

Connecting Communities and Landscapes Across Europe. Digital Tools and Participatory Practices for Green Education

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Abstract

A reading of the European Landscape Convention, combined with an analysis of European guidelines on education for cultural heritage and sustainability, underlines the importance of developing pathways that connect communities with landscapes, link schools with their surrounding areas and engage young people in practices that promote active, responsible citizenship. The aim is to involve them directly in formulating and pursuing goals related to understanding and caring for their local landscapes.

This reflection originates from a European project involving universities, art-based research centres, local associations and primary and secondary schools in Italy, Spain and Austria. Teachers, researchers and local stakeholders travelled across Europe to share knowledge and experiences, co-design teaching methods and field-test them in both ordinary and fragile contexts. The study thereby developed a set of practices focused on raising awareness, promoting and communicating the landscape, aimed at highlighting its various elements –both tangible and intangible– and their multiple representations. The paper analyses the results of the research, in particular a MOOC (Massive Open Online Course) designed to equip educators with theoretical foundations, methodological insights and best practices for landscape education, understood as cultural heritage and a key resource for sustainable development.

Keywords: landscape and sustainability education, MOOC, landscape interpretation, digital learning environments, participatory practices for proximity landscapes.

Introduction

The polysemic nature of the concept of landscape as a physical element with strong cultural connotations can only be defined and recognised by allowing perceptions and interpretations to emerge. It is necessary to examine not only the material dimension, but also the immaterial, innermost aspects linked to the different experiences and sensitivities of groups and individuals. Addressing such a complex situation requires crossing disciplinary and cultural boundaries, as well as identifying methodologies and practices that effectively connect communities and local areas in heterogeneous contexts. This contribution is based on a broader study carried out since 2017 at the CLIPlab (Cultural Landscape Information and Planning Laboratory)

of the Politecnico di Milano, which investigates methodologies and practices for both formal and informal education related to local landscapes from a European perspective, particularly in ordinary or even degraded contexts. Research has been enriched over the years by dialogue with national and international institutions, as the experiences presented here also illustrate. Beginning with a definition of the topic and an overview of the issues it raises in European policy, the paper outlines the methodological and operational framework of a recently completed European project. It focuses on one of the research findings and initiates a preliminary discussion on its characteristics, limitations and potential.

Teaching about landscape, heritage and sustainability

The interpretation of cultural heritage as a value system intrinsically linked to places and their interpretations has progressively emerged in recent decades [COE 2018; Smith 2006; Sonkoly, Vahtikari 2018; Waterton, Watson 2010]. This perspective highlights the importance of establishing connections between the recognition of cultural values expressed by places, participation, and the care of the landscape, particularly within the educational sphere. Between 1998 and 2022, European institutions produced a number of documents of heterogeneous (and seemingly unrelated) content and scope, yet nevertheless crucial when it comes to defining contemporary landscape education. The European Landscape Convention, published in 2000, and subsequent implementation documents [COE 2008; 2014; 2017; 2019], have contributed to the emergence of an open and expanded understanding of the concept of landscape. This perspective emphasises the interactions between human activities, cultural aspects and physical contexts, the importance of strengthening relationships between communities and their living environments, and the quality of the landscape as a foundation for social wellbeing. In the educational sphere, this approach necessitates greater attention to direct knowledge of the local area, the development of interpretative practices and the enhancement of perceptions and representations [Casonato 2022]. Two years earlier, a recommendation from the Council of Europe [COE 1998] had paved the way for a conception of education through cultural heritage as a set of transdisciplinary practices based on active methods and aimed at respecting common assets, valuing intergenerational dialogue and appreciating cultural diversity [Copeland 2017; Borgia et al. 2019; Bortolotti et al. 2008]. The approach proposed by the 1998 recommendation is based on a broad view of cultural heritage, understood as an evolving value system developed through an interaction between heritage and community. A few years later, this vision connecting heritage and society was revitalised through the development of the Faro Convention, which encourages viewing cultural life as an extension of the universal theme of human rights [COE 2005]. More than 20 years after the first recommendation, a new one has recently emphasised the importance of heritage, culture and landscape in addressing sustainability and global challenges [COE 2022].

