European Network for Environmental Citizenship

Cost Action CA16229

Different macro- and micro-level dimensions of formal and non-formal education leading to Environmental Citizenship. European

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MoU References to this Deliverable (Del. 6):

- Summary: The different macro- and micro- level dimensions of formal and non-formal education that could lead to Environmental Citizenship will be focused. (page 3)
- Capacity Building: Fostering knowledge exchange on different macro- and micro- level dimensions of formal and non-formal education that could lead to Environmental Citizenship. The Action will examine the different dimensions of education that could lead to Environmental Citizenship in order to identify good practices and substantial policy measures and recommendations. (page 4)
- CAPACITY-BUILDING OBJECTIVES: Fostering knowledge exchange on different macro- and micro- level dimensions of formal and non-formal education that could lead to Environmental Citizenship. The Action will examine the different macro- and micro- level dimensions of formal and non-formal education that could lead to Environmental Citizenship in order to identify good practices and substantial policy measures and recommendations. The number of publications, reports and policy documents which referred to formal and non-formal dimensions leading to Environmental Citizenship will measure the achievement of the objective. (page 7)
- INNOVATION IN TACKLING THE CHALLENGE: In addition, ENEC Action will examine the different macro- and micro- level dimensions of formal and non-formal education that could lead to Environmental Citizenship and will develop a depository database of scientific measures and evidence based interventions that target Environmental Citizenship. (page 9)
- This COST Action is innovative by providing: Review of different macro- (in educational systems) and micro- level (in school unit and classes) dimensions of formal and non-formal education that could lead to Environmental Citizenship. (page 9)
- At the public POLICY level ENEC Action will: Improve macro- and micro- level dimensions of formal and non-formal education. (page 12)
- Additionally in public policy making level will: Provide guidelines (in macro- and micro-level), information, good examples and best practices on Environmental Citizenship in Educational Authorities (e.g., Ministries etc.). (page 12)
- WG1 Objectives: Identification of different macro- and micro- level dimensions of primary formal education that could lead to Environmental Citizenship. (page 15)
- WG1 Activities: Identification of different macro- (in educational systems) and micro- level (in school unit and classes) dimensions of primary formal (and the other types and levels) of education that could lead to Environmental Citizenship. (Year 2) (page 16)
- Action Deliverables: Report on different macro- (in educational systems) and micro- level (in school unit and classes) dimensions of formal and non-formal education leading to Environmental Citizenship. (Dl.6) (page 17)

Methodology of work, Action plan and Timelines for Dl.6:
Report on different macro- (in educational systems) and micro- level (in school unit and classes) dimensions of formal and non-formal education leading to Environmental Citizenship. (Dl.6).

Deadline for Dl. 6: **January of 2020**

1. What methodology will you use to achieve Deliverable 6?
2. What Action Plan will you follow to achieve Deliverable 6?
3. What timelines will you set to achieve Deliverable 6?
4. Who will be the responsible person for each sub-task in order to achieve Deliverable 6?

Methodology of work, Action plan and Timelines for DI.6

A collaborative approach was used to apply the whole potential of an interdisciplinary group of academics involved in the European Network for Environmental Citizenship.

In June 2019, during the consortium meeting at Stavanger, there was a group discussion lead by the chair of WG1 to develop a common understanding of the expected content of DI.6, to set an action plan, and to define timelines.

A google shared document was developed to distribute responsibilities and to allow anyone to contribute to the deliverable according to their field of expertise and their possibilities. The following timelines were agreed:

- 31 July: outline individual contributions in a shared table.
- 30 September write ½-1 page commenting on your contribution
- 30 November: first draft integrating the different contributions in a consistent way
- 31 January: Drawing conclusions and finalising the document.

Individual contributions to the deliverable were based on searches driven by keywords related to Environmental Citizenship (EC) in the specialised literature and the critical reading of experts reports and policy documents, as well as the SWOT analysis conducted within ENEC. The macro and micro level dimensions framing the report include the identification of key factors at the social, environmental political and educational levels.

