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Landscape, Environmental Sustainability, and Climate Instability—The EDUSCAPE Project: University Research for Innovation in School Education

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Abstract: This article presents the main contents, methods, and results of the European project EDUSCAPE (Erasmus+) developed by a team of international researchers from four countries, just over a year and a half after its launch with a focus on SAAD/UNICAM contributions. Into the scientific-disciplinary frame of environmental education and climate adaptation, EDUSCAPE aims to integrate the polysemic, transversal, and multidisciplinary concept of landscape and its decline, as a promoter of new forms of knowledge in response to emerging dynamics, within the educational offer of school programs (6–15 years). This paper presents the general structure of the project, the methodology experimented (PBL educational approach), and the qualitative and quantitative intermediate results obtained so far (literature review, curriculum analysis, and needs analysis). To integrate landscape into school curricula and renew them, EDUSCAPE is preparing Didactic Units (DUs) as the final result of the project to provide theoretical foundations and practical solutions supporting teaching which will be tested in the schools of the partnership network. In general, this paper explores the possibility to disseminate the pedagogical and social role of the landscape through a new way of teaching based on a deeper exploration of the theme that can stimulate critical thinking in current and future generations regarding the global/local challenges of the 21st century.

Keywords: landscape; climate change adaptation; landscape and environmental education; Sustainable Development Goals (SDGs); project-based learning (PBL); problem-based learning (PBL); Erasmus+ project

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1. Introduction

1.1. Landscape and Climate Instability in Education

The landscape, according to Art. 5 of the European Landscape Convention (ELC), is considered an essential component of the living context of populations, from degraded to ordinary landscapes, an expression of the different characters of the cultural and natural heritage and the foundation of their identity [1]. The ELC envisages that each country should undertake to promote "school and university courses which, in the relevant subject areas, address the values attaching to landscapes and the issues raised by their protection, management and planning" (ELC, Article 6, point B, paragraph c) [1] in order to encourage greater awareness of the importance of the landscape and the places where people live. This awareness can also be conveyed and promoted through formal and nonformal education and training, regardless of age and educational level [2,3]. Landscape education in school and training paths is a debated issue in the cultural and scientific-disciplinary framework [4–7]. Several authors agree that landscape education should start from the youngest age groups; encourage the development of the senses and awareness of one's perceptions; and teach to be aware of the value of places, take care of them, and respect them [5,8–13]. Some studies,

on the basis of European experiences, promote strategies to raise awareness of the landscape through specific communication programs for the various subjects in the area, emphasizing the relationship between landscape and the challenges of the 21st century [14,15].

Nowadays, therefore, it appears necessary to educate tomorrow's adults with active knowledge paths: discovering, trying to read and interpret the landscape constitutes a rich educational experience capable of involving both the cognitive–rational and the emotional–sensorial spheres [5,8,15,16], reinforcing the sense of belonging to a territory, a neighborhood, a street, a landscape.

1.2. The EDUSCAPE Project: Aims and Context

The EDUSCAPE project "Landscape and Climate Change Adaptation in Education" (www.eduscape.online accessed on 29 December 2023) is articulated on these theoretical bases and fits into the framework of the Erasmus+ program, involving five partners: the Czech Technical University (CTU—CZ) (lead partner), the University of Camerino (UNICAM—IT), the Universidad Rey Juan Carlos (URJC—ES), the Technische Universität Wien (TU Wien—AT), and the Child Friendly City (MPD—CZ) (Figure 1). These are joined by a network of associated partners (educational institutions)—at least one per country—who will act as a bridge for the direct testing of the project results.

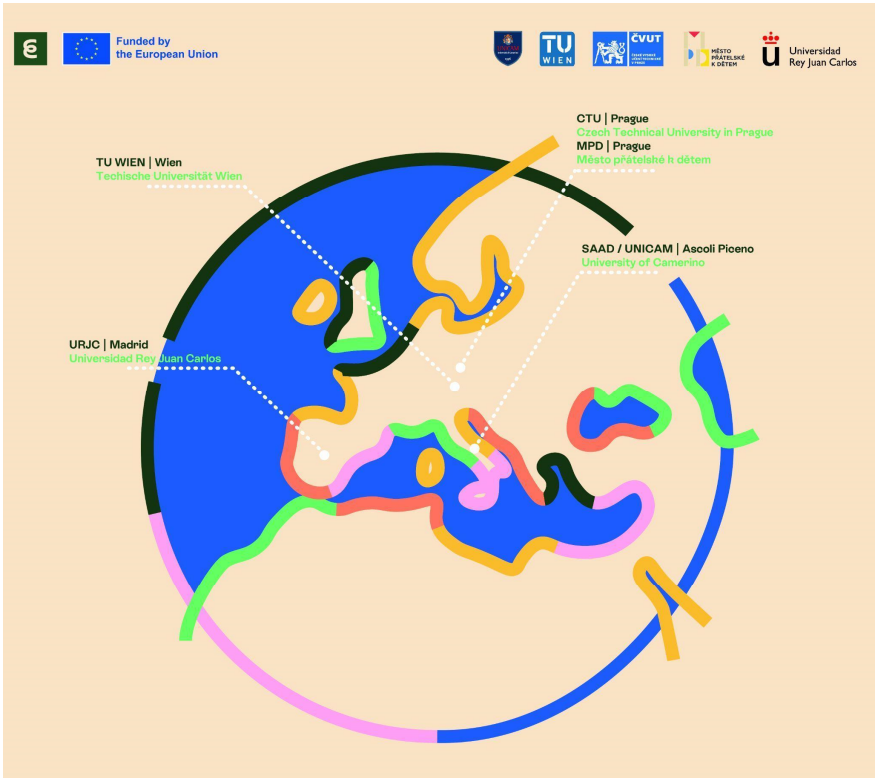


Figure 1. EDUSCAPE Partners. Source: UNICAM Team.

Particular emphasis was placed on the dialogue between the partnership—consisting of researchers from interdisciplinary backgrounds—and the teachers. This approach increased the quality of the materials and the relevance of the activities, widened and strengthened the research network, worked in synergy at the transnational level, etc. All of these mutual-exchange activities stimulated the internationalization of activities, the development of new practices/methods, and the sharing and exchange of ideas, meeting the primary objective of the Erasmus+ call.

The project investigates the potential decline of landscape in the school systems of the partner countries in the 6–15 age group. The contents and results of the project are aimed not only at students but also at educators themselves, the various educational

institutions, and the international scientific community and professionals working in the field. With this perspective, the project assumes a pedagogical–social role that pursues a main objective: to propose teaching contents/tools/methods for school curricula on the basis of existing subjects in order to promote the value of landscape culture, inclusivity, a sense of belonging to places and critical knowledge of the man–nature relationship [17]. In line with European strategic programs and strategies (i.e., the Green Deal), the project integrates the central theme of adaptation/mitigation to climate change, not only raising awareness of climate–environmental issues [18–21] and the multiple social implications but addressing the landscape–climate–city relationship for sustainable development (2030 Agenda), in particular, Goals 4, 11, and 13 [22].

With specific regard to Goal 4, the EDUSCAPE project, through experiments in schools, promotes inclusive, socializing, and group activities with a view to conveying a sense of participation, community, and care that is at the basis of both teaching and landscape education. The quality of teaching–learning is closely linked to living places and social, political, and economic conditions—all values inherent in the concept and design of the landscape of today and tomorrow. In this sense, the project aims to provide quality educational material for the understanding of the inevitable contaminations between landscape, society, and global/local challenges, both in the younger segments of the population and for the teachers themselves as fundamental players in the process towards the renewal of skills and the development of sustainable models and lifestyles.

To this aim, EDUSCAPE is developing Didactic Units (DUs) as the final result of the project. DUs provide "ready-to-use" teaching materials for students and teachers to support teaching activities, within school curricula (6–15 years old), in order to innovate methods/tools/content of CVs through landscape.

EDUSCAPE therefore contributes to the interdisciplinary debate on the subject with a view to enriching the education system and contributing to the long-term development of a culture of landscape in society, starting with dialogue with schools, practical experiments, and feedback from teachers.