The 2030 Agenda for Sustainable Development [UN 2015] can be positioned against the backdrop of the aforementioned issues, as it calls for the development of inclusive methodologies for quality education to foster cultural accessibility, reduce inequalities, value diversity, and promote sustainable communities (Sustainable Development Goals 4, 10, 11). The issue of sustainability is therefore crucial today in the context of education that considers landscape as a cultural system and heritage as a heterogeneous whole and widespread testimony. The connection between the quality of places, heritage and ecological transition is increasingly gaining prominence in European policymaking, as evidenced by the emerging New European Bauhaus movement [2021]. Nevertheless, the correlation between these different areas on a pedagogical level remains largely unexplored, and the recent development of guidelines formulated within the Joint Research Centre of the European Commission for education for ecological transition [COEU 2022; Bianchi et al. 2022] appears to offer no clear pathways for a holistic approach that promotes the connection between landscape, heritage and sustainability education. A field of investigation is thereby outlined which, building on the reflections of the scientific community and the demands of institutions, can lead to the identification of useful methodological tools and practices validated in the field, serving as common working materials for defining new educational horizons.

A participatory and interdisciplinary methodology

The project entitled *Edulands for Transitions. Exploring collaborative learning tools to connect school and landscape* [1], which concluded in 2024, addressed the challenge of methodological design for landscape and ecological transition education. Its aim was to transcend disciplinary, cultural and geographical boundaries, operating within a European dimension while remaining firmly anchored in fieldwork and local contexts. In line with these assumptions, a multicultural, multidisciplinary and multi-sectoral working group, driven by a shared interest in transition as both a cultural and social phenomenon, chose to focus on schools as the primary agents of change. The study therefore saw universities, schools of applied arts and research centres from Spain, Italy and

Austria collaborating directly with primary and secondary schools in the three countries. Researchers from universities and art-based research centres, architects, designers and filmmakers active in associations committed to raising awareness of the local area and its values, the public use of space, the connection between food, landscape and culture, the preservation of public space and participatory practices worked alongside teachers to co-design educational pathways and tools. Participants travelled to share knowledge and experiences, co-design procedures, test them and then discuss their findings, working in fragile contexts such as inland areas, high-density urban areas and neighbourhoods with high immigration. The research findings include tools to disseminate the processes and use them as a basis for further educational experimentation, including a set of guidelines, an interactive, open and incremental OER (Open Educational Resources) system and a MOOC aimed at teachers and educators.

A MOOC for teaching about cultural landscapes and transition

Far from being simple online transpositions of teaching materials or sequences of recorded lectures, MOOCs (Massive Open Online Courses) are specific educational products that have been shaped by dedicated methodological reflection over time. Designed to be used by a very large number of people (Massive), MOOCs are in fact actual courses, with a defined syllabus and learning objectives, and with supporting materials and activities, as well as an evaluation system; they are typically accessible via networked platforms (Online) and do not require prerequisites limiting participation (i.e. they are Open). From this general definition, it is evident that creating a MOOC requires various skills that extend beyond the content-related subject areas, incorporating aspects of communication, pedagogy and media for teaching. In this case, in developing the tool, the researchers worked alongside experts in the field to design the structure, define the teaching approach, manage the textual and visual communication and finally build a dedicated digital architecture. Specific expertise was provided by METID (Innovative Methods and Technologies for Teaching), an internal body of the Politecnico di Milano that designs and tests tools and methods for teaching innovation

through a dedicated platform (POK-Polimi Open Knowledge) that offers courses for professors and students, as well as for professionals and the general public, in order to make the University's expertise available to the community in the spirit of the third mission.

'Take actions to identify, analyse, and care for the landscape around us'

The teaching pathways that emerged from the *EduLands* project experience constitute the core of the MOOC entitled *Landscape education for ecological and cultural transition*, the main objective of which is to provide methodological cues and good practices for landscape education, understood as cultural heritage and as a primary resource for sustainable development. The experiences presented –as the motto that gives the section its title makes clear– are based on practices focused on raising awareness, promoting and communicating about the landscape, aimed at highlighting its various elements –both tangible and intangible– and their multiple representations. Operational formats have been developed from the experiences, which the course offers to actively guide users in designing pathways applicable to various contexts, particularly in everyday environments, including those in fragile landscapes and/or social situations. Underlying the approach is the connection between awareness, interpretation and promotion of the landscape, alongside that between landscape care, participation and quality of life. The course offers opportunities for in-depth study, guided activities, tested operational tools and examples of application which aim to stimulate, guide and enrich informed teaching project design and awareness of the complexity of the topic. The aim is also to foster an understanding of global challenges recognised for their impact on the environmental, social, economic and cultural dimensions of the European context.

