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FUTURES THINKING FOR URBAN UTOPIAS: TRANSFORMING MINDSETS

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Abstract

Treating climate change not merely as a technical problem, but as an adaptative challenge requires a new way of viewing both problems and solutions which includes technical aspects, but also recognizes the importance of mindsets.

The European Commission has developed the GreenComp, a sustainability competence framework which aims to foster a sustainability mindset by helping learners develop the knowledge, competences and attitudes to think, plan and act with empathy, responsibility, and care for our planet. One of the four areas is "Envisioning sustainable futures".

A "Futures thinking workshop" is described as an educational experience transversal to different subject areas, aimed to provide an opportunity to build this competence. With a game-based learning approach, students were challenged into a role-play, interpreting different public actors, to shape urban utopias. Participants were assigned two scenarios: one, highlighting scientific data on climate change; the other, a short research-based story on future scenarios, prefiguring dystopic urban configurations. Students were equipped with the awareness that each one of us can contribute to develop a sustainable future, keeping in mind that cooperation between different stakeholders is key to take inclusive, feasible and effective decisions.
The results of the role play provide us with 4 distinct urban utopias, based on different values and ideas of wellbeing:

- a city spread out in nature where citizens live in symbiosis with nature;
- a city enriched by green areas and bodies of water to enhance biodiversity and to increase people's wellbeing;
- a city grounded on a new community-shared constitution which sets circular economy and equal distribution of resources as core values;
- a city built by citizens which have learned how to prevent the repetition of unsustainable actions.

The experience highlights enabling and inhibiting factors to transform mindsets and may be repeated adapting to learners' needs and the context.

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1 Introduction

In this paper we describe an event called "Future thinking Workshop", in which the research unit used a game-based learning approach to help participants to mobilize their ability to envision sustainable futures. The event was hosted during the Green Week of the University of Florence (Italy) and was part of the EUniWell course for future teachers "Education toward a sustainable future". Participants from different fields of education have taken part in the workshop along with international students from the Universities members of the EUniwell Alliance. By attending the workshop participants are helped in developing the knowledge, skills and attitudes to live, work and act in a sustainable way.

The authors interpret the climate crisis as an emergent property of the state of humans' inner mental states (e.g., consumerism, racism, elitism, injustice) (Wamsler et al., 2021). So far, climate change has been framed as an external, technical challenge, hence narrowing down the possibilities for deeper change. In fact, although technological solutions for transitioning to a fossil-free society already exist, efforts have failed to generate action anywhere near the rate, scale or depth that is needed (O'Brien, 2020). Notwithstanding, there is an urgent need to address the inner dimensions of climate change, recognizing the importance of mindsets, beliefs, values, and worldviews that influence how problems and solutions are perceived, along with the technical and the political dimension of transformation towards sustainability (O'Brien, 2018).

To transform mindsets, educational environments and practices that can nourish sustainability competences that can support the emergence of new sustainable narratives and solutions need to be developed.

2 Methodology

The "Future thinking Workshop" is a learning opportunity designed on the European Sustainability Competence Framework (*GreenComp*) to foster competence-based education. The workshop draws on storytelling, gamification, role-plays, experimental games and simulations which are pedagogical practices recognized to be effective in developing the competences set out in the GreenComp.
Participants were first introduced to the concept of sustainability transformation as a process involving the unleashing of human potential to commit, care and effect change for a better life (O'Brien and Sygna, 2013). Moreover, the GreenComp area of "Envisioning sustainable futures" along with the three competences, futures literacy, adaptability and exploratory thinking were described.

The competence area 'Envisioning sustainability futures' enables learners to visualize alternative future scenarios and identify actions to achieve a sustainable future (Bianchi et al., 2022).

Based on this, the role-play unfolded in 4 phases. In phase one, participants were divided into 4 groups of students enrolled in different university programs. Then, each group was assigned 2 envelopes. The first envelope contained a synthesis of the most recent data released by the Intergovernmental Panel on Climate Change (IPCC, March 2023) to make participants aware of the current sustainability challenges the planet is facing alongside the role of human agency for reducing the rate at which climate

change is taking place. According to the Green Comp it is fundamental that learners understand the future as open and something that can be shaped collectively. Hence, futures literacy which is the ability of understanding the futures as a variety of alternatives is key.