In this perspective, the academic and school realities involved are cooperating to transfer knowledge and skills to an adolescent audience who is already sensitive to these issues and who will inevitably be the citizens of tomorrow. On the basis of shared ideas, methods, and visions, new contents calibrated to the different local specificities (cultural, regulatory, etc.) were developed which seek to respond to the current limits and potential of landscape education, especially in Italy.

To this end, the UNICAM team reflects on the ways in which the topics can be included in the curricula of primary and secondary schools in Italy (6–15 years old) in order to foster the development of a critical understanding of the living environment of students, trying to arouse a proper interest in emerging issues.

This paper presents the theoretical and application contents common to partners in order to focus on the contribution provided by UNICAM, both in the development of the general results of the European project and in the ways of researching and promoting the project in the Italian context.

This Introduction explained the scientific framework and objectives of the EDUSCAPE project. The three main sections that follow are as listed below:

- *Materials and Methods* (Section 2): It presents the different phases of the project, clarifying how the results were identified and achieved;
- *Results* (Section 3): It describes the products obtained so far, with a focus on the Italian case;
- *Discussion and Conclusions* (Section 4): Outlines the next steps of the project, emphasizing the relevance of classroom experimentation of materials produced.

2. Materials and Methods

The EDUSCAPE project is structured in several interconnected steps (Figure 2).

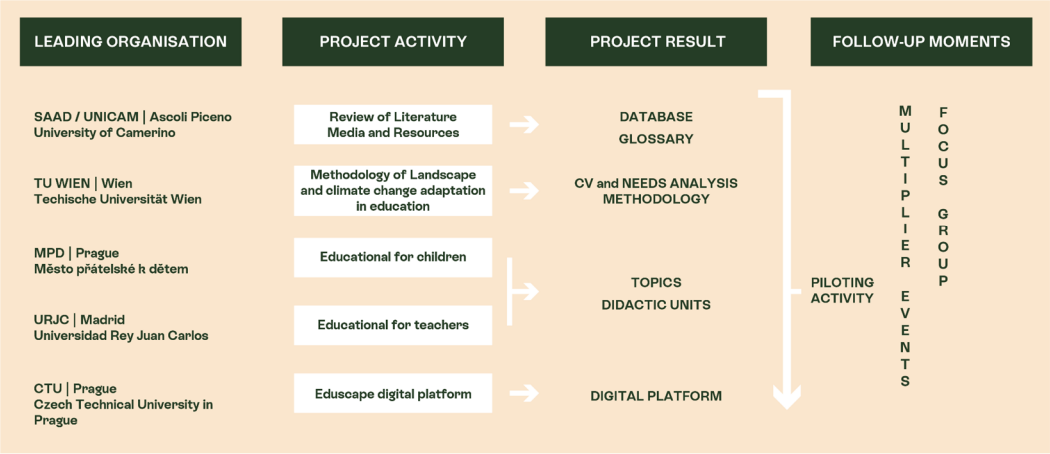


Figure 2. Concept map and project steps. Source: authors' re-elaboration (EDUSCAPE data source).

Firstly, a thorough critical review of the relevant scientific literature and existing best practices on landscape and climate change education on a national and international level was undertaken. In order to systematize these materials, a database was set up (Figure 2) which catalogued publications, studies, and projects, as well as siteographic and audiovisual material (media, video lectures, theoretical and case study videos, etc.), enabling the reconstruction of a state-of-the-art (approaches, methods, and research initiatives) on the general topics of the project. The partners were able to integrate the database by uniquely cataloguing the document according to agreed keywords (Figure 2), specifying the type of material collected and the user target it addresses. On the one hand, this activity defined the contents of the subsequent project results and products; and, on the other hand, it produced a set of useful sources for further investigation of the individual topics (landscape, climate, landscape education, pedagogical methods, etc.), which will be made available in an open-source form to teachers, academics, professionals in the field, and students.

In order to ascertain existing gaps and deficiencies in landscape education, not only in general but especially in relation to climate instability, a critical review of institutional training programs, school curricula, and teachers' needs (needs analysis, NA) was carried out in the 6–15 age group and in the four partnership member countries.

In this sense, a review and critical reading of school curricula was carried out in which topics related to both landscape education, for its abiotic and biotic structural components, and climate change were extrapolated according to grade and subject (qualitative analysis).

This analysis (presented below in Sections 3.2 and 3.2.1) was conducted by the partners and was summarized in analytical matrices, organizing the contents by school grade, age, and subject, in line with the EDUSCAPE themes. In particular, the topics of landscape and climate, which are already present in the individual curricula, in the broadest sense of their term and concept, were highlighted with respect to the common subjects of geography, science, technology, history, art, literature, physics, and chemistry.

In parallel, an NA was carried out, with the support of the partners, by means of two questionnaires administered to schoolteachers in the 6–15 age group and to professionals in the field (quantitative analysis). Professionals from the landscape–environmental sector were involved because activities related to environmental sustainability issues in schools are often carried out by external parties.

This methodological step was promoted in the different partner countries with common preset questions in order to collect existing or potential information, knowledge, methods, and teaching models on the project topics. The gaps highlighted by the target groups and the shortcomings of the teaching programs will be filled with the preparation of the EDUSCAPE methodology and then with "ready-to-use" teaching materials, organized in DUs for students and teachers.

These initial project actions supported the preparation of the project methodology that aims to respond to three main tasks:

- To explain *why* landscape is an important theme for school education;
- To clarify *what* is understood by the contemporary idea of landscape and to highlight its origins;
- To elaborate on *how* this understanding can be applied in a teaching and learning context.

The method structured by TU-Wien with the support of the partnership defines a roadmap for teaching and learning processes *in*, *on*, and *through* landscape, thus achieving the following:

- Talk about landscape as a vector for developing awareness and understanding of the emerging issues summarized by the mentioned SDGs (*through* landscape);
- Address and learn the cause–effect dynamics/relationships between man and environment (*on* landscape);
- Emphasize the role of landscape as a learning environment and fertile ground for experimenting with PBL activities (*in* landscape);
- Emphasize the pedagogical/educational component of landscape, for new forms of knowledge, skills, and qualifications in an increasingly competitive and complex world.

The developed method understands landscape as a promoter of differentiated and incrementally difficult teaching activities according to the age of the students and the different school levels. The transversality of the landscape concept is therefore a vector for a teaching/learning process capable of intercepting the different school subjects. Furthermore, the methodology defines four crucial fields of social challenges that need to be addressed from a physical–spatial and sociocultural perspective: biodiversity, climate change, social inclusion, and heritage/identity.

In this sense, the project contributes to the rethinking of the traditional approach (homiletic) in order to develop new active pedagogical forms (maieutic) in a more critical–reflexive form, by encouraging the class to think about interdisciplinary problems and relations (e.g., landscape–climate) through the use of DUs and the interdisciplinary/multiscalar landscape approach.

The DUs presented in Section 3.3 were conceived and conceptually structured according to the EDUSCAPE method and by following five methodological steps (Figure 3):

- Conceptualizing: Teachers introduce the topic, presenting problems or challenges that go along with it, encouraging the students to activate existing knowledge and preconceptions on the topic;
- Perceiving: This phase allows students to connect personal experience with the subject matter. All kinds of perception (sight, hearing, smell, touch, and taste) form the groundwork for drafting assumptions on phenomena, questioning their reasons, and phrasing hypotheses on possible connections and contexts. Perceiving may also challenge the investigation of different perspectives on a subject, offering new ideas for customizing activities according to the personal response of the class group;
- Analyzing: The students collect, observe, and systematize data and information by applying the science-based approach. A multitude of research questions (either from natural, social, historical, or other scientific perspectives) can be investigated, applying every methodological framework;
- Shaping: The students create knowledge, ideas, and solutions for dealing with and solving societal challenges and coming into focus with active responsibility for landscape;
- Reflecting: The students reorganize the knowledge and review the activities carried out and evaluate the experience.

