

## Education for Regenerative Sustainability: some reflections on scale-jumping in times of a pandemic

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*“I used to think the top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought with 30 years of good science we could address those problems. But I was wrong. The top environmental problems are selfishness, greed and apathy... And to deal with these we need a spiritual and cultural transformation - and we scientists don't know how to do that.”*

*-James Gustave Speth*

How is education adapting to the planetary disruptions given by the spread of the COVID-19? And is there space for a sustainability-centered redesign of the entire educational system in this breach? We believe and we hope so.

In this short essay, we wish to offer some reflections on Education for regenerative sustainability in times of pandemic and what the opportunity of scale-jumping could mean in the education context.

We start with clarifying some of the terminology used and then we provide some reflections on scale-jumping in sustainability-related education, aiming to outline how a responsible scale-jump could look like, taking into consideration the recent global developments.

### *Regenerative*

The term “regenerative” has entered many sustainability discourses in the past years, with an emphasis on the built environment and design (Hes and Du Plessis, 2014; Mang and Reed, 2012; Robinson et al., 2014), and may eventually even be considered the “new sustainable” (Gibbons, 2020). Scholars emphasize that regenerative sustainability, in contrast to conventional and contemporary sustainability, would follow a holistic worldview, promote co-creation, focus on deep leverage points and thriving living systems, and therefore be more inspirational and motivational than seeking system maintenance as in conventional sustainability (Gibbons, 2020; Wahl, 2016). Interestingly, in the literature around education for

sustainable development (ESD) / education for sustainability (EfS) we can find many overlappings with this understanding of “regenerative”: scholars like David Orr, Arjen Wals, Stephen Sterling, just to name a few, have contributed substantially to a holistic approach in education for sustainability, challenging established educational practices and pedagogies (Orr, 2006, 2002; Sterling, 2017; Sterling et al., 2018; Wals, 2007; Wals and Peters, 2017). They and many other scholars and practitioners have inspired and influenced many educators and policymakers regarding the need to rethink education, calling for social, transformative and transgressive learning (Lotz-Sisitka et al., 2015), more collaborative and participatory teaching approaches, that can be called to be aligned with the understanding of regenerative sustainability. This perspective is, however, not necessarily shared by the more mainstreamed visions of ESD.

### *Education for Sustainable Development (ESD)*

As defined by UNESCO (UNESCO, 2019a) ESD seeks to “empower people to change the way they think and work towards a sustainable future, (...) including sustainable development issues, such as climate change and biodiversity into teaching and learning. Individuals are encouraged to be responsible actors who resolve challenges, respect cultural diversity and contribute to creating a more sustainable world”. Even though ESD calls for transformative learning (United Nations Educational, 2014), and strives for societal transformation, in particular in support of achieving the Sustainable Development Goals (SDGs), it might rather reflect a contemporary understanding of sustainability: aspects of co-creation and thriving living systems are not (yet?) the focus; the concept of continuous economic growth is not contested (SDG 8) and rather seen as a means to achieve quality education for all (SDG4). Also aspects of our inner worlds - emotions, awareness, consciousness, values - are not yet considered fully in our educational approaches for sustainability (Christine, 2020; Ives et al., 2020). Drawing attention to inequalities in access to education and the “globalization of indifference”, Pope Francis stated that the “educational compact is in a state of breakdown and can only be fixed through a renewed universal effort of generosity and cooperation involving families, schools and social, cultural, religious institutions.”, and “education alone cannot solve all development challenges, but a humanistic and holistic approach should contribute to achieving a new model, guided by environmental stewardship, a concern for peace, inclusion and social justice.” (UNESCO, 2019b).

The Pope’s vision resonated also with UNESCO’s humanistic message at the basis of the “Futures of Education” project and UNESCO’s work to integrate global citizenship and sustainable development into learning contents (Albareda-Tiana et al., 2020; Sonetti et al., 2019).