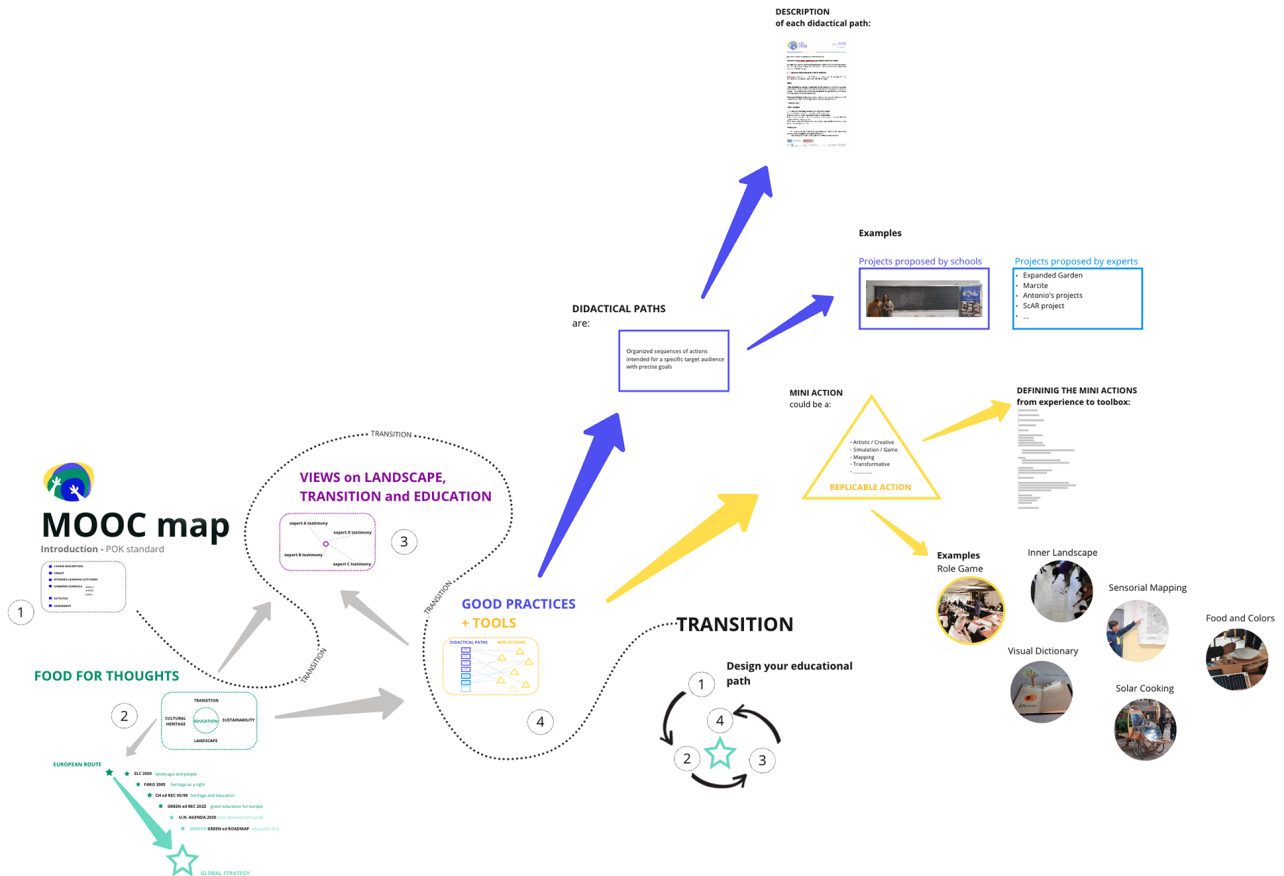
The use of artificial intelligence tools (HeyGen Artificial Intelligence software) enabled the various experts in the European group to express themselves in their own language while creating the video contributions, which are central to the course. This then allowed for the release of a lip-synchronised multilingual version of their content. The MOOC is therefore accessible in four languages and is aimed not only at teachers but also at educators and practitioners working to raise awareness of landscape and sustainability issues, such as in contexts of civic participation and the development of active policies from below.

Teaching structure and content structure

The MOOC offers a linear training process, structured into weekly segments that clearly define the working time, and also awards training credits (fig. 1). Users are supported in verifying their skills and self-assessing their learning outcomes through structured periodic assessments, such as passing a test or solving an exercise using doodles –mainly image-based– or through more

open, project-based assessments, such as creating a paper, uploading it and sharing it with peers (fig. 2). The course is complemented by a forum where participants can exchange ideas on the content and share materials produced during it. While providing the option for linear progression, the MOOC also allows for smooth, customised navigation. By engaging professionals, it was essential to enable each individual to orient their learning according to their interests and needs, giving

Fig. 1. Collaborative conceptual map of the MOOC (created with Miro) used in the co-design and revision phases with the local and international group (author's elaboration).



users the opportunity to work more intensively where they felt they required additional input. This approach allowed them to adjust their engagement in different sections, for example by customising the exploration of available materials, conducting in-depth studies of topics and producing revision and teaching project design materials.