Political agendas and current challenges to achieve sustainability

The European Commission's recent reflection paper on the 2030 Agenda for Sustainable Development and its long-term vision for a climate-neutral Europe affirm that achieving the set objectives require economic and societal transformations engaging all sectors. EU's 2050 vision of 'living well, within the limits of our planet' will require fundamental transitions in production and consumption models involving food, energy, mobility and housing and entailing profound changes in institutions, practices, technologies, policies, lifestyles and thinking (European Environment Agency, 2019).

While these changes may create new jobs, business models and opportunities for green growth, they inevitably provoke various forms of resistance and conflict of interests between the current generation and a vision that considers the well-being of future generations. These reflections suggest that a purely hierarchical, top-down approach to achieving sustainability objectives will not work. A sustainability transformation requires new governance approaches from the bottom-up to foster transformational change (Jacob et al 2019). Indeed, the Paris Agreement acknowledges this reality with its endorsement of more bottom-up governance and strong support for all actors including businesses, users, scientific communities, policymakers, social movements and citizens in general (Jordan et al., 2018). Therefore, the necessary change depends critically on interpretations and social acceptance, pointing to the importance of public engagement and the development of environmental citizens.

Developing of new understanding

The academic literature shows that there has been an evolving understanding of the scale and character of contemporary sustainability challenges and how we can respond, moving from linear cause-effect principles, towards acknowledging multi-causality and systemic causes that require comprehensive and integrative approaches. Moreover, United Nations Decade for Education for Sustainable Development (DESD) sought integration of environment, society, and economy in and through a reoriented form of education that also takes cultural diversity into account (Buckler & Creech 2014). Furthermore, there is a growing recognition that achieving sustainability objectives will require fundamental changes in lifestyles and patterns of consumption and production that should be addressed from very different domains, including education (European Environment Agency, 2019).

In this line, scientific reports and political documents show that current planetary and societal challenges cannot only be addressed through technological advances, legislative measures and new policy frameworks. While such responses are necessary, there is increased recognition of the key role of education from the early ages to raise awareness and to change people's mindsets, values and lifestyles (Wals, 2012). Considering that some planetary boundaries have been already exceeded (Röckstrom et al, 2013), people everywhere will need to learn new values, practices, and new ways of being and behaving. Education should strengthen future environmental citizens' capacities to think critically and to actively participate in the solutions of problems both individually and collectively, in the private and public sphere to promote sustainability and inter- and intra- generational justice.

A. Macro-level Dimensions for Education for Environmental Citizenship

Social and Educational factors in Macro-level

Civic education is an important macro-level factor, referring to national educational systems. It is important, because national variations in civic education have different implications for Education of Environmental Citizenship (EEC). In this sense, Scientific literature points to the major developments that have altered and challenged citizenship education, e.g. migration, cultural diversity, multilingualism, etc., thus global environmental change is defined here as yet another set of factors challenging and redefining citizenship education in Europe (Banks, 2014, 2017; Goren & Yemini, 2017; Kennedy, 2012).

