Education and the European Green Deal: Strengthening Sustainability Education in the EU

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Abstract

Education plays a key role in the global political attempts to promote sustainability and to tackle climate change. The Sustainable Development Goal (SDG) 4.7 'Education for sustainable development and global citizenship' calls on the states to ensure that learners acquire the knowledge and the necessary skills to promote sustainable development. The European Union, under the leadership of Ursula von der Leyen, through its Green Deal puts forward the ambitious goal to make Europe, by 2035, the first climate neutral continent in the world – an ambition which remains at the core of its political agenda. How can education contribute to this goal, what initiatives are taken at EU level to support sustainable development and how do the SDGs shape education policy itself? This article discusses the EU's approach on environmental sustainability education and presents the most important policy initiatives aiming at supporting Member States' education systems in addressing climate change and sustainability. It will be clear that the strategic aim goes far beyond slight adaptions of existing curricula - it puts sustainability at the heart of the European education policy reform agenda.

The article is based on the private opinion of the author and does not reflect the official position of the European Commission.

Keywords: sustainability development goals, sustainability education, European education area, EU green deal

1. "Learn for Our Planet". Put Education Centre-Stage in Tackling Climate Change Introduction

The UN Climate Change Conference 2021, better known as COP26 ("Conference of Parties"), was widely expected to take the world's efforts to tackle climate change a significant step further and to agree on serious actions in line with the Paris Agreement of 2015. For the first time, a summit of education and environment ministers accompanied the formal negotiations of the delegations to discuss how education could contribute constructively to sustainability and climate change adaption and how these issues could be systemically integrated into education policies.

In their conclusions "Learn for our planet. Act for the climate" ministers acknowledged the "critical role played by education and learning in the transition towards a climate positive future and the urgency of embedding climate considerations into all levels of education" and they committed to "collaborate and invest in education for a sustainable future" as well as to the "integration of sustainability and climate change in formal education systems", also in professional training. Furthermore, the ministers stated the need to facilitate collaboration between the education sector and several relevant stakeholders, including the private sector and civil society (COP26, Co-Chairs conclusions of education and environment ministers' summit).

The fact of having met might in fact have been more important than the actual conclusions which the ministers agreed upon, as it underlines the recent and new importance they attach to education for climate change related policy in general. There seems to be a growing understanding that the green transition wished for, in order to tackle climate change and to adapt to it, cannot be limited to emission reduction and the promotion of new technological solutions, but that there is a broader impact on societies all over the world which must be met by changes in behaviour and different skills. The latter can only be accommodated by education systems which not only give more room to sustainability and climate change but are also able to build new educational narratives around sustainability.

For nearly 20 years UNESCO plays a central role in promoting education for sustainability on the global stage. Several action programmes since 2005 not only contributed to the political discussions but supported countries with practical tools to integrate sustainability into their education policies and curricula on the different levels of education. In September 2019 the 40th UNESCO General Conference adopted the current "Framework for the implementation of education for

sustainable development (ESD) beyond 2019", covering the period 2020 to 2023. (UNESCO 2019). Education for sustainable development in UNESCO's understanding is clearly linked and instrumental to the Sustainable Development goals, notably SDG-4 "Quality Education" and in particular SDG 4.7 "Education for sustainable development and global citizenship". The approach is based on three notions: transformative action on the individual level, structural changes on the systemic level and the technological future which might help tackling climate change issues but also require new competences and critical thinking. The strategy "ESD for 2030 aims to build a more just and sustainable world through strengthening ESD and contributing to the achievement of the 17 SDGs" (UNESCO 2019, 5.2), alongside five priority action areas: advancing policy, transforming learning and training environments, building capacities of educators and trainers, empowering and mobilising youth and accelerating sustainable solutions at local level. This comprehensive strategy calls for action at EU Member State level as well as globally.

How can the European Union contribute to this strategy, which role does it play together with the EU Member States in the implementation and development of sustainability education in Europe? Given the limited legal competences of the Union in the field of education and training, are there any opportunities for the European Union to support sustainability education and to promote the SDGs through dedicated education policy initiatives?

