yOUR 2030. A MULTIDISCIPLINARY EDUCATIONAL PROJECT TO PROMOTE THE THEME OF SUSTAINABILITY

DOI: 10.26341/issn.2241-4010-2025-13a-8-K02184

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Abstract
The yOUR2030 project originated from the awareness that the Sustainable Development Agenda, signed in September 2015 by the governments of the 193 UN member countries, is an action program that invites individuals to reflect on the relationships between personal behaviours and the resources available on our planet.

The guiding idea of the project is that the theme of sustainability should be presented as an educational subject adaptable to the characteristics of the students/audiences.

The work began in 2021 with the consideration that there is no universally recognized communication strategy deemed effective for discussing sustainability. However, there are key concepts that can be used in general terms to convey to different audiences a clear and distinctive characterization of the topic to focus attention on specific communication themes that are widely recognized as strategic.

Experience conducted with audiences of varying ages and engaged in diverse educational activities identified four "key themes" that are essential for effectively conveying the concept of sustainability across different contexts.

Key words: *SDG's 2030; Education system, vision of sustainability, sustainability practices.*

Introduction

The reflections presented here were inspired by the research we undertook at the Politecnico di Milano, Mantua Campus, starting in 2016. We have offered students a Laurea (equivalent to Bachelor of Science) programme in Architectural Design at the Mantova Campus since the early 2000s and it was joined by a master's degree in "Architectural Design and History" in 2015.

Starting with the introduction of the master's degree, we decided to promote specific research activities to integrate sustainability-related topics in our teaching. To do so, we initiated a research laboratory called Land Repair Lab, which was inspired by the desire to test teaching paths and innovative research while strengthening research methods useful for providing design-oriented responses that do not refer to an individual project, but aim to gather the series of relationships that each project develops with the fundamental resources in the surrounding environment (Lennon, Douglas & Scott, 2017).

The guiding conviction is that to do so, it is necessary to change the approach to the project: start with the existing elements, reading their history, understanding their relationships, and gathering their collocation within the different systems and networks that structure the urban and territorial space; and work towards progressive reactivation capable of reading the distinctive characteristics and addressing the pre-existing interwoven environmental and urban relationships in coherent terms.

Following this approach, a reading of the territorial morphology, recovery of the urban fabric, and discovery of human settlements may contribute explicitly not only to building

knowledge, but also to forming a project with an awareness of the future of a territory (Angelillo & Peraboni, 2022).

These are topics and questions that have arisen in recent years, highlighting the weaknesses and limits of urban planning as they mainly relate to the changing contextual conditions and a radical reorientation of the discipline. Such topics constitute a perspective for anchoring city transformations, which are often affected by regeneration involving central urban areas and very distinctive functions.

The idea of promoting a "repair" approach stems from a desire to activate - in terms of the landscape and territory - the strategy of "mending" indicated by Renzo Piano in an article published on 26 January 2014, entitled "Il rammendo delle periferie".

The reflections presented here begin with an extraordinary request: *"*… We are an extraordinary, beautiful country, but one that is also very fragile. The landscape is fragile, as are the cities, particularly the peripheries, where no one has spent time or money on maintenance. But the peripheries are precisely the city of the future, where human energy is concentrated, and which will be left as a legacy to our children. Both extensive mending and ideas are needed..." (Piano, 2014).

The focus of our activities starts with the search for these ideas, which moves in three directions:

- organising a workshop entitled "ReActive Strategies. Idee, progetti e azioni per la città", the goal of which was to test new forms of teaching and promote initiatives that could complete the teaching path while presenting students with an overview of the problems related to sustainability. The goal was to test project forms to express a specific awareness of sustainability issues;
- conducting systematic reconnaissance relating to the ways in which sustainability is inserted and can be read within the programmes we teach. The goal was to verify the means through which the teaching project in the Laurea (equivalent to Bachelor of Science) programme explicitly expresses its awareness of different aspects and the different scales of work that link sustainability to architectural projects;
- investigating via a questionnaire administered systematically to all students. The goal was to verify the level of knowledge and awareness of the issues in "sustainable design" and elicit the common features and different meanings of "sustainability" recognised by the students.