The Eurydice report entitled Citizenship Education at School in Europe (De Coster & Sigalas, 2017) offers a comprehensive view of how the different countries have dealt with citizenship education in their primary, general and secondary education. Figure 1 shows a comparative overview of national policies in the area of citizenship education across Europe.
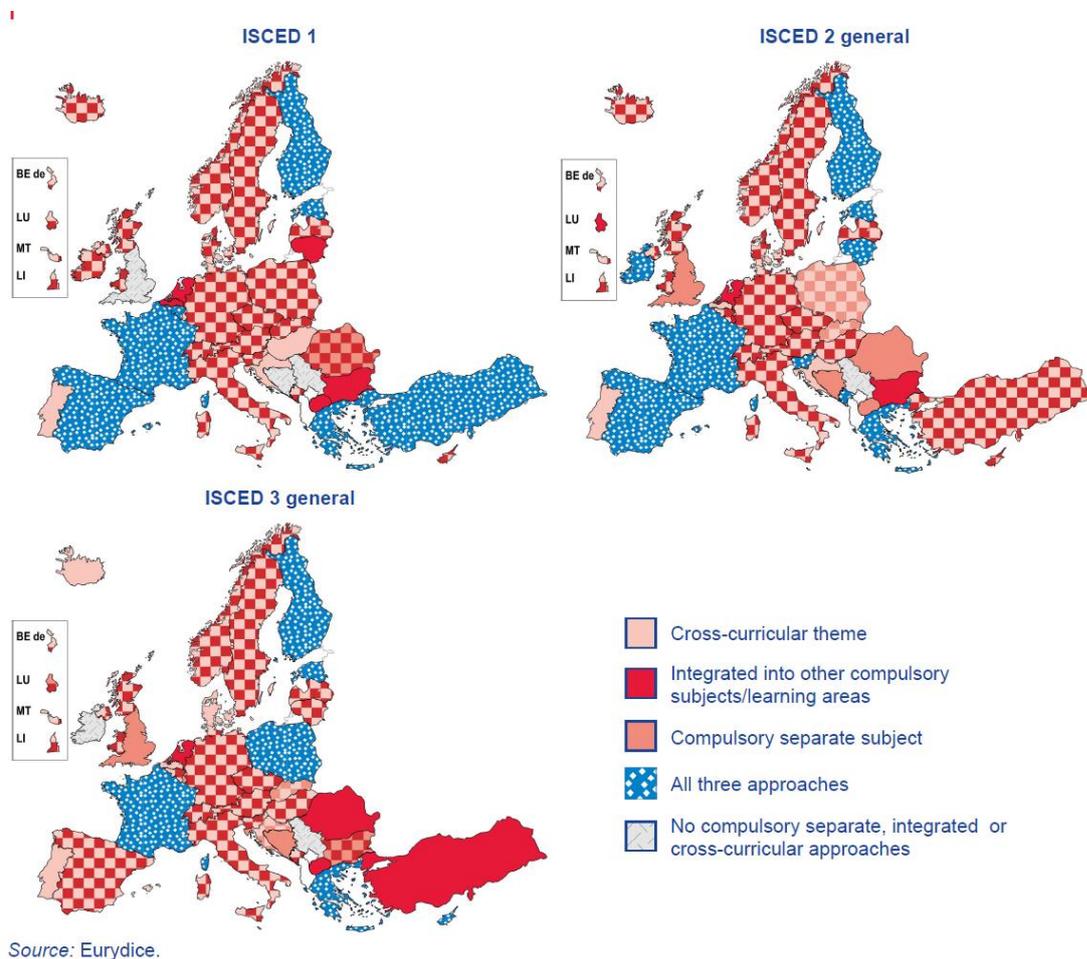

Source: Eurydice.

Figure 1. Approaches to citizenship education according to national curricula for primary, general and secondary education (ISCED 1-3, 2016-2017). Source: Eurydice (2017).

Figure 1 shows that the educational approach used to promote responsible citizenship varies depending of the educational stage and the country. In this sense there are countries like England that moves from no approach to citizenship education as compulsory separate subject, whereas there are other countries like France, that combines all three approaches (compulsory separate subject, cross-curricular theme and integrated in other compulsory subjects) in the different educational stages.