In the initial phase, the course offers training on key concepts: landscape, cultural heritage, transition and sustainability. The first section, titled *Food for Thoughts*, aims to focus on the topics and their interrelationships, guiding a systemic, transversal and targeted interpretation of the concepts, principles and recommendations found in scientific literature and European documents (fig. 3). The second section –*Landscape Views. Transition and Education*– proposes different approaches to interpretation and design ‘of’ and ‘in’ the landscape, offering lectures, activities and readings by international specialists from various disciplines. These range from the protection of historical landscapes and the design of public spaces to sustainability-focused design, with an emphasis on bottom-up approaches and the replicability of processes in diverse educational contexts (fig. 4). The teaching activities co-designed with teachers and tested in different countries constitute the body of good practices available in the third section entitled *Good practices. Ideas and experiences*. The section provides access to the Open Educational Resources (OER) [Open Educational Resources (OER)] developed by the Spanish partner, which can be explored through a structured visual communication project offering various interpretations [Open Educational Resources (OER). Search Homepage] (figs. 5, 6). The open and expandable set of *Learning Experiences*, all multidisciplinary, cooperative and creative, is indexed based on a participatory taxonomy. This taxonomy includes the various aspects of the concept of transition, the diversity of spatial contexts, the types of stakeholders and communities involved, the pedagogical approaches adopted (authentic learning, collaborative learning, peer learning and so on), and the types of collaborative actions implemented (including consultation, mapping, gaming and transformative action). Each experience is documented through texts, images and links to external resources, organised in a common format designed to guide teachers and partners in analysing the actions carried out locally.

Fig. 2. Images from the MOOC test ‘Which of these images depict a landscape?’ (source: MOOC Landscape education for ecological and cultural transition).

Fig. 3. Detail of the collaborative concept map of the MOOC: ‘Food for thoughts’ section, connecting to European directives and global challenges (author’s elaboration).



FOOD FOR THOUGHTS

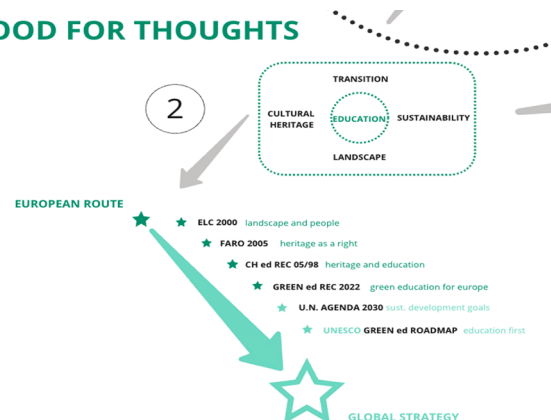
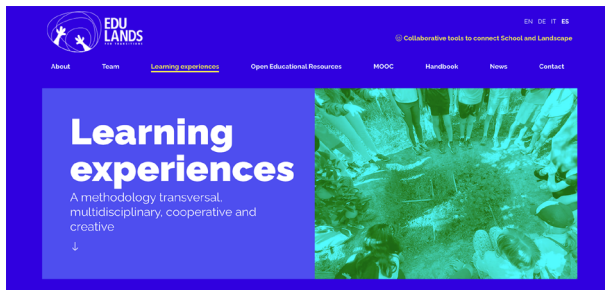


Fig. 4. Frame from the video lecture 'Participatory actions on the landscape' given by A. Abellán Alarcón, founder of Huerta Bizarra (Spain).

Fig. 5. Presentation of the 'Learning experiences' undertaken by schools and local and international partners (source: <<https://edulands.eu/learning-experiences/>>).

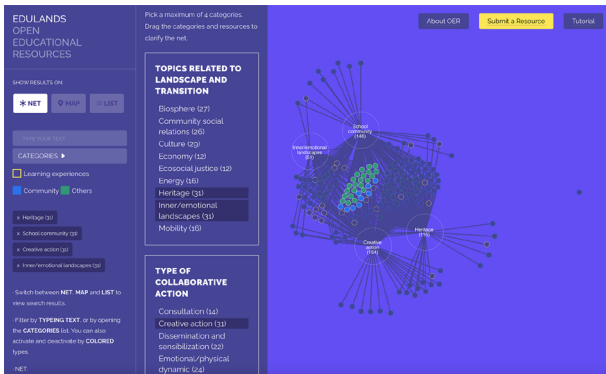


Due to its richness and variety, while constituting a valuable resource, this set of transversal practices posed a significant challenge in terms of effective and targeted use within a digital learning environment and a self-sustaining, purposeful learning pathway such as a MOOC. The risk was that users might get lost in exploring the practices without being able to identify exportable operational tools. The fourth section therefore presents a set of tools called 'MiniTOOLS', which extract replicable formats from field experiences, designed to be transferred and combined into new and original teaching pathways (fig. 7). The tools are described using graphic cards and presented either through a summary framework based on titles and keywords or through a visual gallery (figs. 8, 9). For each tool, it is possible to trace back to the source project. The section on practices and the section containing replicability tools are therefore complementary, allowing the user/educator to create 'round-trip' pathways between detailed and systemic descriptions in which to immerse themselves and a display of tools that are, in a sense, immediately available for use. These tools can be kept 'at hand' and combined with each other (and with others already part of their professional repertoire), adapting them to specific educational contexts and targets.