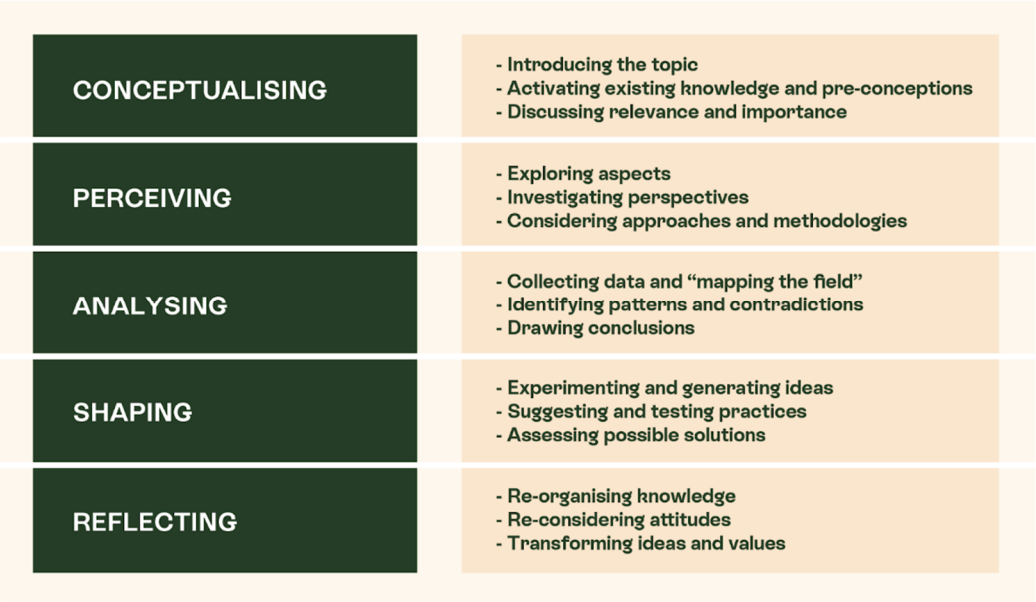


Figure 3. Stages in teaching on, with, and through landscapes. Authors' re-elaboration (credits to TU Wien EDUSCAPE Team).

The project, as already mentioned, envisages field testing (DUs) through piloting activities with students and teachers. To this end, the teachers at the partner schools have already been involved in various activities and formal and informal meetings, as they are main actors in the process illustrated and a fundamental support for the evaluation of the EDUSCAPE results, for their implementation, and for their promotion and dissemination in the territory.

Finally, at the end of the project, an open-source digital platform, which is currently being developed, will be open to the public to which the outputs will be uploaded. The platform will be an interactive and educational portal and will provide free educational materials accessible from the project website "www.eduscape.online (accessed on 29 December 2023)" in the four languages of the partner countries and in English.

2.1. PBL and Landscape Education in the Scientific Literature

The methodology of the EDUSCAPE project is conceived as an interdisciplinary cooperation between actors and school subjects and is based on the teaching–learning model called project-based learning (PBL). This model, as made explicit in some recent theoretical/applicative studies also related to environmental education [23–26], assumes that the project stems from real, concrete questions and that it collaboratively involves students and teachers in problem-solving, decision-making, and in-depth activities. In this perspective, EDUSCAPE is currently producing materials for the DUs based on place-based methodologies which will be modified/adapted by teachers according to class and context (geographical, skills and competences, etc.). The need for new teaching tools better suited to global challenges has promoted a growing interest in the PBL educational stream.

In the experiences of landscape education in the 6–15 age group [10,27,28], references to the use of experimental, outdoor, and place-based methods are highlighted, introducing the topic of landscape as an extracurricular or in-depth workshop.

As is further explored in the following sections, the theme ties in well with the growing need to address the 2030 Agenda, innovation for transition and climate change. In order to be able to use the landscape to look at and understand climate change in the territories experienced by students, the PBL educational stream was chosen as most suitable.

The literature suggests multiple potentials:

- Listens to and promotes the perceptual, learning, and cultural diversity of students and teachers. Active methods in teaching and learning have been requested in many educational debates at national and international levels to (i) promote inclusion and (ii) introduce new teaching methods that are more engaging, stimulating, and attentive to individual needs [29,30]. PBL can encourage students to transfer learning to unfamiliar contexts [31], disseminating new ways of looking at climate change.
- Listens to and promotes contingencies and contextuality of particular places. In facing global issues such as climate change, methodologies that study the specific landscape of each context help us to "think local" and understand the scale of possible impacts of individuals (or schools) and develop solutions based on the "local character" [32]. The local approach provides a corrective to an overemphasis on decontextualized and universalizing knowledge by traditional education [33].
- Connects the sciences to societal and environmental challenges. In this virtuous relationship, landscape is a tool to make the sciences visible, practical, and usable to better understand the local effects of global phenomena such as climate change [34,35].
- Activates good practices through the exploitation of the sense of place of students and teachers. Indeed, PBL has been advocated for its relevance and potential to attract the knowledge of phenomena that change the landscape in which they live, potentially prompting them to take local action [36,37]. The relationship between place attachment, place meanings, and pro-environmental behavior is self-enforcing, enhancing students' awareness by promoting positive behavior, as well as a greater reception of topics [38]. Because PBL involves students working on real environmental problems in their own communities, it also strengthens community support for schools and teaches children the skills and rewards of good citizenship [31].
- Links several subjects and cross-sectional reflections. It is increasingly used in geoscience (marine, earth, and atmospheric science), where the multidisciplinary approach and the experimental method of data collection are more experienced. Dealing with the same subject with different teachers helps to deepen knowledge and stimulate students to perform better on tests [31,39]. The climate emergency allows for the use of the landscape for scenario building from a singular perception, reading the context over time. Updating teachers' tools and knowledge will help students find solutions for a more sustainable future through developing complex solutions.
- Promotes the use of multiple tools. Teachers draw on their specific toolbox, adapting it with new techniques and necessarily using culturally responsive pedagogies such as reasoning by analogy, storytelling, virtual field trips, and sketching. The use of practical tools that encourage critical and singular thinking develop science content and skills, science identities, and interest [40].

2.2. Stakeholder Engagement for Assessing the Reliability of Project Results

In this perspective, the creative-realization process of the project is implemented with activities, times, and resources defined in collaboration with the schools and teachers involved with the individual partners. The associated project partner schools were already in contact with university partnership, as well as being geographically close, allowing for a better dialogue and relationship. This allowed for a faster involvement, as well as continuity of the university–school relationship.

Since the start of the project, various discussion events have been organized between the teachers/researchers/technicians of the partners themselves (transnational meeting—TM) and between an expert audience consisting of teachers, experts, and researchers (multiplier event—ME). The project includes five international MEs in the different partner countries, three of which have already been held in Prague, Ascoli, and Madrid between 2022 and 2023 (Supplementary Videos S1 and S2). On the one hand, the MEs provided an opportunity to introduce and disseminate the EDUSCAPE project and the progress of the work to a wide audience; and, on the other hand, they provided an opportunity to engage

in a fruitful dialogue with lecturers from outside the partner universities and local experts who deal with or have dealt with the topics of interest.

During the MEs, the focus was on the strategy for the development of the project results (PRs) and the methodology of landscape and climate change adaptation in education and its innovative approach. The participation of expert guests on the project topics, as well as in innovative pedagogical approaches, allowed for discussion and constructive feedback in order to better draft the methodology and produce effective materials drawing on already tested case studies, methods, techniques, and theories.

In addition to the results obtained from these moments of transdisciplinary and transcalar comparison and learning, a number of focus groups (FGs) were organized by the individual partners with the teachers of their associated partners both to gather specific information in the local school context and to verify the contents and results of the developed DUs.