Figure 2 shows the European countries that have integrated citizenship education in primary formal education:
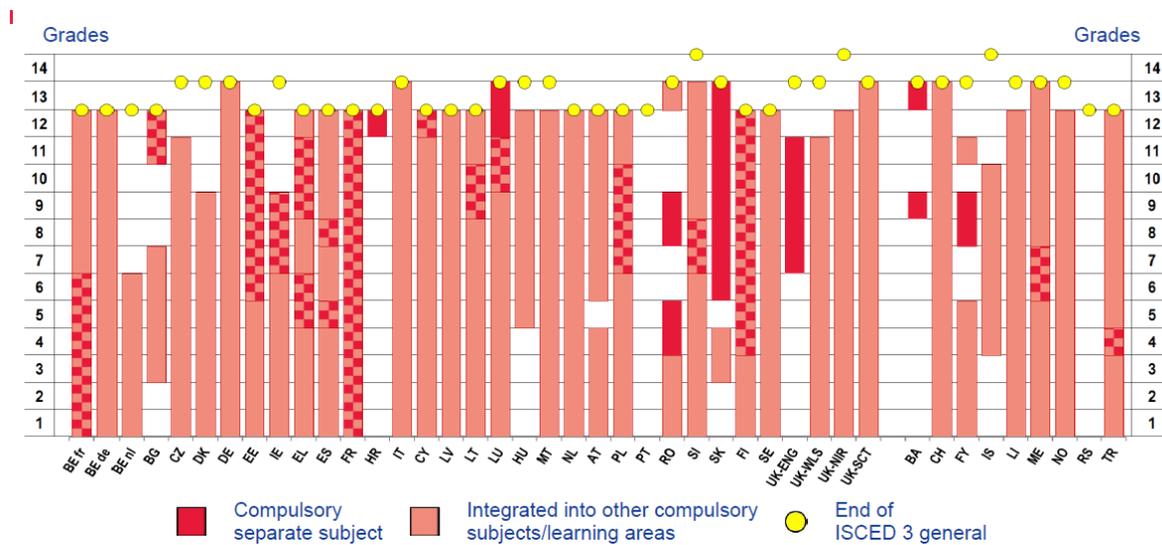
Figure 2. Citizenship education taught as a compulsory separate subject or integrated into other compulsory subjects, according to national curricula for primary and general education. Source. Eurydice (2017).

Figure 2 shows that in most countries citizenship education at primary or general school is taught integrated in other compulsory subjects and not as a separate subject. England and Hungary are an exception to this trend.

The European Commission highlights the role of citizenship education in promoting harmonious co-existence and mutual benefit of individuals and the communities in which they live, emphasizing the importance of enabling students to become active, informed and responsible citizens, who are able and willing to take responsibility for themselves and for their communities at the local, national and international level. Four key competences are defined in national curricula in nearly all European countries:

- Interacting effectively and constructively.
- Thinking critically.
- Behaving in a socially responsible manner.
- Acting democratically.

An important indicator of the national successes in citizenship education is the attitudes, competences and behavior habits developed by the pupils. This is measured by the International Civic and Citizenship Education Study (Schulz et al., 2018). Thus, a short overview of the countries taking part in the study is shown in table 1.

Table 1. Percentages of students at schools where principals reported different aims of civic education. Source: Schulz et al. (2018).

Country		Promoting knowledge of social, political, and civic institutions	Promoting respect for and safeguard of the environment	Promoting the capacity to defend one's own point of view	Developing students' skills and competencies in conflict resolution
Belgium (Flemish)		27 (4.0) ▽	40 (4.4)	45 (4.3) ▲	59 (4.7) ▲
Bulgaria		44 (4.2)	49 (4.4) ▲	36 (4.2) ▲	37 (4.0)
Chile		47 (4.3) △	34 (4.2)	17 (3.6)	45 (4.6)
Chinese Taipei		32 (3.7)	38 (4.0)	1 (0.8) ▼	49 (4.3)
Colombia	(r)	35 (4.3)	41 (4.6)	11 (2.6) ▼	78 (4.2) ▲
Croatia		31 (3.2) ▽	40 (3.9)	30 (4.1) △	45 (4.0)
Denmark†		61 (3.8) ▲	10 (2.4) ▼	16 (3.0)	37 (3.7) ▽
Dominican Republic		57 (5.0) ▲	43 (4.3)	19 (3.8)	57 (4.8) ▲
Estonia[1]	(s)	67 (5.0) ▲	21 (4.4) ▼	29 (4.6)	27 (4.7) ▼
Finland		34 (3.4)	52 (4.1) ▲	12 (2.5) ▽	50 (4.0)
Italy		38 (3.7)	28 (3.7) ▽	3 (1.3) ▼	46 (4.0)
Latvia[1]		35 (4.1)	22 (3.6) ▼	32 (4.8) ▲	20 (3.9) ▼
Lithuania		21 (3.1) ▼	55 (4.5) ▲	22 (3.8)	42 (4.4)
Malta		28 (0.4) ▽	70 (0.3) ▲	13 (0.4) ▽	23 (0.3) ▼
Mexico		17 (3.0) ▼	54 (4.2) ▲	7 (2.0) ▼	71 (3.2) ▲
Netherlands†	(r)	43 (5.4)	20 (4.0) ▼	33 (4.6) ▲	53 (5.2)
Norway (9)[1]		54 (4.1) ▲	24 (3.6) ▼	13 (3.1) ▽	34 (4.0) ▼
Peru		20 (3.4) ▼	49 (3.9) ▲	6 (1.8) ▼	56 (3.7) ▲
Russian Federation		39 (3.7)	28 (2.8) ▽	34 (4.5) ▲	33 (3.7) ▼
Slovenia		29 (3.8) ▽	46 (4.5)	43 (4.8) ▲	41 (4.5)
Sweden[1]		23 (3.7) ▼	30 (4.5)	14 (2.8) ▽	29 (5.9) ▼
ICCS 2016 average		37 (0.9)	38 (0.9)	21 (0.8)	44 (0.9)