2. The Green Deal and the European Education Area's Contribution

Soon after Ursula von der Leyen was nominated President of the European Commission in June 2019, she presented an ambitious policy agenda for her presidency, making the European Green Deal the first out of six priorities of her mandate, aiming at making Europe the first climate-neutral continent. In the respective strategy document, the Commission's Communication on the European Green Deal from December 2019, the President made clear, that this Green Deal "is an integral part of the Commission's strategy to implement the United Nation's 2023 Agenda and the sustainable development goals". (European Commission 2019, 3). To reach the ambitious goals, which were further refined in the "Fit for 55" legislative package of July 2021, the strategy calls for a sustainability mainstreaming of all EU policies. For education policy this means a new focus on competence development to ensure that citizens have the knowledge about climate change as well as the opportunities to gain skills and competences "to reap the benefits of the ecological transition" (European Commission 2019, 19). Furthermore, the Green Deal also advocates the greening of education infrastructure, making school buildings and operations more sustainable and climate-neutral, for which some € 3 billion additional funding was made available from 2020 on.

The issue of sustainability education was also taken up in the European Education Area strategy, adopted by the European Commission in September 2020. (European Commission 2020) This new framework for education policy and the respective cooperation between the EU level and the Member States, aims at ambitious goals, namely to reform education policy all over Europe along six dimensions – quality, inclusion, green and digital transition, teachers and trainers, higher education, geopolitical cooperation – and to reduce still existing barriers between the Member States as well as between the education sectors. The Communication clearly refers to the Green Deal, stating that: "Education and training policies and investments geared towards inclusive green and digital transitions hold the key to Europe's future resilience and prosperity." (European Commission 2020, 8) To do so, education and training policies will contribute in a triple way: enhancing people's knowledge about sustainability and climate change, providing them with the necessary skills and competences for the green economy of the future and last but not least, facilitating a change of behaviour which allows for a more sustainable way of life. The last point refers to UNESCO's understanding of a transformative dimension in education, which goes significantly beyond (but builds on) knowledge transfer.

To address these three dimensions of sustainability education, the Commission proposed the following new initiatives: Firstly, a Council Recommendation on education for environmental sustainability shall set out how Member States, schools, higher education institutions and educators are able to strengthen cooperation and peer exchange on environmental sustainability education to increase knowledge about climate change and thereby establish a political framework for Member State activities to systematically implement sustainability education in their national education policies. Secondly, the skills challenge is to be addressed by a new European Sustainability Competence Framework which aims at providing guidance for schools, higher education institutions and teachers and to establish a shared understanding of the key competences related to climate change and sustainable development to be developed by learners at all phases and stages of education. To ensure impact beyond curricula and bring about a change in mind-set, behaviour, attitudes and values, the framework on education for environmental sustainability, which will be co-developed with Member States, will focus on moving from awareness and understanding to positive behaviour and action. In order to facilitate action and to promote a change of behaviour, the Commission committed to establish the Education for Climate Coalition, which shall mobilise available expertise, commitment, and networks of education actors across the Member States and support the creation, testing and implementation of innovative solutions with pupils and school communities. The Coalition as a community-led initiative is to serve as a platform to share knowledge and experience, connect the stakeholders and stimulate innovation in education at EU level through participatory pledges and concrete actions

involving youth, schools, and higher education institutions.

These new initiatives are presented and analysed in more detail below, with the aim of drawing as complete a picture as possible of how sustainable education can be promoted on the European level and how this links to the Union's contribution to the global Sustainable Development Goals.

3. Education and Sustainability: New Approaches Towards Learning Environmental Sustainability

"Many EU countries commit to some sustainability-related goals and embed education for environmental sustainability in their education policy strategies; however, only a few follows this up with clear action plans." (European Commission 2021, 112) This sentence from a recent study on sustainability education's state of play, commissioned by the European Commission in preparation of the Council Recommendation, quite accurately describes the current situation of how education systems in the Member States are dealing with sustainability and climate change. There is still a widely shared lack of any systemic approach on how these issues are addressed and dealt with in most Member States. Even worse, the report also states that only a few countries could at least provide a clear definition of environmental sustainability education and the competences linked to it. In order to address the latter issue, the Commission in its Sustainability Competence Framework, which will be dealt with below, provided such a definition, which might also serve Member States as an orientation for their respective activities: "Learning for environmental sustainability aims to nurture a sustainable mindset from childhood to adulthood with the understanding that humans are part of and depend on nature. Learners are equipped with knowledge, skills and attitudes that help them become agents of change and contribute individually and collectively to shaping the future within planetary boundaries." (Bianchi, Pisiotis, Cabrera Giraldez, 2022, 13).