### *Scaling and scale-jump*

Scaling can be looked at from different perspectives. Often, scaling up is first understood as becoming larger, but Uvin (Uvin et al., 2000) suggests that scaling up should refer to expanding the (positive, added by authors) impact, and can be divided into *quantitative, functional, political* and *organisational scaling up* (ibid.) Similar concepts to ‘scaling up’ are ‘replication’, ‘expanding’, ‘going to scale’, ‘mainstreaming’, ‘rolling out’, ‘growing’, ‘scaling out’, ‘developing’ (Mickelsson et al., 2019). In EfS, scholars call for non-linear scaling and to use a

multidimensional approach (Duggan et al., 2013): this includes three layers: *horizontal scaling*, *vertical scaling*, as well as *scaling in* (ibid.). Horizontal scaling tackles the geographical spread, while vertical scaling addresses the institutional dimension of expanding the diversity of stakeholder groups and actors in the process, and scaling intakes considerations about values and culture (ibid.). Such a multidimensional approach appears very important to us, as the scaling of educational activities can also have downside effects, such as cultural colonization (Dei, 2009; Hartmann, 2019). Mickelsson et al. (Mickelsson et al., 2019) offer an inspiring perspective to see scaling ESD as a matter of learning. In their participatory research project *re-solve*, they developed the [re-solve tool](#) that is based on John Dewey's learning theory (Dewey, 1958) and emphasizes transactional and transformative learning. Scaling is seen as an emerging learning process. This process would be multidimensional as pointed out by other scholars above and also include scaling as business unusual. Such a perspective would fit the understanding of regenerative sustainability and transgressive learning, as scaling sustainability education activities would imply the decolonisation of thinking and challenge conventional views on sustainability. Regenerative thinking is focused on developing capacity and capability for systems evolution (Mang and Reed, 2012): the need of a mindset scale jump, where nature is seen as a measure and mentor, should pervade all levels of education, and all disciplines (Balsiger et al., 2017; O'Riordan et al., 2020). A scale jump in education should be about creating systems' awareness (places, buildings, communities, organisations) so that the single elements may increase their capacity to evolve toward increasing states of health and to thrive over time (Bina et al., 2017; Ferreira et al., 2019).

### *So what? Reflections on scaling education for regenerative sustainability*

De-schooling (Illich, 1971; Scharmer, 2018) our educational places may be the first brave step we need to take to exploit the full potential of already-existing hubs, shaped and sometimes reinforced during the pandemic, for catalysing sustainability transitions beyond conventional and contemporary sustainability. Talking about Higher Education Institutions, John Scott (Scott, 2006) has recalled the [needed postmodern shift](#) of the universities missions' "from teaching to research as a tool for public service, embedded within a framework of globalization, to engage with real societal demands and link the university with its socioeconomic context" (Chelleri and Sonetti, 2017). However, this third mission still focuses primarily on economic development and technology transfer, while scholars call for going [beyond the third mission towards universities that co-create for sustainability](#) (Trencher et al., 2014).

A recent article (Eirdosh and Hanisch, 2020) claims that if sustainability education aims at the purely practical - creating learning opportunities that enable solving urgent real-world problems - , this problem-centred approach may also obscure a broader landscape of potential.

On the contrary, we argue that sustainability education is not only and just that.

Today's world calls for education that helps citizens with the challenges we face, that are wicked and complex. They are complex because they involve the perspectives of many people: those affected by the problem directly, those with the scientific tools to analyse them, those who hold the power to enable a solution (Pohl and Hadorn, 2008). These challenges seem on the rise, and a scale-jump in sustainability education should land not only in problem-project based approaches, but into broader transformative and transdisciplinary approaches, bringing together

all actors involved (Pohl and Hadorn, 2007). This would shift the focus towards the education of immediate change agents, involving every profession (architects, engineers, urban planners, but also the health care professionals, entrepreneurs, artists, educators on all levels, just to name a few) because it is an urgent task for all to foster the regenerative shift we want.

Engaging with experiential education for sustainability is just one of the methods that may have a grip for critical thinking and behavioural/mindset change, that is the ultimate focus of education for sustainability. “Even when problems may be solvable through engineering and technological innovations, they still require a citizenry capable of supporting the scientific and democratic institutions to develop and deploy such innovation. More so, a vast majority of problems are deeply rooted in the cultural institutions, norms, biases, and individual level dispositions that variously enable and constrain our collective potential to achieve progress on the grand challenges of our times.” (Eirdosh and Hanisch, 2020).

That is why a scale-jumping in the current educational approach should bring a transdisciplinary literacy at the base of any discipline taught, putting together the scientists, decision-makers, and affected people to cooperate as they analyse the problems, develop what they envision as desirable futures, and work on strategies and actions supporting the necessary changes. Even the Pope, with the Encyclical *Laudato Si'* (Francis, 2015), dared to call for “an ecological conversion through education, recognizing the need for lifestyle, production and consumption changes. Education systems must embrace the spiritual dimensions of every person, the notion of common good and the need to take local actions for the global good” (Sciences, 2017). This shift overcomes disciplinary barriers and calls for a network analysis of the system of knowledge we are immersed in, to say it with Bruno Latour (Latour, 2017), to illustrate the more-than-human assembling that perform knowledge in current education and transit to a less rational and more relational education system (Fenwick and Edwards, 2014).

