European SWOT Analysis on Education for Environmental Citizenship

Edited by
Andreas Ch. Hadjichambis, Pedro Reis & Demetra Paraskeva-Hadjichambi

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ENEC Cost Action Report

European SWOT Analysis on Education for Environmental Citizenship

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List of Main Abbreviations

CE: Citizenship Education
CoP: Community of Practise
DSP: Dominant Social Paradigm
EA: Environmental Attitudes
EB: Environmental Behaviour
EC: Environmental Citizenship
ECn: Environmental Citizen
EE: Environmental Education
EEC: Education for Environmental Citizenship
EfS: Education for Sustainability
ESD: Education for Sustainable Development
FCN: Frequency of Contact with Nature
NC: National Curriculum
NEP: New Environmental Paradigm Scale
PSAs: Public Service Announcements
SE: Science Education
SSIBL: Socio-Scientific Inquiry-Based Learning
STEM: Science Technology Engineering & Mathematics
TPB: Theory of Planned Behaviour
TPD: Teacher Professional Development
VBN: Values Beliefs Norms

Foreword

Environmental citizenship is crucial for the success of any environmental policy. Sustainable development, a circular economy, a low-carbon economy, and a bio-economy require an effective citizen engagement. Citizens are called upon to adopt environmental attitudes and behaviours, make green choices, increase civic participation, and to be aware of and apply their environmental rights and duties. The contemporary environmental crisis with climate change, biodiversity loss, air pollution and all other local and global environmental problems demand an education that is capable of empowering environmental citizens. Education plays a key role in shaping future environmental citizens; nobody is born environmental citizen but anybody can become so by education.

This report presents a SWOT Analysis of an integrated and holistic type of education in Europe "Education for Environmental Citizenship". The SWOT anlaysis is presented in two levels. In Part A a synthesis of the results of 157 experts from 28 European countries are presented. In Part B the reader can exlore the 23 European country reports.

It is important to clarify that this reseach regarding SWOT analysis was undertaken before any development on the concept of Education for Environmental Citizenship such as common definition and the pedagogical approach. In this fact it illustrates the experts' opinion in the different contexts through out Europe.

We hope that European stakeholders will find it useful.

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PART I: European Synthesis of SWOT Analysis

1. European Synthesis of SWOT Analysis for Education for Environmental Citizenship

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Abstract: This chapter attempts to present a European Synthesis of the views of experts in the area of education for the environment and sustainability in Europe, concerning the Strengths, Weakness, Opportunities and Threats (SWOT) of Education for Environmental Citizenship (EEC). A structured questionnaire was answered by 157 experts from 28 European countries. The participants were academics, researchers, teachers, Ministry of Education officers and NGOs. The views were processed through content analysis. EEC is perceived advantageous (Strengths) in three main dimensions: the first dimension refers to students' personal development contributing to the enhancement of critical thinking, problem solving and decision-making skills as well as in students' empowerment for civic participation, intergenerational justice and action competence in the public sphere. The second dimension includes the importance of methodologies adopted which are integrated in a holistic and comprehensive pedagogy. Inherent to Education for Environmental Citizenship is the third dimension which is being able to address several Educational Outcomes. These empower individuals to take part in the democratic processes needed to respond to the sustainability imperative. Weaknesses and areas for improvement are identified from two main directions: internal – resulting from the attributes of Education for Environmental Citizenship, and external – resulting largely from the context in which Education for Environmental Citizenship should be employed. Despite the importance of Environmental Citizenship, it is considered until now by participants to be under-explored and not clearly defined and framed in relation to other types of Education. This leads to weaknesses at a number of levels ranging from the classrooms and teacher involvement up to the Educational System. The opportunities raised by the majority of participants relate to the holistic and comprehensive approach that could be developed by Education for Environmental Citizenship. In addition, a great opportunity of EEC is considered to be the empowerment of citizens for socio-political action in the private and public sphere regarding solving socio-environmental problems. National, European and global networking potential within Education for Environmental Citizenship was recognised by experts as a crucial opportunity for achieving environmental change. The European SWOT analysis allowed also the identification of some threats for EEC,

imposing however the difficulty to separate the threats from weaknesses. The majority of respondents emphasise the limitations that are derived from the context that Education for Environmental Citizenship should be applied from top (policy level) to bottom (the individual). The results reinvigorate the need to better conceptualise Education for Environmental Citizenship. Weaknesses, obstacles and areas for improvement relating to the novelty of Education for Environmental Citizenship are advocating the need for teachers' education and motivation, the development of learning materials and best practices, as well as the mitigation of the educational system's resistance to change.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology). We would like to thank all the experts who have provided valuable input to this work.

1.1 Introduction

Environmental Citizenship is a key factor in the EU's growth strategy (Europe 2020) and its vision for Sustainable Development, a Green and Cycle economy and a Low-carbon society (EU roadmap 2050). Environmental Citizenship has been an influential concept in many different arenas such as economy, policy, philosophy, organisational management and marketing and it could be better exploited and established furthermore in education. This report examines the Strengths, Weaknesses, Opportunities and Threats of Education for Environmental Citizenship in Europe. In the first part of the report, the need for Education for Environmental Citizenship, is examined along with the methodology and results of an extensive research from more than 157 experts in 28 European countries. In the second part of the report, the country chapters for the 23 European countries and Israel emphasise the similarities, differences and special features of these case studies.

Environmental Citizenship is recognised as an important aspect in addressing global environmental problems such as climate change (Stern, 2011; Ockwell et al., 2009), whilst providing support to pro-environmental organisations and individuals, and contributing to public pressure for political action (signing petitions, writing to politicians and newspapers). Education for Environmental Citizenship is one of the emerging approaches in the educational field. In the ENEC Cost Action (http://enec-cost.eu/), Education for Environmental Citizenship has been defined for the first time (ENEC, 2018) on an International level by more than 120 experts and academics representing approximately 37 countries: "Education for Environmental Citizenship (EEC) is defined as the type of education which cultivates a coherent and adequate body of knowledge as well as the necessary skills, values, attitudes and competences that an environmental citizen should be equipped with in order to be able to act and participate in society as an agent of change in the private and public

sphere, on a local, national and global scale, through individual and collective actions, in the direction of solving contemporary environmental problems, preventing the creation of new environmental problems, in achieving sustainability as well as developing a healthy relationship with nature. Education for Environmental Citizenship (EEC) is important to empower citizens to exercise their environmental rights and duties, as well as to identify the underlying structural causes of environmental degradation and environmental problems, develop the willingness and the competences for critical and active engagement and civic participation to address those structural causes, acting individually and collectively within democratic means and taking into account the inter- and intra-generational justice (ENEC, 2018).

Education for Environmental Citizenship has important role in adopting and promoting Environmental Citizenship in our societies. However, the evaluation of the Strengths, Weaknesses, Opportunities and Threats of Education for Environmental Citizenship remains an imperative need. The (until now) under-explored potential for pro-environmental behaviour change through Environmental Citizenship should be further emphasised (Dobson, 2010) and this can contribute greatly to a more sustainable world. The review from Environmental Evidence Australia (2012) found that an agreement on what constitutes Environmental Citizenship and the most effective tools and approaches for implementing it is still in development.

This report examines the need for Education for Environmental Citizenship. It dopts an integrated methodology, of SWOT analysis, investigating the opinion of more than 157 experts from 28 European Countries. Which are the advantages of Education for Environmental Citizenship? Why is it better than other types of education (e.g., Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE) or Citizenship Education (CE))? What are the Weaknesses, Strengths and Opportunities of Education for Environmental Citizenship? What are the Threats that Education for Environmental Citizenship faces? These are some of the crucial questions that this book answers. Educational implications of the European SWOT Analysis are highlighted. In the second part of the book, the country chapters emphasise the similarities, differences and special features of the case studies within the 23 European countries and Israel.

1.2 Methodology

1.2.1. Description of Methodology followed for EU SWOT Analysis

The methodology followed for the EU SWOT Analysis included the following phases:
Phase 1 - Country questionnaire

Phase 2 – Development of the country's SWOT Analysis Chapter
Phase 3 – European Synthesis of the results

The different phases are described in detail.

Phase 1 - Country questionnaire

A. Focus of the study:
The subject of the SWOT Analysis is 'Education for Environmental Citizenship'. In other words, our intention was to examine the state of the art of Environmental Citizenship in the four (4) levels of education (primary formal, primary non-formal, secondary formal, and secondary non-formal).

B. Questionnaire design
A questionnaire was designed for those European countries participating in the ENEC cost action to collect expert opinions on the Strengths, Weaknesses, Opportunities and Threats of Education for Environmental Citizenship. The questionnaire was designed in such a way to be generic and therefore not specific to any one country's educational system and context.

C. Research sample – experts selection
In each country at least six (6) experts were selected from the following five professional categories:

1. One researcher (academic) from the research field of EE or ESD (or from the research field of SE or CE).
2. One policy-maker from the Ministry of Education (e.g. inspector, advisor, decision-maker).
3. Two educators (teachers) from primary and secondary education who work in the field of E or ESD (or from the research field of SE or CE).
4. One decision-maker at a national NGO who works in the field of EE or ESD (or in the field of SE or CE).
5. One decision-maker at an Educational Professional Society who works in the field of EE or ESD (or in the field of SE or CE).

D. Structure of the questionnaire
The questionnaire was developed in Google Form and the following working definition of Education for Environmental Citizenship was described at the start:

Operational (Working) Definition:
Education for Environmental Citizenship is the type of education which is promoting Environmental Citizenship. According to Dobson (2010, p. 6), Environmental Citizenship is defined as "pro-environmental behaviour, in public and private,

driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy. It is about the active participation of citizens in moving towards sustainability".

There were sixteen (16) open questions regarding the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship. Two (2) open questions were additionally included in order to capture any differences between formal and non-formal education and the differences between primary and secondary education. Finally, five (5) closed questions were also featured using the Likert scale in order to examine the degree of similarity between Education for Environmental Citizenship and other types of education: EE, ESD, SE and CE. On the 5-scale, 1 was for 'Not similar' and 5 for 'Very similar'. The questionnaire was answered in English by each European expert.

E. Ethical issues and confidentiality

The participation of each country expert in this research project was completely voluntary and no known risks were present beyond those encountered in everyday life. The experts' responses remain confidential and anonymous. Data from this research are kept under lock and key and reported only as a collective combined total. None other than the researchers know the individual answers to the questionnaire.

Phase 2 – Development of the country's SWOT Analysis Chapter

The responses to the questionnaire were used for the development of each Country's SWOT Analysis Chapter. Specific directions were given for the sub-chapters as well as for the formatting guidelines.

Phase 3 – European Synthesis of the results

A. Data used

All data from the responses of the each country's experts were used for the creation of a database and the development of the European Synthesis. For this, data was derived and used from two (2) questions regarding Strengths and one question each for Weaknesses, Opportunities and Threats.

B. Content analysis and coding of the responses

The responses from 30 experts of different countries, selected at random, were used for the content analysis in order to develop the main categories (level 1) and subcategories (levels 2 and 3) of the coding scheme used for the full range of the responses. The overall content analysis of the responses experts was performed (Cavas, 2015; Lee et al., 2009; Lin, Lin & Tsai, 2014; Tsai & Wen, 2005). Content analysis is a widely used method in qualitative studies. The analysis approach preferred by the researchers varies according to the theoretical and substantive concern

of the researchers and the specific problem being studied (Weber, 1990). Initially, main categories and sub-categories were derived from full content analysis of the responses. Next, sub-categories were developed to distinguish between the different types of responses. The coding scheme constituted the matrix for the analysis of all the experts' responses. Where necessary a new sub-category was added.

The coding was focused on nine areas: educational outcomes, educational methodologies/approaches, students' personal development, action, context, educator issues, learning material issues, novelty of Education for Environmental Citizenship, economic and financial issues, and infrastructure. An inter-rater reliability check performed by two of the authors yielded a score of 95% agreement. All disagreements were first discussed and resolved between the two coders, and all data were coded accordingly.

C. Data analysis

Percentages for the categories and sub-categories

Based on the above coding scheme, the percentage(s) of the different categories and sub-categories were calculated based on the total number of the statements reported in each question.

D. Research sample

The research sample was constituted by 157 experts from 28 participating countries. Gender distribution was 95 female and 62 male. Out of the participants, 59 held a PhD, 83 had master's degrees, and 15 had bachelor degrees. The number of experts in each age class can be seen in Table 1.2.1.1.

Table 1.2.1.1: Number of experts in age classes

Age Class	Number of experts
20-30	15
31-40	37
41-50	53
51-60	34
>60	18

The number of experts in the five categories of profession can be seen in Table 1.2.1.2.

Table 1.2.1.2: Number of experts in categories of profession

Categories of profession	Number of experts
Decision-maker in a national NGO	18
Decision-maker in an Educational Professional Society	20
Educator – Teacher in primary education	22
Educator – Teacher in secondary education	32
Policy-maker primarily from the Ministry of Education	21
Researcher – academic	44

1.3. Results

1.3.1 Strengths of Education for Environmental Citizenship

Two questions were posed pertaining to the Advantages of Education for Environmental Citizenship (1a) and the characteristics of Education for Environmental Citizenship that do better against other relevant types of education (EE, ESD, CE and SE) (1b) constituting also its uniqueness.

Education for Environmental Citizenship is perceived to be advantageous from various perspectives: educational outcomes, educational methodologies, as well as from students' personal development. A key attribute of Education for Environmental Citizenship mentioned by the majority of experts is its contribution towards students' personal development. Education for Environmental Citizenship is considered to be a meaningful type of education, providing opportunities and conditions for young people to acquire the body of knowledge and necessary skills, values, attitudes and competences that are necessary to become an environmental citizen, and for them to be empowered and motivated to act and participate in society as an agent-of-change. According to the experts' views, Education for Environmental Citizenship also encourages learners to research, investigate and make decisions concerning complex issues. "*Education for Environmental Citizenship develops higher order cognitive skills including critical, creative and systems thinking, argumentation and problem solving skills, which may better lead to fostering a generation of an informed, critical and involved society*".

The participants' responses emphasise the importance of the pedagogical approaches/methodologies employed by Education for Environmental Citizenship, indicating a student-centered one that enables students to make daily connections and apply their learning to real life problems. These pedagogies also encourage students to participate and engage with the local context and to critically examine local issues. This is nicely put forth by one of the NGO's respondent: "*The Education for Environmental Citizenship approaches enable students to connect with their local community in a way that they see themselves as citizens of their community, while*

also providing the opportunity to critically take part in the civic dimension of a place". Education for Environmental Citizenship is also acknowledged as an education that connects to people's lives, enabling experiential learning in out-of-school settings.

Inherent to Education for Environmental Citizenship is being able to address several Educational Outcomes. These empower individuals to take part in the democratic processes needed to respond to the sustainability imperative. Experts suggest that Education for Environmental Citizenship allows people to realise those issues related to inter- and intra-generational justice, and in particular to contribute towards active engagement and civic participation. As stated by one of the academic participants:

> *Education for Environmental Citizenship provides a more compelling framework by which environmental sustainability can be greatly enhanced through civic engagement. Much of the engagement used in communities to date has been in the form of civic participation, a simple form of engagement involving individual actions, e.g., students taking part in recycling programmes.*

Some of the respondents suggest that Education for Environmental Citizenship could contribute to students' healthy relationship with nature: "*In an era where people are less connected to nature, Education for Environmental Citizenship encourages youth to leave their homes and experience their neighbourhood reality and create healthier relations with the natural and anthropogenic environment*". The participants' responses also mention the potential of Education for Environmental Citizenship in empowering people to exercise their environmental rights and duties.

In the second question (1b) concerning the characteristics of Education for Environmental Citizenship where it prevails against other relevant types of education (EE, ESD, CE and SE), the majority of responses referred to the Educational Methodologies adopted from Education for Environmental Citizenship that are integrated in a holistic and comprehensive pedagogy. A teacher from primary education mentioned that "*Education for Environmental Citizenship constitutes all other relevant four types of education together (all four in one) and that it is a real-life education with real problems and place-based education*". Also important are the statements to the action and change-oriented nature of Education for Environmental Citizenship, in comparison to the other relevant types of education: "*Within Education for Environmental Citizenship there is cognitive education as well as action, an understanding that I am part of the study and I need to stand up and be active*".

Table 1.3.1 Strengths of Education for Environmental Citizenship

		Advantages 1a (%)	Better than others 1b (%)
Educational Outcomes		**17.9**	**14.7**
Justice		**3.6**	**2.3**
	Inter-generational justice	1.8	0.8
	Intra-generational justice	1.8	1.5
Active (social) engagement and civic participation		**5.9**	**8.1**
	Improving own life conditions	1.2	2.4
	Promotes sustainability	2.8	2.5
	Real life outcomes	1.9	3.2
Healthy relationship with nature		**3.7**	**1.5**
Solving environmental problems		**1.5**	**0.6**
Preventing environmental problems		**1.3**	**0.8**
Structural causes of environmental problems		**0.6**	**0.6**
Environmental rights and duties		**1.3**	**0.8**
Educational methodologies/approaches		**27.9**	**48.9**
Real life education		**11.6**	**13.7**
	Real life problems	5.3	4.6
	Place-based problems	1.6	1.9
	Real life engagement	3.1	5.3
	Formation of policies and participation in taking decisions	1.6	1.9
Holistic approach		**6.9**	**12.7**
	All four in one	2.4	6.1
	Moral and social issues	3.3	4.9
	Science education perspective	1.2	1.7
Educational formality		**0.7**	**1.1**
	Formal education	0.1	0.0
	Non-formal education	0.6	1.1
Political dimension of education		**4.0**	**4.3**
Breaking the limits of school – collaboration with communities		**2.4**	**5.2**
Different scales (local, national, global)		**0.3**	**4.5**
Practical/experiential learning		**2.0**	**7.4**

Students' personal development		**38.8**	**23.7**
Knowledge	Conceptual understanding of environmental issues	**3.6**	**1.5**
Values		**2.5**	**2.3**
	Respect for others, diversity, environment	1.6	1.5
	Eco-centric approach	0.9	0.8
Beliefs		**0.6**	**0.4**
Attitudes		**1.3**	**1.1**
Skills		**10.2**	**7.3**
	Critical thinking	2.8	0.8
	Skills – problem solving	2.1	1.1
	Skills – participation	1.0	2.3
	Skills – decision making	1.5	1.5
	Skills – argumentation	0.8	0.6
	Skills – systems thinking	0.6	0.6
	Skills – creative thinking	0.4	0.0
	Skills – communication	0.6	0.0
	Skills – research	0.4	0.4
Competencies		**16.3**	**6.2**
	Empowerment of students	1.8	0.8
	Responsible citizen	8.3	4.6
	Environmental awareness	6.2	0.8
Pro-environmental behaviour		**4.3**	**4.9**
Actions		**5.9**	**9.1**
Individual actions		3.6	5.1
Collective actions		0.7	3.2
Public sphere		1.0	0.6
Private sphere		0.6	0.2
Context		**14.7**	**14**
Society	Local community activities for engaging citizens	**6.3**	**5.4**
Networking		**8.4**	**8.6**
	Promotion through European and global networking	5.3	4.4
	Collaboration among schools	3.1	4.2

1.3.2 Weakness of Education for Environmental Citizenship

Weaknesses and areas for improvement are identified from two main directions: **internal** – resulting from the attributes of Education for Environmental Citizenship, and **external** – resulting largely from the context in which Education for Environmental Citizenship should be employed.

The majority of responses address internally-related challenges resulting from the fact that Education for Environmental Citizenship is a novel type of education**.** Despite the importance of Environmental Citizenship, it is considered until now by participants to be under-explored and not clearly defined and framed in relation to other types of Education e.g. Education for Sustainability (EfS) and Environmental Education (EE). The lack of a clear identity, definition of core competencies and prescriptions of pedagogy can lead to uncertainty among stakeholders and doubt among researchers and teachers, revealing some weaknesses.

> *"…the necessity to strengthen the conceptualization of Education for Environmental Citizenship. The fragmented nature of the research findings and information related to Environmental Citizenship constraint their effective incorporation into good practices and policy frameworks. Therefore there is an imperative need for the establishment of Education for Environmental Citizenship, which is of outstanding importance".*

Stemming from its attributes (internal factors), according to a secondary teacher's conception, Education for Environmental Citizenship should avoid "*teaching too theoretical aspects and focus on practical aspects and experiential learning*".

Factors that may inhibit the potential contribution of Education for Environmental Citizenship are also related to externally-oriented challenges. Education for Environmental Citizenship is not officially recognised as a school subject in the educational system. The educational policy of several European countries does not encourage implementation of Education for Environmental Citizenship in formal contexts. This leads to weaknesses at a number of levels ranging from the classrooms and teacher involvement up to the Educational System.

Classrooms: The respondents emphasise the limitation of readily accessible educational materials and relate this to the low status of this subject/area. Materials that do exist are for EE or EfS, not for Education for Environmental Citizenship. Also, the school curricula do not provide resources for Education for Environmental Citizenship. According to some experts, "*the pertinence of disseminating – in a specific portal – examples of good practices in Education for Environmental Citizenship, taken from successful projects developed by schools, educational authorities and NGOs still persists*".

Teacher involvement: Another important weakness identified by some experts is the novelty of the Education for Environmental Citizenship concept and the consequent teachers' lack of knowledge in implementing this approach. Teachers may misunderstand the concept – identifying it as synonymous to other more common

concepts of EE or EfS – and begin implementing approaches that are not in line with the contextualised, student-centred, interdisciplinary, systemic, inquiry-based and action-based approach of Education for Environmental Citizenship. This is put forth by one educator: "*Teachers are not familiar with the philosophy and pedagogy of EC and therefore it is difficult for it to be incorporated into their class activities promoting aims of Education for Environmental Citizenship*". Another participant from a Ministry mentioned: "*There is a lack of motivation from teachers to be educated in new pedagogies*". This limitation would imply a coordinated strategy between the Ministries of Education and pre- and in-service teacher training institutions in order to promote the scientific and the pedagogical knowledge required for Education for Environmental Citizenship, since "*there are now available TBD programmes that could equip teachers with the necessary abilities to implement Education for Environmental Citizenship into their classes*".

Educational system: Some resistance is triggered from the educational system since people tend to refuse what is new and what they don't know. Additionally, it seems that Education for Environmental Citizenship is not a priority in educational policies and it is not included in the formal curriculum.

Table 1.3.2 Weakness of Education for Environmental Citizenship

		Responses %
Educational methodologies/approaches		**27.9**
Lack of predetermined methodology		**11.7**
	Difficult to achieve	4.0
	Difficult to assess (outcomes)	2.3
	Difficult to transform in education level	2.8
	Difficult to understand complex environmental problems	2.6
Long lasting implementation (time consuming)		**4.0**
Overlap (and competition) with EE and ESD (distinguish differences)		**6.8**
Complexity		**4.0**
Theoretical approach (too theoretical)		**1.4**
Context		**20.6**
Educational system level		**18.8**
	Resistance from the system	3.4
	Government policy (and priorities)	3.4
	Curricula (not included)	6.0
	Time in school programme (not included)	6.0
Society		**1.5**
	Society is not ready for EEC	0.9
	Citizen socio-cultural level	0.6
Educational trends and policies		**0.3**
	National and European policies on EC	0.3

Educators issues		**10.5**
	Teacher education/training/professional development	6.8
	Teacher motivation	3.7
Lack of learning material issues		**6.5**
	Lack of learning material	3.1
	Lack of best practices and examples	3.4
Novelty of EEC		**16.1**
	New - innovative concept (but unknown) for the public and educational community.	11.1
	Not a well-defined concept	5.0
Economic and financial issues		**2.3**
Need for experts and specialists		**0.9**
Need for literature		**1.1**

1.3.3 Opportunities of Education for Environmental Citizenship

The opportunities and supporting trends identified by the implementation of Education for Environmental Citizenship are mostly related to its educational strengths. The opportunities raised by the majority of participants relate to the holistic and comprehensive approach that could be developed by Education for Environmental Citizenship. This is put forth by one of the academic respondents:

> *"The pedagogy that could be developed by Education for Environmental Citizenship, combining methodologies of Education for Sustainability as well as approaches of Citizenship Education, could contribute to building students' competencies for deep civic participation necessary for realising environmental and social change. Those approaches could help current students and future citizens to redefine their relationship with nature and reiterate that environmental conservation is everybody's responsibility, all the time, based on one's life choices in minimising the ecological impact on earth*".