The third activity shed light on the most interesting results, which then oriented our activities. Through the examination, we were able to understand how our students have a different level of sensitivity and awareness of sustainability, different levels of knowledge, and a limited view of the relationship between sustainability and the project in certain senses. Essentially, they related sustainability to the capacity to ensure good energy efficiency for the building being designed. The result of this investigation suggested the start of a project aimed at bringing the topic of sustainability "into" our teaching activities. The idea was to make sustainability become a topic of work and research structurally connected to the different teaching activities, thereby eliciting all the different implications generated by "the project", even in relation to the different scales of development.

Research

One clear consideration emerged from this initial reconnaissance: the need to configure a research project capable of meeting the different emerging needs along with the need to radically change the way we think about the relationship between our different educational activities and the topic of sustainability.

The yOUR 2030 project began in spring 2018 with the objective of interrelating the 17 Sustainability Goals contained in the Resolution adopted by the United Nations General Assembly on 25 September 2015. The document, entitled "Transforming our world: the 2030 Agenda for Sustainable Development", identifies five priorities that act as drivers to reach the objectives: people, planet, prosperity, peace, partnership. This document also underlines that the construction of interlinkages among the Sustainable Development Goals should be understood as a strategic action to ensure that the objectives of the Agenda are realised. Indeed, it emphasises that "... if we realize our ambitions across the full extent of the Agenda, the lives of all will be profoundly improved and our world will be transformed for the better." (UN, 2015).

Today we look at this initial phase of the yOUR 2030 project with an awareness that much of what has occurred in recent years has profoundly changed our way of perceiving sustainability, starting with the pandemic, the evidence of events related to climate change, the awareness of needing to undertake an energy transition, and last but not least, the emerging need to expand awareness and a shared sensitivity.

The guiding idea of the project is that in educational terms, sustainability should be conceived as an educational subject adaptable to the characteristics of different students and, in general, the various people involved in the process. In 2018, when we presented this project to our colleagues and students on campus, we highlighted two aspects of yOUR 2030: the "container" and the "interface". As a container, it encompasses heterogeneous initiatives, a container that can hold different experiences, connecting, blending, relating thoughts and proposals without imagining disciplinary boundaries. As an interface, we have decided to use the topics proposed by the 17 Sustainability Goals as an opportunity to connect the different activities conducted at the university to different companies around it.

We have verified that this approach is consistent with the broad organisation found in international initiatives (Giovannini & Riccaboni, 2021). In this sense, the debate that enlivened the first part of the 21st century regarded three main aspects:

- the progressively confirmed awareness of the need to take on the issues and questions posed by environmental challenges in increasingly "inclusive" educational experiences pertaining to different problems emerging from the territories;
- the need to present students with an integrated model of knowledge oriented around training on an interpretational framework that focuses on different aspects of knowledge, pursuing a multidisciplinary and systematic approach;
- researching new tools of communication that can look at transformations in communities and territories and enhance them as a function of the effectiveness of real processes being activated.

Based on the activities conducted in these initial years and the numerous experiences with people of different ages and in various educational settings, we identified four "key topics" that we believe may be used effectively to better communicate the general concept of sustainability as implied by the 2030 Goals. The four "pillars" we identified are:

- the role of "OUR" in contrast to "YOUR". This topic immediately marked our communicative approach. The two pronouns are merged to foster attention and engender a sense of collective responsibility towards a shared direction;
- the concept of COMMITMENT entailed by the pursuit of sustainability, along with shared understanding in seeking new forms of sustainable action, requires defining our habits anew and challenging the development of new lifestyles;
- the value of an ARTICULATED (and complex) VISION of sustainability, in which the term has varying meanings depending on the context of application. This emphasises the uniqueness of sustainability, which cannot be reduced to achieving partial goals;

- the importance of TESTIMONY, tied to promoting innovative sustainability practices, which fosters awareness that a new dimension of sustainable living and action can be achieved.