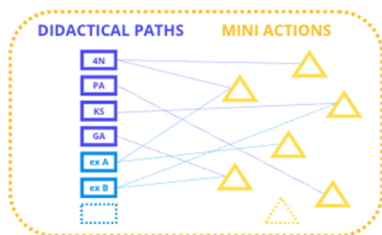
The fourth and final section, entitled *Your learning path. Designing and sharing*, accompanies the educator in designing their own learning pathway, reworking the cultural and operational tools provided. The process is divided into three steps: *Design your own learning pathway*, *Reflect on your idea* and lastly, *Build your diagram*. Following the indications provided by the platform, users are invited to construct a concept map using an easily accessible visual interface (the software selected for this task is Mindmeister) accompanied by a reflection text. By following a colour-coding system that distinguishes the conceptual areas of the diagram (materials, locations, tools used, timeline and so on), the maps –which will be published at a later date on the course forum– can be freely structured in terms of content and spatial arrangement while maintaining comparability of results (fig. 10). In this way, while the MOOC is the result of specific research, it is also presented as a digital environment for comparison and as a prototype of a tool to support the exchange of practices, understood as a contribution to the broader European reflection on tools for collaboration in educational design and the circulation of experiences.

Fig. 6. Dynamic visual interface of the internal search engine for the Open Educational Resources of the European project Edulands for transitions (source: <<https://edulands.eu/oer-search/>>).

Fig. 7. Detail of the MOOC collaborative concept map: connections between the good practice section and the replicable formats (author's diagram).



GOOD PRACTICES + TOOLS



An accessible, collaborative and adaptable MOOC

Following the first exciting season of MOOCs, which became established in 2012, analyses of their effectiveness as teaching tools have revealed certain limitations. In particular, their ability to revolutionise higher education by making it widely accessible has been questioned [Reich, RUIPÉREZ-VALLENTÉ 2019].

Pending the collection of sufficient data to analyse the results through the contributions of the participants, an initial assessment of the limitations and risks was conducted for the case analysed here, highlighting several potential critical points. Since the course is not part of an established training framework and targets a diverse audience, difficulties are to be expected in reaching potentially interested participants. The course also outlines an under-explored area of investigation and is therefore not supported by specific literature. Lastly, the possible gradual enrichment of the contents and working materials, which enhances its nature as a collaborative tool, will depend on the number of users –also linked to the intensity and effectiveness of the dissemination and promotion actions implemented by the international research team– the level of user involvement and users' willingness to engage with a quality teaching project design that is clearly and comprehensively communicated.

Against the backdrop of these observations, it is possible to propose a brief set of reflections and identify some preliminary risk mitigation strategies. The training area identified by the course necessarily requires time to be recognised outside the confines of the research. It does, however, address an emerging and relevant training need, as confirmed by discussions with high-level institutions and the active participation of teachers from three European countries in the co-construction process. The participatory dynamic with which it took shape, the needs identified through previous research [Casonato et al. 2022] and the interest shown by competent institutions at both national and European levels confirm the analysis of the need and the usefulness of the tool, particularly in light of further developments. After all, it is precisely the difficulty of reaching the target audience at short notice that identifies the MOOC, as a tool permanently accessible on a large scale, an ideal training vehicle. The dialogue initiated during the process with a broad and diverse group of partners and institutions opens up opportunities for development, animation and circulation,

Fig. 8. Gallery of 'Mini Tools', replicable formats extrapolated from the educational experiences field-tested by schools within the MOOC (source: MOOC Landscape education for ecological and cultural transition).