Such a perspective reinforces the teaching of Environmental Citizenship with a novelty not always found in other areas of the curriculum. This will degrade the walls that isolate the school from society and science and allow for the elaboration of important partnerships between school, science and society.

In addition, a great opportunity of Education for Environmental Citizenship is considered to be the empowerment of citizens for socio-political action in the private and public sphere regarding solving socio-environmental problems. This informed and active citizenship will have a big impact in the society and the environment. Some experts highlighted the fact that the quality of democracy will improve through the active participation of more citizens in decision-making processes and problem-solving initiatives, with a positive impact on environmental, technological,

social and economic policies. "*More informed and involved citizens can influence and work with policy-makers towards more socially, just and environmentally sustainable policies. Moreover, citizens' lifestyles in general may change in the direction of more democratic and environmentally sustainable behaviours*".

National, European and global networking potential within Education for Environmental Citizenship was recognised by experts as a crucial opportunity for achieving environmental change. Networking between schools, teachers, researchers, stakeholders and policy-makers could promote a multidirectional and more symmetrical form of communication regarding the aims and outcomes of Education for Environmental Citizenship. Moreover, networkers want to evolve together with their networking partners (at the same time) and this encourages them to make progress. This is a positive metaphor for the reciprocal relationship between the individual and society and can thus enhance the social responsibility required of environmentally responsible citizens.

The experts are of the opinion that new technologies can provide further opportunities to protect our planet, namely through the development of tools to support research and activism initiatives on environmental issues. Additionally, the role of technology is perceived mainly as an opportunity "enabling greater accessibility to knowledge, social networking, and providing solutions for environmental problems". Some of the experts consider that "*Education for Environmental Citizenship can play a very important role in assuring a sustainable technological development, providing more informed and active citizens who are capable of an effective action with political and economic agents*". The necessity to strike a balance between technology and outdoor activities, in relation to Education for Environmental Citizenship, is acknowledged.

1.3.4 Threats for Education for Environmental Citizenship

The European SWOT analysis allowed the identification of some threats for Education for Environmental Citizenship, imposing however the difficulty to separate the threats from weaknesses. The majority of respondents emphasise the limitations that are derived from the context that Education for Environmental Citizenship should be applied from top (policy level) to bottom (the individual).

Policy level: A main threat would be the need to convince governments, specifically the Ministries of Education, to acknowledge the importance of introducing Education for Environmental Citizenship as a distinctive subject with its own curriculum into an already overloaded school curriculum. Another threat relates to the nature of Education for Environmental Citizenship and its implementation into schools. Education for Environmental Citizenship requires an interdisciplinary, collaborative and systemic approach that is difficult to materialise in a school strongly marked by a lack of communication and coordination between teachers and school subjects. In a very compartmentalised school it is very hard to find the common

space and time needed to develop synergies among different knowledge and perspectives. According to some experts: "*Education for Environmental Citizenship implementation requires the development of less extensive curricula and a much more flexible school structure – and even a new culture – capable of adapting to new demands in terms of school aims, spaces and practices*".

The lack of ways to assess and measure the outcomes of Education for Environmental Citizenship is of crucial importance. A teacher respondent mentioned that: "*teaching - attainment targets and indicators of competence for Environmental Citizenship should be developed in order to embody the curricula with even greater efficiency*".

However, those changes need both a political will and changes in the educational system.

Societal level: Achieving behavioural change at the public/societal level is difficult. Many respondents considered the "*lack of environmental awareness of citizens*", "*the model of consumer civilization*" as well as the "*lack of environmental awareness in politicians*" as important societal threats for the implementation of Education for Environmental Citizenship. As a result, many environmental management initiatives undertaken by governments, where substantial resources are invested such as solid waste separation (at the source, i.e. by the citizen), are having limited success.

Individual level: The sporadic and superficial teaching of Education for Environmental Citizenship was considered to be a threat. As a result of its unofficial status, "*Education for Environmental Citizenship is largely dependent on bottom-up initiative based on the willingness of educators to be informed about the philosophy of Education for Environmental Citizenship and develop suitable learning interventions for their classes*". Additionally, teachers need hours of training both in pre-service and in-service in order to be equipped with the substantial abilities enabling them to act as formative agents of Education for Environmental Citizenship.

Overall, improvements will result from changes in top-down policy, namely government recognition that Education for Environmental Citizenship is an essential and obligatory education. Top-down policy will enable to respond to the cascade of threats specified above.

1.3.5 Formal and Non-Formal Education for Education for Environmental Citizenship

Experts were also asked about the differences that could exist between formal and non-formal education when implementing Education for Environmental Citizenship. According to the experts' responses, the formal educational system is viewed as the main framework for conducting Education for Environmental Citizenship. However, non-formal education is recognised as an important arena for teaching children and young people about the environment and promoting lifelong learning,

and this 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 Education for Environmental Citizenship since "*it is more flexible; adaptable to local circumstances and can select which issue to focus on (strength)*" and "*can rapidly seize and incorporate emerging trends and issues (opportunities)*". However "*it is much more dependent on funding from various sources and thus on financier's priorities (weakness)*". Additionally, in non-formal education the obstacle of introducing a new subject in an overloaded curriculum in a structured system by changing policies is overcome. "*Applying to formal education requires appropriate adjustments to legislation, directives and regulations related to school system*".

It is noteworthy that the majority of experts (64%) believe that a synergy between formal and non-formal education constitutes a major Strength that will lead to success of Education for Environmental Citizenship. "*Non-formal education activities are carried out by diverse social actors involved in community. Therefore, it facilitates the establishment of synergies, partnerships and support from academic institutions, NGOs and other social actors that can contribute to formal education institutions in having flexible mechanisms for integrating Education for Environmental Citizenship*".

1.3.6 Primary and Secondary Education for Education for Environmental Citizenship

Throughout the education systems of the participating countries, education is generally divided into primary and secondary education with many having an option for students to also pursue post-secondary education. The border between each type of education may vary among educational systems, however in most cases, primary education encompasses the first six to eight years of a child's education with secondary education comprising the adolescent years.

Primary and secondary education differ in terms of the curriculum as well as the age of the students, therefore most respondents identified the differences in the SWOT Analysis of incorporating Education for Environmental Citizenship into primary and secondary as being derived from the level of education. However, many of them recognised other Strengths and Opportunities of incorporating Education for Environmental Citizenship into secondary education: "*For students in secondary education it is easier to understand the complex relationships between society, economy, environment and governance. Furthermore, they are familiar with the concepts such as responsibility, duties, rights, common goods and critical thinking*". Additionally, "*secondary school education is more engaged in volunteering. Age is a limiting factor for participating in environmental activities. Older children are more enthusiastic to change things, and they like to behave more like adults, so they feel they can really change things". Furthermore, "due to their developmental*

stage, secondary school students are able to explore deeper the several environmental issues" while "*adolescents are closed future citizens*". However, 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 Education for Environmental Citizenship asks for*".

Some Experts mentioned that in elementary school "*there is a greater Opportunity for new generations to incorporate the values and attitudes linked to Education for Environmental Citizenship*"**.** 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*".

1.3.7 The educational niche of Education for Environmental Citizenship

The final results on European level shows that our 157 experts from 28 Countries believe that there is a degree of similarity between the Education for Environmental Citizenship and the 4 related types of Education which are Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE) and Citizenship Education (CE). According to our experts the similarity 3.4 with EE, 3.8 with ESD, 2.4 similarity with SE and 3.4 similarity out of 5 with CE. Figure 1.1 presents the educational niche of Education for Environmental Citizenship.

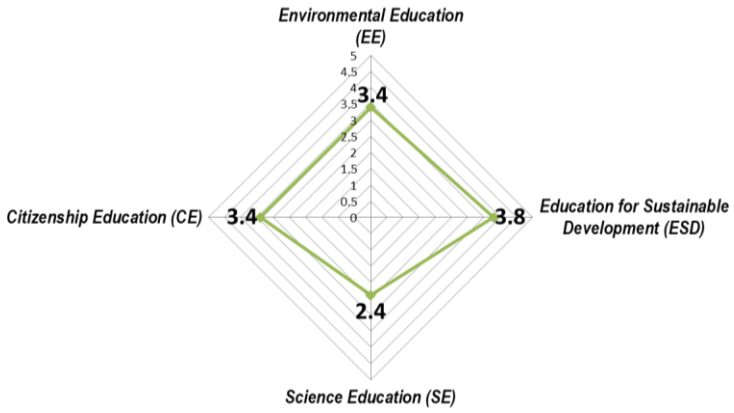

Fig. 1.1 The educational niche of Education for Environmental Citizenship

1.4 Conclusion

The results reinvigorate the need to better conceptualise Education for Environmental Citizenship. The emerged Strengths and Opportunities of that type of education could have a considerable contribution to the sustainability of societies, since today's students could become active and responsible citizens of tomorrow. Weaknesses, obstacles and areas for improvement relating to the novelty of Education for Environmental Citizenship are advocating the need for teachers' education and motivation, the development of learning materials and best practices, as well as the mitigation of the educational system's resistance to change.

However, a reframing of the educational policies at national and European levels is required in order to integrate the existing approaches of EE and ESD into a holistic and comprehensive pedagogy of Education for Environmental Citizenship and to build students' competencies for deep civic participation.

In conclusion, Education for Environmental Citizenship provides a more compelling framework to empower individuals to take part in the democratic processes needed to respond to the sustainability imperative.

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PART II: European Countries' Reports

2. Short Country Report AUSTRIA

European Network for Environmental Citizenship (ENEC)

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Abstract: Environmental Education (EE) has been established in Austria's education institutions since the 1970s and is integrated in various subjects of the curriculum. The overall aims are to understand the global context of individual actions with linkages to the environment and climate and to influence behaviour in an environmentally-friendly way. In the Austrian education system, the terminology of EE, Education for Sustainable Development (ESD), Science Education (SE) and Citizenship Education (CE) cannot be considered strictly differentiated. The outcomes of the surveys with eight experts from the Austrian education system show various strengths, weaknesses, opportunities and threats of the Education for Environmental Citizenship. The identified strengths of Education for Environmental Citizenship are the increased understanding of the environmental and social consequences of each individual citizen`s actions, empowerment, and the development of sustainable responsibilities. The weakness of Education for Environmental Citizenship is the dependence of possibilities to create a participative and motivating learning environment. Education for Environmental Citizenship provides many opportunities for reaching several targets of the Sustainable Development Goals (SDGs). The concept of Education for Environmental Citizenship is not well established in Austria and this threatens its acceptance in the Austrian society.

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2.1 Introduction

Austria's population is growing, driven mostly by immigration. In 2015, 825,500 people (9.62 % of the population) were aged between 6 and 15 years and subject to minimum compulsory schooling. This however, differs among provinces. In the future, urban regions (particularly Vienna) will benefit from a population growth, while this will decrease in the south of the country (Statistik Austria, 2017). A rise of up to 10% in under 20-year-olds from 1.69 million in 2015 to 1.86 million in 2035 is expected (European Commission, 2017b).

In 2016/17, Austria counted 6,030 schools, with 1.13 million pupils and 127,896 teachers in primary and secondary schools (Statistik Austria, 2017). Many reforms and adaptations are to be expected and these aim to meet the future challenges in the Austrian education system. By the end of the next decade, almost half of Austria´s teaching staff would be retired. In 2017, the Austrian government agreed to reform school autonomy, the administration, and comprehensive schools (European Commission, 2017b). Austria aims to strengthen short-cycle professionally-oriented tertiary education including STEM subjects. In 2016/17, 383,517 students were enrolled in an Austrian higher education institution. Regarding the reforms of secondary education system, a new framework for the public funding of universities was discussed by regional and national policy makers (European Commission, 2017b).

In comparison to the EU member states, the education results in Austria are in the middle of the range. Austria faces challenges to mitigate the continuing deterioration of basic skills in reading, writing and mathematics. Parents' socioeconomic status and their eventual migrant background have a major influence on Austria's formal education results (European Comission, 2017a).

Environmental education (EE) has been a part of the Austrian education curriculum since the 1970s. In 1979 a decree on environmental education was released, which was the baseline for the establishment of the formal EE in all subjects in schools for students age of 10 to 19 years old. Since the 1990s the policy discourse has shifted from EE to education for sustainable development (ESD) (Rauch & Steiner, 2006). EE in schools is anchored as a teaching principle. The Basic decree on environmental education for sustainable development (BMBF, 2016) describes goals, competences, principles, and the interaction with other teaching principles. Today´s grand challenge for EE at schools is the integration of EE in school and curriculum development and the identification of opportunities of transition in a sustainable way to harness the potential for the implementation and initiation of projects together with pupils to raise their awareness, empowerment and action (BMBF, 2014). The general principles of the Basic decree on environmental education for sustainable development (BMBF, 2016) stress the "responsible action presupposes that ecological, social and economic aspects are equally considered in a balanced manner when taking decisions" (BMBF, 2014, p.7). EE in formal education aims to gain the ability of pupils to reflect on their personal lifestyle and rethink the relevance of individual action for the impact on the environment, as well as

encouraging taking concrete action steps in their everyday life. Various school networks such as ÖKOLOG, Austrian Ecolabel ('Umweltzeichen'), climate schools ('Klimaschulen'), and climate education schools all support the implementation of EE (Klimabündnis Österreich, 2017, ÖKOLOG, 2017, The Austrian Ecolabel, 2017; Klimaschulen.at, 2017).

The Austrian landscape of non-formal education is diverse. In addition to on-the-job-trainings, EE and ESD exist in the shape of training courses in the civil society. These are illustrated by FORUM Umweltbildung, Initiative für Teaching Entrepreneurship (IFTE), Austrian Agency for International Cooperation in Education and Research (OeAD), and BAOBAB – Globales Lernen. In 2016, 14% of the population between the ages of 25 to 64 years participated in adult education, lifelong learning activities and training courses (Statistik Austria, 2017).

The current EE system in Austria is not using the exact concept of Education for Environmental Citizenship. This report aims to provide the first orientation of Education for Environmental Citizenship movements in Austria. The following SWOT analysis is based on the expert surveys of eight decision makers. One is working in the field of EE/ESD or in the field of science education (SE)/citizenship education (CE); two educator-teachers in primary education working in the field of EE/ESD or from the field of SE/CE; two educator-teachers in secondary education working in the field of EE/ESD or from the field of SE/CE; and three policy makers in the Ministry of Education (e.g. inspector, advisor, decision maker) or other relevant decision-making bodies.

2.2 Strengths of the Education for Environmental Citizenship in Austria

According to the respondents, the major advantage of Education for Environmental Citizenship is fostering the environmental capacity building by increasing the awareness of environmental development needs. This benefits the capacity of critical thinking and may result in structural changes advantaging environmental and social improvements. The experts agree that Education for Environmental Citizenship supports the understanding of coherences and interdependency, such as understanding the environmental and social consequences of the own actions. Education for Environmental Citizenship supports the understanding and belief that each citizen's actions do matter at the global level. At this point the respondents highlight that Education for Environmental Citizenship is the engagement of the individual participation in the role of a change maker, combined with the critical reflection of the system. Furthermore, Education for Environmental Citizenship supports the development of social and sustainable responsibilities.

Another strength of Education for Environmental Citizenship lies in the positive small steps and changes in sustainable matter in everyday life. Education for Environmental Citizenship can indicate small transformations in each household, such

as waste management (e.g. recycling) or environmentally-friendly behaviour during recreational activities in natural areas with respect to wildlife. It supports the responsible use of resources at the small scale, such as within a neighbourhood.

The linkage to the reality of the young people is a further strength for the practitioners. Education for Environmental Citizenship supports the applicability of environmental education by following three steps: (1) knowledge transfer, (2) understanding, and (3) acting.

At the primary education level, Education for Environmental Citizenship is useful in strengthening citizen behaviour from a very early young age. At the secondary education level, it supports awareness and creates career options for young professionals. The experts link Education for Environmental Citizenship to health benefits for the pupils and other citizens.

2.3 Weaknesses of Education for Environmental Citizenship in Austria

According to the experts, Education for Environmental Citizenship is not seen as an applicable instrument to influence environmental dimension on a large scale. Education for Environmental Citizenship alone cannot provide solutions to environmental problems. It requires interdisciplinary collaborations and long-term dimensions for its successful establishment.

In formal education, Education for Environmental Citizenship is not differentiated. In primary schools, EE is part of a broad range of subjects (biology, geography, physics, chemistry, history). Education for Environmental Citizenship requires precise preparation and planning by teachers. Its success is strongly dependent on the teacher's ability to create a participative and motivating learning environment.

The lack of optimism in viewing globalisation and world's development and the knowledge of young people can easily be transformed into stagnation and ignorance towards environmental topics. Without positive connections or actions, Education for Environmental Citizenship is not applicable and this can threaten its success.

Table 2.1 Semi-quantitative response to SWOT questions 7 to 10 (n=8 Experts).

SWOT Questions	Mean	Max.	Min.
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Environmental Education (EE)?	3	5	3
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Education for Sustainable Development (ESD)?	4.5	5	3
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Science Education (SE)?	2.5	3	2
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Citizenship Education (CE)?	3	5	2

2.4 Opportunities of the Education for Environmental Citizenship in Austria

According to the respondents, Education for Environmental Citizenship could increase the awareness of national and international environmental challenges. Furthermore, Education for Environmental Citizenship could be used to promote transborder activates and international comparisons of environmental problems. The global dimension of Education for Environmental Citizenship is an important factor of implementation and success of the concept. Education for Environmental Citizenship can function as an instrument to reach various targets of the SDGs.

In Austria, Education for Environmental Citizenship also exists in combination with entrepreneurship education based on ESD. It creates the opportunity to work on Cradle2Cradle approaches for sustainable entrepreneurial design.

At all levels of formal education, Education for Environmental Citizenship can be used as a suitable tool for project-based-learning to be led by pupils. The experts see it as an opportunity for young people to identify themselves better with environmental and sustainable matters when they discuss and learn about domestic environmental problems and global environmental problems.

After a certain introduction period, Education for Environmental Citizenship could set sustainable actions and environmentally-friendly behavioural changes in citizens. It could support the general rising of the education level in the Austrian society.

The following trends could improve opportunities of Education for Environmental Citizenship (citation of statements in the surveys):

- The enjoyment of life and positive active participation as a social entrepreneur
- The opportunities of social media can address a great audience for a small/regional problem
- Knowledge of the subject, not only the theory (doing field trips, experiments)
- More cooperation between different European schools by offering more exchange programmes on a secondary level
- More understanding of different environmental problems in different European countries
- City gardening
- General trend in 'greening' different parts of society.

2.5 Threats of the Education for Environmental Citizenship in Austria

According to the experts, the need for Education for Environmental Citizenship in several forms is widely accepted. The differentiation between diverse concepts is hypertrophic and useless, as the most of the respondents have specified. Conceptual differences are only recognisable to experts and not to practitioners in the education system.

Another threat of Education for Environmental Citizenship is the challenge to use positive messages instead of listing negative problems. The motivation of citizens can easily be threatened. Furthermore, it is important to strengthen the voluntary participation of young people in the formal education system. In addition, Education for Environmental Citizenship should avoid strict concentration on the content without the possibility of creating personal connections. In addition, the teachers' motivation and knowledge need to be supported. Teacher-centred instructions or the classic head-on situation of conventional learning will not support the participative concept of Education for Environmental Citizenship.

Policy makers warn not give the individual more responsibility than in the economical and societal surroundings. In order to avoid misuse, knowledge gaps need to be identified and addressed.

The major obstacles faced are (statements in the surveys):

- Lack of funding for support, projects and research
- No political support for Education for Environmental Citizenship
- The flood of possibilities and types of education do not give space to a serious confrontation of another type of education

- No general implementation of Education for Environmental Citizenship in all education levels
- No sustainable approach
- Education is primarily covering economical valuable education aspects
- Lack of emotional connection with Education for Environmental Citizenship targets.

2.6 Conclusion

In the Austrian education system, the terminologies of EE, ESD, SE and CE are not strictly differentiated or separately established. The concept of Education for Environmental Citizenship provides an opportunity for the overall identification of environmental problems. Experts agree that it promotes changes in sustainable behaviour. According to the respondents, it supports the awareness, empowerment and the transformation of knowledge into actions in everyday life. A present challenge for the concept of Education for Environmental Citizenship is observing it as a participative idea and keeping a traceable focus on the big picture of the world's development in context of environment and climate. The access to learning materials, programmes, syllabus of instruction and public services of Education for Environmental Citizenship driven by various stakeholders of the formal and non-formal education systems is available. All interviewed experts agree on the positive effect of the use of technologies of Education for Environmental Citizenship. Minor differences between formal and non-formal education exist (Table 2.2). In formal education, teachers need to follow an inherent curriculum. At primary level the Austrian approach follows the common trend in the EU to include EE in their general statement of aims and/or values (Stokes, Edge, & West, 2001). Non-formal education is more flexible and directly addresses citizens who are interested in topics of Education for Environmental Citizenship. Further significant differences between primary and secondary education were detected (Table 2.2). Primary education gives the advantage to create a lifelong association with Education for Environmental Citizenship. Secondary education provides an opportunity to focus on the global approach of interdependency and to encourage individuals to self-dependent actions.

Table 2.2. Differences among formal, non-formal education, primary and secondary education (outcomes of the surveys).

	Formal	Non-formal	Primary	Secondary
Strengths	Effective	More possibilities for project-based-education	High flexibility	Focus on the 'global' approach of interdependency
Opportunities	Creating emotions/awareness in a young age	Active approach; people already bring specific interest and willingness to work on topic	Providing overview of topics	Discuss topics in detail
Weaknesses	Can be perceived as 'just another school topic'	Addresses only people who are already interested	More efforts for necessary behaviour	Creating links between knowledge and taking action can be difficult
Threats	Inflexible curriculum	-	-	Requires a high level of knowledge

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3. Country Report - Bosnia and Herzegovina

Introduction: The State of Bosnia and Herzegovina is divided administratively into two Entities: the Republika Srpska and the Federation of Bosnia and Herzegovina. The city of Brčko in northeastern Bosnia is a seat of the Brčko district, a self-governing administrative unit; it is part of both the Federation and Republika Srpska, but under international supervision. Each entity in Bosnia and Herzegovina has its own political structure and administration. Uniquely in Europe, education is not a matter for the Bosnia and Herzegovina (BiH) state government but for the entities. The political structure of the Federation is divided into three levels: 1) the entity level, 2) the canton level, and 3) the municipal level. By contrast, the Republika Srpska (RS) has no cantons, only municipalities. On the entity level there is the Ministry of Education. In the entity of the Federation of Bosnia and Herzegovina there are separate Ministries of Education for all cantons with their own educational legislative.