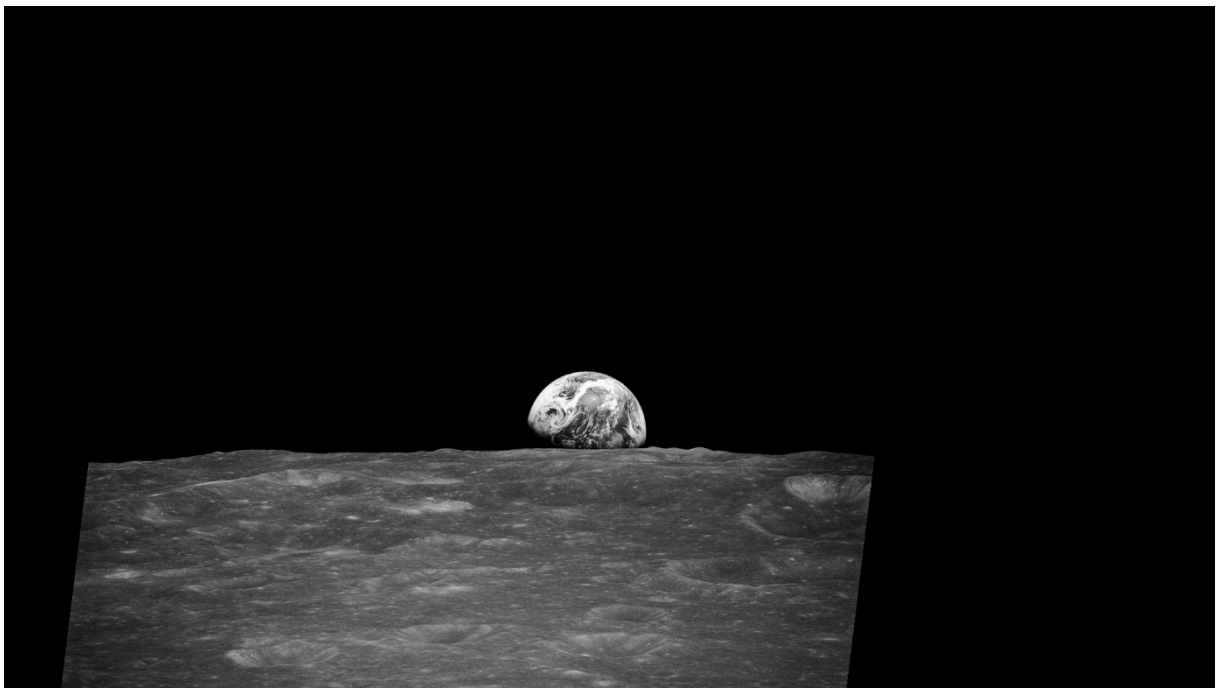
Each of these pillars, which are analysed in detail below, is essential for effective education in sustainability, promoting community cohesion, improving integration between the university and the territory, and, in general, improving awareness about the future of our planet.

The Role of "OUR" in Contrast to "YOUR"

This is of course a founding topic for describing our experience and we gathered three suggestions during our work that guided us in the design and progress of our activities.

The first element is an extraordinarily effective image for summarising this concept: the first image of Earth taken from lunar orbit (see Figure 1). The image brings us face to face with the evidence that the Earth can and should be considered a "finite" planet. The photograph entered the collective heritage on 24 December 1968 when the team of the Apollo 8 space mission immortalised Earthrise, the image of our planet "rising" amid the lunar landscape. We have seen the image hundreds of times, but every time, it transmits this striking sense of finiteness in an extraordinary way.

Fig. 1: On December 24, 1968, Apollo 8 astronauts Frank Borman, James Lovell, and William Anders were coming around from the far side of the Moon on their fourth orbit.
Source: https://earthobservatory.nasa.gov/images/82693/



The limits of the planet were spoken of explicitly a few years later, in 1972, by the authors of the study "The Limits to Growth", a research project commissioned to understand the possible long-term consequences of the current model of growth, a model that the authors state is inevitably destined to contrast with the natural limits of development and capacity to regenerate the Earth's resources. At the end of the report, the authors remind us that: "Our present situation is so complex and is so much a reflection of man's multiple activities, however, that no combination of purely technical, economic, or legal measures and devices

can bring substantial improvement. Entirely new approaches are required to redirect society toward goals of equilibrium rather than growth. … This supreme effort is a challenge for our generation. It cannot be passed on to the next. The effort must be resolutely undertaken without delay, and significant redirection must be achieved during this decade" (Meadows et al., 1972).