The second envelope included a research-based future scenario adapted from the story "Ragna" included in the podcast Twenty seventy-two written by Tuva Novotny and Henrik Björn. The scenario is set 50 years from now in a forest-community protected by a wall. The characters take up a journey over the wall to discover an abandoned city once destroyed by the heat. Some people are gathering around what was the central square. They are given the task to shape a sustainable future. The workshop's participants are asked to interpret one of them. By presenting this scenario we implicitly asked participants to mobilize their adaptability competence which is the ability to manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk.

Each participant was assigned a role-card (Figure 1). While functions and interests of the character were pre-shaped, participants were free to decide which values and attitudes to draw on in carrying out their tasks. In this way, participants need to harness their exploratory thinking that is the ability to adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods.

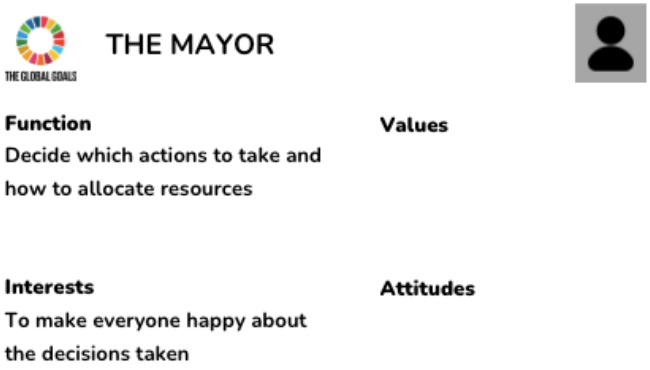

Figure 1. Example of role-card. (Own creation)

Finally, each group was also assigned a digital jamboard (or paper and markers) on which to design their own future utopia, considering which competences are needed, which actions are required, identifying the steps needed to achieve a preferred sustainable future and who performs them (Figure 2). The game time was 40 minutes.

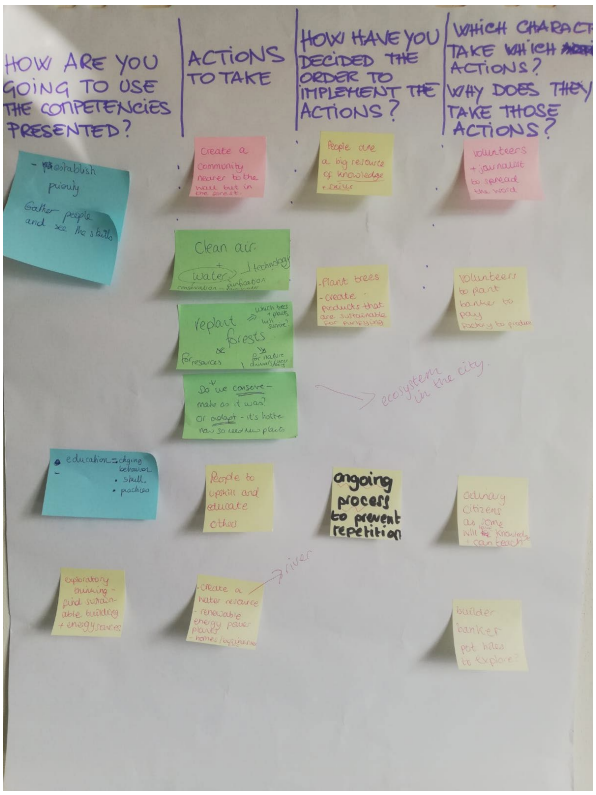

Figure 2. Example of a group's jamboard.

3 Results

The results of the role play provide us with 4 distinct urban utopias. Those utopias represent, on one hand, socio-technical imaginaries in which visions of desirable futures are attainable through advances in science and technology. This tech-fix future making approach embraces novel ideas of teleportation of goods and nature-based solutions – such as artificial heat-powered engines and phytodepuration – to clean air and restore biodiversity. Examples of nature-based solutions proposed are the use of "roots to purify dirty water, and the mud created being used as agricultural fertilizer" (G2) but also the establishment of "green areas and ponds in cities because they absorb co2, produce oxygen, improve mood and well-being, and restore the biodiversity of flora and fauna" (G2).