Table 1 shows that the highest percentages of students in schools emphasizing respect and safeguard of the environment are Malta, Finland and Mexico, while the ones displaying lowest percentages are Denmark, the Netherland and Estonia.

Most of the countries provide teachers with guidance materials and other types of resources to support the teaching and learning of citizenship education in the classroom and some countries have increased the teaching hours for the compulsory provision of citizenship education in general education. However, nearly half of the countries have still not introduced citizenship education in initial teacher education.

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B. Micro-level Dimensions for Education for Environmental Citizenship

School leadership and teacher professional development

The role of teachers is becoming increasingly important as Europe addresses its educational, social and economic challenges. Higher expectations in terms of student outcomes and greater pressures due to a more diverse student population combined with rapid technological innovation are having a profound impact on the teaching profession (Birch, Balcon, Bourgeois, Davydovskaia, & Tremosa, 2018). Teachers play a key role in equipping future citizens with the values, skills and knowledge the need to become active agents of change (Romero-Ariza, Quesada & Abril, 2017; Romero-Ariza, Abril & Quesada, 2018).

Nevertheless, as awareness of the importance of preparing future citizens to address current societal and environmental challenges is raised, Education for Environmental Citizenship as defined by the European Network of Environmental Citizenship (ENEC, 2018) is likely to receive even more attention and hopefully more resources. The model of Education Environmental Citizenship (Figure 3) might be considered an interesting referent point to inspire successful interventions at different educational levels and formal and non-formal settings.

Figure 3. The EEC Model. Source. Hadjichambis & Paraskeva-Hadjichambi (2020).

Given the considerable impact of school leadership on learning processes, at the micro level, contributions can be made to the effectiveness of school principal (educational leadership) preparation programs and professional development processes to address issues of environmental citizenship in various educational contexts. Engaging in sustainability leadership development (Shriberg & MacDonald, 2013) in educational contexts may contribute to the transformation and adaptation of

educational organizational structures and cultures. While in the past few decades, consideration of leaders' personal values (Begley, 1999) and 'social justice' has increased considerably in such programs and processes (Mckenzie at el, 2008), issues of environmental justice have still not been targeted as part of official or strategic leadership preparation curricula and learning processes (See NPBEA, 2015). Notable exceptions are transformative leadership discourse in general (Kose & Shields, 2010) and the notion of regenerative leadership in particular (Hardman, 2017). Also at the macro level, promoting EC (particularly in formal school contexts) requires applying flexible learning environments or dynamic curriculum. A dynamic curriculum derives from three central themes: promoting transformative social change agents (educational leadership), developing critical thinking and social-environmental consciousness and adapting learning to learner's motivational values (Sarid & Goldman, 2019).

At the micro level, promoting EC in educational contexts can have a greater impact by learning processes applying case-studies, scenarios and simulations in which environmental issues are discussed in real-life situations and especially when learners encounter ethical dilemmas (Eyal et al, 2011) and in which skills are developed by facing real-world complexities (Crow & Whiteman, 2016).

