepreneurship competence - Literacy competence - Digital competence
Skills for sustainability	**Powers of foresight:** - to understand and evaluate multiple futures - possible, probable and desirable; - to create their own visions for the future; - to apply the precautionary principle; - to determine the consequences of actions and to manage risks and changes.
Suggested age group	15-18
SGDs 2030	9
Methodology	Jigsaw; Research participatory action
Description	**Step 1:** A story of sustainability The mother tongue teacher tells a story of Orange fiber. It's the story of two young Sicilian women who used orange peel to make fabrics. **Step 2:** The words of Sustainability The teacher proposes a jigsaw, asks to reformulate in groups of three each a definition of sustainable enterprise. Then invites a guy to group assemble all the definitions in one on an interactive whiteboard (for example Stormboard; Jamboard...) The teacher expands and systematizes the definition by providing theoretical references and examples. The student finds all the definitions in the web of Sustainable Enterprise and inserts in the spider diagram on Mind Map adjectives, verbs, names and images, building a lexical and visual repertoire on sustainability. The students reformulate in groups of three each a definition of sustainable enterprise. Then together they assemble all the definitions into one on Stormboard. **Step 3:** in search of sustainable companies in our territory The Business Administration teacher proposes to students a search on the web in order to explore the companies of the territory. They must identify sustainable businesses and then they will have to identify sustainable companies, find their history and then make a game to make them known to peers. Then they search the web for the company and discover that it is sustainable. Students helped by the teacher build a company checklist. **Step 4:** the gamification The Information Technology teacher shares empty flash cards and proposes to the students to fill them with the stories of sustainable businesses that they have been able to find. The students observe and classify flash cards with advertisements of companies present in the area as sustainable companies or not and explain the reasons for the choice, supporting them with the reading of the image. Then this game can be spread on the territory to raise awareness of sustainable businesses and encourage the creation of others. Thestudents can share the game with companies. **Step 4:** self-assessment tool

4.4.3 Parking Day

Activity title:	**Parking Day**
Idea:	It is a global, public, participatory art project launched by Rebar in 2005. It is a day where people across the world temporarily repurpose street parking spaces and convert them to tiny parks and places for art, play, and activism. This event promote the importance of creating and preserving public green space in urban areas by temporarily reclaiming on-street parking spaces and transforming them into exciting and imaginative park spaces or "parklets."
Subject:	- Consumer education - Environmental education for sustainability - Health education - Media education - Road safety education
Key Competence	- Personal, social and learning to learn competence - Cultural awareness and expression competence - Literacy competence - Mathematical competence and competence in science, technology and engineering (STEM) - Digital competence
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society; - ability to manage your feelings and desires **Collaborative competence :** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving **Competence of critical thinking:** - ability to question rules, practices and opinions; - ability to reflect on one's own values and perceptions and actions; - ability to take a position on sustainability **Competences on Environmental Awereness:** - Being able to recognise a biodiversity issue in the daily life - Being able to explain a biodiversity issue among other young people - Being able to explain the greenhouse effect and its impact on climate change - Being able to explain the usefulness of green/alternative energies for struggling against climate change
Suggested age group	16 -18
SGDs 2030	11, 12, 13
Methodology	Learning by Doing; Outdoor learning
Description	• Search at a local level for concrete examples of the adoption of behaviors and practices that promote sustainable mobility. • Identify behaviors that promote sustainable mobility. • Understand the importance of adopting attitudes, behaviors, practices and techniques leading to the reduction of greenhouse gas emissions • Intervene with the competent authorities, namely the municipalities, with proposals leading to the promotion of sustainable mobility • Participate in awareness campaigns to promote sustainable mobility. • Promote sustainable mobility habits • Relate sustainable mobility with the preservation of natural resources and quality of life • Participate in awareness campaigns to promote sustainable mobility. • Participate in an integrated way with different social actors, at school and in the family, in actions that minimize the impact, at the local level, of human activities on climate change • Present proposals for actions in order to minimize the impact of climate change at a local scale. • Implement personal, school and community projects and initiatives with an impact on reducing greenhouse gas emissions, involving different social actors. • Encourage pedestrian mobility as a contribution to combating climate change and as a way to promote individual health and a healthier environment.

4.4.4 Pedaling for Equality

Activity title:	**PEDALING FOR EQUALITY - Municipal Equality Day**
Idea:	The use of the bicycle as a means of transport in the city or just for rides is increasing more and more. And the incentive to cycle appears for several reasons. One of them may be the promotion of a cause
Subject:	1. Identity 2. Belonging 3. Communication 4. Emotions 5. Autonomy 6. Interaction 7. Risk 8. Protection 9. Violence 10. Choices, challenges and losses 11. Values 12. Resilience 13. Sedentary behaviour 14. Physical and sporting activity
Key Competence	- Cognitive and social skills that determine individuals' motivation and ability to gain access to, understand and use information to promote and maintain good health" - Cultural awareness and expression competence - Literacy competence - Digital competence
Skills for sustainability	**Competence of self-awareness:** - ability to reflect on one's role in the local community and in (global) society; - ability to manage your feelings and desires **Collaborative competence shall:** - ability to learn from others; - ability to understand and respect the needs, perspectives and actions of others (empathy); - ability to facilitate a collaborative approach and participate in problem solving **Competence of critical thinking:** - ability to question rules, practices and opinions; - ability to reflect on one's own values and perceptions and actions; - ability to take a position on sustainability **Competences on Environmental Awereness:** - Being able to recognise a biodiversity issue in the daily life - Being able to explain a biodiversity issue among other young people - Being able to explain the greenhouse effect and its impact on climate change - Being able to explain the usefulness of green/alternative energies for struggling against climate change **Strategic competence:** - ability to collectively develop and implement innovative actions that promote sustainability at local level and beyond
Suggested age group	16 to 18
SGDs 2030	SDG1, targets 4.3,4.4, 4.5 and 4.7, SDG5 SDG 8.6 target 8.b
Methodology	Learning by doing; Outdoor learning
Description	Each year students and teachers organize the celebration of the Day for Equality choosing a cause to promote during a bike tour. Students invite family members to join this awareness-raising campaign through a sustainable means of transportation.