Dashboard / My courses / Landscape education for ecologic... / Week 4 - MiniTOOLS. Operational... / MiniTOOLS Gallery

MiniTOOLS Gallery

✓ Done: View

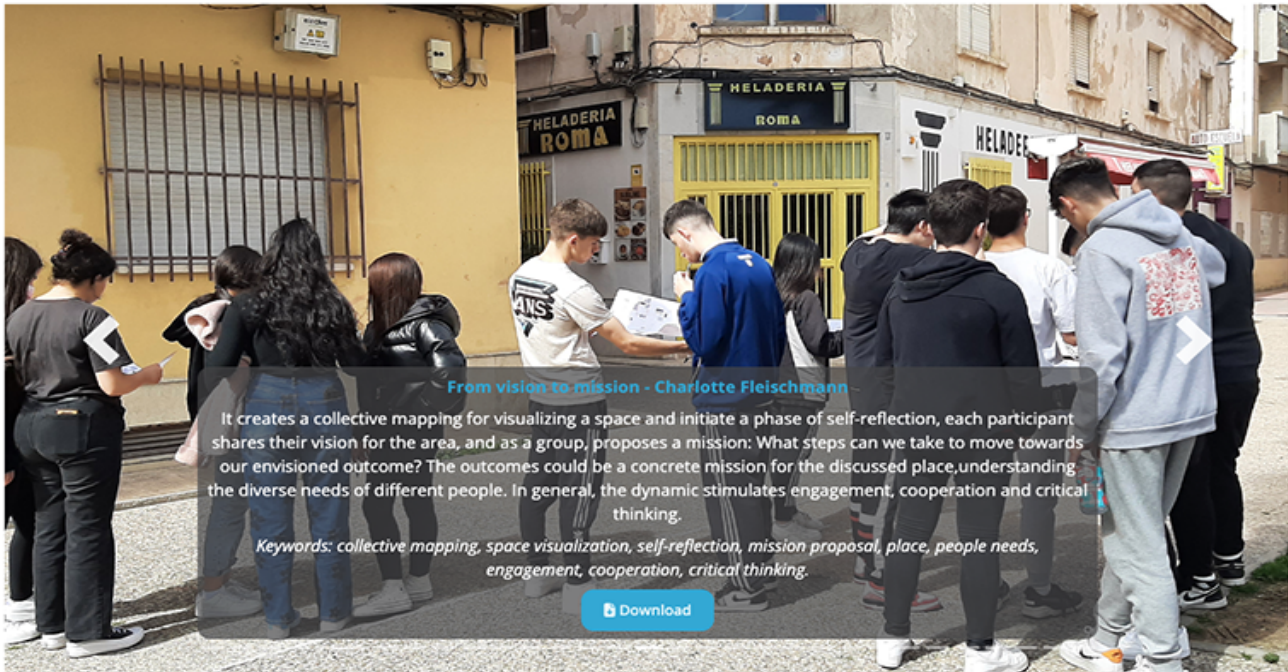


Fig. 9. Descriptive summary sheet of one of more than 30 'Mini Tools', replicable operational formats extrapolated from field-tested teaching experiences and provided by the MOOC (source: MOOC Landscape education for ecological and cultural transition).

Title/Activity Name: The colors of the ground - Cuatronaranjos Murcia Active School





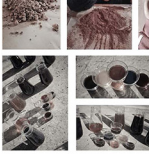
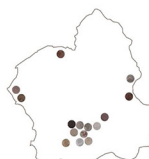



	<p>1) Aim</p>	<p>To connect the students with the landscape, through the collection of soil from different parts of the region and bring it to the educational centre, in order to prepare pigments that will be used in an action.</p>
	<p>2) Participants</p>	<p>a) Type: Students, teachers, families, stakeholders (local associations, administrative authorities, etc) Students, families, teachers b) Quantity (if it is needed, number suggested) Group of 36 students in 1st and 2nd grade, Group of 20 students in 3rd and 4th grade, Group of 27 students in 5th and 6th grade.</p>
	<p>3) Duration</p>	<p>Time invested (overall duration) 17 sessions of 45 minutes.</p>
	<p>4) Place</p>	<p>Murcia, Spain</p>
	<p>5) Material needed</p>	<p>Soil, paintings, template, graffiti sprays</p>
	<p>6) Instructions</p>	<p>1- Collection of soil from Murcia and preparation of pigments. The process of preparing the pigments from the collected soil begins: the larger elements are crushed. They are sieved, and the powder is reserved. 2- Creation of the color chart using the obtained pigments. The following mixtures are used: Pigment and water, Pigment and egg, Pigment and honey, Pigment and agave syrup. 3- Exchange of "The Colors of Murcia" to Vienna. Contact is made with the school in Vienna to arrange a color exchange. Pigments are prepared and sent. A 4- Mapping of "The Colors of Murcia." A map of the Murcia Region is created, and the pigments are located according to their origin. 5- The wounds of the orchard. Visit to the orchard is organized with the aim of observing the different "wounds" we see in our agricultural environment. Answering the questions: What is damaged or what is causing damage? 6- Designing actions. All this collection of materials (pigments, observations of the orchard, and artistic references) is going to be used for the creation of an art project or performance.</p>
	<p>7) Expected learning outcome</p>	<p>1) The expected learning is to open the students mind to their surroundings, being more conscious of the places where they pass through. 2) Also, to awake a reflexive view of the surroundings and create cultural, human and natural connections with it. 3) Related to the materials and the creative process, to experiment how the students could be creators of their own artistic materials and being the main character of the Teaching-Learning Process. 4) Artivism, as a language of social critique, is not just an action in itself but a social transformation through art.</p>
	<p>8) Final Outcome</p>	<p>The final outcome was to design and paint a mural following the colours and the shapes of the surroundings. The aim of the action it was to create a deep connection between the school and the surroundings, like melting with the landscape.</p>
	<p>9) Evaluation</p>	<p>Transparent Classroom is the tool used for the evaluation. It is an online platform that offers the possibility to carry out an evaluative follow-up of all the teaching-learning processes. This online platform helps to create and organize evaluation criteria and to be able to share this in a very simple and daily way with families.</p>