A School for Environmental Citizenship

It is very important schools to follow whole-school approaches for environmental citizenship. First of all schools have to identify what EC means for the educational institution. The active involvement of all internal and external stakeholders of school in environmental citizenship actions is particular important if schools can be considered as cores of environmental and social change. The active participation of all stakeholders in schools, ie students, teachers, principals, school staff at all levels and the wider school community, such as families and community members, in reflecting and acting on environmental citizenship is key to the successful implementation of the whole school approach (the Sustainable School, Label, 2016).

According to Henderson and Tillburry (2004) whole-school approaches is of great importance because:

- Students and staff have a greater sense of belonging in the school
- Students have more meaningful and hands-on learning opportunities
- Teachers have new professional learning opportunities
- Schools achieve significant ecological footprint reductions
- Schools save money through efficient resource use
- School campuses are greener and more beautiful
- Schools gain access to teaching resources, expert knowledge, and financial support.

For the success of such whole-school approaches the below factors are crucial:

- Development of a school culture for environmental citizenship
- Identification of what means for the institution a school for environmental citizenship
- Identification of the school's vision, mission and values regarding environmental citizenship
- Description of the school's environmental citizenship policy with specific reflection in school's strategic and action plans, procedures, guidelines, budgets
- Identification and description of the role of everyone within the school (students, teachers, principals, other staff, families, local community)

- Development of a specific coordination team

- Inclusion of environmental citizenship in all subjects and disciplines

- Design and application of specific learning interventions to empower students to become environmental citizens

- Involvement of all external stakeholders (families, other schools, local business and farms, community centers, media, scientists and researchers, local environmental NGOs, Local authorities)

- Development of local, national and global networks

- Action in local, national and global scale

- Individual and collective action in private and public spheres

- Sustain environmental change

- Reflection and evaluation of the actions

Successful initiatives and learning interventions

The review entitled Education for a better citizen: An assessment (European Expert Network on Economics of Education, 2018) draws attention on the importance to promote active citizenship but raises the question of how it should be delivered. The review highlights particular features of supportive interventions based on team work, having an open classroom climate, holding student discussions and deliberations and promoting democratic decision-making. Skills and capabilities for active participation with other stakeholders, including politicians, policy makers, scientists, about the processes driving social-ecological change so as to foster mitigation of undesirable changes that can be prevented or minimized will be needed within the current and future scenario. However, educators need to take risks and step out of the conventional teaching using innovative pedagogical approaches to engage students in environmental protection and sustainability (Hermes & Rimanoczy, 2018).

In the context of the Global Monitoring and Evaluation Framework (GMEF) developed by UNESCO, a report was published twenty years after the Rio Earth Summit (Wals, 2012). This report was based on the input of hundreds of policy-makers, scholars and practitioners engaged in education for sustainable development in the Americas, Africa, Europe, Asia, and Oceania. Evidence was generated through key informant surveys, regional synthesis reports, learning-based case studies including extensive use of exemplary anecdotes, case study excerpts and reflections that capture the essence, richness and challenges of education for sustainable development and environmental citizenship in practice, trying to draw some recommendations for research and practice.

Education for Environmental Citizenship (EEC) is a potentially important institutional factor to achieve long- and short-term proactive adaptation of local actors in schools, families, places of informal education, and one of the current challenges. The research-based report (Wals, 2012) clearly shows that the nature of sustainability challenges requires more integrative, problem-based and exploratory forms of learning that promote critical and creative thinking and active participation in the search and implementation of solutions for contemporary problems (climate change, disaster risk management, sustainable production and consumption, loss of biodiversity…). The most powerful interventions are those that are articulated as school-community projects and promote cross-boundary learning and collaboration among different actors, institutions, organisations and the public and private sectors to promote sustainable development. The resulting 'boundary crossing' engages different stakeholders in the re-design of processes and relationships, blurring the limits between formal, informal and non-formal learning. This new dynamic provides a source of energy and creativity in education to bring about

change and make the most of our society to address and solve planetary challenges. The report features many examples of multi-actors social learning where different societal groups find and complement each other in working towards local responses to contemporary problems. A whole-system approach that affects all actors in a school system or a production chain seems the most likely to ensure such capacity-building and competence development. Institutional changes in education are needed to foster a more proactive and environmental citizenship.