Since “there is no transition without transformation” (Bina and Pereira, 2020), scaling education for regenerative sustainability will require a transformative learning approach, that is “to teaching based on promoting change, where educators challenge learners to critically question and assess the integrity of their deeply held assumptions about how they relate to the world around them” (Mezirow and Taylor, 2009, p.xi). Rather than understanding education as a linear process towards predefined goals, the one for regenerative sustainability requires educators and students to embrace values as “uncertainty”, “relationality”, and “community”, what De Sousa (de Sousa Santos, 2015) characterises as ecologies of knowledge. However “inherent to such ecologies of knowledge is the need for epistemological justice, whereby a strong characteristic of transgressive learning is the role of dissonance to disrupt and question fixed values and beliefs.” (Macintyre et al., 2020, p.15).

Fixed values and beliefs, and above all the current cultural and economic model, and on the top of that, the current pandemic, may seem insurmountable and unmovable mountains, especially when becoming aware that the pandemic has increased inequality, in particular for low-income countries: 90% of students around the world were unable to go to schools and reversed years of progress on education (Guterres, 2020).

However, the COVID-19 might also be giving us enormous opportunities to scale up learning for sustainability:

- To rethink our societal learning infrastructures, from an individual, teacher-centric learning by listening towards learning by doing and by co-creating with all actors of the team, to perceive that we are all part of a living ecosystem.
- To rethink (and scale-up) our competences as educators that can help facilitate the type of learning approaches we have been describing here as being aligned with regenerative sustainability.
- To pause and reflect. International voices, such as UN General Secretary Antonio Guterres, who sees the pandemic as a wake-up call by Mother Earth (UN news, 2020) but also Indian author Arundhati Roy, who calls the pandemic to be a portal for transformation (Arundhati, 2020), and citizen groups around the globe calling for not going back to normal, as normal was the problem (Collectif, 2020).

Eventually, we wish to call for responsible scaling of sustainability-related learning activities: education for regenerative sustainability would stress the importance of local knowledge, empowerment, co-creation and capacity building, while enhancing at the same time structural conditions that create positive learning environments, enable deep connections to and with nature, the integrative attitude of honouring indigenous philosophies and promote a holistic worldview, to promote interconnectedness and interbeing-ness (Disterheft et al., 2016; Macy and Brown, 2014; Thich Nhat and Tworkov, 2020). As pointed out by [Otto Scharmer in his Theory-U for organizational change](#) (Eisler et al., 2016; Scharmer, 2018), broadening and deepening the learning cycle in these ways set the basis for our institutions in the praxis of transforming society and self. Indeed, [there is no transition without transformation](#) (Bina and Pereira, 2020), and societal and personal transformation is originally not separate — they are two different aspects of the same deeper evolutionary process.

We have a generational opportunity to reimagine education: supporting this process in ways that are more intentional, systemic, personal, and practical may well be the biggest single leverage point for scale jumping in the current educational system for regenerative futures.

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## Appendix

### Scale Jumping Actions in Education for Regenerative Sustainability

- Prioritize education in financing decisions
- Target the hardest to reach (people in emergencies and crises; minority groups of all kinds; displaced people and those with disabilities).
- Propose new regenerative sustainability values to be included in the research for sustainability and teaching
- Elaborate Nnw indicators to be elaborated to ensure that higher education can play its leading role in the transformation towards regenerative sustainability.
- Aim at new outputs, later in time and space, to be defined as both “assessable” and “transformative” when we “educate” people for sustainability
- Build new structures, policies, and quality assurance criteria to ensure that the step we are jumping to has traction power for those in the lower steps
- Shape the hinge between disciplinary education and inter- and transdisciplinary education so that it is transformed from an “either/or” barrier to a creative connector
- Those who have a leadership function should adopt servant leadership in the academic world, ruled by collaboration and not a competition
- The community of adult educators/practitioners should support the academic community by sharing the experience with ways of teaching that enable transformative learning and education
- Give more support for student initiatives for regenerative sustainability implementations within the existing structures of higher education institutions
- Foster new partnerships between science and society for a manageable scale-jumping in education (& learning) to have an impact on society
- Give more recognitions to researchers’ work about education for sustainability
- Rethink quality assurance processes and standards for releasing educational certificates
- Network among all of the experienced organizations, teachers, businesses that hold important skills and experience to contribute to capacity building, to get people involved and become active healers of the Earth