Fig. 10. Instructions for constructing concept maps describing the teaching projects that MOOC users are invited to design and share in the forum (source: MOOC Landscape education for ecological and cultural transition).

Now that you have the design idea and its characteristics in mind, you can open [Mindmeister](#) and build your diagram. We suggest you follow some simple directions regarding the colors to choose, so that all diagrams that will be shared can be easily interpreted:

- choose **BLUE BOXES** for recipients, needs, goals, constraints, timeframes, etc., i.e., all the indispensable elements;
- choose **YELLOW BOXES** to indicate materials and tools;
- choose **PURPLE BOXES** for learning approaches and methodologies;
- choose **RED BOXES** for intermediate and final outcomes (products) (a video? a poster? a web page?...);
- choose **GREEN BOXES** for work steps (timelines).



Now you can share your learning path with others on the Forum... and propose it to your students-if you haven't already!

also supported by the dissemination actions expected from the international researchers involved. The possibility of implementation, mediation and updating beyond the project deadline is, in fact, guaranteed by METID staff. Based not only on lectures but also on updatable documents (e.g. European guidelines) and on the interaction between proposed models and documented practices, the MOOC enables a continuous process of reworking and teaching project design, along with subsequent uploads by users. This potentially allows for continuous updating of the offer. In the face of the risk of low participation, the course is nevertheless presented as an autonomous product, with a rich and diverse experiential component right from the start, thanks to the participative, plural and multi-skilled nature of the process. The accessibility of the tool is also ensured by its open offer, its modular and customisable use, its free-of-charge availability, its presence on a platform maintained by an internationally recognised institution and the flexible nature of the proposed learning pathways.

When observed as a whole, the MOOC demonstrates that it aligns with the basic principles of designing learning spaces in accordance with the Pedagogy-Space-Technology framework (PST) [Radcliffe 2009]. In fact, it: motivates learners by promoting learning as an activity, supports collaborative practices, provides a learning context that can be customised to meet different needs, looks beyond tried-and-tested approaches, responds to various learning objectives, is learner-centred, supports different types of learning activities, allows for corrections and, last but not least, adopts multidisciplinary approaches. In line with the complexity that MOOCs have acquired over time, the case analysed also presents heterogeneous characteristics that initially identified precise and distinct types, combining them according to target, approach and content. The analysis of the tool according to established classification categories [Pozzi, Conole 2014] produces a fairly detailed interpretation, from which a strong ability to meet the effectiveness requirements of this type of tool emerges (tab. 1).

Fig. 11. A frame from the video lecture in the form of an interview with Tremeur Denigot, education expert at the Joint Research Centre of the European Commission, along with the cover of the lecture (source: MOOC Landscape education for ecological and cultural transition).



Tab. 1. Analysis of the MOOC based on 'the 12Ds', or 'dimensions', according to the evaluation system proposed by Conole [Pozzi, Conole 2014] (author's table).