In summary, this report advocates teaching, learning and professional development forms that promote capacity-building for environmental citizenship and a better understanding of what these capacities entail and what kinds of qualities and competencies should be developed to enable people and organizations to contribute to a better and more sustainable world in an active way. More holistic, integrative, critical and transformative educational approaches are necessary. In this line, poblem-based learning, multi-stakeholder social learning, interdisciplinary learning, action learning and critical thinking-based have been identified as successful ones.

In the following we will briefly describe two recent international initiatives closely related to the concept of environmental citizenship:

Within the frame of the COST Action 15212 "Citizen Science to promote creativity, scientific literacy, and innovation throughout Europe" a two days' workshop was organized in November 2018 in Ispra, Italy. This event hosted stakeholder groups from policy bodies, scientific communities and representatives from a number of Citizens' Science associations. The event offered them the chance to discuss the opportunities and challenges brought forward by the increasing need and use of Citizen Science approaches in support to policy making. Over 45 participants from different countries, European Commission and international Organizations active about environment and citizen science such as the European Citizen Science Association, confirmed a growing interest in an increased knowledge exchange amongst diverse stakeholders, the key contribution of citizen science initiatives, and the need for the development of a referent framework for environmental monitoring and reporting (Manzoni et al., 2019).

The program Young reporters, for the Environment, by the Foundation for Environmental Education, gives young people (aged 11-25) a platform to research environmental issues and promote solutions through investigative reporting, photography, and video journalism. "Giving our environment a voice", is its slogan, making the young people speakers of environmental concerns.

Other interesting initiative with a focus on actively engaging young people is the one entitled 'Let's shape the future of Europe together (European Union, 2019). The event brought together more than 300 young people from all across Europe and EU politicians to discuss some contemporary societal challenges. Several workshops were organized in a parallel way and participants went to the workshops they selected to discuss innovative proposals such as eco traffic-light system, alternative transport, modern climate change classes and emergency environmental policy framework. After group-work sessions, they met back again to present their ideas to the whole audience and kept a lively dialogue with politicians.

Young participants from very different countries claimed that what was once a future promise or a distant threat is already happening. The event offered the opportunity for effective dialogue interaction and exchange of ideas and opinions between the young people and politicians. Participants brought all their enthusiasm and beliefs in democracy, fairness and equality. Several participants took the chance to express how important this kind of initiatives were. A Romanian participant, Stefana Maria Greavu said 'we want to feel like we matter and that we have power, we have a say and we have a role in the future'. Their thoughts and ideas were responded to by two presidents and two commissioners that stated 'we better take care of the young generation and do whatever is necessary to integrate them' (Wals, 2012, p. 40).

As a conclusion, participants in the event entitled 'Let's shape the future of Europe together' express their intention to actively participate in shaping and bringing about a better world with strong democratic values, an authentic feeling of belonging in the EU society, equal opportunities and a climate that is resilient to change (Wals, 2012).

Analysis of Strengths, Weakness, Opportunities and Threats (SWOT) for Environmental Citizenship in Europe.

Within the COST Action ENEC – European Network for Environmental Citizenship (CA16229) a systematic SWOT analysis has been conducted involving 157 experts from 28 European countries (Hadjichambis, Reis, & Paraskeva-Hadjichambi, 2019). Participants were chosen to represent professionals in different fields (research, policy, education and NGO). The content analysis of participants' responses shows that education for environmental citizenship is perceived as a fantastic tool to promote students' critical thinking, problem solving and decision- making skills as well as to empower them for civic participation, inter-generational justice and action competence (Hadjichambis & Paraskeva-Hadjichambi, 2019). However, the analysis suggests that there is a need for further definition and clarification of what it is meant by education for environmental citizenship and how it is different from other approaches (environmental education or education for sustainable development), as well as which are the methodologies and resources conducive to the intended learning outcomes. Obstacles related to how educational systems are organized, resistance to change and the lack of specific teaching materials and professional development in this line have also been identified. Networking for the development and exchange of knowledge and good practice conducive to environmental education are considered crucial to develop our whole capacity as a society to address current environmental and societal challenges. The SWOT analysis highlights the following needs in educational arena:

- Need for a specific pedagogical approach for EEC
- Need for Learning Materials and Best Practices
- Need for Teacher education programs
- Need for policy documents to be disseminated in the Educational system level in different contexts

Formal / Non-Formal - Differences from SWOT Analysis

According to the experts' responses, the formal educational system is viewed as the main framework for conducting EEC, however Non-Formal Education is recognized as an important arena for educating children and young people for the environment as well as for promoting lifelong learning, which is acknowledged as a crucial component towards building sustainable societies and futures. Many experts (48%) express the opinion that in Non-formal settings there is greater flexibility to apply EEC. Additionally, in Non-Formal Education the Obstacle of introducing a new Subject in an overloaded Curriculum in a structured system, by changing policies is overcomed. It is noteworthy that the majority of experts (64%) believe that a synergy between formal and non-formal education constitutes the major Strength that will lead to success of Education for Environmental Citizenship (Hadjichambis & Paraskeva-Hadjichambi, 2019).

Primary / Secondary - Differences from SWOT Analysis

Primary and secondary education differ in terms of the curriculum as well as the age of the students that receive the education, therefore most respondents identified differences in SWOT Analysis of incorporating EEC in Primary and Secondary derived from the level of Education. However, many of them recognized some more Strengths and Opportunities of incorporating EEC in Secondary Education.

An important Obstacle they mentioned was related to the fact that "secondary education has a really strict program which is discipline oriented therefore there is no much space for interdisciplinary activities which EEC asks for". From the other hand some Experts mentioned that in elementary school, "there is a greater Opportunity for new generations to incorporate the values and attitudes linked to EEC". Nevertheless, many respondents suggest that "the two levels of education should be held in the principles of complementarity and continuity and be based on pupils' needs and potential according to their developmental stage". (Hadjichambis & Paraskeva-Hadjichambi, 2019).

Conclusions

The analysis of expert reports, key policy documents, the specialized literature and the European SWOT analysis allow us to identify macro and micro dimensions leading to Environmental Citizenship.

At the political level, a strong interest and high commitment to promote sustainable development is shown in multiple policy documents, aiming at climate-neutral Europe and a vision of 'living well, within the limits of our planet' for EU 2050. Attaining these goals will require profound economic and social changes and fundamental transitions in production and consumption models involving food, energy, mobility and housing that require not only top down approaches, but also the involvement of citizens in bottom up daily choices and actions.

In the social dimension, significant changes are necessary in values, beliefs and behaviors with important implications in people's habits and life styles.

At the educational level, there is an increased recognition of the key role of formal and non-formal education for bringing about the desires changes and building people's capacity to exercise their environmental rights and duties searching for sustainability and inter- and intra-generational justice.

Official reports show differences in how countries develop citizenship education in the different educational stages. Three different approaches are distinguished: civic education as compulsory separate subject, civic education as cross-curricular theme and civic education as integrated in other compulsory subjects. There are countries like England that moves from no approach to citizenship education to civic education as compulsory separate subject, whereas there are other countries like France, that combines all three approaches in the different educational stages.

Several research-based reports try to identify which practices and methodologies are conducive to the intended learning outcomes. More holistic, integrative, critical and transformative educational approaches are necessary. In this line, problem-based learning, multi-stakeholder social learning, interdisciplinary learning, action learning and critical thinking-based have been identified as successful ones.

The international SWOT analysis involving 157 experts from 28 European countries point out at the need to further clarify the distinguishing features of environmental citizenship as well as the pedagogies supporting the achievement of the intended learning outcomes. They also point out at the lack of specific teaching materials and professional development in this line and obstacles related to how educational systems are organized and resistance to change. In this sense, promoting EC (particularly in formal school contexts) requires applying flexible learning environments or dynamic curriculum. According to Sarid & Goldman (2019) dynamic curriculum derives from three central themes: promoting transformative social change agents (educational leadership), developing critical thinking and social-environmental consciousness and adapting learning to learner's motivational values.

Based on these results we belief that the European Network for Environmental Citizenship can make a significant contribution in the development of scientific knowledge and a pedagogical model to successfully promote environmental citizenship.

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