3.1 SWOT analysis of the Education for Environmental Citizenship, Republic of Srpska

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Abstract: SWOT analysis of the Education for Environmental Citizenship in Bosnia and Herzegovina has shown that this type of education would be very beneficial in terms of raising awareness about the environmental issues and connecting it with responsible citizenship and the fair distribution of goods. If embedded in the educational system, Education for Environmental Citizenship would have an opportunity to make a change in society by teaching students how to actively participate in policy making in all areas of their lives, while caring for the environment. As a part of formal and non-formal education, Education for Environmental Citizenship would have the potential to reach out to people regardless of the age groups and sectors. As Citizen Education (CE) and Education for Sustainable Development (ESD) are not officially introduced into the educational system in B&H, Education for Environmental Citizenship could fill the gap because it is a broader form of education and in a way it encompasses these types of education. The main obstacles in implementation of Education for Environmental Citizenship programmes in Bosnia and Herzegovina are the passivity of citizens towards the environmental issues and the overbearing bureaucracy. The introduction of Environmental Citizenship

into formal and non-formal educational system would require serious persistence. But once introduced with motivated teachers, new learning materials designed for Education for Environmental Citizenship and with the help of modern technologies used as powerful teaching tools, Education for Environmental Citizenship could certainly make a positive impact in Bosnia and Herzegovina.

3.1.1 Strengths of the Education for Environmental Citizenship in Bosnia and Herzegovina

3.1.1.1 Advantages of the Education for Environmental Citizenship

Education for Environmental Citizenship not only educates citizens how to act responsibly towards environment, but it also educates people on how to be a responsible citizens in other areas of life. In a way, Education for Environmental Citizenship encompasses Environmental Education (EE), ESD, CE and Science Education (SE). Education for Environmental Citizenship calls for the active participation/involvement of all citizens rather than only certain age groups or sectors in the co-creation of policies leading towards sustainability.

Education for Environmental Citizenship focuses on one of the most important issues - environmental issues that lack active participation nowadays. It has a potential of not only theoretically educating students but also for acting in a practical sense, applying the ecological knowledge in the everyday citizen's life.

3.1.1.2 Areas in which Education for Environmental Citizenship could do better than other types of education

Education for Environmental Citizenship gives an overall perspective of EE, ESD, SE, CE, i.e. it involves science, but is applied by the ordinary citizens. It is a broader form of education, but at the same time narrow, practical and concrete. Education for Environmental Citizenship ensures the inclusion of different age groups and diverse professions, thus guaranteeing quality.

It connects theoretical knowledge and practical skills and that practical approach of Education for Environmental Citizenship is more fruitful in terms of the real change in the society than EE and SE alone.

3.1.1.3 The uniqueness of Education for Environmental Citizenship compared to other types of education

Education for Environmental Citizenship offers a wider approach to environmental issues (i.e. connects ordinary citizens and science) and has a strong emphasis not only on the environment-citizen relationship but also citizen-citizen relationship.

Education for Environmental Citizenship has an approach that leads the process of encouraging individuals to become active members of the society - to actively participate in resolving problems related to the environment and other areas.

3.1.1.4 The strengths of Education for Environmental Citizenship seen by people in Education

Education for Environmental Citizenship covers a wide range of topics and points to globally present issues and many successful examples of tackling them in practice. Its applicability is especially important in a country such as Bosnia and Herzegovina where environmental issues are becoming more and more relevant and natural resources under threat. Education for Environmental Citizenship can give directions to citizens on how to show initiative in influencing their surroundings and to actively participate in decision-making processes.

Education for Environmental Citizenship introduced in the formal or non-formal education would touch upon the essence of EE, ESD, SE and CE, which would enable students to understand the difference as well as the commonality between all of them (i.e. its practical aspect compared to commonly taught EE).

3.1.2 Weaknesses of the Education for Environmental Citizenship in Bosnia and Herzegovina

3.1.2.1 Weaknesses of the Education for Environmental Citizenship

Because of the similarity with already existing terms (EE, ESD, SE and CE), EEC (Education for Environmental Citizenship) can be easily mixed up with them. It could also be a challenge defining curriculum for Education for Environmental Citizenship, so it does not overlap with these other types of education.

It could be a problem balancing time given the different forms of education, and with that allowing too much focus on the environment and too little on the other aspects of the responsible citizenship. There is a tendency in the education system to pay more attention to ecology and less to a citizen's relationship to it. Its development could be challenging in the countries like B&H where there is still no strategy or a clear plan/objectives regarding even CE in the educational system.

3.1.2.2 Areas that Education for Environmental Citizenship could improve

Education for Environmental Citizenship could definitely improve the awareness of the general population in terms of the care for the environment and at the same time encourage active participation of citizens in the policy making in all sectors. Education for Environmental Citizenship can make connections between countries by analyzing specific cases, success stories and obstacles within each country.

Education for Environmental Citizenship has the opportunity to include each age group. Noticeable change would be seen in the surroundings of the responsible citizens after applying the principles of Education for Environmental Citizenship.

3.1.2.3 Practices that Education for Environmental Citizenship should avoid

It would be best to avoid a too formal approach with Education for Environmental Citizenship. There should not be a focus on definitions or on too much theory/too little practice, or focus too much on the environment, and omitting or not emphasising the importance of citizens and their needs.

What should also be avoided is relying on the existing learning materials and programmes rather than introducing new ones that have been especially designed for Education for Environmental Citizenship.

3.1.2.4 Principles of Education for Environmental Citizenship likely to be seen as weaknesses by students and teachers

Education for Environmental Citizenship can be seen as too similar to other types of environmental education, maybe taken as EE; too common, already seen and not that interesting to students as a course.

Teachers mostly lack motivation and energy for similar things and schools are usually not willing to hire additional personnel, mainly due to financial and space issues. Intensive preparation of learning materials and programmes for teachers can be seen as an obstacle, because of lack of specially designed ones for Education for Environmental Citizenship. Change in the current plan of the education system and incorporating the Education for Environmental Citizenship in the study programme is a long-term process. If the plan is not well-developed, students might miss the purpose and do the tasks only for the grades or because they are obliged to.

3.1.2.5 Possible factors that can eliminate the success of Education for Environmental Citizenship

Generally, willingness to accept changes by citizens in B&H is quite low and could be a problem if there is not enough persistency in the Education for Environmental Citizenship introduction process. A busy lifestyle, the passivity of citizens towards

the environment and community important issues, and a difficult, complicated and slow policy making system are all factors that could hinder the success of Education for Environmental Citizenship. Monitoring the implementation process by an external committee is necessary once the legal obstacles for the introduction of Education for Environmental Citizenship are overcome.

An insufficient number of interested students and not enough educated teachers to instruct Education for Environmental Citizenship are also factors that should be considered.

3.1.3 Opportunities for Education for Environmental Citizenship in Bosnia and Herzegovina

3.1.3.1 Possible opportunities for Education for Environmental Citizenship

B&H is a country that is about to deal systematically with environmental issues and incorporate ecological perspective into various sectors. This is an advantage and a great opportunity for Education for Environmental Citizenship to create a proper basis for action and ensure its future sustainability. By involving people in the co-creation of the laws, it is possible to provide policies that will lead towards a better management of the environment at all levels.

There is the opportunity for Education for Environmental Citizenship to use modern technologies and social media networks to raise, in the broader sense, a collective awareness for the environment protection and conciseness. There are new tools for teaching courses such as simulations, web applications that relate to the environment, and the use of smart phones for environmental observations (citizen science). Global connectivity allows Education for Environmental Citizenship to network with other countries and share experiences and exchange ideas.

3.1.3.2 Interesting trends that could improve opportunities for Education for Environmental Citizenship

Modern technologies allow constant communication (Skype calls, exchanges, social media networks, competitions) between institutions/countries, something that is especially important during the process of the harmonisation of the B&H laws relating to the environment and those of the EU. Having a platform for internal communication is also of a great value.

Inspiring young people to use their smart phones for the environmental observations and ultimately actively care for the nature is still only a possibility in B&H, although it has great potential and a place in the educational system. Internet with web applications related to the environment, simulations, animations are certainly powerful teaching tools.

3.1.4 Threats of Education for Environmental Citizenship in Bosnia and Herzegovina

3.1.4.1 Possible obstacles for Education for Environmental Citizenship

Bosnia and Herzegovina has a very complex educational system divided politically and there are completely separate laws/policies regarding the educational system between entities/cantons in the country. The biggest obstacles are passive governments and the country's citizens.

It would certainly take a long time to incorporate Education for Environmental Citizenship into the system: there are not enough programmes, learning methods, materials or educated teachers to teach Education for Environmental Citizenship. The system is already overloaded with too many courses and there would be a resistance towards the introduction of new courses even if they are necessary as Education for Environmental Citizenship is. The hard part could also be making students see the firm connection between care for natural resources and people's rights and the fair distribution of goods. Education for Environmental Citizenship includes a wide range of topics and not having a clear focus might result in a misunderstanding the concept and the aim of the whole process.

3.1.4.2 Areas where other types of education can do better than Education for Environmental Citizenship

SE, CE, ESD, EE can go more into depth in a particular area. CE can do better in terms of focusing on the aspects of being a good/active citizen on various topics. EE gives in-depth knowledge leading to better understanding of the environment. Although SE is more specific and covers in depth certain subject, it involves less people who are committed to research and it takes time to reach the rest of the population. Also, most of the time SE does not consider the bigger picture involving citizens and science.

However, Education for Environmental Citizenship does educate people about CE, ESD and EE. Studying the environment within Education for Environmental Citizenship can inform students that there is not enough resources for all people and that goods need to be distributed equally and used wisely.

3.1.4.3 The availability of learning materials, programmes or services of Education for Environmental Citizenship

All study materials would have to be adapted to Education for Environmental Citizenship because it should be made as a separate subject/activity. Specially designed

learning materials and programmes need to be adapted to the targeted group, i.e. primary/secondary school levels, different age groups of citizens.

Currently there are learning materials for SE and EE in B&H but not enough learning materials for CE and ESD, so the compilation of the existing materials would not be possible at the moment and new Education for Environmental Citizenship materials would have to be designed.

3.1.4.4 Thoughts on changing technology and their possible threats to Education for Environmental Citizenship

There are no threats, however, new technologies can help implement Education for Environmental Citizenship goals.

Technology changes can only serve as a stimulus for the development of Education for Environmental Citizenship, and as many of the new technologies as possible should be attempted in order to get closer to the people and to be present in all ways.

3.1.4.5 Weaknesses that can seriously threaten Education for Environmental Citizenship

Given the rising problems with the environment, people will have to turn their attention to their role in climate change for example, and the possible ways to contribute to make things better to prevent further damage.

Of course, all weaknesses can be obstacles, but with flexibility, a good plan, and a good team of people in charge, incorporating Education for Environmental Citizenship should not be a big problem. The main obstacle would probably be the time needed to see the first steps and results in a challenging society such as B&H.

Differences of Education for Environmental Citizenship between formal and non-formal education

Formal education has continuity on its side; it is in the system, it is obligatory and thus reaches more students. The threat of Education for Environmental Citizenship in the formal educational system is being obliged to do something that could eventually turn into a strength and opportunity since it would, after some time, become a routine, something that has been done without question.

A weakness of non-formal education is that it reaches less people than formal, but creates much better results because it relies entirely on the enthusiasm and willingness to take an active role in the environment protection. Also, non-formal education is more flexible and is usually more practical than formal. Crucial to this process is how to make Education for Environmental Citizenship attractive to all ages and to incorporate it in both systems.

The differences of Education for Environmental Citizenship between primary and secondary Education

The studying complexity in primary and secondary education is obviously different and students should be approached with the concept of Education for Environmental Citizenship according to their age group. Primary school students could be interested in Education for Environmental Citizenship, and if incorporated adequately into primary education, it could lead to great results during and after secondary education.

An interest in Education for Environmental Citizenship by secondary school students would be far greater if they were involved in Education for Environmental Citizenship while in primary education. So, continuity is the key.

Similarity of Education for Environmental Citizenship with other types of education

Degree of similarity between Education for Environmental Citizenship and EE is 3.3
Degree of similarity between Education for Environmental Citizenship and ESD is 2.7
Degree of similarity between Education for Environmental Citizenship and SE is 2.8
Degree of similarity between Education for Environmental Citizenship and CE is 3.5

3.1.5 Conclusion

Environmental issues are becoming more and more relevant in Bosnia and Herzegovina as people are more aware that natural resources are under threat and that the goods need to be distributed equally and used wisely. Education for Environmental Citizenship would be most useful in both formal and non-formal education because it can educate citizens of all ages how to proactively influence their surroundings by caring for the environment as responsible citizens.

Traditionally passive citizens in B&H and the very complex educational and political system divided between entities/cantons are making the introduction of Education for Environmental Citizenship into the system a challenge. However, it is still attainable with strong determination.

Education for Environmental Citizenship has the opportunity to use modern technologies as powerful teaching tools and social media networks for raising awareness about the environment and other important community issues. By avoiding a too formal and theoretical approach, Education for Environmental Citizenship

can attract and inspire citizens from all age groups to take an active part in decision-making processes in all sectors.

3.2 SWOT analysis of the Education for Environmental Citizenship, Federation of Bosnia and Herzegovina

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3.2.1 Strengths of the Education for Environmental Citizenship in Bosnia and Herzegovina

3.2.1.1 Advantages of Education for Environmental Citizenship

According to experts from Bosnia and Herzegovina, the main advantages of Education for Environmental Citizenship are: to influence changes in attitudes and behavior of young people in relation to the environment, to influence the awareness of the environment and the positive impact on health, to rely on earth's natural systems, that it is more useful to an ordinary citizen, and that Education for Environmental Citizenship contains more practice than other types of education.

3.2.1.2. Areas where the Education for Environmental Citizenship could do better than other types of education

Education for Environmental Citizenship can do more than other types of education (e.g., Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE), or Citizenship Education (CE)) in a way: to provide learning about how to participate in environmental decision-making processes, to incorporate all the advantages of the aforementioned types of education, to be closer to citizens, to educate people about specific environmental problems at the local level, to have a more practical approach through the organization of field trips in nature, to be more active in the education of targeted ages particularly old or marginalized social groups such as homeless people so that they can also be active participants, to involve spatial analysis at different levels from local to global so that students can see environmental changes and addictions at these levels and be active

participants in environmental protection, to develop skills among citizens so that they can act proactive in the environment.

3.2.1.3. The uniqueness of Education for Environmental Citizenship compared to other types of education

What is unique to Education for Environmental Citizenship is that it has a broader teaching scope and is more responsible, unlike the SE or ESD that only encourage the learning of environmental facts which we need to deal with. Moreover, Education for Environmental Citizenship focuses on specific environmental problems of citizens, is multidisciplinary, and allows citizens to be an active part of education at the local level and creators of specific local environmental programs. In essence, Education for Environmental Citizenship is more about balancing and spatial harmony.

3.2.1.4. The strengths of Education for Environmental Citizenship as seen by people in Education

According to the experts in the educational system of Bosnia and Herzegovina, there are many adventages of Education for Environmental Citizenship. Particular emphasis is placed on encouraging debate on environmental issues and not just memorizing facts like in EE and SE. Education for Environmental Citizenship helps develop critical thinking and encourages students to share their ideas and be more creative, and provide tips on best environmental practices in everyday activities. Citizens are both creators of environmental programs and active participants in their local environment, so Education for Environmental Citizenship is far more geographically specific and relevant. One of the strengths is the development of critical and progressive thinking in the design of the environment.

3.2.2 Weaknesses of Education for Environmental Citizenship in Bosnia and Herzegovina

3.2.2.1 Weaknesses of Education for Environmental Citizenship

The main disadvantages of Education for Environmental Citizenship in Bosnia and Herzegovina are: lack of qualified staff, difficulties in engaging in the education system, and that it currently has more theoretical approach. In countries where environmental policies and laws are not satisfactory, it is difficult to expect that students and citizens are generally more environmentally oriented (for example, the state does not offer any recycling benefits, there are no significant penalties for environmental pollution, etc.). As environmental policies and laws are not properly

implemented in developing and poorly developed countries, Education for Environmental Citizenship and its advocates are facing constant problems, because it is very difficult to awaken awareness of citizens and, in particular, students about environmental degradation if they do not notice the real damage during their lifetime.
Also, a smaller focus is on local real environmental problems that would help citizens in understanding the environment. Often it happens that citizens and teachers mix or fail to recognize the difference between Education for Environmental Citizenship and other types of education.

3.2.2.2 Areas which the Education for Environmental Citizenship could improve

Education for Environmental Citizenship should include more experiments, practical exercises, study visits, workshops and field activities within the educational process. It needs to be promoted and more inclusive in terms of age and marginalized groups of citizens. The real local environmental problems of citizens should be used by Education for Environmental Citizenship in the preparation and implementation of the education process. It is also necessary to introduce new technologies of learning in the education system, for which schools need financial resources, as well as more field trips and workshops with students and other citizens. Through the active participation of citizens in Education for Environmental Citizenship, we need to better understand environmental problems at the local level.

3.2.2.3 Practices which Education for Environmental Citizenship should avoid

Education for Environmental Citizenship should obviously avoid recurrence of global environmental issues, too much involvement in state environmental policy, too much theorization, as well as the incompatibility between environmental awareness and education of citizens on one side and teachers on the other. Education for Environmental Citizenship should be clearly distinguished from other types of education and avoid repeating their concepts and practices. Staticity must be removed and education must be oriented towards continuous learning with proactive behaviour and programs at different spatial levels (with active field workshops). It is particularly important to resist the influence of large companies that do not show the right picture of the environment in the media as well as the influence of politicians who are not pro-environmental oriented and do not work to promote local and national environmental resources and balanced development.

3.2.2.4 Principles of the Education for Environmental Citizenship likely to be seen as weaknesses by students and teachers

Students and teachers, as a disadvantage of Education for Environmental Citizenship, see the fact that it is difficult to get involved in the education system, contributed by the lack of field workshops, study visits and concrete activities in the environment. The lack of Education for Environmental Citizenship programs and

learning materials with lack of understanding by local and national authorities and ignorance of the basic characteristics of Education for Environmental Citizenship (linking and mixing with other types of education) is a major weakness.

3.2.2.5 Possible factors which can eliminate the success of Education for Environmental Citizenship?

Half of the interviewed experts from Bosnia and Herzegovina said that there are no factors that could eliminate the success of Education for Environmental Citizenship if there were prepared and implemented actions necessary for its functioning. The other half of the experts, as the most important factors that could eliminate the success of this type of education, especially emphasizes the lack of support and understanding of competent institutions in education and environmental management from a local to national level, a policy that is oriented towards the exploitation of natural resources and is not interested in promoting Education for Environmental Citizenship, legal barriers in the country, as well as the very low interest of citizens and the current situation in the education system.

3.2.3 Opportunities of Education for Environmental Citizenship in Bosnia and Herzegovina

3.2.3.1 Possible opportunities for Education for Environmental Citizenship

The greatest chances for Education for Environmental Citizenship are the adoption of new government policies that would improve the quality of the environment and the quality of the education system as Bosnia and Herzegovina progresses towards European integrations. It is necessary to promote Education for Environmental Citizenship by various European organizations as a traditional way of education with far better understanding and awareness of the local environment. A better understanding of the local environment would create greater chances and opportunities in the economic development and life of citizens in general.

3.2.3.2 Interesting trends that could improve opportunities for the Education for Environmental Citizenship

The most interesting trends that could enhance the possibilities of Education for Environmental Citizenship are highlighting the importance of developing environmental skills in new school curricula, raising awareness of environmental protection through greater responsibility of companies, promotional activities and increasing citizen participation in environmental protection activities. One of the most important trends is the inclusion of environmental protection aspect into all strategies and spatial plans from local to national level and the establishment of a large number of non-governmental organizations dealing with environmental issues and assisting

in the promotion of introducing the Education for Environmental Citizenship in schools.

3.2.4 Threats of Education for Environmental Citizenship in Bosnia and Herzegovina

3.2.4.1 Possible obstacles for Education for Environmental Citizenship

A political factor in terms of insufficient environmental laws and a rigorous educational system led by conservative politicians who do not want a significant change is a significant obstacle. Lack of financial resources, too many teaching subjects in schools, poor interest of the wider political public and educational institutions for the introduction of Education for Environmental Citizenship in schools.

3.2.4.2 Areas in which other types of education can do better than Education for Environmental Citizenship

In the opinion of experts, other types of education (eg EE or ESD or SE or CE) do nothing more and are in a very similar situation as Education for Environmental Citizenship. The key difference is, however, that citizens have almost never heard of Education for Environmental Citizenship. The ESD is the one that is mainly promoted.

3.2.4.3 Availability of learning materials, programs or services of Education for Environmental Citizenship

Regarding learning materials, programs or services of Education for Environmental Citizenship, experts agree that they can be found mostly online in English and not in official languages in Bosnia and Herzegovina. In the future, these should be distributed to schools and universities. There are no adequate learning materials because Education for Environmental Citizenship is mainly a secondary activity in schools, and not a special subject, or in some subjects of natural sciences there are very few topics from Education for Environmental Citizenship but under different names/titles.

3.2.4.4 Thoughts on changing technology and their possible threats to the Education for Environmental Citizenship

For the majority of surveyed experts, changes in technology are good for Education for Environmental Citizenship. The main reasons are that new technologies are mostly "green" and friendly to the environment, and to help spread the word and the idea of Education for Environmental Citizenship. New technologies can help to better understand and demonstrate strengths and weaknesses of the environment. The

progress of technology can have a twofold effect. On the one hand, technology is being developed and expanded in the direction of protection by replacing the old ones and developing new technological processes that produce less pollution and use less natural resources. On the other hand, the threat for Education for Environmental Citizenship is an already existing technology that does not serve environmental protection measures.

3.2.4.5 Weaknesses that can seriously threaten Education for Environmental Citizenship

Half of the experts from Bosnia and Herzegovina claim that there are no weaknesses that could seriously jeopardize Education for Environmental Citizenship. However, the other half is worried about the opinions of politicians and decision makers who do not like changes in the current state system, and they also point out the lack of interest of citizens and the current environment policy. It is extremely difficult for an educational program to promote the awareness of the entire society if there is no will, nor any significant activity.

Differences of Education for Environmental Citizenship between FORMAL and NON-FORMAL Education

There is a significant weakness for formal education, because in order to change curricula in schools and universities, certain rules and procedures that are often very rigid should be followed. Education for Environmental Citizenship is rather unknown and any comparison between formal and non-formal education in this context is very complex and requires more time. Formal education has more power, opportunities, weaknesses and threats in general, but it should be also started with non-formal education in Bosnia and Herzegovina. Non-formal education within the framework of Education for Environmental Citizenship should be promoted through numerous seminars, workshops, while in formal education, however, it is far more difficult to make some changes.

Differences of Education for Environmental Citizenship between PRIMARY and SECONDARY Education

Differences between primary and secondary education in relation to Education for Environmental Citizenship are almost non-existent. However, some experts claim that there are generally more environmental education activities in primary education. Having this in mind, experts say there is no point in making a comparison. Not because they do not have the same problems and opportunities but have different approaches and methods in the teaching process. Both should be mandatory. Secondary education should be more related to different plans, strategies and the like in relation to primary education. The conclusion is that with adequate curriculum

and learning materials, Education for Environmental Citizenship can be successfully implemented in the teaching process.