Based on this definition, what are the key challenges for establishing environmental sustainability education in national education systems and in which fields are the countries falling short for the time being? Sustainability education cannot be limited to one subject only, but needs to build on an interdisciplinary approach, which runs counter to current educational structures and cultures of most national education systems. Secondly, a comprehensive sustainability approach involves the whole institute and is not limited to teaching and learning about sustainability but also has an impact on issues such as nutrition, waste and building management. Furthermore, the effectiveness of sustainability activities – from teaching and learning to actual behaviour on the individual and institutional level – needs to be monitored and regularly evaluated. Finally, educators need specific sustainability education and training themselves, not only in terms of substance but also on teaching methods and sustainability-oriented didactics. (European Commission, 2022b, 7-8).

Aiming at ensuring the Member States' common understanding and policy approach on sustainability education the Commission adopted early 2022, a proposal for a Council Recommendation – a legally non-binding policy document offering guidance to Member States – on learning for environmental sustainability (European Commission, 2022a). In line with the triple approach referred to in the European Education Area strategy, the Recommendation supports a lifelong learning approach which addresses knowledge transfer (cognitive learning), practical skills development (applied learning) and values and civic education (socio-emotional learning). The transformative impact of this becomes clear when the Commission describes the purpose of the recommendation which aims at a deep and systemic change of education and training as such: "Embedding environmental sustainability in all education and training policies, programmes and processes is vital to build the skills and competences needed for the green transition. Action is needed vertically, individual to institution to systems level, and also horizontally, meaning all stakeholders in education and training need to work together in synergy to ensure that sustainability is anchored firmly in the entire student learning experience." (European Commission, 2022a, 2).

While recommending that Member States strengthen their education systems in acting on climate change and green transition and to establish learning for environmental sustainability as a priority area in their education and training policies, the document identifies necessary steps to be taken on different levels: On the level of the individual learners, it urges Member States to expose them from an early age to opportunities which allow for learning about their environment and to value their natural world and biodiversity by means of formal and informal learning, including new learning methods and extracurricular activities. Educators shall be supported through better sustainability education and professional training including new pedagogical methods and approaches facilitating the learning in the different dimensions as outlined above. Furthermore, Member States shall support new ways of interdisciplinary teaching and learning, the development of new teaching materials and the cooperation between schools and the research and innovation community.

Following the whole-institution approach, the Recommendation stresses the need to facilitate organisational change processes to make schools, VET institutions and universities more sustainable, to embed environmental sustainability into programmes, syllabuses and modules following a multidisciplinary approach, to encourage higher education institutions and VET institutions to develop micro-credential programmes supporting the reskilling and upskilling according to the future needs of a green economy. Member States are called upon to invest into this green transition of its education institutions, from the development of new learning programmes to sustainable equipment and the renovation of buildings, also making use of the various EU programmes, in particular the new Recovery and Resilience Facility which was established to tackle

the economic and social consequences of the COVID-19 crisis. The Union will support this comprehensive reform agenda not only by means of funding but also by facilitating the exchange of good practice between Member States, by the development of resources for environmental sustainability education and by a closer cooperation with international organisations such as UNESCO and other UN bodies in support of future development of respective policies.

4. Green Skills and Sustainability Competences

Education not only promotes the greening and sustainability agenda, is also plays a crucial role when it comes to tackling the economic effects of climate change, especially with regard to its impact on the labour market and the necessary adaption of skills and competences to the future labour markets' needs. The International Labour Organisation (ILO) calculates some "1.2 billion jobs [which] rely directly on the effective management and sustainability of a healthy environment" and which are threatened by environmental degradation. (ILO, 2018, 2) However, if managed reasonably and proactively, short-term job losses due to climate change could be (over)compensated in due time, if the right match between industrial needs and available skills can be facilitated. However, this poses a severe challenge to the majority of countries as stated by the ILO: "The evolving nature of skills for green transition, the absence of consensus on the definition of green jobs and the lack of labour market information and analysis make it difficult for policy-makers to devise a long-term and economy-wide skills policy portfolio." (ILO, 2018, 129)

EU Member States are not better at dealing with this challenge as the European Centre for the Development of Vocational Training identified in its "Skills for green jobs" 2018 report: it is criticised that there is only a weak coordination - if ever - between environmental and educational policies, which creates obstacles to a timely adaptation of education and training systems in line with future needs and sustainability requirements. "Green skills and green jobs tend to be dealt with as a part of different policies and strategies covering environmental as well as employment and skills issues. Good coordination … is necessary to ensure a comprehensive national approach to green skills and job." (CEDEFOP, 2019, 15) How can this lack of coordination at the national level, causing a continuous and even growing mismatch between skills and competences on the one hand, and future (green) labour markets' needs on the other hand, be tackled at the EU level?