There is only one, finite, limited Earth. We are the Earth, and no one can imagine being anything "other" than it. This is the profound sense that we wanted to transmit through our project, gathering a message from long ago, but which is undoubtedly and extraordinarily modern!

We gathered a third element of awareness from the research report entitled "Our Common Future", or "Brundtland Report", produced by the World Commission on Environment and Development in 1987. The report reflects on the possible conditions for realising development that refrains from continuing to erode the planet's resources, ensuring future perspectives for humanity to meet "the needs of the present without compromising the ability of future generations to meet their own needs", and introducing profound thought on the intergenerational aspect of sustainability-related issues.

In the section entitled "Sustainable Development", the document reminds us that "…humanity has the ability to make development sustainable to ensure that it meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development does imply limits - not absolute limits but limitations imposed by the present state of technology and social organization on environmental resources and by the ability of the biosphere to absorb the effects of human activities. But technology and social organization can be both managed and improved to make way for a new era of economic growth" (Brundtland, 1987).

The message we recognised relates to the legacy that our actions leave in relation to what we would be capable of doing. Thirty-five years have passed since the report was published, and never have we been so aware of reaching a "turning point for people and the planet", as we have come to call this moment that is extraordinarily important in defining our future.

The Concept of COMMITMENT

The choice to include sustainability-related issues in educational strategies has raised numerous questions on the teaching objectives to pursue in relation to the students' different ages, and which content, forms, and teaching methods to use in the various teaching paths. In recent years, schools around the world have addressed this challenge and focused on the need to situate sustainability within a broader interdisciplinary framework.

In exploring the relationship between education and sustainable development, an interesting contribution is provided by Paul Vare and William Scott (2007), who underline the importance of viewing sustainable development as a social learning process (in contrast to a set of predetermined behaviours) that relate to building a capacity to think critically and explore problems and contradictions inherent in sustainable transformation.

Continuing in this direction, Johan Öhman e Louise Sund (2021) underlined how development of this new sensitivity is a key objective in schools. They also highlighted the way in which, in terms of promoting a culture of sustainability, the schools" goal could be understood as the capacity to stimulate the development of awareness and young people's interest in living sustainably. We are certain that this could lead to social participation that would contribute, for example, to reinforcing the overall resilience of different ecological systems.

In the experiences conducted over the years, our strategy to meet the challenge of sustainability was translated into two different strategic directions:

- reinforcing the interlinkages and related combinations of specific skills to fully understand the topics related to sustainable development. The path to define the new necessary skills is far from finished. Nonetheless, its configuration allowed us to gather an initial series of results with respect to recognising students' abilities and knowledge and determining a possible future role for them as "change agents" and "transition managers" in the sense implied by Arnim Wiek, Lauren Withycombe e Charles Redman (2011);
- our work found an important reference in the reflections made by UNESCO in relation to the eight key cross-cutting competencies for sustainability that are particularly important for thinking and acting in favour of sustainable development: systems thinking, anticipatory, normative, strategic, collaboration, critical thinking, self-awareness, and integrated problem-solving (UNESCO, 2017).

Both cases represent an explicit call to a commitment that must see universities and other educational/training institutions called to contributed to a transition that has currently only just begun. As Irina Bokova, former Director-General of UNESCO reminds us: "A fundamental change is needed in the way we think about education's role in global development, because it has a catalytic impact on the well-being of individuals and the future of our planet. Now, more than ever, education has a responsibility to be in gear with 21st century challenges and aspirations and foster the right types of values and skills that will lead to sustainable and inclusive growth, and peaceful living together" (UNESCO, 2015).

Considering these considerations, a key role contained in our initiatives was to develop the concept of "commitment to action", intended as a multifaceted educational concept substantially associated with the idea that participation in an educational activity relying on sustainability as the reference means being ready to leave a qualified mark of one's commitment to the educational activity. The approach recalls the need to leave a contribution (different in consistency and nature depending on the participants' age) to prove the participant's commitment to the teaching activity.