Similarity of the Education for Environmental Citizenship with other types of education

According to experts, Education for Environmental Citizenship is quite similar to Environmental Education (EE) with average degree of 3.5.
According to experts, Education for Environmental Citizenship is quite similar to Education for Sustainable Development (ESD) with average degree of 3.8.
According to experts, Education for Environmental Citizenship is not quite similar to Science Education (SE) with average degree of 2.2.
According to experts, Education for Environmental Citizenship is quite similar to Citizenship Education (CE) with average degree of 3.5.

4. Education for Environmental Citizenship: An opportunity for Flanders (Belgium)? Results of the Flemish SWOT analysis for ENEC.

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Abstract: This chapter reports on the results of a SWOT analysis concerning the concept of Education for Environmental Citizenship for Flanders (the Dutch speaking community of Belgium). The analysis is part of the work plan of the COST action 'European Network for Environmental Citizenship'. The methodology of the Flemish SWOT is in line with the overall ENEC methodology. Six participants answered the questionnaire: academics, teachers and professionals affiliated to governmental and non-governmental decision-making. In general, it can be stated that the Flemish participants' responses reflect a shared interpretation of the strengths, weaknesses, opportunities and threats for the concept of Education for Environmental Citizenship in Flanders. The main strengths that are identified are the holistic nature of Education for Environmental Citizenship, its clear focus on environmental issues, its explicit inclusion of the political, and its propagated co-creative and participatory approach. Weaknesses that are touched upon concern a general public and institutional unfamiliarity with the concept of Education for Environmental Citizenship and the risk of conceptual confusion. Also the unclear goals of Education for Environmental Citizenship are identified as a weakness, together with a potential deprioritisation of social and economic perspectives in sustainability issues. The respondents see potential opportunities in seeking inspiration for Education for Environmental Citizenship in non-formal educational contexts. Given the recent adoption of new curricular goals for Flemish formal education there is also an opportunity to connect or infuse the concept of Education for Environmental Citizenship at this level. The respondents furthermore identified a general societal sense of urgency regarding environmental and citizenship issues, as well as the concept's transferability to the employability debate as opportunities for Flanders. Threats are connected to the (yet) unclear goals of Education for Environmental Citizenship, a low perceived connection to the curriculum and the perception that Flemish education has been subjected to (too) many innovations. These strengths, weaknesses, opportunities and threats need to be capitulated on when designing an implementation strategy that aims to successfully infuse Education for Environmental Citizenship into education in Flanders.

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4.1 What is Education for Environmental Citizenship and what are its strengths?

The participants report an agreement on the fact that Education for Environmental Citizenship focuses on education for competences that can help contribute to the development of citizenship in the context of environmental issues. They see Education for Environmental Citizenship as closely related to Education for Sustainable Development (ESD) in the sense that it puts forward a holistic approach to issues and a pluralistic approach to teaching (in line with Öhman, 2008), while at the same time aiming to facilitate action taken by young people. This reflects the political nature of the concept of Education for Environmental Citizenship. The respondents argue that while ESD brings together environmental, social and economic perspectives on sustainability issues, Education for Environmental Citizenship might have a greater focus on the environmental perspective. The concept of Education for Environmental Citizenship seems to deprioritise social and economic perspectives in favour of the environmental perspective. One respondent framed the Education for Environmental Citizenship as 'environmental education for sustainable development'. The concept of Education for Environmental Citizenship might be an instrument that can attribute increased importance to environmental considerations within formal and non-formal education. There is however, a lot of semantic and conceptual confusion present within the Flemish respondents, which is in line with the absence of the concept of Education for Environmental Citizenship in general and educational policy and practice in Flanders.

Respondents use the words such as 'integrated', 'multidisciplinary' and 'interdisciplinary' to identify the conceptual nature of Education for Environmental Citizenship. Consensus exists that while Education for Environmental Citizenship is interpreted as a holistic concept, it is skewed towards environmental perspectives on suitability issues. Education for Environmental Citizenship is therefore interpreted as distinctly different but also overlapping with other educations. Most overlap is perceived with ESD, least with science education. In between those are environmental education and citizenship education. Some of the participants in the SWOT analysis identify Education for Environmental Citizenship as a possible overarching concept that integrates other educations such as environmental education, ESD and citizenship education.

An essential trait of Education for Environmental Citizenship identified as a strength by the participants is that it seems to have a clear participatory nature and

puts forwards a co-creative approach to teaching and learning. The respondents also interpret the concept of Education for Environmental Citizenship as having a focus on competences such as critical thinking and action taking, rather than just knowledge. Knowledge in the context of Education for Environmental Citizenship should understood as a practical/functional knowledge on top of the factual knowledge of environmental issue as well as decision-making processes, which seems to be in line with the distinction between types of knowledge within the 'competence model for environmental education' (Roczen et al., 2014). The Flemish respondents also highlight that Education for Environmental Citizenship can have a focus not just on practical but also political solutions to environmental issues. Connected to this argument is the active role that learners have in both the practical and political solution.

To summarise, strengths of Education for Environmental Citizenship are interpreted as the holistic nature of the concept, its focus on environmental issues, its connection to the political, and its co-creative and participatory approach.

4.2 What are weaknesses of Education for Environmental Citizenship and how might they be tackled?

Flemish respondents report that the concept is entirely new and unfamiliar in Flemish education. This is unanimously identified as its greatest weakness. There seems to be a lot of conceptual confusion already present, especially for teachers that have limited understanding of even the other educations. Little familiarity is reported to be present with the learning goals and teaching approaches of the diverse educations, as well as the competences required by teachers to achieve those goals or apply these approaches. Given these restrictions, the necessary foundation to build Education for Environmental Citizenship into the Flemish context seems to be absent. Some respondents also interpret Education for Environmental Citizenship as a weak concept since it seems to neglect or underemphasise the social and economic dimensions of sustainability issues. This conceptual confusion also enhances the difficulty of implementing the concept.

The respondents outlined possible strategies to tackle these weaknesses. A clear role is seen for teacher training, including Education for Environmental Citizenship as a subject into the curricula in higher education, as well as putting it into practice within the teaching. The adoption into educational policy will be needed if the concept is to have any chance of getting known and accepted into formal as well as non-formal education. Conceptual clarification could be provided through a framework that is close to practice and can facilitate the sharing of inspirational practices. Those practices in particular that highlight the differences between the different educations are mentioned as having been instrumental in achieving this goal. Such practices could be shared online (short videos/training modules) and through local entities that specialise in in- and pre-service teacher training. If this route is taken

by the ENEC COST action, then non-normativity is essential. Good or best practices should be avoided, while inspiring practices with rich descriptions of context and processes leading to the practices are identified as central.

To summarise, the weaknesses of Education for Environmental Citizenship are interpreted by the Flemish respondents as the general unfamiliarity of possible conceptual confusion, the uncertainty of the leaning goals of Education for Environmental Citizenship, and the fact that Education for Environmental Citizenship seems to underappreciate social and economic perspectives of sustainability issues.

4.3 Which opportunities can be identified for Education for Environmental Citizenship?

Despite having identified important weaknesses and threats for Education for Environmental Citizenship (see 4.), the Flemish respondents also highlighted potential opportunities. A first set is connected to current societal trends. Respondents mentioned the growing trend within youth culture to adhere to ecological thoughts and principles. In Flanders this can be seen amongst others in the increase of support for green parties among young adults. Respondents also highlighted the growing sense of urgency for ecological and citizenship issues in society as well as in schools. At a higher level the sustainable development goals (SDGs) are mentioned (UN, 2012), which have gained recognition and endorsement across societal actors in Flanders. Connecting the introduction of Education for Environmental Citizenship into Flemish education to the implementation of the SDGs can be a way to increase effectiveness.

Other potential trends in Flemish society that might offer opportunities to promote Education for Environmental Citizenship are those of (a) co-creation as a driving principle of collaborations, and (b) circular economy (IDEA, 2106). New technologies (e.g. social media) are also mentioned by all respondents as being opportunities.

The flexibility of non-formal education is mentioned by some respondents as a strength that can foster the adoption of Education for Environmental Citizenship. It is also seen as inspirational for the implementation of Education for Environmental Citizenship into formal education. Within formal education, the tradition of integrated approaches to teaching subjects that is present in Flemish primary education is an opportunity to adopt the holistic concept of Education for Environmental Citizenship. A major opportunity, and also a strategy to overcome several of the threats mentioned elsewhere, is to clearly show to teachers or school teams how Education for Environmental Citizenship is connected to the curriculum. In relation to this, respondents argue that there might be the tendency for Flemish schools to gain more freedom in creating their own curriculum, or translate the government-determined end goals into their own educational practices. Lastly, several respondents identified that within the neoliberal societal trends, connection Education for Environmental

Citizenship to competencies for employability and the labour market or highlighting the transferability of competences that are outcomes of Education for Environmental Citizenship to said context, are potentially strong opportunities.

To summarise, opportunities for Education for Environmental Citizenship are interpreted as finding inspiration in non-formal education for formal education, identifying and presenting connections to the curriculum, connecting the adoption of Education for Environmental Citizenship to senses of urgency in society/schools, gaining more freedom in schools, and the possible transfer to employability and the labour market.

4.4 What are threats for Education for Environmental Citizenship and how might they become opportunities?

Some of the respondents argued that Flemish teachers often hold narrow task perceptions (e.g. Evers et al., 2011), in which what is perceived as what is their job is highly influenced by the curriculum. In secondary education (grades 7 to 12) there is the tradition of compartmentalisation of school subjects. This is a clear threat for such a holistic concept as Education for Environmental Citizenship. In primary education (grades K to 6) this is less present. Another threat that is identified is the lack of teaching and learning materials that have been developed specifically for Education for Environmental Citizenship. Also, Education for Environmental Citizenship is not clearly present as a topic that is used by the inspectorate to evaluate the quality of schools, which adds to its low perceived priority (see e.g. Penninckx et al., 2016). Furthermore, the unclear connection to the curriculum is highlighted by the respondents, adding to the perception that Education for Environmental Citizenship is not a part of the formal expectations of schools.

Several participants in the SWOT analysis mentioned that an effective strategy relating to the curriculum is two-fold: (1) highlighting the connection between Education for Environmental Citizenship and the current curriculum, and (2) infusing Education for Environmental Citizenship into new curricula. Respondents however highlighted the hard competition in the curriculum: many goals need to be achieved and a many new input competes for a place in the curriculum. Over the last decades there have been intensive educational innovations with several upcoming large scale changes to the organisation of daily school life for teachers (see e.g. Nicaise et al., 2014). In Flanders, implementing Education for Environmental Citizenship is likely to be experienced as ‘yet another innovation’ and to meet resistance from innovation-tired teachers and school teams.

The goals of Education for Environmental Citizenship should be clear and well understood by educational professionals. Several respondents also highlighted the clear need to be provided with an assessment framework and instrument(s) to evaluate whether implementation could be successful. Without such insights Education for Environmental Citizenship is considered to have little chance of being adopted

into education in Flanders. A strategy identified by the Flemish respondents would be to focus on education goals during pre- and in-service teacher training, and develop practical tools and methodologies.

To summarise, the main threats that the respondents identify all relate to the fact that Education for Environmental Citizenship might not be identified as a priority. These are low task perceptions by teachers, unclear goals, the reigning perception of 'too many' educational innovations in Flanders, and low perceived connection the curriculum.

Strengths	**Weaknesses**
Holistic concept	Unfamiliar concept
Cocreative and participatory approach	Great conceptual confusion
Focus on environmental perspective	Unclear wat the goal of EEC is
Political character	Ignores social and economic perspectives
Opportunities	**Threats**
Non-formal education as inspiration for formal education	Unclear goals
Connect to curriculum	Too many innovations in Flanders
Connections to sense of urgency	Low (perceived) connection to curriculum
Transferability to employability	Not identified as priority

Fig. 4.1. Visual summary of the results of the SWOT analysis in Flanders (Belgium)

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5. Short Country Report for Bulgaria on the SWOT Analysis of Education for Environmental Citizenship

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Abstract: This report presents the results of a research on 'SWOT Analysis of the Education for Environmental Citizenship in Bulgaria'. The study was conducted under the European Cost Action Project 'European Network for Environmental Citizenship' (ENEC). Its purpose is to outline the strengths and weaknesses, and to contribute to identifying the opportunities and threats, related to 'Education for Environmental Citizenship'. As a working definition of Education for Environmental Citizenship, the following view was adopted: 'We consider Education for Environmental Citizenship to be the type of education that promotes Environmental Citizenship'. According to Dobson (2010, p. 6), Environmental Citizenship is defined as 'pro-environmental behaviour, in public and private, driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy. It is about the active participation of citizens in moving towards sustainability'. The research team included six experts with rich expertise in the field of education. The inclusion of representatives from different areas of education – including government institutions, the non-governmental sector, and schools – enabled us to draw a broader picture. The members of the Bulgarian research team, who are part of the ENEC network, conducted the study from January to February 2018. The survey questionnaire was drawn up by the Steering Committee European Network for Environmental Citizenship, and was designed so as to be applicable in every one of the participating countries in the ENEC Network. It consists of two types of questions: open-ended and closed-ended. Most of the questions are open-ended. Thus, the respondents were able to formulate their answers freely and in their own words. There are also four closed-ended questions, in which the respondent chose an option on a scale of preformulated answers.

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5.1. Introduction: Aspects of the Bulgarian Educational Context

School education in Bulgaria is compulsory for all citizens from the age of 7 to 16 years. In 2010, the Government introduced two years of obligatory pre-school education, starting from the age of five for all children. This is a necessary measure, especially for children whose mother tongue is not Bulgarian. In 2015, the National Assembly of the Republic of Bulgaria adopted the new Pre-school and School Education Act, which introduced a number of amendments. It came into effect on 1 August 2016, replacing the National Education Act, adopted in 1991. The pursuit of 'innovation and efficiency' in organising the educational process, practices, content and structure, as well as promoting a higher degree of autonomy, are among the main pillars of the new law (Section 2, Article 3, point 8). Education is defined as a 'national priority' (Article 3, p. 2) and ensuring equal access and inclusive education is emphasised (Article 3, p. 3). In Section 2, Article 38, the Act also states that:

"Depending on the level, school education is primary and secondary.

(2)The instruction for the attainment of a primary education degree shall be provided from grade I to grade VII inclusive in the following two stages:

1. elementary - grades I to IV inclusive; and

2. pre-gymnasium - grades V to VII inclusive.

(3) The instruction for the attainment of a secondary education degree shall be provided from grade VIII to grade XII inclusive in the following two stages:

1. lower gymnasium - grades VIII to X inclusive; and

2. high gymnasium - grades XI to XII inclusive.1

In Section 3, Article 5, the Act defines the objectives of pre-school and school education. Here we will focus on those objectives that, in our view, have the potential to be deployed in eco-citizenship education:

1. intellectual, emotional, social, spiritual, moral and physical development and support to every child and every pupil in accordance with their age, needs, abilities, and interests;

3. acquisition of competences which are needed for a successful personality development and professional career and active civic life in modern communities;

4. acquisition of competences for applying the sustainable development principles;

7. acquisition of competences for understanding and applying the principles of democracy and the rule of law, human rights and freedoms, and active and responsible citizen participation;

11. acquisition of competences for understanding global processes, trends and interrelationships;

The Act also establishes a set of mandatory requirements – entitled State Educational Standards – regarding school education, its expected results, and the conditions for achieving those results. These are an integral part of the Act and concern a wide range of aspects.

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[1] Pre-school and School Education Act, Article 73.

In relation to our topic, we should mention Ordinance No. 13 of 21 September 2016, which presents cultural and educational fields in education close to the studied subject; it is known as the State Educational Standard for Civic, Health, Environmental and Intercultural Education. It describes the nature, objectives, ways and forms of the training, as well as the framework requirements for study results.

5.2 Strengths of Education for Environmental Citizenship in Bulgaria

In the curricula and programmes of the Bulgarian educational system, there is no formulated concept of Education for Environmental Citizenship (EEC). Related disciplines taught in formal and non-formal education are Civic Education, Environmental Education, Education for Sustainable Development and Global Education, Intercultural Education, Development Education, Health Education, etc. Thus, we can understand the doubts expressed by the respondents in analysing the concept. They were in need of a clearer conceptualisation and differentiation of the concept. At the same time, their lack of sufficient information on it stimulated respondent's interest. In this connection, we may say our respondents displayed a creative approach, elaborating the concept of EEC on the basis of already familiar approaches, adapted to the Bulgarian context and educational tradition. In this sense, we observe outlined attitudes and expectations for the potential strengths of EEC.

Based on the conducted SWOT analysis, we can say that respondents see the strong points in aspects of the relation: individual - community / society - environment. These are considered in the context of integrity, interdependence and shared responsibility. Acquired competencies are associated with the formation of ecological sensitivity, behaviour and culture, but also with a commitment to environmental issues in the widest sense, the achievement of understanding, an active, creative attitude, and the awareness of the need to transform behavioural patterns. In this sense, as one of the respondents said, 'it puts forward the idea of one's own behaviour (learning is great, but it is better when practical changes also happen, for instance, a change in behaviour)'. EEC is seen as a potential response to a public need and to the issue of globalisation. It is a model from which real practical orientation and value is expected. EEC is associated with different aspects of the categories of knowledge, skills, values, attitudes and patterns of behaviour, but also with awareness and activity. Most often, EEC is understood to be education with a 'practical orientation' and of an 'applied nature', which forms in students an 'ecological approach to human behaviour as a whole'. This model is rather an approach based on the search for practical applicability of knowledge and skills.

Among the issues raised by respondents, some concerned human rights and responsible behaviour, which we may be related to the dimension of citizenship. One respondent stated, "Education for environmental citizenship includes the rights and

responsibilities of a person and society as a whole, especially the responsibility to maintain environmental integrity and the right to live in a healthy environment."

We observe an inclination to build in students the ability to respect one's own dignity and worth, as well as the dignity and worth of others, which includes elements such as that the individual must 'bear responsibility for his behaviour', 'select adequate information, products and services to improve health and maintain a healthy lifestyle'. Respondents note that EEC 'includes the concept of fairness and distribution of goods, whereby we avoid the somewhat artificial separation of the "environmental" and "social" aspects of global issues, international development, etc.' EEC also focuses on the formation of values such as a sense of justice and a shared responsibility: 'Rational use and conservation of natural resources in the interests of the present and future generations; forming people who know the mechanisms of establishing shared responsibility for environmental protection.' The participants in the study indicated distinguishing features of EEC, such as: practicality, applicability, understanding the problems, building on individual experience, understanding the potential to increase interest in the environment, and creating a sustainable environment.

With regard to learning methods, they are understood training to be 'determined by cognitive content' and often associated it with greater freedom and flexibility, activity or interactivity, which will make training 'attractive' to learners.

With regard to the organisation of the training, respondents indicated that it should encourage interaction with others, partnership between different agents of socialization and education, such as the family, school, state structures and non-governmental organizations.

Respondents emphasised the importance of extracurricular projects and activities, as well as practical lessons, viewed as potential factors for motivating and stimulating the interest of the school children.

EEC is also seen as providing an opportunity to develop new pedagogical concepts of human development.

One participant in the study, based on his long experience in the non-governmental sector, in non-formal education, and in work on issues of global education, stated: 'In my experience, people in education see it as a strength when concepts are well supported by methodologies, tools, handbooks, etc., that they can use straight away with children.'

5.3 Weaknesses of Education for Environmental Citizenship

The participants highlighted different aspects, viewed as potential weaknesses in the implementation of EEC. We may summarise them thus: information resources (shortage of study programmes and accessible materials), methodological content (nature of the knowledge taught and the approaches to applying it), social aspects (social inequalities, etc.). One of the respondents shared:

‘I don't see weaknesses in the concept itself, but potentially in the way it is promoted and implemented. These might include: “rivalry” between EEG and other educational paradigms; constant bombardment of educators with new educational concepts.’

Some of the limitations indicated by respondents are:

- the lack of clear concretization and definition of the concept,
- the lack of a socio-psychological portrait of the environmentally minded citizen,
- the need for a broader view so as to avoid, as one respondent put it, ‘archaic concepts’, because the individual ‘performs many other activities that can be ecologically assessed and which have an ecological impact on the environment.’
- Respondents also take into account the potential danger of ‘providing education in an environment that is cut off from the environment that the education is about’; this, according to him, is related to the ‘armchair nature of contemporary education’.
- Respondents also indicate concern about the tendency to unify the content of EEC, which would ‘stigmatise and restrict’ it.

Participants pointed to the need to improve resource availability and investment in human resource development: ‘increasingly accessible resources for explaining the values and concepts that are central to it - for educators (for instance, video films)’; programmes and interesting training methods; providing the opportunity for the trainees to gain experience, ie., enhancing the capacity of teachers and trainers to teach EEC (‘Increasingly accessible resources with methodologies and tools that teachers can use - they need less theoretical discussion and more practical tools’). An interesting point here is the understanding of EEC as a process in the context of lifelong learning.

That which EEC must avoid, according to our respondents, is over-theorising, ‘encapsulation’ in a single scientific field (‘environmental citizenship should find its place in the context of all school subjects and all university disciplines’, said one participant); the focus only on high schools and universities; formalism and lack of real contact with the environment; lack of practical applicability of activities.

In the context of the potential perceptions of teachers and students regarding the weaknesses of EEC, the respondents indicate: the teachers’ workload (‘Educators might see it as “another thing they expect us to teach in school”, taking into account that their study programmes are overloaded and increasingly high demands are made on teachers’) and insufficient qualification in the problem field, the small number of study hours provided for ecological education in secondary schools. They note that there is also a risk for learners ‘not to relate to it, unless it successfully links their local lives with the global environmental and social issues.’ Among the factors that might prove an obstacle to the success of EEC are: lack of sufficient experience and resources, poor dissemination, lack of training opportunities (in order to upgrade the skills of trainers), and underestimating the problems at the level of the public, government policies and at the individual level.

5.4 Perspectives of Education for Environmental Citizenship e Education for Environmental Citizenship in Country

Our respondents indicate the following educational perspectives of EEC: its potential to build a good ecological culture among young people; to raise participants' interest in training methodologies; the rethinking of education systems (one respondent shared, 'There seems to be trend of opinion that the educational systems need re-thinking (for instance, the case of Norway), which might direct attention to less "traditional" educational paradigms – for instance, EEC'). Education and educational practices are seen as important; respondents recall that 'For the EU, education is above all a value, a key to realisation in modern society. Knowledge of yourself and of the world, both at the individual and group level. Education becomes a generator of the new society, and we can say that there is a real possibility for knowledge of oneself and of the world to become integrated, and for setting a new foundation for human education - not only as a search for knowledge but also, through knowledge, to find one's own self and one's place in the world. Once knowledge becomes a central resource of the modern economy, the system that produces knowledge becomes a fundamental system of society'.

The following are considered real resources: promoting extracurricular forms of training and participation in projects and activities. Here respondents stress the possibility of constructive participation of the non-governmental sector as a partner in this process. According to one of the participants, 'It is a good opportunity for all educational areas in the kindergarten and all school subjects to be subordinated to the idea of building ecological awareness in the individual'; this is in line with the idea of social interaction, solidarity and life in the community.

Stimulating a creative approach and critical thinking, fostering self-sufficiency, putting trainers and trainees on an equal standing, combining social skills, cognitive abilities, and overall emotional and intellectual competence; participation of children, high school students and university students in projects and national programmes on environmental themes, the introduction of environmental education in the additional training classes and in extracurricular activities, etc., are among the trends listed as interesting, and possible, means to develop practices that emphasise EEC.

5.5 Threats to Education for Environmental Citizenship

Participants in the study take into account various obstacles or threats to the development and implementation of EEC. Among these are: the lack of opportunities for the training of teachers and educators; the degree of willingness of teachers to do additional work, the risk of predominance of theoretical knowledge; poor awareness and potential misunderstanding of the significance of the problem; funding, broken links between family and educational institutions.