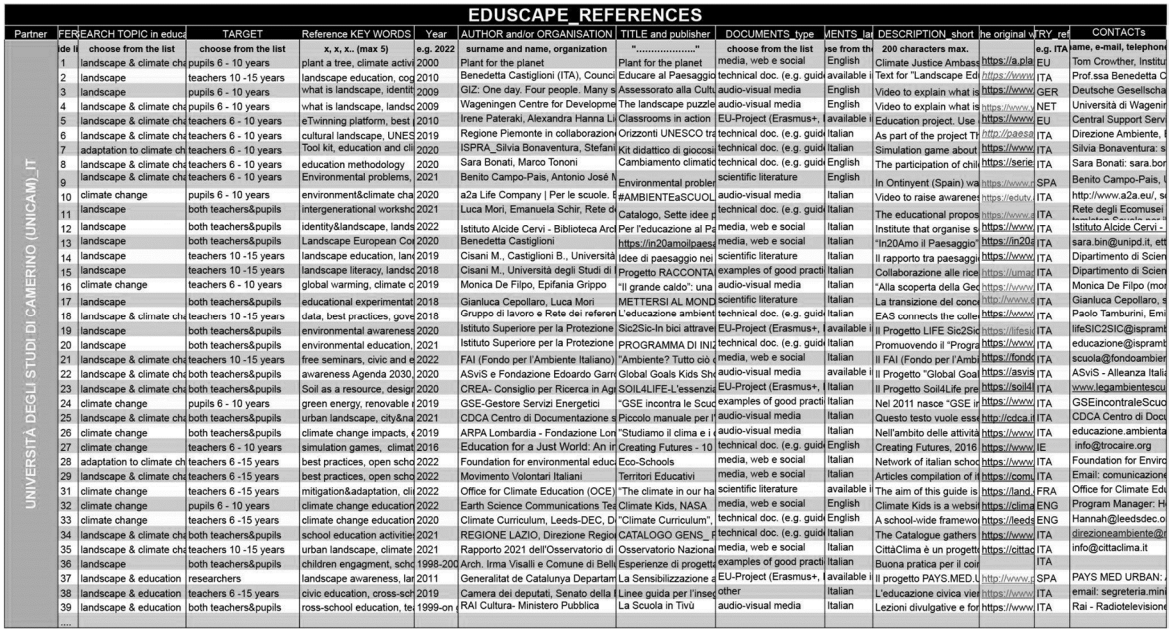
To this end, UNICAM organized two FGs in June and October 2023, attended by around 90 teachers from the associated partner schools (IC Betti and IC Paoletti, Marche region; and IC Pescara 4, Abruzzo region). In particular, the suggestions received referred to the structure of the DUs and the objectives of the individual activities, which must be clear and comprehensible to the teacher. In addition, the participants highlighted the need to (i) simplify some specialized terms and vocabulary to be able to speak to a wide audience of non-experts in the field, (ii) state the objectives and competency targets of each individual DU and practical activities, (iii) propose stimulating and motivating contents and activities that are comprehensible for young students, and (iv) provide tangible objectives that are able to gratify the student without a real judgement or grade of the final papers or activities carried out. During these meetings, the teachers expressed doubts and raised critical points regarding the materials produced in a process of mutual exchange. This relation contributed to the creation of the materials based on the needs of the partner schools and the experience of the teachers, who know the conditions/levels of the classes and the potential beneficial effects of some of the activities proposed by DUs.

3. Results

3.1. Literature Review: Placing the Project within the Scientific–Cultural Debate

The literature review (LR) produces a database that offers a useful overview of the predominantly European state-of-the-art on what has been produced on landscape and climate change education, although not exhaustive and definitive but, instead, implementable by future research.

The database (Figure 4) was structured in a way that makes it easy for teaching staff and experts in the field to consult it by means of data-based filters and queries with respect to the topic of interest (landscape, climate change, adaptation to climate change, pedagogy, and education) and/or the project glossary (biodiversity, education for sustainable development ESD, engagement, European citizen, experience-based teaching, global citizen, heritage, innovative instruments, literature review, ready-to-use teaching materials, etc.), the user target, and/or the type of document surveyed.