This has become a rule of our teaching activities: participants must share a thought, drawing, map, photograph, etc., leaving "something" that speaks to their commitment. These materials are later used in communication and distribution initiatives relating to sustainability and represent a wealth of resources that grows due to the commitment of all the participants in our initiatives.

Fig. 2: Demonstrating our commitment to sustainability with work moments.
Source: Author

The Value of an ARTICULATED (and complex) VISION of Sustainability

"Sustainable development" is defined in a variety of ways, and such variety is viewed by various authors as a problem. Multiple parties have stated that this may represent a limit to developing policies that are meaningfully oriented around sustainability, and a limit to an adequate conceptualisation of the meaning of sustainable development itself (Rees, 1989; Fien, 2002).

However, when we deal with complex systems and detailed questions, it is not always easy to reach an effective and universally recognisable concept, as would be appropriate. The definition of sustainable development as per the Brundtland Commission (1987), which indicates sustainability as behaviour that "meets the needs of the present without compromising the ability of future generations to meet their own needs", was purposely left vague to create room to work towards building common ground where experts in different disciplines could be recognised.

Others maintain that it is precisely due to this vagueness that a broad, constructive scientific discussion opened on the definition of sustainable development, leading to the quick, consistent evolution of the concept of sustainability (Dale, 2001) as indicated for the first time by the Brundtland Report. The result of this discussion produced a variety of definitions of sustainable development that tended to find grounds for reconciliation between three different points of view: the ecological point of view, aimed at ensuring the capacity of biophysical resources to regenerate and biodiversity to be maintained; the social point of view, aimed at guaranteeing the development of democratic systems of government capable of effectively supporting social values deemed adequate for the needs expressed by the communities living in different areas; and the economic point of view, aimed at guaranteeing that basic needs are met around the world (Dale, 2001; Robinson & Tinker, 1997). This definition, however, remains sufficiently broad to allow for different interpretations of the concept of sustainable development in relation to specific socio-geographic situations and in the face of unexpected scenarios marked by uncertainty, therefore becoming a shared field of work.

This consideration, which guided our initiatives, relates to the need to recognise the interlinkages between human society and ecological systems. Such relationships make different systems co-adaptive, reacting interactively and producing reactions in progressive feedback network Jickling (2000).

In this respect, we adopted a broad, complex, transdisciplinary approach to sustainable development education. An explicit reference along these lines is found in the 2030 Agenda, point 55 of which says: "The Sustainable Development Goals and targets are integrated and indivisible, global in nature and universally applicable, taking into account different national realities, capacities and levels of development and respecting national policies and priorities. Targets are defined as aspirational and global, with each Government setting its own national targets guided by the global level of ambition but considering national circumstances. Each Government will also decide how these aspirational and global targets should be incorporated into national planning processes, policies and strategies. It is important to recognize the link between sustainable development and other relevant ongoing processes in the economic, social and environmental fields" (UNESCO, 2015).

"Integrated and indivisible" have become two key concepts that we laid at the basis of our communication strategy. Our objective was that building knowledge around sustainable development cannot be measured exclusively in terms of acquiring a series of skills but must reflect the complex nature of socio-ecological reactions. Every event must therefore convey the idea of collective attention to the issues of sustainable development and lead to reflection on how an interdisciplinary vision is indispensable in the search for sustainable development (see Figure 3).

For each proposed event, we therefore develop a code of communication that highlights three different levels of relationships: the reference objective, the interconnected levels, and the levels of reference. Our idea is that no initiative may be communicated without highlighting this complex system of integrated and indivisible relationships.

Fig. 3: How we communicate the values of "integrity and indivisibility". Source: Author

The Importance of TESTIMONY

Our experience began with the considerations expressed by John Dewey (1986), according to which each experience changes us and, in a certain sense, redefines our perception of the world around us. The author recalls that when individuals participate in a learning experience, the experiences must compel them to question and change their previous customary behaviour and feel and think in a different way; above all, they need to verify that this can be a feasible path.

Testimonies are an important source of knowledge in many contexts, including education, where the reliability of the testimony lends the experience important value in recognising the practicability of a path, its feasibility, the possibility of translating the thought (or often a dream) underlying the initiative into concrete fulfilment.