One of our experts emphasised that ‘at this stage in Bulgaria, environmental education, civic education, and education for sustainable development are generally implemented better.’ With regard to educational materials, programmes or services for EEC, respondents are generally convinced that the existing materials are insufficient; they stress that ‘those that are available are not widely disseminated. We cannot expect teachers to start looking for resources and concepts that they might not have even heard of. They need to be brought to them.’

Regarding the changing technological environment, respondents do not see any threat here (‘The issues of technology always revolve around how we use it, not whether it is there’). Respondents expressed the belief that the constantly developing and changing ICT are not a threat to EEC. On the contrary, ICT are thought to be able to contribute to its development. Information technologies are understood to be the basis for a new type of creativity connected with access to knowledge and ‘processing information’, with opportunities for communication in a new digital environment, and with the concept of life-long learning. According to one of the participants, ‘The threat comes from the fact that education for environmental citizenship is moving with slow steps after the changes in technology.’

Some of the identified weaknesses that may threaten the development of EEC are: neglect of the importance of protecting the environment and human rights; the approaches adopted to encouraging and promoting EEC.

The insufficiency of information resources is seen as an important problem, as is the strong contradiction between the content of EEC and the processes actually taking place in the environment, such as soil destruction, the cutting down of forests, water pollution, drastic violation of environmental laws.

5.6 Differences in the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship: Between FORMAL and NON-FORMAL Education

Respondents stress that formal education is ‘a structured, state-supported education system, structured chronologically and functioning from elementary to higher education institutions.’ They consider a strong aspect of formal education to be that, since the new Preschool and School Education Act came into effect, ‘environmental education has become part of the training of pupils in all types of schooling in all classes.’ In school education, environmental education takes place: in class; in the course of individual interests activities in the framework of the whole-day organization of the school day; in the framework of general support activities for personal development under the terms and conditions of the state educational standard for inclusive education.

One of the respondents sees a weakness in the non-involvement of children and pupils in extracurricular forms of education related to environmental education; he

believes this is explained by ‘their strong commitment to acquiring the compulsory study content and the low interest of pupils in extracurricular activities’.

In contrast, non-formal education develops beyond the ‘established traditional education system’. It is very often related to the use of alternative and interactive teaching methods that ‘place each participant at the center of the learning process, providing for the personal, social and harmonious growth of each child. It uses approaches based on personal experience, learning through action and experience in a real natural environment.’ Voluntary participation is also pointed out. In this sense, we can say that non-formal education is more oriented to the person and to the individual’s experience; it provides space for promoting autonomy and creativity. In other words, it is understood as a training that builds on the experience of the learners and thereby provokes reflection, stimulates thought and creates conditions for mutual instruction through the sharing of experiences between young people and the supporting adult, i.e., the trainer.

According to some experts, non-formal education as a whole is ‘more flexible, integrated and adaptive’. In this respect, we may consider the opinion of one respondent that there is ‘more reason to look for potential threats’ in the case of formal education. But the view was also expressed that ‘in non-formal education, there is weaker impact in terms of the range of people it engages’.

Respondents share the attitude that each of these two modes of education provides a certain knowledge, skills, habits, and contributes to the acquisition of social experience in adolescents. They recognise that the effect both of formal and non-formal education is determined by ‘to what extent both sides of the pedagogical interaction - the educator and the learner - are involved.’

5.7 Differences in the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship in PRIMARY and SECONDARY Education

According to our respondents, in comparing primary and secondary education, the strong sides are:

With the entry into force of the Pre-school and School Education Act, environmental education is carried out at all school levels.

In kindergarten and elementary school, there is an integrated educational field called “The Surrounding World” (in kindergarten and first and second grades of elementary school).

In kindergarten and elementary school, the study content is based on concrete examples that enable children to acquire a feeling for the problems of the environment.

Weaknesses:

The higher the school level, the more formalism there is in the teaching of EEC.

The requirement for generalised concepts and increasing abstractness of the study content leads to emotional detachment of pupils from ecological reality.

The respondents also see differences in the approach and type of information, adapted to the cognitive, psycho-social and emotional development of children at different ages. A respondent said that, 'high school students are no less in need of interesting and practical lessons than those at the elementary level. There is a great risk that the environmental citizenship will be theorized, which is fatal, as they will soon be adult citizens. However, the motivation and activation of high school students is strongly threatened by the ubiquitous apathy of people at this age. This calls for even better qualification of teachers and innovative methods.'

The risk of excessive theoretization of study content is considered a potential threat that might make teaching unfunctional. At the same time, respondents recognized that an increased level of abstraction would make it difficult for pupils to understand the link between local and global.

5.8 Different Degrees of Similarity between Several Problem-Oriented Areas of Education

Respondents were asked to evaluate the degree of similarity between education for environmental citizenship and other types of education on a Likert scale ranging from 1 to 5, where 1 corresponds to 'not similar', and 5, to 'very similar'.

The Statistical Package for Social Science (SPSS Statistics 17.0) systematization was used to process and analyse the data.

To summarise, based on the results obtained, we can say that respondents find EEC is most similar to education for sustainable development and to civic education. The results obtained are presented in the tables below. The arithmetic mean indicates that respondents reported greatest similarity between education for environmental citizenship and education for sustainable development (X = 4,50), followed by EDC (X = 4,17). (Table 5.1)

Table 5.1: Descriptive Statistics

	In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Environmental Education (EE)?	In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Education for Sustainable Development (ESD)?	In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Science Education (SE)?	In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Citizenship Education (CE)?
N valid	6	6	6	6
Missing	0	0	0	0
Mode	2,00a	5	2,00a	5
Minimum	2,00	3,00	2,00	3,00
Maximum	5,00	5,00	5,00	5,00
Mean	3,3333	4,5000	3,1667	4,1667

a. Multiple modes exist. The smallest value is shown

Regarding the attitude to the similarity between EEC and Environmental Education, two available modal values are recorded - 2 and 4, which point to an ambivalent assessment. The distribution of responses in relative values and absolute values is given in Table 5.2.

Table 5.2: Comparison between Education for Environmental Citizenship and Environmental Education

In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Environmental Education (EE)?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	2	33,3	33,3	33,3
	3,00	1	16,7	16,7	50,0
	4,00	2	33,3	33,3	83,3
	5,00	1	16,7	16,7	100,0
	Total	6	100,0	100,0	

The modal value of the estimates is 5, which shows it to be the trait meaning most often assumed by the units of the population. In this sense, we can say that the survey participants see a large similarity between EEC and Education for Sustainable Development. Table 5.3 gives the breakdown of responses:

Table 5.3 Comparison between Education for Environmental Citizenship and Education for Sustainable Development

In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Education for Sustainable Development (ESD)?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	1	16,7	16,7	16,7
	4,00	1	16,7	16,7	33,3
	5,00	4	66,7	66,7	100,0
	Total	6	100,0	100,0	

By this indicator, the frequency distribution is bi-modal and assumes two degrees - 2 and 3, which point to the opinion that there is a rather small similarity between EEC and Education as a science. Table 5.4 gives a breakdown of responses.

Table 5.4: Comparison between Education for Environmental Citizenship and Education (SE)

In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Science Education (SE)?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2,00	2	33,3	33,3	33,3
	3,00	2	33,3	33,3	66,7
	4,00	1	16,7	16,7	83,3
	5,00	1	16,7	16,7	100,0
	Total	6	100,0	100,0	

The modal value of this indicator is 5, which can be interpreted as showing the respondents see a similarity between EEC and civic education.

Table 5.5: Comparison between Education for Environmental Citizenship and Citizenship Education

In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Citizenship Education (CE)?					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3,00	2	33,3	33,3	33,3
	4,00	1	16,7	16,7	50,0
	5,00	3	50,0	50,0	100,0
	Total	6	100,0	100,0	

5.9 Conclusion

Educational values and systems are socio-cultural determinants. In the context of their role for socialization, it is necessary to adapt them to the actual realities in order to create conditions for a full personal and social realization of young people.

In this regard, we can recall the words of the French sociologist Emile Durkheim, according to whom, 'society can survive only if there is a sufficient degree of homogeneity between its members.' He considers a particularly important component in this aspect to be education (upbringing), which he believes 'consists in the methodical socialization of the young generation'. It is at the core of the formation of knowledge and skills in the individual as a 'social being' (Durkheim). He sees education as an instrument for bringing children to collective life, to our surrounding social communities, through which a sense of altruism develops.

The issues of education and training in its varieties are a topical field for discussion in today's globalized world. Learning accompanies individuals throughout their lives. Moreover, education is understood as a significant value in terms of the prosperity of the individual and society as a whole. Asserted in present-day reality are the vision of a 'knowledge society' and the importance of promoting non-formal education and self-learning, as well as lifelong learning. .

Globalisation is setting new standards and principles not only for education but also for the concept of citizenship. The view is gaining ground, that 'under the modern conditions of globalisation and virtualisation of social reality, citizenship acquires new dimensions and significance, imposing the need to 'rethinking' it and 'solving' it through the prism of 21st century realities.'

On the other hand, individuals are facing various social, economic, ecological, etc., challenges. This raised the need to develop competences that support the creation of opportunities for successful personal and social realization of individuals.

This report is an attempt to briefly describe 'education for environmental citizenship' in general outline. The results obtained allow us to generalise certain regularities and emphasise social change in the society and the significance of education as a factor of social cohesion and full realisation of the individual.

'Education for environmental citizenship' is not found in educational programmes and curricula under this name. Some of the existing terms and forms of education are: global citizenship, civic education, global education, sustainable development education, development education, intercultural and health education, sustainable environment, responsible civic behaviour, civic awareness and civic virtues, and others.

Perceptions of 'education for environmental citizenship' are developing in the spirit of environmental, civic education, global education, and others, in which teachers have experience.

Education is in need of conceptualisation of EEC and a clear methodological framework for it.

A potential risk is the possible fragmentedness and formalism in teaching, which would be contrary to understanding the concept as a multidisciplinary area of knowledge. In this aspect, respondents look to an integrated learning approach.

Respondents also understand that we should avoid 'too much focus on environment without always considering social aspects (like poverty, access to resources, cooperation, solidarity, human rights)'.

Views on the strengths of EEC refer to the formation of socio-environmental, civic and personal competencies, knowledge, skills, attitudes, the ability to participate in social life and social interaction.

In the spirit of the philosophy of social inclusion, emphasis is placed on the formation of an attitude of commitment, action and shared responsibility.

As regards the formation of the basic factor – human capital – teachers plays the main role here, and they need to display creativity and innovative approaches; they also require training and training materials.

Apart from formal education, the issue of EEC is also related to other possible activities and approaches to training young people in the framework of non-formal education. The NGO-sector and extracurricular activities are also relevant.

In conclusion, we can say that EEC, regardless of its format, is associated with features such as: practicality, applicability and relevance to contemporary realities, the ability to develop not only knowledge but also sensitivity to the environment by avoiding a sole focus on the basic theoretical level, and to form critical thinking and analytical skills; EEC raises questions as to how, when, where and who will teach it in the context of lifelong learning.

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6. Education for Environmental Citizenship in Croatia

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Abstract: SWOT analysis is an established and useful method to find the best path in solving a problem or making a decision. The aim of this chapter is to analyse the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship in Croatia based on the answers of six experts in the fields of environment and education. Education for Environmental Citizenship is a multidisciplinary proactive approach that aims to raise awareness about the environment. However, a number of weaknesses and threats have been identified that could jeopardise the whole concept. All respondents have a predominantly positive attitude on the opportunities of Education for Environmental Citizenship, along with different opinions on the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship between formal and non-formal education.

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6.1 Introduction

The world today is faced with severe environmental problems. Climate change, billions of people living in an unhealthy environment, degradation of natural resources, growing amount of waste, loss of biodiversity and many other issues require immediate and quick actions and responses (UN, 2015). Environmental problems reflect in huge social and economic problems; hunger and poverty, social inequality, wars, growing disparities between the well-off and less well-off etc. (UN, 2015). These elements have become main issues of key documents of global development, among which the most significant is the document *Transforming our world: the 2030 Agenda for Sustainable Development* adopted by the United Nations in 2015. It contains 17 sustainable development goals that aim to solve or reduce main prob-

lems in the world by 2030. The document puts special attention on the improvements and preservation of the environment, implicitly involving the Environmental Citizenship and other types of pro-environmental behaviour.

Environmental citizenship shares some common elements with other concepts – sustainability citizenship, ecological citizenship, green citizenship, environmental knowledge and environmental attitude – but the differ in terms of their contents and actions. Although some authors treat environmental and ecological citizenship as equal, Dobson (2003) makes a clear distinction between them and associates ecological citizenship with green citizenship. Environmental citizenship, along with pro-environmental attitudes and actions, includes certain rights and duties towards the environment, and it is inevitably connected with justice (Dobson, 2007).

Researchers generally agree that the most effective way in order to solve the environmental problems is the education of the societies (Pooley and O'Connor, 2000; Barry, 2007; Stevenson, 2007; Arslan, 2012). The education about environment aims not only an increase in the educational knowledge of the individuals but also turning the positive attitudes about the environment into behaviour (Arslan, 2012). The concept of Environmental Education is a process of learning to understand the interaction of human and the environment and how human need to manage the environment as smart as with full responsible towards a harmony and peaceful life (Lateh and Muniandy, 2010).

Education has always been part of Environmental Citizenship, as well (Cao, 2015) and it goes a step further, aiming to develop skills, values, attitudes and competences at environmental citizens as agents of change in the direction of solving contemporary environmental problems, preventing the creation of new environmental problems, in achieving sustainability as well as developing a healthy relationship with nature (ENEC, 2018).

The most important theoretical background on the Education for Environmental Citizenship were made by Dobson (2003) and Cao (2015). Although not explicitly related, findings of the research on environmental knowledge and environmental attitudes of different social groups (Meerah et al., 2010; Tayci and Uysal, 2012; Sadik and Sadik, 2014; Orellana-Rios et al., 2017) can be implemented in the Education for Environmental Citizenship. The study of Arslan (2012) revealed the role of Environmental Education on critical thinking and environmental attitude.

The aim of this study is to analyse the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship in Croatia. It is necessary to emphasize that Environmental Citizenship as a term is currently not present in Croatia, both in formal and non-formal education. However, many of its aspects has been integrated in formal and non-formal education. Education for Environmental Citizenship is also present in many aspects within formal and non-formal education, but not as a holistic concept. Both curriculums of primary and secondary education in Croatia include some courses and/or subjects that correspond to Environmental Citizenship and Education for Environmental Citizenship (MSES, 2006; NCEEE, 2015). Environmental Citizenship is mostly part of subject curriculum of Biology, but some aspects of Environmental Citizenship are also present in the Geography curriculum. However, many aspects of Environmental Citizenship are also present

on the pre-school level (up to 7 years old) and lower level of primary school (pupils between 7 and 10 years old) (MSES, 2006, MSES 2011). Within the non-formal education, aspects of Environmental Citizenship are also present through many activities of government, local administrative bodies and other organisations (e.g. non-governmental organisations).

6.2 Strengths of Education for Environmental Citizenship in Croatia

Education for Environmental Citizenship is very important for young people in Croatia, since it influences their awareness regarding environment and possibilities to contribute to sustainable development. It is also important because it teaches young people the necessity to preserve the environment for future generations. Respondents believe that Education for Environmental Citizenship could give students and teachers an active role in society and be an important connection between schools and the local community. Education for Environmental Citizenship would educate students through real life problems from a practical and everyday perspective, to compel them to think about their future life and to participate in social actions and projects. Education for Environmental Citizenship can provide the use of modern methods of learning, such as fieldwork or examples of good practice. Since an extremely important part of Croatian education is the curriculum, Education for Environmental Citizenship can provide an opportunity to implement and improve it in its completeness.

Education for Environmental Citizenship can have an important role in promoting fairness in the distribution of environmental goods and responsible behaviour, as well as promoting public involvement in policy creation. People who lack a deeper understanding of environmental issues could be-come more conscious and they could be encouraged to solve environmental problems by their own actions.

The aim of Education for Environmental Citizenship is not just about the environment, but also of how to expand the knowledge and skills of each participant as a part of lifelong learning. It can improve competence (i.e. communication, social competence, empa-thy, etc.) and eventually be beneficial for the environment.

Almost all respondents agreed that Education for Environmental Citizenship is better than other types of education (e.g. Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE), and Citizenship Education (CE)). It is a wider concept and other types of education already include it. The respondents think that Education for Environmental Citizenship is more effective than other education types because it connects actors on different operational levels, it affects the reduction of social inequalities and could be a part of lifelong learning. Education for Environmental Citizenship is a proactive education. It includes a multidisciplinary approach, the possibility of incorporating into other educational areas and the adaptability of educational content to target groups.

The concept of Education for Environmental Citizenship can be characterised as a holistic approach concept whereas other concepts are more partial (EE often concentrates on biology, neglecting the abiotic factors or indirect implications of many human activities; ESD often neglects some social aspects and turns more toward economy; SE relates to students and does not include the general public; CE overlaps only in a small part with the concept of Education for Environmental Citizenship).

Education for Environmental Citizenship can be implemented in schools, jobs and everyday life. In the conditions of global environmental problems raising awareness of the environment does not have an alternative and this can easily be done through Education for Environmental Citizenship. One respondent claimed that there is no need for so much therms for the practically same thing, since EEC is only new term for already known types of education (i.e. Environmental Education). Respondent think EEC can not give anything new comparing to already known concepts in Environmental Education. Respondents obivously thinks that Environmental Education is kind if "general" topic (or term) and is some kind of umbrella for other (new) educational terms (like EEC is).

6.3 Weaknesses of Education for Environmental Citizenship in Croatia

As previously mentioned, some respondents believe that it is hard to distinguish Education for Environmental Citizenship from other types of education. Moreover, they claimed that it is already part of EE and that there is a lack of information about the programme.

One respondent mentions that the Croatian population is not interested in preserving the environment, and that big corporations refuse to accept all postulates of sustainable development.

Not enough time is being allocated for Education for Environmental Citizenship in school lectures throughout the curriculum, and could be seen as an additional learning burden if not properly incorporated into the curriculum. The number of school courses is usually high in Croatia, so it would be difficult to introduce a separate course but Education for Environmental Citizenship could be included as a part of certain existing courses or project assignments.

Education for Environmental Citizenship does not have an immediate impact but it strives for long-term development goals, which can cause disapproval from local and national policies, groups or individuals. The lack of concrete and clear examples of good practice is obvious, especially in developing countries.

One of the weakness for Education for Environmental Citizenship is an overload of the administration work that is present in Croatian school system. It should also avoid too many facts and numeric data. One respondent thinks that Education for

Environmental Citizenship is in-sufficiently supported by the local and regional governments in conducting workshops.

According to one respondent, students are convinced that there is they have no say in the matter and that everything depends on someone else or global forces.

Education for Environmental Citizenship should become a part of lifelong learning and be more present in schools, colleges and public institutions. More educations, workshops, posters should be provided, and people must realise that they play an important part in preserving the environment. Education failure is possible if the topics are of little interest so Education for Environmental Citizenship would not attract much attention.

Education for Environmental Citizenship would do well to avoid being oversimplified on one side and overly complicated (uncomprehensive to general public) on the other. It would be beneficial to use appropriate visual techniques and examples from everyday life and avoid focusing on biotic factors. It must provide a well-balanced approach including demography, human activities, social issues, economic activities, infrastructure, abiotic factors, etc.

6.4 Opportunities of Education for Environmental Citizenship in Croatia

All respondents have a predominantly positive attitude on the opportunities of Education for Environmental Citizenship but some of them express certain doubts about its introduction to formal and non-formal secondary education. Faced with the local and global climate changes that require changes to habits, tools, policies, etc., Education for Environmental Citizenship could raise the general knowledge and awareness level on environmental issues. It could also fulfil the need for lifelong learning and personal development and change the awareness of the environment by raising responsibility and changing personal habits. Some of the respondents however believe this would only be possible if it were part of primary education (elementary school). According to their opinion, opportunities of Education for Environmental Citizenship would give people the power to see how a single person, a responsible citizen of the world, would be able to make a difference. However, since Education for Environmental Citizenship is very likely to start first in the formal education system, it would primarily involve young people (teens) and school teachers who can solve particular environmental problems within their local communities.

The respondents listed several contemporary trends that could improve the opportunities of Education for Environmental Citizenship, such as sustainable development and nature protection. This is largely conditioned by the severe consequences of climate changes (e.g. droughts, floods, and fires), demographic changes (particularly migration) and the increased demand for tourism of special interests. In Croatia, the growing trend of schools and teachers applying and participating in

the EU projects with their students is very important; this contributes to networking and sharing experience, knowledge and skills. Some of the interviewees also mentioned the significance of computer technologies in education, online education courses on Environmental Citizenship in particular and its promotion on social networks.

6.5 Threats of Education for Environmental Citizenship in Croatia

Respondents are quite aware that there are real and potential obstacles, ranging from a state to individual level, that challenge Education for Environmental Citizenship. Most of them see the political decisions as a potential threat to its success. Some countries have insufficient and deficient environmental protection laws and some pander to big companies for profits. A potential threat is also a repetition of known policies under a new name. Almost all interviewees think the key obstacle could be the general attitude of the population; insufficient interest and awareness of the population on environmental problems or the lack of care or motivation for Environmental Citizenship ('no one sees and cares for what I do'). The respondents think it is a matter of mentality of people and their resistance to any changes. These attitudes might be a result of a lack of knowledge and information on Environmental Citizenship, but also of the existing school curriculum (particularly in the case of Croatia) as it does not allow too many new initiatives, resulting in a lack of school teachers interested in promoting Education for Environmental Citizenship.

The respondents were asked to compare Education for Environmental Citizenship to other types of education (e.g. EE, ESD, SE or CE). Some think that other types of education have better effects (EE, ESD), while the others think the advantages are that some of them have already been implemented in school curriculum (CE) and that formal education ends with a certificate or a diploma, proving the adopted outcomes of the education. Two respondents see other types of education as focused on a certain aspect, which could be explored more deeply (such as biology in EE or science in general in SE), but they do not have the same scope as Environmental Citizenship because they are different.

One of the problems relating to the lack of information on Environmental Citizenship is the shortage of learning materials, programmes or services in Croatia. The respondents think that the materials are insufficient or lacking completely, and whilst there are none specific to Education for Environmental Citizenship, there are materials on certain topics in different projects (local or national) or services and activities on a local, national or EU level that tend to solve structural disadvantages in the communities. Some segments of Education for Environmental Citizenship are already included in the school curriculum.

The respondents do not agree that changing technology threatens Education for Environmental Citizenship, particularly if the curriculum is adjusted and new forms

of teaching are introduced. On the contrary, they believe that new technologies make the participation in different projects relating to EE easier and that education has to change and adjust to new trends.

The interviewees' opinion on the threat of weaknesses to Education for Environmental Citizenship are divided. Two respondents think that weaknesses cannot seriously threaten it and that the concept will become more present in society. However, four respondents find the following factors to be a threat to its successful implementation: insufficient information among the general population, lack of care for the environment and other people, lack of familiarity with the principles of the concept, lack of time for teachers and students involved in the projects related to the Education for Environmental Citizenship (due to great amount of regular teaching and studying), political decisions, interest of capital (private companies), mentality, and resistance to change.

6.6 Comparison of Different Types of Education

The respondents were asked to compare formal and non-formal education with EE and its differences in primary and secondary education, and to compare Education for Environmental Citizenship to other types of education (SE, ESD, EE, and CE).