EDUSCAPE_REFERENCES

Partner	FER	EARCH TOPIC in educa	TARGET	Reference KEY WORDS	Year	AUTHOR and/or ORGANISATION	TITLE and publisher	DOCUMENTS_type	MENTS_la	DESCRIPTION_short	he original w	TRY_ref	CONTACTs
UNIVERSITÀ DEGLI STUDI DI CAMERINO (UNICAM)_IT	de li	choose from the list	choose from the list	x, x, x.. (max 5)	e.g. 2022	surname and name, organization	"....."	choose from the list	se from th	200 characters max.		e.g. ITA	ame, e-mail, telephon
	1	landscape & climate cha	pupils 6 - 10 years	plant a tree, climate activi	2000	Plant for the planet	Plant for the planet	media, web e social	English	Climate Justice Ambass	https://a.pla	EU	Tom Crowther, Institu
	2	landscape	teachers 10 -15 years	landscape education, cog	2010	Benedetta Castiglioni (ITA), Counci	Educare al Paesaggio	technical doc. (e.g. guid	available i	Text for "Landscape Edi	https://www	ITA	Prof.ssa Benedetta C
	3	landscape	pupils 6 - 10 years	what is landscape, identit	2009	GIZ: One day. Four people. Many s	Assessorato alla Cultu	audio-visual media	English	Video to explain what is	https://www	GER	Deutsche Gesellscha
	4	landscape & climate cha	pupils 6 - 10 years	what is landscape, landsc	2009	Wageningen Centre for Developme	The landscape puzzle	audio-visual media	English	Video to explain what is	https://www.y	NET	Università di Wagenir
	5	landscape & climate cha	teachers 6 - 10 years	eTwinning platform, best	2010	Irene Pateraki, Alexandra Hanna Li	Classrooms in action	EU-Project (Erasmus+,	available i	Education project. Use	https://www	EU	Central Support Serv
	6	landscape & climate cha	teachers 6 - 10 years	cultural landscape, UNES	2019	Regione Piemonte in collaborazion	Orizzonti UNESCO tra	technical doc. (e.g. guid	Italian	As part of the project Th	http://paesa	ITA	Direzione Ambiente,
	7	adaptation to climate ch	teachers 6 - 10 years	Tool kit, education and cli	2020	ISPRA_Silvia Bonaventura, Stefani	Kit didattico di giocosi	technical doc. (e.g. guid	Italian	Simulation game about	https://www	ITA	Silvia Bonaventura: s
	8	landscape & climate cha	teachers 6 - 10 years	education methodology	2020	Sara Bonati, Marco Tononi	Cambiamento climatic	technical doc. (e.g. guid	English	The participation of chil	https://serie	ITA	Sara Bonati: sara.bor
	9	landscape & climate cha	teachers 6 - 10 years	Environmental problems,	2021	Benito Campo-Pais, Antonio José M	Environmental proble	scientific literature	English	In Ontinyent (Spain) wa	https://www.r	SPA	Benito Campo-Pais,
	10	climate change	pupils 6 - 10 years	environment&climate cha	2020	a2a Life Company | Per le scuole. E	#AMBIENTEaSCUOL	audio-visual media	Italian	Video to raise awarene	https://edutv.	ITA	http://www.a2a.eu/, s
	11	landscape	both teachers&pupils	intergenerational worksh	2021	Luca Mori, Emanuela Schir, Rete d	Catalogo, Sette idee p	technical doc. (e.g. guid	Italian	The educational propos	https://www.s	ITA	Rete degli Ecomusei
	12	landscape	both teachers&pupils	identity&landscape, lands	2022	Istituto Alcide Cervi - Biblioteca Arc	Per l'educazione al Pa	media, web e social	Italian	Institute that organise s	https://www	ITA	Istituto Alcide Cervi -
	13	landscape	both teachers&pupils	Landscape European Co	2020	Benedetta Castiglioni	https://in20amoilpaes	media, web e social	Italian	"In20Amo il Paesaggio"	https://in20a	ITA	sara.bin@unipd.it, ett
	14	landscape	teachers 10 -15 years	landscape education, lan	2019	Cisani M., Castiglioni B., Universit	Idee di paesaggio nei	scientific literature	Italian	Il rapporto tra paesaggi	https://www	ITA	Dipartimento di Scien
	15	landscape	teachers 10 -15 years	landscape literacy, landsc	2018	Cisani M., Università degli Studi di	Progetto RACCONTA	examples of good practi	Italian	Collaborazione alle rice	https://umas	ITA	Dipartimento di Scien
	16	climate change	teachers 6 - 10 years	global warming, climate c	2019	Monica De Filpo, Epifania Grippo	"Il grande caldo": una	audio-visual media	Italian	"Alla scoperta della Geo	https://www	ITA	Monica De Filpo (mo
	17	landscape	both teachers&pupils	educational experimentat	2018	Gianluca Cepollaro, Luca Mori	METTERSI AL MOND	scientific literature	Italian	La transizione del conc	http://www.c	ITA	Gianluca Cepollaro, s
	18	landscape & climate cha	teachers 10 -15 years	data, best practices, gove	2018	Gruppo di lavoro e Rete dei referen	L'educazione ambient	technical doc. (e.g. guid	Italian	EAS connects the colle	https://www	ITA	Paolo Tamburini, Emi
	19	landscape	both teachers&pupils	environmental awareness	2020	Istituto Superiore per la Protezione	Sic2Sic-In bici attrave	EU-Project (Erasmus+,	available i	Il Progetto LIFE Sic2Sic	https://lifesi	ITA	lifeSIC2SIC@ispramb
	20	landscape	both teachers&pupils	environmental education,	2021	Istituto Superiore per la Protezione	PROGRAMMA DI INIZ	technical doc. (e.g. guid	Italian	Promuovendo il "Progra	https://www	ITA	educazione@ispramb
	21	landscape & climate cha	teachers 10 -15 years	free seminars, civic and e	2022	FAI (Fondo per l'Ambiente Italiano)	"Ambiente? Tutto ciò	media, web e social	Italian	Il FAI (Fondo per l'Amb	https://fondo	ITA	scuola@fondoambier
	22	landscape & climate cha	both teachers&pupils	awareness Agenda 2030,	2020	ASviS e Fondazione Edoardo Garr	Global Goals Kids Sh	audio-visual media	available i	Il Progetto "Global Goal	https://asvis	ITA	ASviS - Alleanza Itali
	23	landscape & climate cha	both teachers&pupils	Soil as a resource, desigr	2020	CREA- Consiglio per Ricerca in Agr	SOIL4LIFE-L'essenzia	EU-Project (Erasmus+,	Italian	Il Progetto Soil4Life pre	https://soil4l	ITA	www.legambientescu
	24	climate change	pupils 6 - 10 years	green energy, renovable	2019	GSE-Gestore Servizi Energetici	"GSE incontra le Scuo	examples of good practi	Italian	Nel 2011 nasce "GSE ir	https://www	ITA	GSEincontraleScuo
	25	landscape & climate cha	both teachers&pupils	urban landscape, city&na	2021	CDCA Centro di Documentazione s	Piccolo manuale per l	audio-visual media	Italian	Questo testo vuole esse	http://cdca.i	ITA	CDCA Centro di Doc
	26	climate change	both teachers&pupils	climate change impacts,	2019	ARPA Lombardia - Fondazione Lon	"Studiamo il clima e i	audio-visual media	Italian	Nell'ambito delle attivit	https://www	ITA	educazione.ambienta
	27	climate change	teachers 6 - 10 years	simulation games, climat	2016	Education for a Just World: An in	Creating Futures - 10	technical doc. (e.g. guid	English	Creating Futures, 2016	https://www	IE	info@trocaire.org
	28	adaptation to climate ch	teachers 6 -15 years	best practices, open scho	2022	Foundation for environmental educ	Eco-Schools	media, web e social	Italian	Network of italian schoo	https://www	ITA	Foundation for Envirc
	29	landscape & climate cha	teachers 6 -15 years	best practices, open scho	2022	Movimento Volontari Italiani	Territori Educativi	media, web e social	Italian	Articles compilation of i	https://comu	ITA	Email: comunicazione
	31	climate change	teachers 6 -15 years	mitigation&adaptation, cli	2022	Office for Climate Education (OCE)	"The climate in our ha	scientific literature	available i	The aim of this guide is	https://land.	FRA	Office for Climate Edu
	32	climate change	pupils 6 - 10 years	climate change education	2022	Earth Science Communications Tea	Climate Kids, NASA	media, web e social	English	Climate Kids is a websit	https://clima	ENG	Program Manager: H
	33	climate change	teachers 6 -15 years	climate change education	2020	Climate Curriculum, Leeds-DEC, D	"Climate Curriculum",	technical doc. (e.g. guid	English	A school-wide framewo	https://leeds	ENG	Hannah@leedsdec.o
	34	landscape & climate cha	both teachers&pupils	school education activitie	2021	REGIONE LAZIO, Direzione Regio	CATALOGO GENS_F	technical doc. (e.g. guid	Italian	The Catalogue gathers	https://www	ITA	direzioneambiente@
	35	landscape & climate cha	teachers 10 -15 years	urban landscape, climate	2021	Rapporto 2021 dell'Osservatorio di	Osservatorio Nazional	media, web e social	Italian	CittàClima è un progett	https://cittac	ITA	info@cittaclima.it
	36	landscape	both teachers&pupils	children engagment, scho	1998-200	Arch. Irma Visalli e Comune di Belle	Esperienze di progetta	examples of good practi	Italian	Buona pratica per il coir		ITA	
	37	landscape & education	researchers	landscape awareness, lar	2011	Generalitat de Catalunya Departam	La Sensibilizzazione a	EU-Project (Erasmus+,	available i	Il progetto PAYS.MED.U	http://www.p	SPA	PAYS MED URBAN:
	38	landscape & education	teachers 6 -15 years	civic education, cross-sch	2019	Camera dei deputati, Senato della I	Linee guida per l'inse	other	Italian	L'educazione civica vie	https://www	ITA	email: segreteria.mini
	39	landscape & education	both teachers&pupils	ross-school education, te	1999-on	RAI Cultura- Ministero Pubblica	La Scuola in Tivù	audio-visual media	Italian	Lezioni divulgative e for	https://www	ITA	Rai - Radiotelevisione
	....												

Figure 4. Reference database for the Review of Literature, Media, and Resources. The contents are organized according to research topic, target, key works, year, author, title and publisher, document type, language, short description, link, country, and contacts. Source: UNICAM Team.

This type of analysis about the state-of-the-art placed the project within the scientific debate, verifying the gaps and strengths existing in the literature. Among these, the analysis highlighted how the topic of education on the environment, nature, and environmental sustainability, especially for the youngest children, is already a theme that is addressed by creative and outdoor activities often in extracurricular hours. In addition, climate change has also become part of some educational experiences or materials, especially through a simplified type of narration (e.g., comics, websites, video lectures, etc.) that focuses not so much on the landscape–climate relationship as on the heat emergency in the city and global warming as a global effect. In other words, nature is present in the narrative, but there is a lack of the anthropic imprint: the system of relations between anthropic and natural factors is missing, so it speaks of environment and nature and not enough of landscape.

From an analysis of the bibliographical references, the catalogued materials concerning climate change are the most copious (64%), going along with the growing interest in the subject [2,27,41]. Many documents (71%) are ready-to-use materials, often useful as a starting point or inspiration for the activities proposed by the project [42–44]. Others are essays, basic texts, and the scientific literature (15%) for in-depth study, acquisition of notions, or preparation of the teachers themselves [4–6,45].

The review also includes methodological contributions, which helped to reflect on the integration of innovative and more stimulating teaching methodologies considering the target users.

The dating of the papers (50% from 2020 and 23% from 2018) revealed the growing interest in project topics in recent years. European policies and the updating of national curricula have, in fact, generated a production of tools and bibliographic sources, trying to bridge the gap between competences to be achieved and the supply of school textbooks.

In summary, the international panorama certainly reflects a movement of awareness and renewed interest in landscape and its transversal/interdisciplinary value, which is therefore capable of intercepting different cognitive knowledge and carving out a primary role even in pre-university education. The various materials collected (Figure 5) also highlight the centrality of drawing and the importance of practical activities in child and adolescent education, as well as the proliferation of training organizations, including Italian ones, that promote courses for teachers and educators, focusing, in fact, on a key topic: the

role of the teacher and the formation of a sensitivity for the landscape. Like the reference literature, the database is constantly being updated. Although it was conceived in the early months of the project (mid-to-late 2022), its dissemination will take place at the end of the project (2024) in order to allow all partners to integrate useful materials throughout the project's duration.