In parallel to the proposal for a Council Recommendation, outlined above, the European Commission tabled the European Sustainability Competence Framework (GreenComp; Bianchi, Pisiotis, Cabrera, 2022) which addresses the issue of competences facilitating and supporting the green transition. This obviously goes beyond the simple question of labour-market needs and professional skills as it contributes and is founded on a broader concept. But what competences are actually addressed in this framework and how do they relate to sustainability and the green transition? The document defines the respective competences as follows: "A sustainability competence empowers learners to embody sustainability values, and embrace complex systems, in order to take or request action that restores and maintains eco-system health and enhances justice, generating visions for a sustainable future." (ibid., 12) This definition widens the focus of the framework beyond the limits of environmental sustainability, aligning it with the competences described above and with the comprehensive understanding of sustainable development based on the UN's sustainability development goals. These competences cover knowledge, skills and attitudes and can be addressed at all levels of formal and informal learning.

The Competence Framework clusters the 12 competences identified in four competence areas: (1) Embodying sustainability values; (2) Embracing complexity in sustainability; (3) Envisioning sustainable futures; (4) Acting for sustainability. Leading from the value basis through knowledge and skills to concrete action – that is the logic, underlining once more the understanding of sustainability education as transformative learning aiming at individual as well as systemic change.

The twelve competences described in the framework are: (1.1) valuing sustainability, (1.2) supporting fairness, (1.3) promoting nature in the values area, encouraging learner to reflect about different and sometime concurrent world-views and their personal values; (2.1) system thinking, (2.2) critical thinking, (2.3) problem framing in the complexity area, qualifying learners to analyse and understand the issues on a systemic level; (3.1) futures literacy, (3.2) adaptability, (3.3) exploratory thinking in the envisioning area, enabling learners to develop future and alternative scenarios; (4.1) political agency, (4.2) collective action, (4.3) individual initiative in the area of acting, empowering learners to take action as individuals as well as at institutional and collective levels, to act in favour of a sustainable future.

However, the single competences must be seen as being closely interrelated, creating a whole which is more than its parts, without necessarily leading in a linear way from one to the other and without the need for acquiring the same level of proficiency in each and every competence. To use the framework document's own words: "Learning for environmental sustainability should empower individuals to think holistically and question the world-views underpinning our current economic system. At the same time, it should encourage them to take action individually and with others to transform our society and shape sustainable futures for everyone." (ibid., 29) The GreenComp Framework should be understood as a conceptual reference model to support Member States as well as education institutions and individuals in developing and optimizing learning designs and curricula to better embrace sustainability education in national education systems.

5. "Bring the Energy From The Streets to All Our Classrooms." The Education for Climate Coalitiongreen Skills and Sustainability Competences

The Education for Climate Coalition, launched by the European Commissioner for Innovation, Research, Education, Culture and Youth, Mariya Gabriel at the 3rd European Education Summit in December 2020, plays a crucial role in the Commission's aim to promote the education communities' contribution to the green transition by valorising concrete cooperation and actions taken at the level of individuals and institutions in Member States. Contributing to a change of behaviour and of empowering learners to take action, in line with the competence framework, the Coalition aims at mobilizing pupils, students, teachers, and stakeholders and connecting them across local and national borders to take actions in their institutions, neighbourhoods and regions through projects and initiatives supporting sustainability and climate change adaption. Commission President Von der Leyen underlined this practical pedagogical approach when referring to the new Coalition during the launch event: 'With this initiative we want to bring some of the energy from the streets to all our classrooms. We want to mobilise the entire education community to support the goals of climate neutrality and sustainable development.' (Von der Leyen, 2020)

The Education for Climate Coalition facilitates und nurtures cooperation among schools, universities and their wider communities and aims at mobilising "community challenges", common projects or pledges, and concrete action around five main priority areas: (1) Acquisition of sustainability skills, including interdisciplinary and innovative approaches to teaching sustainability topics, linked to the competence framework on climate change; (2) Teacher training, including easing access to research and helping teachers and educators to bridge subjects in different disciplines; (3) Change in behaviour and work with values and norms, including through concrete project-based, experiential learning led by schools with parents, local businesses and the wider community; (4) Strengthen education-science interaction, including through associating schools to research projects via citizen science approaches in cooperation with labs of research institutions and universities; (5) Awareness-raising, including activities targeted at the fight against disinformation and fostering critical-thinking through for example "makerspaces" and 'STEAM' learning approaches.