The reliability of the testimony may refer to a combination of expertise and sincerity, both of which are usually elevated when someone testifies to their own experience. The task we have assumed is to bring to our university classrooms testimonials and experiences capable of depicting situations in which the witnesses' expertise and authenticity can be recognised in their paths towards greater sustainability in their lives. In this sense, we immediately deemed it important for these experiences to give students an awareness of the context and value of the testimony.

While it is commonly believed that sustainability education should stimulate students to become informed experts in the different phenomena affecting the world and promote new visions relating to the effects of changes in social communities, it is also true that sustainability education relates to conserving practices, processes, and beneficial relationships. This focuses on living communities, but it does not represent either an apology for the status quo or nostalgia for a previous state of things. Rather, innovation serves conservation. In this sense, promoting sustainability implies management aimed at change, but it is also capable of enhancing practices and relationships that were important and relevant in the past (Thiele, 2013). In other words, it is necessary to understand and conserve the memory of values, relationships, and skills that make adaptive innovation possible in a changing world looking for practical experiences in sustainability.

This experiential approach to sustainability learning means considering student learning not exclusively as a mental process through which information is acquired and processed as a function of the specific condition (perception, imagination, symbolisation, concept formation, problem identification, etc.), but a process strongly referring to testing practices or gaining awareness regarding the feasibility of solutions, verified through testimonies (see Figure 4).

Starting with our teaching experiences and drawing on John Dewey's ideas of experience and learning, we have recognised three fundamental (and correlated) aspects that testimonies can provide with respect to the possibility that students develop a solid commitment to sustainability:

- gaining knowledge on sustainability-related issues and relating (positioning/locating) themselves with respect to this knowledge, developing their intellectual potential;
- articulating their emotional response and relating themselves positively to the questions of sustainability, redefining their own ethical standards and convictions. This allows them to strengthen the emotional aspect;
- developing their capacity, motivation, and desire to play an active role in the search for solutions to the problems of sustainability, allowing them to enhance their practical knowledge.

The goal we have pursued - getting our students acquainted with the figures of our time who have realised sustainability projects - is therefore twofold, relating to both content and method. The people who have realised sustainability can provide us with an awareness and solid anchoring stemming from the concrete experience of people who have known how to reinterpret what they experienced, correcting and modifying imperfections and errors. In addition, in encountering these figures, even from a distance, the students can understand how they can carry (and promote) their own "idea of sustainability" through their history and integrate it in their behaviours, choices, and the passion that they dedicate to realising their own projects.

Each student can draw inspiration from these figures not only regarding the content and attention they have spoken about but may also discover the original calling of the different projects that are often based on a capacity to accommodate commitments and responsibilities, recognising and overcoming their own natural imperfections.

Fig.4 - Meet people who can demonstrate their commitment to sustainability

Conclusion

As we have described, the activities conducted in these initial years and the numerous experiences with people of different ages and in various educational settings led to the identification of four "key topics" that we believe may be used effectively to better communicate the general concept of sustainability as implied by the 2030 Goals. Today, it is

necessary to reflect on how to face the last period separating us from the target set by the SDGs. We have five years to complete an initial part of the path, which is certainly not conclusive with respect to the ambitions expressed by the 193 countries that signed the working topics and commitments contained in the Agenda 2030.

Some lines of work emerge as important for promoting and improving our capacity to communicate the value of sustainability. The task that the school should assume is to mobilise its energy, promoting the sharing of knowledge, skills, and perspectives to help students learn the value of a sustainable lifestyle while reorienting educational programmes to include a clear and explicit focus on developing values tied to sustainability.

Over the years, we have seen great changes around the world that have led to expanding learning opportunities for everyone. Nonetheless, we should reflect on the experiences and define new paths of work. We have long understood that access to education is not enough. It is also necessary to focus on the quality of the education and its pertinence, on what children, youths, and adults are learning with respect to sustainability.

Over the years, we have understood that no force for change is more powerful than education in promoting sustainability in society. To build a better future for all, we need to think about (and rethink) the role of sustainability education and associated issues, placing ourselves in relation to a world undergoing continuous change.

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