On the other hand, a more social imaginary has been adopted, envisioning what tie a society together. For instance, a priority action has been imagined to be overcoming the idea of money as the only means to acquire resources. In one of the utopias participants imagine "drawing up a constitution of norms and values on which to base the new society that must depart from the current values that have created the problem e.g., thinking that resources are infinite and that money is also infinite, in this society money must be treated as a finite resource, we can no longer think of exponential growth" (G3) thus opening up to the possibility of degrowth strategies. Moreover, "a norm/rule should be taxation of

profit that will have to be made available to the community, so people are not driven to try to make more and more money" (G3). Participants suggest a "shared economy in which competences, labor, goods are all resources to make available to others" (G3). In addition, a "cooperative system in which roles are not held by one person but one acts in cooperation with others" (G3) has also been envisioned. The four groups agree on common actions that need to be taken:

- involving the broader community in decision making relate to the future;
- drawing on people's diverse set of competences, knowledges, way of thinking to manage transitions and challenges;
- starting from the younger generation, developing a new mindset based on shared values and attitudes such as tolerance, respect, ability to compromise, being able to understand other's diversity and live together with it, cooperation, transparency, hope and positive attitude towards the future;
- educating, informing and raising awareness on the causes of the challenges the planet is facing so that they are not repeated;
- using technologies that use renewable energy and act on a circular economy approach.

The urban utopias described by the participants keep into consideration human wellbeing both in terms of individual and collective participation and in terms of security and reliability of living spaces.

4 Discussion

The experience highlights enabling and inhibiting factors to transform mindsets.
One of the task participants were given was to identify probable, alternative, and preferred futures. Ideas such as teleportation, while based on the entanglement property which is at the core of the Nobel Prize 2023 in Physics, do not represent so far, a probable solution even in terms of quantum technologies. Such idea, although grounded in science, show an excessive use of creativity and at the same time it is not built on values for sustainability. Is teleporting goods from one side to the other of the globe actually a sustainable solution? Or are locally bound trade and locally designed solutions better options?
Another key aspect of the workshop was the ability to shape plans and make decisions based on information from several disciplines and knowledge traditions. However, students with a technical background such as engineers have drawn predominantly from that body of knowledge suggesting artificial heat-powered engines and phytodepuration measures while participants with a human science background have suggested solutions based on educating for system change and participation in decision-making. Previous literature has already highlighted how imaginaries tend to be put together out of already existing representations and that the traditions, cultures, and beliefs of contemporary industrial societies dominate future visions, often constraining radical departure from the past (Stoddard et al., 2021). At the same time, contemporary educational establishments offer limited help in addressing this poverty of social imaginaries. Universities have systematically excluded or sidelined certain visions of the future produced by knowledge traditions not associated with industrial modernity and rational thought (Stoddard et al., 2021). By holding to their own knowledge traditions participants failed to produce imaginaries of the future that include both political, economic, cultural, environmental, and technological aspects of change. Consequently, it is evident that different actors favor different futures and thus who imagines what, how and for whom matters greatly to whether a transformation moves us toward addressing sustainability and justice (Milkoreit, 2017; Moore & Milkoreit, 2020; Stoddard et al., 2021).

Finally, participants' ideas show a willingness to discontinue unsustainable practices and try alternative solutions in terms of demonetizing the economy and opening up the possibility of other resources-based economies.

5 Conclusions

Responding to current sustainability challenges such as climate change involves complex, systemic change linking social, economic, political, cultural, and technological transformations. Inner transformation (shifting mindsets) represents a deep leverage point for sustainability transformations. Certain capacities can facilitate the paradigm shift needed for a more sustainable future. Transformations to sustainability require the development of imagination as the transformational capacity to collectively envision and meaningfully debate realistic and desirable futures. Which pedagogies to use and how to incorporate the learning outcomes in them are still key questions regarding the development of the transformative capacity of imagination.
The "Futures thinking workshop", described in this paper, contributes to discussing imagination as a transformational capacity and its role in transformation processes. Moreover, it represents a kind of activity for the development of such capacity by adapting it to learners' needs, backgrounds, and to the context.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Acknowledgments

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