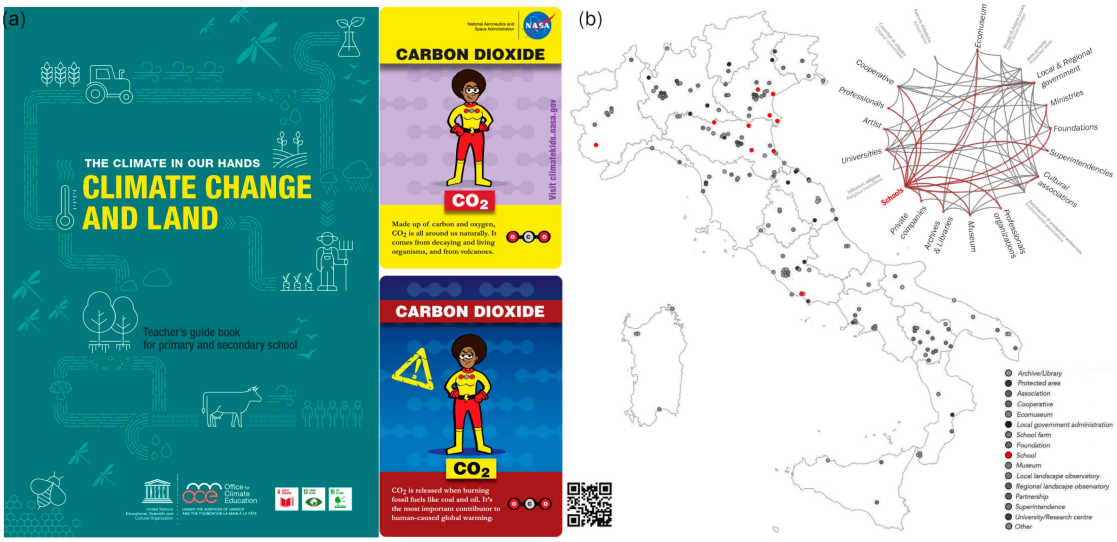


Figure 5. Examples of materials and case studies from the literature review: (**a**) excerpt of downloadable open access playing cards for teachers/students about greenhouse gases emitted by anthropogenic activities [44] and (**b**) the mapping of schools and stakeholders promoting landscape education in schools in Italy, an excerpt from the 'Raccontami un Paesaggio' project [5]. Source: authors' re-elaboration (credits to the authors of data).

3.2. Curricula and Needs Analysis as Input and Verification of Project Applicability

The Curriculum Analysis (CA) and Needs Analysis (NA) were developed by all partners with reference to their national context and local partnership network.

With regard to the analysis of the curricula of each school level, the partners noted an increase in interest in the project topics in the four target countries (Italy, Austria, the Czech Republic, and Spain). This process was also supported by dedicated laws and reforms, starting from the addresses of the 2030 Agenda. In Italy, the teaching of "civic education" (Law 92/2019) [46] was established; in Spain, the Lomloe (Ley Orgánica 3/2020) [13,47] was enacted; in Austria, the teaching of "general studies" is underway; and in the Czech Republic, a revision of the national educational offer is underway.

However, these topics are not yet addressed sufficiently and in a clearer way in formal education, where questions are still being asked about how to effectively incorporate the demands of new laws, needs, and emerging issues in school education.

To finalize the NA, the individual partners administered two questionnaires online and/or in paper format to schoolteachers in the 6–15 age group and to professionals in the field whom they were able to intercept on the basis of their personal knowledge, research network, and contacts identified through the LR or via social networks (Facebook and Instagram). A total of 92 teachers responded. The level of interest, expertise, or predisposition to the proposed topics among the different countries was rather homogeneous. The responses generally returned a positive attitude to the integration and deepening of landscape and climate change issues. In addition, teachers hint at the fact that PBL methodology is not (or not fully) integrated into school curricula yet. Nevertheless, the responding teachers are convinced of the pedagogical value of such learning and teaching formats.

The results of these two surveys were analyzed and compared between the partner countries. Overall, considering all the results, it is possible to conclude that developing and disseminating materials on landscape and climate change education fill a gap.

Below (Section 3.2.1), the activities and results obtained by the UNICAM team in the national and local context (CA and NA) are highlighted, with a focus on the Italian cultural debate on the subject.

3.2.1. A More In-Depth Look at the Italian Case

In order to analyze the current educational offer in Italy, on the one hand, the contents of the framework programs of the Ministry of Education and Merit (MIUR) were investigated; and, on the other hand, the curricula of different Italian schools were evaluated on a sample basis, also taking into account the specific addresses of the secondary school (linguistic, professional and technical institutes, classical studies, agricultural studies, etc.).

Trying to draw a transversal summary of the contents referring to landscape, we can state that, in primary school (6–10 years), there is already a first approach to the environment and landscape, with a focus on the physical–naturalistic and geographical dimension and on perception through the five senses. In middle school (11–13 years), knowledge on the topics already expressed is refined, introducing historical and social aspects of human activities in the natural environment. Furthermore, considering the more technical subjects, the students approach the topic transversally through some scientific experiences related to soil, materials chemistry, and climate, as well as through laboratory activities. Finally, 14–15-year-old students approach the topics by understanding demographic impacts and changes in modern society, addressing the issue of climate change. In addition, there are already activities in map interpretation and cartographic language, which, especially in the more technical and artistic subjects, translate into basic skills in technical and artistic drawing, analogue or digital.

This brief summary highlights some of the themes already present and referable to landscape and climate change in Italian training programs, which is reflected in the summary table drawn up by UNICAM (Table 1). All partners developed a similar table on the basis of a unique matrix in order to achieve the following:

- Identify the topics already covered in common subjects;
- Realize DUs set in the context of individual national school curricula.

Table 1. Analysis of the Italian training offer and school programs relating to the EDUSCAPE themes (elaboration by UNICAM).

School Order and Age Group	EDUSCAPE Project Themes within the Subjects of Geography, Science, Technology, History, Art, and Chemistry	EDUSCAPE Project Topics Introduced by Civic Education in Italy (L. 92/2019)
Primary school (6–10 y.o.)	• 5 senses for learning about environmental phenomena • Respect for and role of nature • Value of cultural heritage (historical–artistic heritage, etc.) • First simplified concepts of landscape and geography • Physical/morphological elements of the Italian landscape • Historical, social, and economic dynamics of major territorial • Transformations	• Recycling and sustainable use of resources • Agenda 2030 goals (climate change mitigation/adaptation, environmental crisis, etc.) • Heritage awareness

Table 1. *Cont.*

School Order and Age Group	EDUSCAPE Project Themes within the Subjects of Geography, Science, Technology, History, Art, and Chemistry	EDUSCAPE Project Topics Introduced by Civic Education in Italy (L. 92/2019)
Middle school (11–13 y.o.)	• Value of maps at different scales • Effects of the impacts of human activities on natural environments • Scientific and technical elements related to climate and atmosphere • Notes on ecology (concept/process) • Understanding land and cities: form and anthropic/natural elements • Crop types and agricultural cultivation techniques	• Knowledge, protection, and valorization of heritage • Italian Constitution
High school (14–15 y.o.)	• Map interpretation and geo-cartographic language • Demographic impacts and changes in modern society • Climate change • Botany and composition of agro-ecosystems • Geological stratigraphy and geomorphology • Life and technical–analogue or digital drawing (CAD)	• Knowledge, protection, and valorization of heritage • EU sociopolitical agendas: development and environmental sustainability • Meanings, rights, and responsibilities of the 21st-century citizen • Italian Constitution (art. 9)

The Italian context, as mentioned, differs from the curricula of the other partners in the presence of civic education as a 33-h/year cross-curricular teaching, compulsorily introduced in the 2020–2021 school year. Law No. 92/2019 establishes three new compulsory subjects and thematic cores in school curricula at all levels:

1. Constitution: national and international law, legality, and solidarity;
2. Sustainable development: environmental education and knowledge and protection of heritage and territory;
3. Digital citizenship.