From its onset, the Coalition was understood and was designed to be different to many other Commission initiatives: the ownership being with the community itself, students, teachers, stakeholders were expected to take up this platform and make it their own tool to interconnect, to identify potential project partners and to collaborate on concrete projects in the field of sustainability and climate change. Consequentially, the Education for Climate Coalition's design process was a participative, co-creational process involving relevant stakeholders and existing initiatives in Member States, building the Coalition on the stakeholder's experiences and needs. This first phase was concluded by the 1st Education for Climate Day at the end of November 2021and the first community challenges were launched, together with the community platform (https://education-for-climate.ec.europa.eu) as the main community tool.

6. Sustainability – A Reform Agenda for the Education Systems Green Skills and Sustainability Competences

Over the last two years, the European Commission developed an ambitious agenda to make education and training contribute to Europe's green transition and the global Sustainable Development Goals. Policy initiatives such as the proposal for a Council recommendation to ensure a common understanding and approach among all EU Member States go hand in hand with practical tools such as the Competence Framework and various platforms to allow for an exchange of good practices between educators and practitioners; initiatives such as the Education for Climate Coalition are aiming at empowering students, teachers and education institutions to take concrete action on sustainability education and climate change adaption on the ground.

In addition, the Commission also stated the pressing need to adapt the physical environment in schools to the demands of new competencies and pedagogies, as well as the digital and green transitions. Education infrastructure represents on average 8% of education expenditure in EU countries and constitutes the largest share of the international and national financial institutions' support to investment in education. Nevertheless, in the EU most of the school buildings are not equipped to face the 21st century challenges, including the digital transformation. In addition, school buildings often need basic renovation as well as more targeted investment in their energy efficiency. While addressing the demand for new school buildings or substantially renovating the existing ones, both necessary modernisations should be addressed: new learning environments shaping new ways of teaching as well as better and more sustainable energy performances of the future buildings. It is crucial to ensure that the potential of all learning spaces is used effectively and that green schools become an example of best practice to share with communities. Initiatives such as the New Bauhaus, launched by President Von der Leyen at her State of the Union speech 2020, can play a key role in designing new, climate-neutral and sustainable schools, which through their design can also contribute to better education and institutional reforms. A first call for expression of interest for places of education and knowledge (from public libraries to schools and universities) to develop their own New European Bauhaus was launched in February 2022.

However, the EU's ambition goes even further than just supporting environmental policies: Sustainability is at the heart

of the EU's education reform agenda itself. It is not only environmental sustainability to be supported by better education and training, but a general concept of sustainability driving the agenda for a better, high-quality, and inclusive education in Europe. The proposal for a Council Recommendation states: "All reform efforts in education and training should support and align with the change needed for a greener and more sustainable future." (European Commission, 2022a, 2)

The COVID-19 crisis exposed the strengths and the weaknesses of the national education systems, its resilience as well as its risks: promising new teaching approaches, fast adaption to new technologies went hand in hand with a substantial lack of infrastructure and adequate (digital) competencies of teachers, parents and students, to adapt to the new situation, with significant differences across countries. In Europe it led to a severe debate on the state of education and the clear understanding at the political leaders' level, that more investment and higher ambition is needed to adapt Europe's education systems for meeting the future challenges. This general re-thinking of education is supported by an ambitious investment agenda: Based on the Member States Resilience and Recovery plans some 50 billion EUR additional funding is expected to be invested in the Member States' education and training systems within the next couple of years.

Sustainability and climate change adaption will play a key role in this education reform agenda: not only because of the need to better understand the cause and consequences of climate change and act respectively, but also because of Europe's economic and social future dependency of these competences. Education and training is not but one among many policies supporting the necessary transition towards a just and sustainable future - it holds the key to achieving it. Making it happen is both the EU's and its Member States' responsibility; we owe it to the next generation.

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