Dimension	Description	Evaluation
Degree of openness	From relatively closed courses to courses created using 'open source' tools where participants are encouraged and share their products using creative commons licenses.	High. Uses open access tools chosen from those already in use in schools and encourages sharing their products using creative commons licenses.
Massification	From small groups to courses involving thousands of participants.	High. The course is available in four languages and is offered to anyone with an interest in the topics covered and is aimed at different categories of professionals.
Use of multimedia	From a low use of multimedia materials, to a high its of interactive multimedia.	High. Uses a varied set of multimedia materials and interactive tools (georeferencing maps, doodles for test quizzes, concept map building tools, OER search interface, forum). METID staff are available to interact with users
Degree of communication	From a low level of communication to courses where participants are encouraged to contribute to numerous discussions on forums, keep a personal reflective blog, etc.	Medium. Participants are encouraged to participate in the forum, upload their products and discuss them collectively.
Degree of collaboration	From little or no collaboration, to courses with significant levels of collaboration.	Medium. Participants are encouraged to use the forum and resources uploaded by other users as examples and items for comparison, but completion of required tasks does not require direct interaction.
Learning pathway degree of structuring/personalization	More or less structured, more or less personalized pathways, etc.	High. The course is organized in weeks and guides the user in a consequential and coherent path, however it allows a high level of customization (order of operations, available insights, intensity of commitment in the realization of products).
Quality assurance	From little or no quality assurance to courses undergoing revisions.	Medium. The institution delivering the course is reputable, however, no quality certification is provided.
Degree of reflection	From little or no reflection to courses that encourage high levels of reflection.	High. The course requires the production of products that require careful reflection and personal elaboration; it also requires reflective papers on the coursework.
Certification	Whether or not participants can receive badges upon completion of individual aspects of the course or receive certification for participation.	High. Participants who complete the course earn a Certificate of Accomplishment issued by Politecnico di Milano, a recognized institution for higher education (international level) and a recognized teacher-training institution (national level).
Formality/Informality	From formal educational offerings to proposals for informal learning.	Low. The course can be enjoyed as part of an informal by a person who is interested in the topics covered.
Autonomy	Degree to which participants are required to work independently and to self-regulate their own learning.	High. The course can be attended independently. The user is provided with self-assessment tests, in-depth materials, is invited to customize the use of resources (OER Learning experiences, MiniTools) and to apply instructional design methodologies in customized contexts (geographical context, type of landscape, teaching/educational target...).
Diversity	From homogeneous groups of students to very diverse students.	High. Participation is open to all, and the course is aimed at a wide range of users (teachers, educators, administrative and museum officials, practitioners of participatory processes...).

Conclusions

The documents outlining the European guidelines on landscape awareness, heritage education and sustainability mentioned in the introduction are well known. It is not, however, easy to discern their connections and identify their cross-cutting educational reach. Similarly, translating these guidelines into operational applications suitable for action in local contexts certainly represents a challenge, especially if we aim to adopt a perspective that transcends national borders, disciplinary limits and constraints linked to local educational systems [Branchesi 2007]. It then becomes crucial to provide educators with the fundamentals of a pedagogy that considers the cultural transformations that have occurred in recent decades –starting with the broadening of the concept of cultural heritage and landscape– and to demonstrate their relevance to the transition towards an environmentally, culturally and socially sustainable future.

Among the MOOCs available on the POK portal aimed at teachers, the one examined here stands out due to its diverse target audience, connection to a European research project, the interaction with a set of internal and external digital tools, international and extra-academic participation, variety of delivery languages, strongly multidisciplinary nature and the articulation of the teaching approaches adopted. In addition to reframing the experiences and findings of the international research group and orienting them towards teaching project design, the MOOC presented offers insights to broaden the debate, providing a direct voice to educators and enriching it with contributions

from external guests. These include contributions from Tremeur Denigot, an expert in sustainability education at the Joint Research Centre, the European Commission's science hub for building independent, evidence-based knowledge to ensure European policies have a positive impact on society [European Commission. Science for Policy] (fig. 11).

The contribution consists of a series of clips targeted communications constructed in the form of interviews and debates with the MOOC leaders. This comparison enables us to examine the operation from a broader perspective, observing it from within the institutions responsible for developing education policies at European level. This passage reflects a clear intention that emerges from the entire structure of the course: rather than simply providing a package of lectures, it aims to activate a multifaceted, shared reflection on landscape and sustainability education as a complex topic and a field of experimentation and methodological co-construction. It seeks to leverage expertise, academic reflection, the work of high-level institutions, research experiences and theoretical approaches, combining them with the crucial resource of teaching reflection and bottom-up design –both very rich and challenging to exploit– rooted in the direct experience of teachers and educators. Underlying the collaborative process described is a shared desire to connect schools and local areas, communities and landscapes, bringing young people closer to practices related to active, responsible citizenship. This aims to engage them directly in formulating and pursuing sustainability goals, as well as in understanding and taking care of their local landscapes.

Notes

[1] The project was funded through an Erasmus+ call KA220-SCH (Cooperation partnerships in school education). Within the European team responsible for designing the MOOC described here is an interdepartmental research group at the Politecnico di Milano, coordinated by Paola Branduini (Department of Architecture, Built Environment and Construction Engineering) and supplemented by

the author as the scientific project director at the Department of Architecture and Urban Studies. International partners, in addition to the Universidad de Murcia as the lead institution, include the Universität für angewandte Kunst in Vienna and Oikodrom (Vienna Institute for Urban Sustainability) <<https://edulands.eu/>> (accessed 30 July 2024).

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