They have different opinions on the distinctions of the strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship between formal and non-formal education. Two respondents think that Education for Environmental Citizenship is more viable in formal education and less so in informal. One says that it should be included in as many courses as possible, each to approach the concept from its point of view, keeping in mind the same goal. Others see different strengths of Education for Environmental Citizenship in formal and non-formal education: formal education is more powerful in institutions (schools, work) and non-formal education is stronger in everyday habits and behaviour. Its strengths are further emphasised in non-formal education than in formal education. One interviewee finds more opportunities for Education for Environmental Citizenship in non-formal education, which focuses more on the effects that certain actions have on the environment and their detrimental effects on nature.

The interviewees do not determine differences in the strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship between primary and secondary education. They believe the final goal is the same but the teaching methods are different and both primary and secondary education can implement it. Education for Environmental Citizenship in primary education should focus more on attitudes and behaviour, while in secondary education it can be more complex, involving a deeper knowledge. Teens also show more initiatives than those pupils in primary schools because they are more responsible and independent.

The respondents' opinions on the similarity between Education for Environmental Citizenship and other types of education revealed great differences. Based on average scores of their responses on the Likert 1-5 scale (1 – not similar, 5 – very

similar), they find Education for Environmental Citizenship to be most similar to ESD (average score 4.2), followed by EE (3.8), CE (3.6), and least similar to SE (2.3).

6.7 Conclusion

A SWOT analysis of Education for Environmental Citizenship in Croatia was performed with a conclusion that it has many strengths and opportunities and also many weaknesses and threats that could jeopardise the whole concept. Education for Environmental Citizenship is extremely important since it influences an awareness regarding the environment and outlines a number of possibilities to contribute to sustainable development. However, it needs to be better implemented in both formal and informal education in Croatia as a holistic concept and part of a lifelong learning process. More time for Education for Environmental Citizenship must be provided within the curriculum in the form of lectures, workshops, posters and field trips. Education for Environmental Citizenship could raise the general knowledge and awareness level on environmental issues. Its aim is not only to educate, but also to develop competences and include public involvement and policy creation. However, some respondents think it is hard to distinguish Education for Environmental Citizenship from other types of education as it is already part of EE. Potential threats to the success of the concept could be political decisions and the general attitude of the population, such as insufficient interest and awareness of on environmental problems or a lack of care and motivation for Environmental Citizenship. One of the problems relating to the lack of information on environmental citizenship is the shortage of learning materials, programmes or services in Croatia, and this needs to be improved upon.

Different opinions on the differences in the strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship between formal and non-formal education are also present. They find formal education to be more powerful in institutions (schools, work) and non-formal education to be stronger in everyday habits and behaviour. However, the interviewees do not determine differences for Environmental Citizenship between primary and secondary education. They believe the final goal is the same but the teaching methods are different and both primary and secondary education can implement it.

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7. Education for Environmental Citizenship in Cyprus: A SWOT Analysis

Cyprus Country Report

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Abstract: This chapter attempts to consolidate the views of experts in the area of education for the environment in Cyprus, concerning the Strengths, Weakness, Opportunities and Threats (SWOT) of Education for Environmental Citizenship. Six participants – academics, researchers, teachers, Ministry of Education officers and NGOs, answered the structured questionnaire. Education for Environmental Citizenship is perceived to be advantageous (Strengths) in two main dimensions. The first refers to students' personal development contributing to the development of critical thinking, problem-solving and decision-making skills as well as in students' empowerment for civic participation, inter-generational justice and action competence in the public sphere. The second dimension includes the importance of methodologies adopted which are integrated in a holistic and comprehensive pedagogy. Weaknesses and areas for improvement include issues related to the novelty of Education for Environmental Citizenship, advocating the need for teachers' education and motivation, the development of learning materials and best practices as well as the mitigation of educational system's resistance to change. Education for Environmental Citizenship provides many Opportunities for promoting civic engagement through activities in local communities, enhancing NGO activities for non-formal education, advocating education policies on National and European levels, as well as the enabling of international networking. The main Threats related to Education for Environmental Citizenship are considered to be the lack of educational methodology and approaches, teacher-related aspects, learning materials, economic and infrastructure issues.

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7.1 Strengths of Education for Environmental Citizenship

For Strengths, a total of three questions pertaining to the Advantages of the Education for Environmental Citizenship: (1a), the characteristics of Education for Environmental Citizenship that do better (1b) against other relevant types of education (Environmental Education, Sustainable Development Education, Citizenship and Education for Natural Sciences) and the elements that constitute the uniqueness of Education for Environmental Citizenship (1c).

As for the advantages of Education for Environmental Citizenship, the majority of statements that have been recorded were related to the personal development of the students. According to the experts in Cyprus, Education for Environmental Citizenship can cultivate the participants' knowledge, values, beliefs, attitudes and pro-environmental behaviours. The advantages that have been recorded have made considerable references to the promotion by Education for Environmental Citizenship of civic participation, inter-generational justice, promotion of sustainability as well as the promotion of actions that are part of the public sphere.

In the second question on the Strengths of Education for Environmental Citizenship, concerning the characteristics of Education for Environmental Citizenship in which it prevails (1b) against other relevant types of education (Environmental Education (EE), Education for Sustainable Development (ESD), Citizenship Education (CE) and Science Education (SE)), the majority of statements recorded were referred to the educational outputs of Education for Environmental Citizenship, with a clear reference to civic participation. Also important are the references to the skills that students can acquire in this type of education, including participation and decision-making skills. In addition, reference to competences such as student empowerment, responsible citizenship, and environmental awareness, were recorded. Education for Environmental Citizenship educational approaches and methodologies related to real life environmental problems, as well as the fact that it is all other types of education together (all 4 in one) as a holistic approach, are considered as other Education for Environmental Citizenship characteristics which do better than the other types of Education.

In regards to the uniqueness of Education for Environmental Citizenship, reference is made once again to its holistic approach, stressing that it constitutes all other relevant four types of education together and that it is a real-life education with real problems and place-based education. Unique elements of Education for Environmental Citizenship are also considered to be the cultivation of students' empowerment and environmental awareness. Finally, the promotion of collective actions is considered to be another unique feature of Education for Environmental Citizenship by the Cypriot experts.

The main findings regarding the Strengths of Education for Environmental Citizenship are presented in Table 7.1.

Table 7.1 Strengths of Education for Environmental Citizenship

		Advantages 1a (%)	Better than others 1b (%)	Uniqueness 1c (%)
Educational Outcomes		**26**	**30**	**30**
Justice		**4**		
	Inter-generational justice	4		
Civic participation		**14**	**24**	**22**
Promotes sustainability		**4**	**6**	**8**
Outcomes general		**4**		
Educational methodologies/approaches		**8**	**18**	**32**
Real life education		**8**	**6**	**16**
	Real life problems		6	8
	Place based problems			8
	Real life engagement	8		
Holistic approach			**12**	**16**
	All 4 in one		6	8
	Science education perspective			8
	Moral and social issues		6	
Students' personal development		**62**	**40**	**30**
Knowledge		**8**		
	General knowledge	8		
Values		**4**		
Beliefs		**4**		
Attitudes		**8**	**6**	
Skills		**34**	**16**	
	Skills - critical thinking	8		
	Skills - problem solving	10		
	Skills - participation	8	6	
	Skills - decision making	8	10	
Competencies			**18**	**30**
	Empowerment of students		6	15
	Responsible citizen		6	
	Environmental awareness		6	15
Pro-environmental behaviour		**4**		
Actions		**4**	**12**	**8**
Collective actions				**8**
Public sphere		**4**	**6**	
Private sphere			**6**	

7.2 Weakness of Education for Environmental Citizenship

In terms of Weakness, three questions asked were: what are the weaknesses of the Education for Environmental Citizenship (2a), what can be improved in Education for Environmental Citizenship (2b), and what factors can eliminate the success of Education for Environmental Citizenship (2e).

Regarding the Weakness of Education for Environmental Citizenship, the majority of statements recorded were related to Education for Environmental Citizenship educational methodologies and approaches. Noted between the statements is the difficulty in achieving Education for Environmental Citizenship as well as the difficulty in assessing it. Among the weaknesses that have been recorded are issues relating to teacher education, the lack of learning material and the very novelty of Education for Environmental Citizenship as it is generally a new concept for the public. Finally, the potential resistance of the system to the adoption and establishment of Education for Environmental Citizenship was recorded.

Regarding the question of what can be improved and emphasised by Education for Environmental Citizenship (2b), most of them statements recorded were related to students' personal development issues. According to the experts, emphasis should be given to the skills of critical thinking, solution, problem, argumentation and working in groups. Also, attention needs to be given to students' competences so to empower them as citizens, as well as to their motivations and knowledge of environmental problems. The existence of results relating to real life, as well as the development of a healthy relationship with nature, were deemed to be very important. Finally, teacher education and continuity between the different levels of education were also noted.

The third question concerned factors that may eliminate the success of Education for Environmental Citizenship (2e). The experts have reported several statements related to Education for Environmental Citizenship educational methodology and approaches, such as the long duration it needs, its complexity, its open-endedness, the influence of and the effect on various community groups, and finally the overlap that may exist between Education for Environmental Citizenship and EE and ESD. The issue of teacher education and system resistance in Education for Environmental Citizenship was again reported.

The main findings regarding the Weakness of Education for Environmental Citizenship are presented in Table 7.2.

Table 7.2 Weakness of Education for Environmental Citizenship

		Weakness 2a (%)	Can be improved 2b (%)	Factors Eliminating Success 2e (%)
Educational Outcomes			**14**	
Real life outcomes			7	
Relationship with nature			7	
Educational methodologies/approaches		**44**	**14**	**55**
Educational Formality		**11**		
	Non-Formal education	11		
Predetermined methodology		**11**		
Difficulty		**22**		
	Difficult to be achieved	11		
	Difficult to be assessed (the outcomes)	11		
Educational levels			**7**	
	Continuity in the several educational levels		7	
Political dimension of education			**7**	
Long-lasting implementation				11
Overlap with EE and ESD				11
Complexity				11
Open-ended nature				11
Affects several groups in community				11
Students' personal development			**55**	
Knowledge			**7**	
	Conceptual understanding of environmental		7	
Skills			**28**	
	Skills - critical thinking		7	
	Skills - problem solving		7	
	Skills - argumentation		7	
	Skills - working in groups		7	
Competencies			**20**	
	Empowerment of students		7	
	Motivation		13	
Context		**11**		**22**
Educational system level		**11**		**11**
	Resistance from the system	11		11
Collaboration networking				**11**
Educators issues		**22**	**7**	**22**
Lack Learning material issues		**11**	**10**	
Novelty of Education for Environmental Citizenship		**11**		

7.3 Opportunities of Education for Environmental Citizenship

Concerning Opportunities, two questions were analysed: good opportunities for promoting Environmental Citizenship Education (3a), and trends that can help Education for Environmental Citizenship (3b). The statements concerning opportunities of Education for Environmental Citizenship considered context issues.

Table 7.3 Opportunities for Education for Environmental Citizenship

		Opportunities 3a (%)	Trends 3b (%)
Context		**100**	**100**
Technology issues		**30**	**33**
	Technology platforms for discussion and interaction	10	11
	E-media provide opportunities for interaction	10	
	Social media provide opportunities for interaction	10	22
Society		**30**	**11**
	Local community activities for engaging citizens	10	
	Increase of NGO activities for non-formal education	10	11
	The society is ready for Education for Environmental Citizenship	10	
Educational trends and policies		**20**	**22**
	New formal education policies	10	
	National and European policies on Environmental Citizenship	10	
	Argumentation in science education		11
	Moral and ethical issues in education		11
Networking		**10**	**33**
	Promotion through European and Global networking	10	11
	Collaboration among schools		11
	Exchange of experiences		11
	Global networking		
Local issues to be solved		**10**	

The first question (3b) on good opportunities for Education for Environmental Citizenship raised issues relating to technology such as platforms to discuss relevant environmental issues, interactive platforms and social media. Also, several statements have been recorded around society where opportunities for activities in local communities promoting civic engagement, enhanced NGO activities for non-formal

education, and community readiness to accept Education for Environmental Citizenship are seen as opportunities. New education policies as well as national and European policies on Environmental Citizenship are considered by the experts as other opportunities for promoting Education for Environmental Citizenship. An opportunity is also envisaged for European and international networking.

The question of trends that may favour Education for Environmental Citizenship has again highlighted issues relating to technology and social media, the involvement and involvement of NGOs, a tendency for the consideration of moral and ethical issues in education, and the tendency to develop argumentation. Networking issues such as the co-operation between schools, and the exchange of experience and networking at an international level are also considered to be important.

The main findings regarding the Opportunities for Education for Environmental Citizenship are presented in Table 7.3.

7.4 Threats for Education for Environmental Citizenship

Regarding the Threats to Education for Environmental Citizenship, the experts' declarations were grouped in six main categories. Threats relating to the educational methodology and approaches of Education for Environmental Citizenship include: Context, teacher-related risks, learning materials, economic issues and infrastructure issues.

In particular, many of the risks recorded by the experts are related to Context. Risks are considered at the level of the education system, the possible resistance of the system to the adoption of Education for Environmental Citizenship as well as government policies. Deficiencies in technology and the socio-cultural level of citizens are also considered as risks to Education for Environmental Citizenship. Issues related to democracy such as centralized democracy, non-political citizens, and lack of citizen participation in decision-making were considered by experts as risks to the promotion of EE. Other significant risks considered were: the lack of teacher education for Education for Environmental Citizenship, the lack of relevant learning material, the lack of the necessary infrastructure and the lack of funding. Finally, breaking the limits of school could be considered as a threat according to the experts.

The main findings regarding the Threats for Education for Environmental Citizenship are presented in Table 7.4.

Table 7.4 Threats for Education for Environmental Citizenship

		Threats 4a (%)
Educational methodologies/approaches		**6**
	Breaking the limits of school	6
Context		**42**
Educational system level		**12**
	Resistance from the system	6
	Government policy	6
Technology issues		**6**
	Lack of technology	6
Society		**6**
	Citizen's socio-cultural level	6
Democracy		**18**
	Apolitical citizens	6
	Lack of community participation in decision making	6
	Centralised democracy	6
Educators' issues		**23**
Teacher education		**23**
Learning material issues		**16**
	Lack of learning material	16
Economic and financial issues		**13**
	Lack of funding	13

7.5 Formal and Non-Formal Education for Education for Environmental Citizenship

Experts were also asked about the differences that could exist between Formal and Non-Formal education when implementing Education for Environmental Citizenship. Their statements emphasised the importance of combining both Formal and Non-Typical education in the application of Education for Environmental Citizenship since Non-Formal learning can enrich formal learning, linking education to real life and real actions, and involving students as well and citizens. Formal education is seen as easier to implement since out-of-school activities have many difficulties in their implementation.

7.6 Primary and Secondary Education for Education for Environmental Citizenship

Between Primary and Secondary Education a number of differences were found including that secondary school students are more mature in accepting and acting

in the EEC, and that they have more skills and competencies associated with civic participation and action. In secondary education it is anticipated that there will be more difficulties with issues relating to the interdisciplinary approach of Education for Environmental Citizenship. Educational practices and approaches will not differ greatly between primary and secondary education, but there should be continuity between the different levels and a gradual increase in skills development through the transition from primary to secondary. Finally, an important record is the need to start the application of Education for Environmental Citizenship from early childhood.

7.7 Education for Environmental Citizenship and other relevant types of Education

Education for Environmental Citizenship can be seen by many as having some commonality with other relevant types of education, such as EE, ESD, CE, and SE. For this reason, the experts were asked to express their opinion in a quantitative manner on the degree of similarity between Education for Environmental Citizenship and the above-mentioned types of education. Figure 1 shows the overall assessment of the similarity of Education for Environmental Citizenship with the above education types on a scale of 1-5.

According to Figure 10.1, Cypriot experts consider that Education for Environmental Citizenship is not the same as EE, ESD SE and CE. There is more of a similarity between Education for Environmental Citizenship and ESD (mean = 4), followed by a similarity to CE (mean = 3.8), to EE (mean = 3) and to SE (MO = 4) (the least similarity).

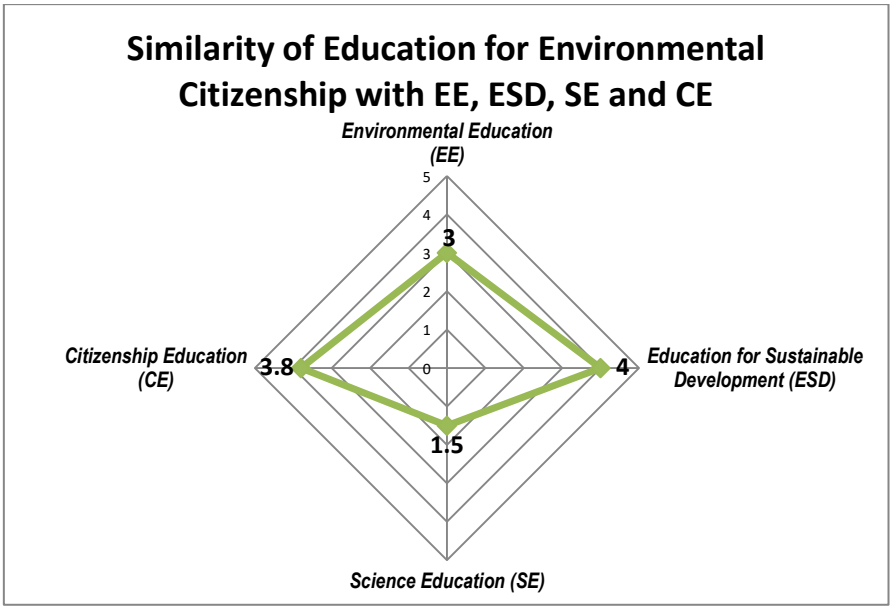

Fig. 7.1 Similarity of Education for Environmental Citizenship with EE, ESD, SE and CE

7.8 Conclusion

The results from the experts' views in Cyprus reinvigorate the need to better conceptualise Education for Environmental Citizenship. The emerged Strengths and Opportunities of that type of Education could have a considerable contribution to the sustainability of societies, since the students of today could become active and responsible citizens of tomorrow. Weaknesses, Obstacles and areas for improvement relating to the novelty of Education for Environmental Citizenship are advocating the need for teachers' education and motivation, the development of learning materials and best practices, as well as the mitigation of the educational system's resistance to change.

However, a reframing of the Educational policies at National and European levels is required in order to integrate the existing approaches of EE and ESD into a holistic and comprehensive pedagogy of Education for Environmental Citizenship and to build students' competencies for deep civic participation.

In conclusion, Education for Environmental Citizenship provides a more compelling framework empowering individuals to take part in the democratic processes needed to respond to the sustainability imperative.

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8. ENEC Country Report: Denmark

SWOT analysis on Education for Environmental Citizenship in Denmark

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Abstract: This chapter presents the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship in Denmark, identified through a survey of a select range of expert stakeholders. We received responses from seven experts: two decision-makers at national NGOs, two decision-makers in Educational Professional Society (EPS), an academic researcher, a Danish school teacher covering primary and lower secondary education, and a policy-maker representing the Danish Ministry of Education at the municipal level. Their responses provide a broad view of the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship in Denmark. To afford diffractive reading of our outcomes—and thus a plurality of perspectives on the relevance of how Education for Environmental Citizenship is perceived and practiced in Denmark—we have chosen to juxtapose our respondents' comments, rather than synthesise them into a singular perspective. We thereby invite the reader to consider our findings in light of their own particular contexts of practice.

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8.1 Strengths

We begin with an account of the respondents' opinions on the strengths of Education for Environmental Citizenship in terms of its advantages and uniqueness in comparison with other types of education.

8.1.1 Advantages of Education for Environmental Citizenship

A number of significant advantages of Education for Environmental Citizenship have been highlighted by our respondents. According to the NGO decision-makers:

> Education for Environmental Citizenship can offer a sense of meaning to citizens and engage young people in shaping the society of tomorrow, by encouraging them to actively protect the environment.

As the educator (a Danish school teacher) explained, Education for Environmental Citizenship enables students to become responsible and make qualified choices. The EPS decision-makers concur, stating that Education for Environmental Citizenship helps to educate active, informed and responsible citizens, who are willing and able to take responsibility for themselves and for their communities at the local, regional, national and international level in relation to the environment. It helps to educate citizens to interact effectively and constructively with others, think critically, and act in a socially responsible and democratic manner. It thus helps to celebrate participatory culture and co-creation of society—important values in Denmark; and helps to create a meta-narrative, such that sustainable development is possible.

In these ways, Education for Environmental Citizenship helps to foster the harmonious co-existence and mutually beneficial development of individuals and of the communities they are part of. As the EPS decision-makers stressed, such development is important for the next generation to learn about, get experiences of and internalise, environmental behaviour. Education for Environmental Citizenship also helps people grasp the fact that humans live in a new technological and geological era. Human societies evolve through different stages for better or worse, and Education for Environmental Citizenship assists people to take this evolution into account. It does so by framing sustainability and resilience as fundamental questions to all social life.

The academic researcher stressed similar advantages, and raised the issue of complexity, stating:

> [Education for Environmental Citizenship brings] an awareness and understanding of the conflicting interests related to environmental issues, on a personal level, interpersonal level and on the structural level. Environmental issues are controversial and complex issues, not technical problems. There are no 'right' solutions to environmental issues; it all depends on the priorities of society and the citizens.

A plurality of perspectives must, therefore, be taken into account. Similarly, the EPS decision-makers underlined the fact that there are many different environmental citizenship identities in play at the same time. In their view, Education for Environmental Citizenship assists people in understanding this plurality, along with the fact that we have to take responsibility for sustainable development.

In terms of educating for Environmental Citizenship, the academic researcher suggested that Education for Environmental Citizenship can offer a focal point

among educators from different subject areas to come together with common goals and inspire each other in pedagogy: it simultaneously offers learners and citizens an existential perspective, enabling them to find personal relevance in the curriculum and context of learning. Education for Environmental Citizenship thus provides the means to consider—and make affordances for—this plurality. It also affords life-long learning.

Building on these strengths, the policy-maker suggested that Education for Environmental Citizenship can both enhance citizens' knowledge about the environment and their skills and competences to participate through hands-on active citizenship—for example, through rubbish recycling. Such enhanced competencies, enacted through everyday real-world actions, enable citizens to take responsibility and involve themselves in the transition of the whole of society. As the policy-maker explains, a municipality or national government can have green goals and ambitions, but it cannot ensure a green transition on its own. Hands-on active citizenship is important.

8.1.2 Comparing education: building on a foundation of political Bildung

A key question for respondents relates to the aspects of Education for Environmental Citizenship that make it unique or better in comparison with other types of education such as EE, ESD, SE and CE. Tables 11.1 and 11.2 in Appendix A provide a visual overview of respondent's comparison of Education for Environmental Citizenship with each of these educations on a scale from one to five, where one is close and five is far apart. In this section we detail their comments, beginning with the academic researcher who draws on the historical development of the Danish educational system over the last 30 years to explicate environmental education in Denmark and its perceived benefits. The researcher does not discuss Education for Environmental Citizenship, as the term is not in common usage in the Danish context. Instead, they explicate the relation between the other forms of education:

> In the Danish version of Environmental Education, we have since around 1985 seen EE as a mainly democratic educational effort, very near to political 'Bildung' with a focus on enhancing the 'action competence' of the learner.[2] Therefore, it isn't that meaningful in the Danish context to compare the areas mentioned in the question. You will find many papers and school reports about these aspects from our Research Center for Environmental and Health Education at DPU (n.d.). In our view this Danish understanding of EE is very close to the latest understanding of ESD.