5. Sustainability at school: the extra-curricular activities.

When we talk about including Sustainability in the school system, we must take into account all the activities that make up the students' school experience.

Obviously, learning during the classroom lessons is the main activity that pupils are required to carry on. In the last 15 years, though, it has been more and more clear **how important extra-curricular activities are**.

In fact, there are different ways to learn, in the school and outside of it. Different cognitive abilities are involved, different areas of personal development are stimulated, and different results can be obtained.

There are four main characteristics that make learning at school very different from learning outside of it. In this chapter we will define the differences between these two learning forms, which are complementary and should be used together for the students' benefit.

A. **At school individual cognition is dominant, while out of school cognition is shared**.

In other words, the dominant form of learning and the main school tasks are based on an individual performance. Although there are group activities of various kinds at school, students are judged on what they can do on their own, and most activities at school are designed as individual work.

On the opposite, many activities outside of school are socially shared. Work, personal life and free time take place within social systems, and each person's ability to succeed in a given task depends on what others do and how many people's mental and physical performance mixes.

B. **At school pure mental activity prevails, while outside of school what is important is the manipulation of instruments**.

At school, in fact, the greatest achievement is represented by "pure thought": what individuals can do without the external support of books, calculators or other complex tools. Although the use of these tools can be allowed during learning, it is almost always absent during tests and evaluations in general. The school is an institution that values a way of thinking that proceeds independently, without the help of physical and cognitive tools.

In contrast, most mental activities outside of school are closely related to tools and the resulting cognitive activity is modeled and dependent on the type of tools available.

C. **At school, a manipulation of symbols happens, while outside of it there is a more contextualized reasoning**.

The extensive use of tools is in fact only one way, in the "extracurricular thinking", to involve the physical world to a greater extent than "school thinking".

Outside of school, actions are closely related to objects and events; people often use objects and events directly in their reasoning, without necessarily using symbols to represent them.

School learning, on the contrary, is mostly based on symbols and connections with symbolized events, so objects can be lost. In other words, symbolic activity tends to detach itself from any meaningful context. School learning can be summarised as learning the rules to process symbols and to write according to those rules.

For example, what emerges when comparing the application of arithmetic in the classroom and in the real world, is that there is a disconnection between what you learn in school - mostly symbolic rules of various kinds - and what you know outside of school.

D. **At school students learn general principles, while specific skills required by the situation are learnt outside of school**.

At school, the teaching is mainly based on general, theoretical principles and skills. Its generality and transferability is undoubtedly the *raison d'être* of formal education. However, to be truly competent outside of school, people need to develop specific skills required by the situation. Several data show that what is done in school is hardly transferable directly into external practical contexts.

It is clear how Sustainability naturally belongs to the practical, reality-based way of learning that is usually achieved out of school. We have already outlined how Sustainability can be included in a school lesson, but here we would like to point that the easiest way to develop competences related to Sustainability is through an **extra-curricular activity**.

Extra-curricular activities can be in **non-formal or informal environments**, like visiting museums, institutions, etc. If the learning environment is motivating the student learns more and significantly.

An environment is motivating to the learner when:

- it provides for an active role of the learner;

- the activity is proposed within a context of problem-based **Authentic Tasks**;

- it is carried out through collaboration between the class members, re-thought and re-organised as a **research community**.

They can also be structured in a formal way – like work experiences, now very popular with schools because through a work experience the students dive deep into the real world.

One of the work experiences able to give the students the deepest contact with all the themes related to Sustainability and to give them actual, measurable competences related to Sustainability, is Volunteering.

There already is a literature on why and how this can be achieved, and CLASS project is a clear example of how to obtain it.

We have experimented with students, in order to see if it was actually possible to measure and evaluate their sustainability-related competences. Each country partner has carried out an experience of volunteering as extra-curricular activity, where the students' competences have been measured and evaluated, so that they can be included into their own Curriculum Vitae.

In addition, our testing activity based on volunteering has taken place during the COVID-19 pandemic, opening the way to an even more experimental activity: virtual volunteering, or volunteering online.

The activity of Volunteering has let us get into the schools, thanks to the CLASS project. It also has enhanced the methodology of Service Learning, inside and outside the school. This approach has allowed us to promote active teaching methods and alternatives to the frontal lesson, reconfiguring the spaces and times of teaching and learning.

The health emergency due to the Covid-19 and the consequent necessity of Distance Teaching, have favored online volunteering. This has required a further redesign of the activities already planned, but it has also given life to learning paths of Virtual Service Learning (V-SL).

In some cases, it was precisely the emergency situation that prompted managers, teachers and students to identify opportunities to use Service Learning online as a tool for education to active citizenship.

6. Credits

The present Vademecum has been made with the collaboration of all the project's partners:

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