The introduction of this subject is fundamental for having disseminated the concept of sustainable development for three years already, promoting the emergence of critical knowledge concerning the environmental and climate crisis even in the youngest segments of the population.

Therefore, this innovative law assumes the role of a transversal subject based on a plurality of learning objectives and expected competences, as well as the "cross-cutting value matrix that must be combined with the disciplines of study, to avoid superficial and unproductive aggregations of theoretical content" (Ministerial Decree No. 35, 22 June 2020) [48].

As emerged from the CA, the teaching in the secondary school curriculum (11–13 years) introduces a central theme for EDUSCAPE: the knowledge, protection, and enhancement of cultural heritage. In this sense, students embark on the exploration of the Italian Constitution, which plays a major role. Lastly, in the 14–15-year age group, more complex themes are introduced relating to the European Union's strategies for environmental sustainability, moving towards a preliminary understanding of the rights and responsibilities of tomorrow's citizens, aware of the challenges of the 21st century.

In particular, the topic of sustainable development reflects the intentions and objectives of EDUSCAPE that inevitably introduce the landscape dimension by extending the concept of environmental education to that of heritage and territory. This positive framework

promotes an interdisciplinary integration between the various subjects, in which the concept of landscape, in its polysemy and multidisciplinary nature, finds several opportunities to be more integrated, starting from existing and specific national and local needs.

Looking further afield, the cultural debate in Italy concerning the landscape finds its foundation in Article 9 of the Italian Constitution ("The Republic shall [. . .] safeguard natural landscape and the historical and artistic heritage of the Nation") [49] and, subsequently, in the environmentalist movements and cultural currents that characterized the 1970s–1980s in response to the process of strong anthropization of cities and urban/suburban/rural landscapes, as well as the economic boom and large-scale construction investments to the detriment of the natural and landscape heritage. A process of reassigning value to the landscape, as summarized in Figure 6, can be read through legislation on urban and territorial law in Italy, culminating in 2004 with the Cultural Heritage and Landscape Code (*Codice Urbani*). There, the landscape takes on the connotations of a common good and heritage that is to be known, preserved, and valued (Italian Legislative Decree No. 42, 22 January 2004) [50]. Similarly, it is worth emphasizing a further advancement in the sphere of the protection of the environment–territory–landscape through the updating of Article 9 of the Constitution, where the concepts of ecosystem, biodiversity and sustainable development, "also in the interest of future generations" (Constitutional Law no. 1, 11 February 2022) [51], find their place.

This brief parenthesis helps to understand the context in which the promotion of this new formative teaching moves and the validity of the themes it introduces, which inevitably also refer to the ELC (ratified in Italy with Law no. 14 of 9 January 2006) and the SDGs, and which open up to the experimentation of EDUSCAPE PRs and future landscape education projects in schools.

Reviewing the results of the questionnaires administered for the NA, we see that 70 teachers took part, mostly from schools in the Marche, Abruzzo, and Lazio regions of middle schools (51% middle schools, 25% primary schools, and 24% high schools); and 60 professionals, including university professors, freelancers and/or specialists (architects, urban planners, landscape architects, climatologists, engineers, biologists, physicists, etc.), environmental guides, activists, and members of sector associations, to name a few. Those who participated in the needs analysis were reached through a dissemination of the initiative via email, social media, or personal contact in order to have a greater and better coverage of the national territories of the different partners and not be limited to the associated institutes.

The majority of the teachers interviewed (45.7%) described the existing offer of programs and materials on environmental education as having recently improved, a sign that the introduction of the civic education in Italy (compulsory from 2020) has implemented the materials available to teachers also regarding the landscape component. However, some of them (20%) still consider the offer insufficient or lacking in some content (17.1%). Only 10 interviewed considered the offer sufficient (14.3%) (Figure 7).

Many of the teachers already have experience with landscape-related interdisciplinary education in their school curricula (85%). Only 11% of teachers have no or little experience with EDUSCAPE topics (4%) or they know topics but do not integrate them into lessons. The teachers state that they often deal with landscape-related topics, processing the materials on the basis of other online sources. These topics, also by virtue of Agenda 2030 and the teaching of Civic Education, are already an integral part of the school curriculum. From the responses obtained, the topics most discussed seem to be forests and deforestation, extraction of building materials, renewable energy, and impacts on the landscape.

Figure 6. Civic education in the Italian cultural and international policy framework. A synthesis outside the legislation on the subject. Source: UNICAM Team.

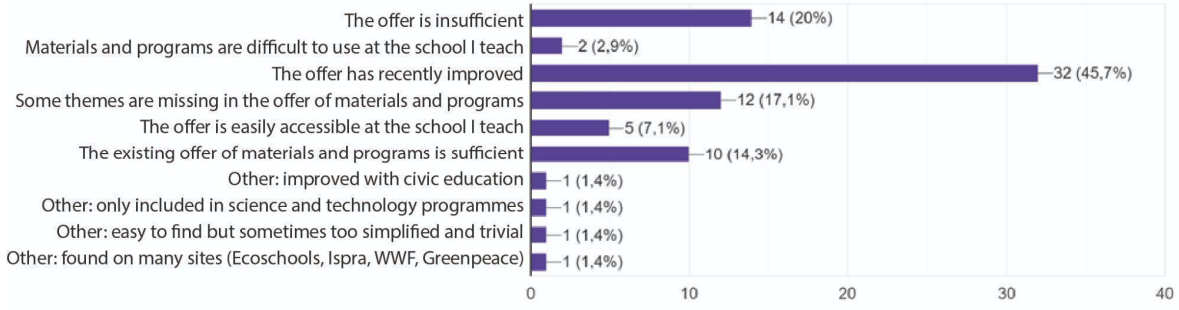


Figure 7. Infogram of the answers given to question 1, "Mark an answer related to the existing offer of programs and materials focusing on environmental education you agree with", extracted from the online questionnaire submitted, "EDUSCAPE questionnaire—teachers". Source: UNICAM Team.

Considering the materials that EDUSCAPE offers, those directly addressed to the students ("ready to use"), concerning activities to be experienced, in-depth materials on landscape and climate change adaptation, and preprepared worksheets, were considered particularly interesting (Figure 8). The feedback received is a sign that the basic materials available in the textbooks are not up to date on EDUSCAPE topics or are lacking, despite the recent reform of civic education.

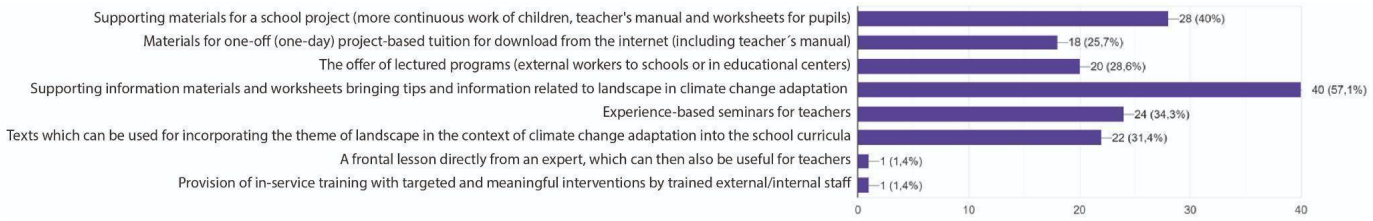


Figure 8. Infogram of the answers given to question 7, "The goal of EDUSCAPE is to create materials for teachers and students which will aid them to use the landscape they inhabit as a tool for teaching various subjects. Which form of support would you welcome?", extracted from the online questionnaire submitted, "EDUSCAPE questionnaire—teachers". Source: UNICAM Team.

3.3. Didactic Units (DUs) as Tool for Teaching/Learning Processes

Following the LR, CAs, and NAs, and after setting up the methodology and the identification of specific gaps in the school curricula, the topics for the DUs—and relative titles—were selected with the participation of all Partners:

- Introduction: 3 units present the general landscape concepts in relation to climate change;
- Construction: 2 units explore the landscape as source of materials and energy and how we shape it for industry and housing;
- Water: 2 units recognize the role of the water in shaping the landscape and as infrastructure (blue and green);
- Agriculture: 2 units focus on the productive landscape and its role in the cultural landscape and in climate change;
- Greenery: 2 units focus on spontaneous vegetation and plants in general to promote biodiversity and against climate change;
- Connection: 2 units explore all types of connections with and within the landscape (flora/fauna and human) and their impact/importance at different scales and analyze the different actors;
- Culture: 2 units recognize the role of globalization in cultural landscapes and for climate change, looking for the different histories that a landscape can tell.