They go on to explain that they have one leg in EE/ESD and the other in science education and find EE/ESD relevant for many subject areas, including SE which,

[2] Editor's note: *Bildung* is a German word, often used in both English and Danish to denote the acquisition of a cultivated outlook, or a Liberal Education. For a discussion of bildung in the Danish context, see (Olesen, 2011).

like any subject area, has many obligations and perspectives. They stressed that EE/ESD adds extra perspectives, knowledge and concepts to the whole school curriculum, and finish their comments with this powerful statement:

> In my long-time engagement in EE and ESD in several countries the main conclusion is that these efforts MUST NOT TEACH SOLUTIONS but help engage students in issues of their own engagement of relevance for development and help them to do something meaningful about it according to their own visions.

The EPS decision-makers emphasised that Education for Environmental Citizenship is focused on subjective experience, social constructions, identity and values related to the environment. It can therefore be used to bring focus to and articulate different concepts of Environmental Citizenship identities, and assist people to see that humans in traditional, modern, post- and meta-modern societies have different identities and values. In bringing to light these differences, Education for Environmental Citizenship helps to bring focus to moral environmental questions based on different identities and values and build bridges between these identities and values. Furthermore, Education for Environmental Citizenship criticises existing environmental identities and their sources and supports learning experiences informed by diverse concepts of Environmental Citizenship and identity. The EPS decision-makers comments take us back to the issue of plurality of perspectives and how Education for Environmental Citizenship can equip citizens to engage with this plurality. As a final note, they offer the fact that education in the Danish public school system is based on a national curriculum, wherein environmental subjects are mostly based in the natural sciences. The EU project, Open Schools for Open Societies (n.d.), promotes partnerships between schools, private companies and organisations, and is offering a new frame for extending learning processes in Environmental Citizenship. They did not go deeply into these possibilities, which were not mentioned by any of our other experts.

In contrast to the general agreement among the other respondents, the two NGO decision-makers offered differing views to each other. The first stated that their organisation did not distinguish between the different types of education mentioned. Whereas, the other suggested that EE and ESD can lead to Education for Environmental Citizenship, which redefines the relationship of people and nature. Specifically, they said that Education for Environmental Citizenship provides a way of looking at one's entire life and how one interacts with nature at all times. The policy-maker concurred with this perspective, providing the view that Education for Environmental Citizenship could be both holistic and focused on practical use, as it brings focus to both environmental and social aspects of complex issues. They do caution, though, that to understand complex environmental issues and successfully associate active citizenship with environmental and sustainable development, basic knowledge of all aspects of classic education—including science and language—are a necessary prerequisite.

The educator pointed out that many of these educations (Education for Environmental Citizenship, Environmental Citizenship and ESD) are similar in the way that they make students critical consumers. Yet, Education for Environmental Citizenship is unique in the sense that it isolates different elements or factors—such as the individual, the citizen, the surrounding environment and the future—to assess them from a distance. It thereby helps stakeholders to see their overall responsibility.

8.1.3 Strengths from the perspective of educators

When asked specifically about what respondents thought people in education would see as strengths of Education for Environmental Citizenship, many of the already mentioned advantages and strengths were revisited. The EPS decision-makers further suggested that the possibility to include identity and values, and work with co-creation in the educational praxis was a strength. By bringing focus to engagement, process and empowerment, they suggest Education for Environmental Citizenship not only illustrates problems, but offers an opportunity to develop solutions.

The NGO decision-makers posit that working with Education for Environmental Citizenship strengthens students' knowledge, attitude, skills and participation. The educator, with first-hand knowledge of education in classrooms, stated that the strength of Education for Environmental Citizenship is that it makes young people responsible—more aware of and likely to care for their future and the futures of their fellow human beings. The policy-maker saw a clearly favourable connection between what the government sees as necessary in modern education—in Denmark, holistic and case-oriented teaching—and what active citizenship (part of Education for Environmental Citizenship) brings with it: working together to find solutions to complex cases by drawing on and combining a wide array of classic topics.

Our respondents were very positive when discussing the strengths of Education for Environmental Citizenship, particularly in light of the complexity of the issues that humanity is facing, and how we might build more responsive and responsible citizens. Overall, they see it as a positive addition to the education landscape, with the policy-maker going so far as to say that, since COP21 in Paris (COP21, n.d.), businesses across Europe that have any intention of thriving have developed a sustainability charter and, when looking for employees, are looking for the kinds of competencies that Education for Environmental Citizenship brings (UNDP, n.d.).

8.2 Weaknesses

In this section we lay out the respondents' thoughts on the weaknesses of Education for Environmental Citizenship in a Danish context. We first present the main weaknesses as seen from their perspectives. We then follow with areas for improvement and thoughts on what needs to be avoided.

8.2.1 Challenges

Education for Environmental Citizenship is ambiguous, according to six of our respondents (the NGOs, the EPS decision-makers, the academic researcher and the policy-maker). It is comprised of complex concepts that can easily be misunderstood. The academic researcher explained that this ambiguity can be particularly problematic when we consider that, even in related fields, different understandings can exists side by side among different people, countries and organisations.

To illustrate their concern, the EPS decision-makers enumerated what they saw as three key tendencies of Education for Environmental Citizenship: 1) to relativise knowledge and turn everything into an identity project, 2) to overlook the fact that how science and technology are used shapes an agenda and logic, in turn shaping and steering people and history, and 3) there is a tendency within Education for Environmental Citizenship not to accept hierarchies within complexity.

The policy-maker pointed to the dilemma that Education for Environmental Citizenship tries to tackle broad and complex topics and issues, stating that one could be concerned about whether it would include specialists who are able to go into the kind of detail that deep learning of a topic requires. They suggest that people who are extremely specialised often lack a holistic understanding of an issue. At the same time, a generalist may inadvertently overlook important details. Education for Environmental Citizenship needs to be inclusive and balanced to truly be holistic. The policy-maker suggested that this weakness could be overcome by ensuring inclusion of different specialists in Education for Environmental Citizenship.

Finally, the educator pointed out that Education for Environmental Citizenship focuses too much on responsibility and too little on how to manage the future. They note that needs in Denmark may be different from those countries that lack environmental consciousness, however, they nonetheless see this aspect as a weakness.

8.2.2 Room for improvement

When asked how Education for Environmental Citizenship could improve, the academic researcher suggested considering the Danish concept of 'miljøbevidsthed', which translates to concern for the environment, or being environmentally conscious. Instead of trying to focus on the behaviour of people, 'miljøbevidsthed' focuses on the intentions of the person and her or his framework for decision making, to know if the person behaves with environmental concern. An example is if a person takes an environmental perspective into account even when the situation does not require them to do so.

One of the EPS decision-makers suggested another way Education for Environmental Citizenship could improve is by drawing on and combining knowledge from other educations. For example, it could borrow from EE a larger focus on Science-Technology-Society-Environment relations; the environmental aspects of STEM

(Science, Technology, Engineering and Mathematics)(Breiner et al., 2012); and the historical and generational aspects of ESD.

The educator stressed that Education for Environmental Citizenship might improve by addressing the issue of how to manage in a world where not everybody is aware of environmental responsibility. This would require teaching individual students to see their own role in the big picture and not only the big picture.

The second EPS decision-maker proposed a practical improvement for people in Education for Environmental Citizenship, suggesting that they need to communicate their concepts more clearly and better coordinate their ideas with both curriculum- and policy-makers. Doing so would impact the underlying infrastructures that support knowledge generation and acquisition. In complement, the policy-maker believed that active citizenship (a key aspect of Education for Environmental Citizenship) should receive more focus in the curriculum in Danish schools. They suggested that a particular legacy of the Danish social system is that people often lack responsibility because they are used to being taken care of by the public sector. In this context, active citizenship needs to be 'reinvented' by, for example, introducing it through educations such as Education for Environmental Citizenship.

8.2.3 What to avoid

When asked what Education for Environmental Citizenship should avoid and what students/teachers are likely to see as weaknesses, the educator mentioned the sometimes dominant focus on the 'right' way to live. They stressed that it is important that students understand why some people are forced to make other choices. The policy-maker touched upon the same theme, stating that the educational approach should not become some kind of religious mantra, but that Education for Environmental Citizenship needs to remain scientific:

> The environmental sector should be run by reason, not by emotions, as some groups claim. Therefore, it is important to have ethics and moral aspects in place, as well as the scientific ones.

The policy-maker further emphasised that it is difficult and challenging for teachers to embrace a holistic approach in Education for Environmental Citizenship because it is not what they learned themselves in teacher training or at university. Working with a holistic approach takes a lot of preparation. For this reason, it is extremely important that societies support the teachers – otherwise they might perceive the need for a holistic approach in Education for Environmental Citizenship as too big a challenge. Similarly, the policy-maker pointed out that environmental topics can become complex and difficult for some students. They suggested that, to help students engage and thus overcome the barriers of complexity, the focus should be on a hands-on approach that deals with problems that are relatable to everyday life.

The second EPS decision-maker agreed, stressing that Education for Environmental Citizenship should not let go of the hands-on approach. Further, it should make visible to students and educators that their hands-on Education for Environmental Citizenship practices make a positive difference. They suggested that this affirmation would assist the students and educators in seeing that their efforts are worth it.

Coming from a slightly different perspective, the first EPS decision-maker suggested that Education for Environmental Citizenship should avoid its tendency to not take the world-making capacities of science and technology seriously enough. As noted above, the way we use science and technology does not have to be deterministic. Nonetheless, practices can shape an agenda and logic, in turn shaping and steering people and history. The academic researcher thought that teachers and student may consider it a weakness of Education for Environmental Citizenship that it has a 'blurred outline' through which it can be difficult to identify the central ideas. As the EPS decision-maker reported, science teachers may also view the tendency within Education for Environmental Citizenship to relativise knowledge as a significant weakness.

When asked about which factors may eliminate the success of Education for Environmental Citizenship, the two NGO decision-makers spoke to the same issue from divergent perspectives. The first suggested that if political decision-makers, organisations and society do not allow for newly Education for Environmental Citizenship-educated citizens to follow their dreams, ideas and projects, this will be a major impediment. Whereas, the second NGO decision-maker suggested that the students themselves need to be involved in the decision-making processes. If not, they caution, they will not be able to develop their newfound ability to make decisions and act upon them.

The policy-maker stated that in Denmark, despite a top-down directive to have a more holistic approach to education, there is a very high focus on testing pupils and politicians constantly want more control over children's education. As a result, schools waste a lot of time preparing children for tests and do not have time for holistic approaches such as Education for Environmental Citizenship. For Education for Environmental Citizenship to be successful, teachers and students need to undertake a process of learning by doing and finding their own, perhaps unique, solutions. The first EPS decision-maker also cautioned that Education for Environmental Citizenship should be sure to coordinate with the existing curriculum and focus areas. If it comes across as too different or oppositional, it may not be accepted, and would be difficult to implement in the established education system.

In contrast to the above concerns for integration, the second EPS decision-maker expressed concern that Education for Environmental Citizenship might simply become a new buzzword that does not integrate the best of EE or ESD or SE. The educator also feared that Education for Environmental Citizenship may lack coherence for people living in countries that are less environmentally conscious than Denmark.

8.3 Opportunities

Building on the strengths and weaknesses of Education for Environmental Citizenship , the experts weighed in on how these may open up towards opportunities—now, with the current state of play, as well as in the future, through interesting trends that can improve the opportunities of Education for Environmental Citizenship.

One NGO decision-maker pointed out that Danish political society increasingly involves citizens in public solution-making, in particular in relation to environmental issues. They suggested that Education for Environmental Citizenship could be a helpful tool in helping participants develop the necessary sense of belonging to increase their participation in local democracy. The other NGO decision-maker highlighted the widespread adoption of the UN's global goals for Sustainability (SDGs)(n.d.), which they suggest opens up opportunities for Education for Environmental Citizenship, due to the interrelated nature of the content, logic and approach of SDG and Education for Environmental Citizenship. Education for Environmental Citizenship could thus prepare and equip students for participating in broadly recognisable sustainable development.

The educator also highlighted the SDGs, and mentioned other trends such as FabLabs (Walter-Hermann & Büching, 2014), STEM, upcycling of building materials and clothes, pre-cycling, growing food and other forms of minimalism, which feed into the content and teachings of Education for Environmental Citizenship (King et al., 2006, Gillian et al., 1996, Alexander and Ussher, 2012). They further suggest that the changing focus towards understanding responsibility when inventing future technologies and making future inventions based on environmental impact could also be an opportunity for extending the impact of Education for Environmental Citizenship.

The academic researcher identified an emerging trend to criticise the test-result oriented education system in Denmark, going so far as to suggest that Denmark should neglect their engagement in PISA tests (OECD, n.d.) and New Public Management (Lane, 2002), and instead support innovative teachers in trying out new ideas of their own. This approach would engender an educational system that brings strong focus on sustainable development entrepreneurship, climate issues and other important environmental matters. In such an environment, learners could develop many useful competences, including: creativity, innovation and the ability to act with long-term, ecological, economic and social perspectives. They would become absorbed in Environmental Citizenship aspects for life.

The policy-maker considered changing trends and demands for businesses and companies as opportunities for Education for Environmental Citizenship. They explained that many major companies now work with the SDGs. There is great competition amongst companies not to be left behind when it comes to sustainability, and even the most conservative sectors seem willing to embrace the change in order to stay in business. In terms of employment, the policy-maker saw the increasing demand for specialists with environmental knowhow, which Education for Environmental Citizenship might be able to provide.

One EPS decision-maker identified several trends that suggest opportunity-openings for Education for Environmental Citizenship: a renewable energy revolution, a sustainable fourth generation industrial revolution, a post materialist turn (Inglehart, 1981), and a more listening society that focuses more on life quality than Gross National Product. A society that accepts that humans have different Environmental Citizenship identities and values, partly based on if the mindset is traditional, modern, post- or meta-modern and how we as a society can secure a sustainable and peaceful co-existence. One specific opportunity could be if Education for Environmental Citizenship becomes an umbrella or platform that includes the best of EE, ESD and SE. It could then be considered a factor in the EU's growth strategy (Europe 2020) (EC, 2010, Marlier, 2010) and its vision for Sustainable Development, Green and Cycle economy and low-carbon society (EU-roadmap 2050)(EC, 2012). The other EPS decision-maker stated that in addition to the SDGs, many local political goals for CO2-reduction, transportation, energy production etc. (e.g. municipal climate and energy plans (e.g., Danish Energy Agency, 2015)) could also call for Education for Environmental Citizenship to better enable people to make the necessary changes and reach those (SDG) goals.

8.4 Threats

This section covers the threats and obstacles to Education for Environmental Citizenship as identified by the respondents.

The educator considered the biggest threat to be the fact that:

> In Denmark, the community by and large is not ready to accept the prospect of economic (growth) limitations in order to care for the future environment. Yet, this tenet is a central part of Education for Environmental Citizenship.

Other respondents were more focused on threats to Education for Environmental Citizenship within the existing education system. One EPS decision-maker stated that Education for Environmental Citizenship would have a hard time becoming a part of the curriculum as the other types of education (CE, SE and ESD) have already taught topics like Environmental Citizenship, possibly making Education for Environmental Citizenship seem redundant. The other EPS decision-maker perceived the lack of coordination of existing teaching programmes in the education system as a real impediment to achieve proper integration of Education for Environmental Citizenship. Furthermore, neglect of local engagement was seen as an obstacle.

The policy-maker, while being focused on the current state of the Danish education system, argued that the real obstacle was the decisions made at the governmental level. Political prioritisation—for example, lowering taxes and increasing public expenditure on elderly care—has for a long time put stress on the education budget,

and thereby on the system itself. This stress, combined with the fact that the education system has become more test-oriented and systemized, poses a threat to Education for Environmental Citizenship, which requires more resources for preparation time and additional training than current methods. Furthermore, the content of Education for Environmental Citizenship cannot be systemized or based on standard teaching materials.

When asked specifically what the other aforementioned types of education do better than Education for Environmental Citizenship, the teacher and an EPS decision-maker respectively stated that SE and Innovation and Entrepreneurship are more aware of the technological achievements and the correlation between science and technology (STEM approach) than Education for Environmental Citizenship.

8.5 Differences

In this section we discuss the differences that emerged in the SWOT questionnaire process between (a) formal and non-formal education, and (b) primary and secondary education in Denmark. It should be noted that primary education in Denmark includes lower secondary and covers ages 6 through 16. Upper secondary education covers ages 16 through 19 and consists of four types of programmes: a general education that is both practical and theoretical and qualifies the student for access to higher education; and commercial, vocational and technical educations, primarily qualifying students for access to the labour market (Ministry of Education, n.d.).

8.5.1 Formal vs. non-formal education

By and large, our respondents found that:

> The current formal education system in Denmark makes it difficult to implement and practice Education for Environmental Citizenship.

The academic researcher stated that the formal system is hampered by the previous years' focus on delivery, documentation and control, instead of supporting engagement and innovation in teaching. In correlation, the first EPS decision-maker explained that Education for Environmental Citizenship plays a larger role in the non-formal educational sector than in the formal. As the second NGO decision-maker explained, it is the curriculum in Danish schools that makes it difficult to practice Education for Environmental Citizenship in the formal school system. These comments suggest that Education for Environmental Citizenship will more readily find its place in non-formal education.

The policy-maker agreed that non-formal education is ahead when it comes to Education for Environmental Citizenship, compared to formal education. For example, scout groups in Denmark (and elsewhere) have taught active citizenship for over a century, whereas it is a relatively new addition to the formal education curriculum. The second EPS decision-maker suggested that, because of these constraints, formal and non-formal education should ideally create a synergy: they should teach different things that together make up a form of Education for Environmental Citizenship. The distribution of content and teaching required to achieve this was not elaborated, so it remains a project for future elaboration.

8.5.2 Primary vs. secondary education

When comparing primary and secondary education in Denmark, the academic researcher reported that the difference between primary and secondary schooling has diminished. Yet, as we see from the Danish Ministry of Education website (n.d.), the programmes are radically different. Indeed, the policy-maker stated unequivocally that there is a difference between the two. Primary education has to provide the basic knowledge required to be a citizen. Whereas, secondary education can be more specialised. Beyond these conflicting statements it was difficult to derive anything meaningful from the protracted comments of our respondents.

8.6 Conclusion

We detail here responses from seven experts to a series of questions that aim to identify key strengths, weaknesses, opportunities and threats to Education for Environmental Citizenship in Denmark. Our experts include two decision-makers from national NGOs, two decision-makers from Educational Professional Society (EPS), an academic researcher, an educator (a Danish school teacher covering primary and lower secondary education), and a policy-maker representing the Danish Ministry of Education at the municipal level.

At the outset we explained that our intention here is not to synthesise. Rather it is to juxtapose, and thereby afford diffractive reading of this—at times—divergent material. Nonetheless, it is possible to draw some conclusions:

Our experts are unanimously in favour of Education for Environmental Citizenship but see a number of challenges that inhibit its adoption in Denmark. These challenges exist at the policy level, as well as within the education system and in society itself, in the form of resistances. Despite these resistances, our respondents seem convinced that Education for Environmental Citizenship can offer a sense of meaning to citizens and engage young people in shaping the society of tomorrow, by encouraging them to actively protect the environment, and that this is a good thing that should be actively encouraged.

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Appendix A:

Table 8.1 and Figure 8.1: responses to the degree of difference between Education for Environmental Citizenship and the other mentioned types of education, EE, ESD. SE and CE.

Table 8.1 Degree of similarity (from 1-5) between Education for Environmental Citizenship and other types of education.

	EEC & EE	EEC & ESD	EEC & SE	EEC & CE
NGO1	3	3	2	4
NGO2	4	4	4	4
Researcher	5	5	2	4
EPS1	2	4	2	4
EPS2	5	5	3	5
Teacher	4	4	3	3
Policy-maker	4	4	2	3

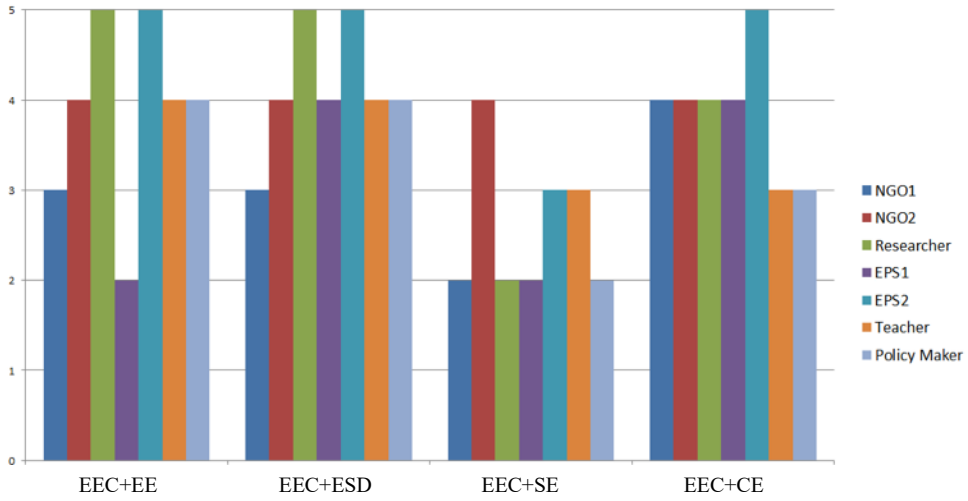

Table. 8.2. Similarity of the Education for Environmental Citizenship with other types of education, where 1 is similar and 5 is different.

9. SWOT Analysis of Education for Environmental Citizenship - Country Report: GREECE

European Network for Environmental Citizenship (ENEC)

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Abstract: Environmental Education (EE) in the Greek education system was initiated through a pilot stage for secondary school education in 1987. EE was legislated from 1990-1991 for secondary and primary education. EE in schools is implemented through educational projects that are supported by specialised officials (Environmental Education Officers) in each Prefecture. EE is also supported by the curricula of Science Education (SE) in the different age levels. Since 1993 Environmental Education Centers have been established all over the country by the Ministry of Education in collaboration with Municipalities and the National Youth Institution. The Environmental Education Centers collaborate with Universities, Research Institutes and other Governmental and Non-Governmental Organisations. They provide educational programmes for primary and secondary schools relating to the local environment, teacher training seminars, regional, national and international networks and the production of educational material. EE is also a subject in the Science and the Pedagogic Departments in universities. During the last 12 years there has been a shift from EE to Education for Sustainable Development (ESD), and Environmental Education Centers in particular have implemented Life-Long Learning Programmes (LLP) and Citizenship Education (CE). The challenge for the development of Education for Environmental Citizenship in Greece is linked with the utilization of EE, SE, ESD, and LLP. The question asked is: Which structures and partnerships will undertake the support of the relative education and training? The SWOT analysis reveals the major advantages and the obstacles of such a challenge.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology). We would like to thank the six experts who kindly participated in the relative survey.