DUs intercept the contents of the different school subjects of the various levels and grades and are therefore designed using the interdisciplinary and transversal approach. Through those, students will develop not only their knowledge but also training skills and attitudes by developing the necessary competencies for personal development, employability, and social inclusion.

The structure of the DUs (elaborated by MPD with the support of all partners) is made up of 45-min lessons divided and calibrated by age group, to which are added possible one-day trips or short outings during school hours for experimenting and reading the landscape in real time.

The lessons, reinterpreting the five teaching and learning moments developed in the method (Figure 3), consist of three teaching sequences:

1. Motivation and acquiring basic knowledge ("Conceptualizing");
2. Mapping and analyzing the field, problem definition ("Perceiving" and "Analyzing");
3. Designing and shaping solutions for the landscape ("Shaping" and "Reflecting").

The first teaching sequence involves the transfer of basic knowledge and scientific terms and concepts. The activities always aim to motivate students and prepare them for learning the basic concepts through games or presentations that can captivate them. Landscape, in this case, may function as a medium to link the topic analyzed to the everyday environment and experience of the students.

In the second phase, teachers aim to transfer those insights back to practice. Using the PBL approach, students are stimulated in finding a problem by scaling a global challenge in their life context, and they analyze it to identify the role of landscape, its dominant features and elements, its internal and external factors, and the values it assumes for

the environment and the inhabiting community. Specifically, the analytical sequence is conducted from a problem-oriented perspective, so that the results could contribute to the solution of a scientifically founded "problem".

In the last sequence, the teacher takes advantage of the obtained results from the previous activities (participatory practices and political education) to reach the "design competences". It will be discovered that the shaping of landscapes is a collective process that involves negotiations between all the actors living and acting within it.

With respect to the overview of the topics covered, the UNICAM team, with the support of the partners, was mainly involved in the development of one of the two DUs on landscape ("Introduction") and the two DUs on ecological–environmental and human connections at different scales ("Connection").

The DUs, which are currently being finalized, follow a pre-established and univocal format that includes the (i) presentation of the contents and (ii) the general and specific aims, (iii) the skills that the students will be able to develop, and (iv) the importance of the topic in relation to the climate issue, with a focus on (v) a series of flexible activities to be tested in the classroom.

Each of the activities imagined and designed for the target group also specifies which objectives it contributes to achieving and which skills the student will be able to acquire with respect to the project topics. Below are just some of the "goals" defined for DUs number 2, "WHAT IS LANDSCAPE? Landscape elements and dynamics" (developed by UNICAM), that refer to the three teaching sequences described above:

1. The student recognizes the different types of landscape (shapes, seasonal colors, actors, and elements);
2. The student understands the importance of the scale of observation (spatial, geographical, local, individual object, etc.) and the point of observation (from above, from within, in perspective, etc.);
3. The student describes and recognizes the different elements of the landscape;
4. The student understands the spatiotemporal dynamic aspect of the landscape;
5. The student understands the relationships between natural and manmade systems: local impacts and global effects.

The student imagines future transformations/solutions with a view to sustainability and adaptation to climate change.

The individual activities are described step-by-step to support the teacher in the construction of the lesson, which can be declined and modified with reference to the subject taught, the area, the number of students and their ages, etc. Teachers, indeed, can extract one or more activities, deepening the topics, using or re-elaborating the contents developed by the project partners (exercises, worksheets, games, etc.) and structuring their lesson. The choice of the scale of analysis through which to look at the landscape is very important: neighborhood scale, city scale, national scale, and the general characteristics of the European landscape. The multiscalar and place-based approach is crucial to integrate theoretical study with reality, recognizing landscapes and how climate change impacts territories.

In this perspective, DUs will increase knowledge and skills for dealing with and facing societal challenges, coming into focus with active responsibility for landscape. This is the level where complex teaching designs such as service learning or PBL education enter into the picture.

4. Discussion and Conclusions

As emphasized by Castiglioni [7–9], landscape education can help build a positive and responsible relationship between each person and the living environment, fostering human growth and a sense of the emotional and rational dimensions and starting an active and proactive participation in the life of the civil community.

In today's crisis scenario (globalization, climate and geopolitical instability, emerging territorial fragilities, etc.), climate change acquires more and more value in the vision of

the future for the new generations. Landscape thus becomes an interpretative tool that is useful for acquiring a greater understanding of the places of everyday life in line with national/international policies towards ambitious and much-needed transitions.

Educating on the landscape becomes indispensable to provide a different perspective of nonconceptual learning [36].

Teachers report that they are interested and aware of this potential, and the new European regulations for teaching increasingly look to an education that helps students understand concepts such as sustainability and climate change, which require experiential and experimental approaches based on the peculiarities of the territories.

In fact, based on the LR (Section 3.1), the NAs and CAs (Section 3.2), and the existing trends in education, it is possible to conclude that there is a need to bring the topic of landscape upfront and focus, in particular, on its essential role in approaching the societal issues of today. The research highlights that teachers already incorporate some important topics into their curricula through outdoor-based experiential methodologies, while neglecting the importance of landscape and its multiple relationships between man, the environment, and society.

In this sense, having intercepted the interest and difficulties present today, DUs aim to offer materials that are easy to understand and transferable to different contexts, so that this type of approach to teaching can be implemented by teachers. The activities in the DUs are adaptable to the context and training of the teachers, who have the possibility of modifying contents and materials (photographs, maps, and activities) supported by provided in-depth documents. The DUs also respond to a time constraint that normally prevents teachers from approaching new methods and topics to be integrated into everyday work life.

EDUSCAPE promoted and stimulated, through internal meetings with the community of educators, researchers, and experts (FGs and MEs), the internationalization of activities and the sharing and exchange of ideas and a process of raising public awareness of the role of landscape in the climate change crisis. The exchange of best practices and discussion sessions provided training and updating on emerging issues, methods, and tools for all partners. In light of the international geopolitical framework and the renewed interest in environmental and landscape issues, the project results (although not definitive) support the process of practical transfer of European policies and Sustainable Development Goals.

On this basis, the EDUSCAPE project supports the dissemination of landscape culture and education in schools as a privileged tool for observing and adapting to an already changed climate, emphasizing how the school world can provide valuable tools to support a process of growth and critical awareness of students and communities, moving towards a more sustainable development.

EDUSCAPE has, in fact, highlighted a demand from the territories (educational, legislative, etc.) that will have to continue to be met, favoring the process towards a more experimental, place-based, and active education.

The implementation of DUs is expected to produce different results depending on the context; the interest of the teachers; and the particular ways in which students relate to their own landscapes, places, times, and cultural attitudes.

Following the dissemination of EDUSCAPE activities and wider experimentation with the project's conclusion, it will be interesting to monitor the managerial implications that the DUs may have within the organization of teaching. At present, it is difficult to predict the project impact in the general process of organizing the school curriculum at the national level. Actually, there are many variables in this regard: the autonomy of each national governance in this domain; the individual sensitivity of teachers and school managers; and the willingness of schools to enter into contact with a European project that, on the whole, implies a process of renewal of tools, methods, and contents of teaching.

Supplementary Materials: The following are available online at "www.youtube.com/watch?v=OTWuwTBvF_0 (accessed on 29 December 2023)", Video S1: EDUSCAPE: How to Approach Landscape in Education, at "https://www.youtube.com/watch?v=92SBo9Z9nkY (accessed on 29 December 2023)", Video S2: 2022 EDUSCAPE Meeting Internazionale: Climate Change Adaptation.

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Data Availability Statement: The data presented in this study are available upon request from the corresponding authors. The data are not publicly available because the project is still ongoing; the outputs (NA and CA reports, methodology, and DUs) will soon be published on the project website.

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