9.1. Introduction

Environmental Education (EE) in the Greek education system was initiated through a pilot stage, applied in secondary education Schools of 20 Prefectures in 1987. EE was legislated from 1990-1991 for secondary and primary education. EE in schools is implemented through educational projects that are supported by specialised officials (Environmental Education Officers) in each Prefecture (Kousoulas, 2000). Most of these projects are not compulsory, but are on a voluntary basis both for teachers and for students. During the last 25 years there has been increased interest from teachers. EE is also supported by the curricula of Science Education (SE) in the different age levels. Since 1993 Environmental Education Centers (EECs) have been established all over the country by the Ministry of Education in collaboration with Municipalities and the National Youth Institution (Farangitakis, 2010). EECs are comprised of teachers of both primary and secondary education with increased qualifications. The relative infrastructure and the equipment of the Centers have been financed using European funds. The EECs collaborate with Universities, Research Institutes and other Governmental and Non-Governmental Organisations. They provide educational programmes for primary and secondary schools relating to the local environment, Teacher training seminars, regional, national and international networks and the production of educational material (Farangitakis, 2008). EE is also a subject in the Science and the Pedagogic Departments at universities. During the last 12 years there has been a shift from EE to Education for Sustainable Development (ESD) (Scoullos, 2007), and EECs in particular have proceeded to Life-Long Learning Programmes (LLP) and Citizenship Education (CE). The challenge for the development of Education for Environmental Citizenship in Greece is linked with the utilisation of EE, SE, ESD, LLP and the question then asked is: Which structures and partnerships will undertake the support of the relative education and training?

Due to the lack of consistent EE policy by the Ministry of Education (MoE), economic and other reasons, EE start to deteriorate since 2008 (Sbarounis, 2010). Furthermore, as a result of the long-term economic crisis in Greece, the MoE, has proceeded to cut down two major aspects of Environmental Education: a. the time that schools can dedicate to EE, and b. the supporting institutions of EECs. In addition, recent announcements from the MoE foresee further degradation of EECs. In our opinion the above are wrong political choices since the current environmental challenges such as climate change need to be priorities and tackled effectively.

A summary of the findings of the SWOT Analysis according to the process of the questionnaires completed by the six Greek experts is outlined below. The views that are mentioned hereinafter have emerged by the compilation of the answers of the respondents (the experts) and do not necessarily represent the views of the authors. Since the number of the respondents is small, the findings of the SWOT analysis are indicative of the situation of Education for Environmental Citizenship in Greece and not extensive.

9.2 Strengths of Education for Environmental Citizenship in Greece

Education for Environmental Citizenship constitutes an integrated approach that covers all different aspects of EE (social, economic, political, governance). Furthermore, it prepares the students to act more as citizens than consumers. Education for Environmental Citizenship provides people with the opportunity to be responsible for and to make choices about their environment. It produces environmental and social benefits that include developing wider environmental awareness and taking responsible action to improve the environment and strengthen communities. Education for Environmental Citizenship develops students' (and ultimately citizens') action competences to positively influence environment and the fair and sustainable distribution of resources. As regards its relation to EE, the former is wider than EE, the purpose of which is more obvious through Education for Environmental Citizenship. Education for Environmental Citizenship also involves adult citizens and offers a great opportunity to foster their environmental awareness.

Education for Environmental Citizenship has emerged relatively recently in the landscape of formal and non-formal education and seems to fill in the gap, integrating other major types as EE, SE, ESD and CE.

Some characteristics of Education for Environmental Citizenship are considered to be unique by the Greek experts. Education for Environmental Citizenship focuses on environmental issues but also appeals to adult citizens who can be more actively involved in action. It emphasises the personal responsibility. Citizens' active participation is crucial, if a society chooses to move towards sustainability. Environmental Citizenship prioritises environmental justice and collective action. It constitutes a pluralistic and holistic approach to addressing environmental issues in a manner that is consistent with the environmental knowledge, values and action competences. Environmental Citizenship is the ultimate goal of EE. It involves empowering students to acquire the knowledge, the skills and the attitudes needed to identify their values with respect to the environment and to act accordingly.

In addition, some features of Education for Environmental Citizenship are considered, by most of the respondents, to be not only complementary, but actually more effective than the other types of education (especially to EE, ESD and CE). Education for Environmental Citizenship focuses on and highlights relationships between society, economy, politics and governance mostly in environmental issues. The focus is in a more targeted and systematic way on how to help students be aware of and take responsibility in improving environmental quality and engaging them, individually and collectively, in the hands-on, concrete actions needed to face environmental challenges. It is a more sound and holistic approach of human behaviour in its natural and social environment. A well designed and implemented project of Education for Environmental Citizenship could provide important ways of promoting both ecological sustainability and environmental justice. Education for Environmental Citizenship states our relationship to the environment in terms of rights and

duties/obligations, and outlines and teaches the importance of personal responsibility, self-involvement and principals of resilience. However, there is also an opinion that expresses the difficulty in arguing that Education for Environmental Citizenship could do better than other types of education.

According to the experts, teachers and other people involved in education consider that Education for Environmental Citizenship has a number of other advantages such as:

- linking words with action
- the opportunity for teachers and trainers to educate students in complex and critical thinking since the specific type of education deals with environmental issues, which have both public and private aspects and current and future impacts
- the enrichment of educational praxis with innovative teaching practices puts an emphasis on various, often interwoven, dimensions of environmental issues and the role of citizens in handling them effectively
- the creation of a social learning context, which encourages the collective negotiation of conflicting interests through open, participatory and democratic decision-making processes regarding environmental challenges
- pupils are educated in a way that they are able to live together in a common environment
- the goal of sustainability can be achieved through effective Environmental Citizenship
- the evolution of our society at all levels can be determined by the citizen's qualities and attitudes.

9.3 Weaknesses of Education for Environmental Citizenship in Greece

The main weaknesses of Education for Environmental Citizenship include the lack of a clearly defined framework of aims, goals, methodology, etc. The Environmental Citizenship domain is complex and for this reason it is necessary to be more clear and specific especially in relation to other types of education (EE, ESD, SE or CE). Apart from the complexity, other Education for Environmental Citizenship characteristics outline those difficulties that prevent it from being properly implemented and for it to succeed in relation to time. Firstly, it is a time demanding type of education and adults specifically can have less time to dedicate to education than students. Secondly it does not have immediate results. It takes time to bear fruit and when we need to have an effective and immediate response to some environmental problems, instead of implementing special educational and training programmes, we use financial incentives (motivations or penalties) in order to change citizens' behaviour. On the other hand, Environmental Citizenship often refers less to environmental responsibilities and more to environmental rights. Some other weaknesses relate to the intrinsic characteristics of the prevailing education system in

Greece, which many times is characterised as being teacher-centred and too theoretic.

It is considered crucial to confront some of the above-mentioned weaknesses through:

- defining the target groups, the framework, the tasks and the methodology of Education for Environmental Citizenship
- specifying and clarifying the relationship of Education for Environmental Citizenship to other types of education (EE, ESD,SE, CE) without declining them
- adequately and competently instructing trainers and teachers.

Towards this end is essential that Education for Environmental Citizenship would be communicated with simplicity and would not use a difficult language with overly specialised terminology.

A major obstacle to recently appear is the many changes and reforms in both the Greek education system and the curricula in primary and secondary education throughout the last two years, making the launch of Education for Environmental Citizenship difficult.

The respondents included an estimate of the weaknesses that the students and teachers involved in Education for Environmental Citizenship would perceive: a. the lack of time; b. the conflict with other forms of education; c. the goals of Education for Environmental Citizenship to be unrealistic (or very difficult to achieve); d. a possible insistence on general theoretical approaches in dealing with environmental problems, perhaps in the form of wishful thinking; and e. a possible lack of going in deep in each subject.

With regards to the aims and competency of the education system or the educators, some threats were speculated: a. in the case that Education for Environmental Citizenship would be confined to the development of rhetoric at the expense of action in the context of environmental citizenship, and b. in the case that in Education for Environmental Citizenship the cognitive element would dominate over values, predispositions and competences related to the qualities of citizen.

In addition, various external factors that could eliminate the success of Education for Environmental Citizenship have been identified:

- limited interest of potential target groups
- single-dimensional approaches that do not highlight the complex nature of modern environmental challenges
- the interests of biggest industrials with the power to influence the media
- the existence of different political strategies, conventions and plans at an International, European or National level, blocking any real change of behaviour towards sustainability.

9.4 Opportunities of Education for Environmental Citizenship in Greece

The rapidly and radically changing socio-economic and technological environment, mainly connected to the ICT sector as well as to the economic crisis, offer some new opportunities for the development of Education for Environmental Citizenship in Greece. Such good opportunities include:

- the involvement of research Institutes and Academia for providing the proper knowledge
- the advance and spreading of Internet technologies
- the operation of the Open University
- the organisation of several seminars and workshops and other LLPs at the Municipality level
- the economic crisis, which is creating new mentalities, new behaviours and many opportunities for new ways of thinking and educating.

The advance of technology seems to offer one of the major opportunities and facilitates Education for Environmental Citizenship as long as it is used properly and teachers are informed and trained adequately. Changing technology is creating new frames for education and new tools and we have to learn how to use them for Education for Environmental Citizenship.

Some interesting trends in education that could improve the opportunities of Education for Environmental Citizenship in Greece include: holistic and pluralistic educational approaches and the development of Values Education related to Environmental Citizenship and Democracy Education.

At the same time, at the social level, there is an interesting trend regarding the success of sustainable development which has been capable of promoting the collaborative work between those who are primarily concerned with environment, those who value economic development, and those who are dedicated to improving the human condition. The stronger linkage of Education for Environmental Citizenship to environmental justice and set in the wider context of the sustainability discourse and the current debates on governance could be beneficial as well.

Finally, the big problem of plastic pollution could, on the other hand, offer a lot of opportunities to the development of Education for Environmental Citizenship. For example, there are many new materials being produced by recycling products or natural fibres, which are ‘trendy’ and could create new jobs that are ecologically based.

9.5 Threats of Education for Environmental Citizenship in Greece

Some of the major threats originate from the lack of a specific description of Education for Environmental Citizenship , the gap to determine the relationship between it and the other types of education (EE, ESD, SE, CE), and the absence of a clear methodological approach for the 'teaching' of Environmental Citizenship (e.g. aims, curriculum, teaching strategies). Learning materials, programmes or services for Education for Environmental Education have not yet been adequately developed. Some sparse efforts have been created here and there (e.g. at postgraduate level, or on some internet platforms that allow citizens to interact with scientists in specific environmental issues such as the case of alien species). Another issue originates from the fact that Education for Environmental Citizenship is time demanding and does not have immediate results and for this reason financial incentives (motivations or penalties) are used in order to change citizens' behaviour. So, apart from the lack of prioritisation and other consequences, resources that could be used for the development of Education for Environmental Citizenship are directed elsewhere. Other threats include:

- lack of time (especially from adults involved in Education for Environmental Citizenship)
- lack of proper scientific knowledge
- lack of proper methods used
- insufficient training and preparation of teachers and educators on how they pedagogically address innovative trends and practices that could improve and fulfil opportunities of Education for Environmental Citizenship
- the dominant social status quo and the cultural values of each place, which much of the time can seem to be indifferent about the state of the environment and the associated ecological issues.

In addition to the above with regards to formal education, the Greek Ministry of Education is currently making changes that negatively affect issues on education for sustainability and the environment (e.g. the elimination of Environmental Education Officers, the weakening of the Environmental Education Centers).

In determining the relationship between Education for Environmental Citizenship and the other types of education (EE, ESD, SE, CE) and the lack of development of proper methodology, teaching strategies and practices etc. (due to the fact that Education for Environmental Citizenship is a relatively new concept), Education for Environmental Citizenship should assimilate and elaborate the experience gained in the other fields. Such adjustment, even slow, has been taking place in a lot of cases. However, EE is targeting school students in a self-participatory and live way, which is not easily achieved by Education for Environmental Citizenship and adult citizens.

9.6 Other aspects of Education for Environmental Citizenship in Greece

9.6.1 The similarity of Education for Environmental Citizenship with other types of education (EE, ESD, SE, CE)

As shown in Table 1, Education for Environmental Citizenship mostly resembles ESD, then CE and EE, and least of all SE.

Table 1 Semi-quantitative response to SWOT questions 7 to 10 (n=6 experts)

SWOT Questions	Mean	Max.	Min.
To what degree (1-5) is EEC similar with EE	3.2	4	2
To what degree (1-5) is EEC similar with ESD	3.8	5	2
To what degree (1-5) is EEC similar with SE	2	3	1
To what degree (1-5) is EEC similar with CE	3.3	5	2

Scale: 1 not similar - 5 very similar

9.6.2 Differences of Education for Environmental Citizenship between formal and non-formal education

In non-formal education, students are often older than those in formal education, thus they have more social experiences but less scientific knowledge and less available time. Furthermore, in non-formal education it is possible that learners to have the opportunities to be involved in more authentic contexts and activities concerning Environmental Citizenship. These parameters should be taken into account with the elaboration of Education for Environmental Citizenship objectives, methodology, programmes etc. and by educators and trainers.

There are also conflicting views and some confusion regarding other differences. Some argue that such differences are slight and not always obvious. Some argue that in the case of non-formal education, the strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship may be strongly linked to the context of life-long learning. Finally, there is an opinion that they are exactly the opposite: the strengths and opportunities of the non-formal education are the weaknesses of the formal one.

9.6.3 Differences of Education for Environmental Citizenship between primary and secondary education

For students in secondary education is easier to understand the complex relationships between society, economy, environment and governance. Furthermore, they are familiar with the concepts such as 'responsibility', 'duties', 'rights', 'common goods' and 'critical thinking', they are also able to generalise and to think in a more abstract way.

Education for Environmental Citizenship could start from primary education but it is easier to involve secondary education students in the multidimensional analysis of the social, political and economic life of societies aiming at sustainable development. The necessity of 'motivation system' is almost more sensible for primary education whereas the opportunities of the changes due to the economic crisis are more to be felt at the secondary education level.

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10. SWOT Analysis of Education for Environmental Citizenship

Short Hungarian report

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Abstract: Environmental education and citizenship studies are not a focus of Hungarian primary and secondary education. As a consequence, Education for Environmental Citizenship is an almost unknown and neglected topic. In our report we present its main strengths, weaknesses, opportunities and threats, analysing the relevant policy documents and structured interviews conducted among experts, decision-makers, scientists and practitioners. The picture is like a bottle, half empty for the pessimists or half full for the optimist, and Education for Environmental Citizenship could be linked to both science studies and history. The future will show whether experts and practitioners are able to build up these links.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology).

10.1 Introduction: the Hungarian context

Youth in Hungary

As in many other European countries, it is hard to find standardised definitions of 'youth' in Hungary. In a survey called 'Hungarian Youth', the generation between 15-29 years is considered to be 'Youth' and data from Central Statistical also provides information on this cohort. In 2016, 1.7 million people (18 percent of the total population) belonged to this age group, in comparison to 2.1 million in 2001 and 1.8 million in 2011. The decrease of the younger generation is salient. The population loss has been over 400,000 during the last 15 years, a bigger decline than the downturn of the entire Hungarian society. The biggest group is 618,000 youths aged 20-24, 611,000 aged 25-29, and 593,000 aged 14-19 years old. The outmigration of hundreds of thousands of youngsters as well as a general decrease in the total population are the main causes of the negative demographic trend in Hungarian

youth. The Council of Europe international review team states that the most striking challenge is the increase in youth unemployment and those leaving education early, particularly within vocation schools (Youth policy in Hungary 2008).

Methodology

To better understand the role of Education for Environmental Citizenship in Hungary, we conducted on-line questionnaires with professionals, decision-makers, civic activists and practitioners, as the guidelines of the Cost Action recommended.

We received answers from five respondents (teachers, researchers and decision-makers) who were aged between 31 and 50 with higher education degrees. The details of our interviewees can be found in the table below.

An important limitation in our study is that our experts found assessing Education for Environmental Citizenship to be a difficult task. Some of them mentioned beforehand: "I have few ideas about Education for Environmental Citizenship, but more experience in Environmental Education."

Table 10.1 Characteristics of the interviewees.

Gender	Education	Age	Type of Expertise
Female	PhD	41-50	Researcher – Academic from the research field of Environmental Education/Education for Sustainable Development OR Science Education/Citizenship Education
Male	PhD	41-50	Researcher – Academic from the research field of Environmental Education/Education for Sustainable Development OR Science Education/Citizenship Education
Female	Master	31-40	Educator – Teacher in Secondary Education who works in the field of Environmental Education/Educational for Sustainable Development OR Science Education/Citizenship Education
Female	Master	31-40	Decision-maker at a National NGO who works in the field of Environmental Education/Educational for Sustainable Development OR Science Education/Citizenship Education
Female	Bachelor	41-50	Educator – Teacher in Primary Education who works in the field of Environmental Education/Educational for Sustainable Development OR Science Education/Citizenship Education

The legislative background on education is basically the National Core Curriculum (the 110/2012. (VI. 4.) Governmental Decree3) and the Law on National Public Education (CXC law in 20114). Education for Environmental Citizenship is not specifically named in it, however the text refers to Environmental Citizenship explicitly:

"*The [educational] institution has to prepare them [the students] to understand and practice citizens' obligations and rights toward environment.*" (NAT: 10643)

It also refers to environmental awareness and sustainability in two parts of the text (pages 10643 and 10654). In general the text differentiates only slightly between Education for Environmental Citizenship, Environmental Education (EE), and Education for Sustainable Development (ESD); Citizenship Education (CE) has a different character, while Science Education (SE) is discussed separately but in connection with Education for Environmental Citizenship, EE and ESD. The text discusses SE in detail as it is one of the most important subjects in Hungary. The context clearly shows the relationship between SE and EE:

> "A man having competence in science is critical toward both pseudo-science, anti-science or anti-technology and both toward efforts placing technology and human needs ahead of environmental sustainability." (p. 10654)

According to the text, SE is the strong basis of EE and the relationship between EE, Education for Environmental Citizenship and ESD is not discussed. CE is linked to legal issues (Citizenship Rights, the Constitution of Hungary and political institutions.5)

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[3] https://ofi.hu/sites/default/files/attachments/mk_nat_20121.pdf
[4] http://www.magyarkozlony.hu/pdf/11446
[5] http://ofi.hu/tortenelem-tarsadalmi-es-allampolgari-ismeretek
http://www.mozaik.info.hu/Homepage/Mozaportal/MPcont.php?bid=MS-2663

The relationship of Education for Environmental Citizenship, EE, ESD, SE and CE

Table 10.2 The relationship between Education for Environmental Citizenship, EE, ESD, SE and CE according to the expert interviews.

	Mean	Modus	Std. Dev.
To what degree (1-5) is Education for Environmental Citizenship similar to Environmental Education (EE)?	4	4	1.224
To what degree (1-5) is Education for Environmental Citizenship similar to Education for Sustainable Development (ESD)?	4.2	4	0.447
To what degree (1-5) is Education for Environmental Citizenship similar to Science Education (SE)?	2	2	0.707
To what degree (1-5) is Education for Environmental Citizenship similar to Citizenship Education (CE)?	3.2	3	1.095

Table footnotes

The experts, the practitioners and the official documents all found that Education for Environmental Citizenship and EE as well as Education for Environmental Citizenship and ESD differ only very slightly, as the table above shows. As a contrary, they see Education for Environmental Citizenship and SE to be quite different. Education for Environmental Citizenship and CE has 3 points on a similarity scale of 5.

Regarding the similarities and differences, some of the experts mentioned that sustainable development could be seen as an introductory course to Education for Environmental Citizenship. One expert pointed out that: “They (EE&SE) have a longer history and teachers’ groups identify themselves as ‘environmental educators’ or ‘science educators’ but I never heard about any ‘environmental citizenship educator’.” (…)

It means that EE is very similar to Education for Environmental Citizenship, but EE focuses mainly on environmental problems.

As an expert emphasised:

> Based on the UN Sustainable Development Goal (SDG) 4.7, me personally but also the Hungarian educational policy practice too consider Education for Environmental Citizenship as a part of ESD, as the SDG 4.7 states: ‘By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.’ So we need Education for Environmental Citizenship for promoting sustainable development.

According to the experts, Education for Environmental Citizenship is not better than any type of education; there is an equal need for ES, CE and Education for Environmental Citizenship within the framework of ESD.

The advantages of Education for Environmental Citizenship

Education for Environmental Citizenship has several advantages. We grouped the experts' arguments into the following typologies:

1. Understanding in-depth environmental problems by combining science studies, social sciences and the students own everyday life. Thus they can prepare themselves for active citizenship.
   An example for this is the following:

   "Students can go beyond understanding environmental problems, they can also understand their role in creating and solving these problems. They get insights and tips to change everyday practices."
   "It helps students to understand the connection between their life and science."
2. Education for Environmental Citizenship can help foster a collaboration of the school system with the local communities. This second strength could be illustrated by the following quotation:
   "*Translating theoretical, scientific knowledge into real world problems.*"
3. Some of them express it as a desire:
   "I can just express what I think would be important: i) Each person first understands why sustainability is important and what the consequences are; ii) they get to know how they can personally contribute to it, what the consequences are of their daily lifestyle on nature and natural resources; iii) they then find the way to contribute at their level; and iv) how to promote and convince others."
4. One of the interviewees emphasised that Education for Environmental Citizenship has a complex approach and argued that this could be an example of how education should work:
   "At the kindergarten we have complex approach: we do not separate the different 'classes'. During the collection of sticks or pebbles, they sing, move, learn about environment and science. They also learn how to act consciously to reduce waste and water usage; and the children's examples influence the everyday acts of the families. These practices are the part of the everyday rituals and therefore may have a long-term effect."

Our experts also presented what Education for Environmental Citizenship could do better than other types of education (EE, ESD, SE or CE).

1. How to act: Education for Environmental Citizenship can help citizens understand how they can make a difference in terms of environmental impacts.

Students often ask: “What can I do? How can I personally contribute to the solution?” The major advantage of this approach could be to show them how they can reduce their ecological footprint by changing their behaviour and influencing the policy agenda.

2. Interest: Education for Environmental Citizenship is more interesting than SE:
   “I think EE is better than SE, because if students are not interested in SE then it is boring for them. Education for Environmental Citizenship and EE bring real world problems closer, but it is still not interesting enough.”
3. Similarity: in a complex educational system, Education for Environmental Citizenship, EE and SE effect each other interfere continuously:
   “I do not see much difference. As we use a complex approach, environmental education is not independent from physical education, singing, or story-telling, but is a part of it. But even if I narrow our practices to Education for Environmental Citizenship, I think it is quite similar to EE, ESD and SE (in kindergarten).”

Unique characteristics of Education for Environmental Citizenship

1. Experts could name the emphasis of Education for Environmental Citizenship on behavioural elements.
   “It is more focused on actions, personal involvement, solutions. Some disciplines merely take on a reflective approach and students miss the point on how they can contribute to the solution.”
2. The possibility of active participation seems to be an important characteristic of Education for Environmental Citizenship:
   “The participation of students in social processes and co-creation of sustainability policy could be unique in Education for Environmental Citizenship.”
3. But similarities are more important than differences:
   “Education for Environmental Citizenship shows how EE can be used in everyday life, but I think that good EE also provides this opportunity.”

10.2 Strengths of Education for Environmental Citizenship in Hungary

In this part of the chapter we present the strengths of Education for Environmental Citizenship, using responses from the short questionnaire. It is clear that the respondents do not distinguish Education for Environmental Citizenship from EE:

they see it as a tool to understand environmental problems, local and global environmental processes and to translate theoretical knowledge into everyday knowledge of the surrounding nature.

The views and opinions of the different actors are quite similar. We can identify the following strengths:

1. Transferable knowledge for everyday use. An example of this is the following quotation:
   "They get insights and tips for changing everyday practices."
2. Linking SE to the real world (nature).
   This second strength could be illustrated by several quotations:

"Translating theoretical, scientific knowledge into real world problems."
"Engaging students with environmental issues."
"Going outside with the kids."

The latter one leads us to the methodological strength of Education for Environmental Citizenship: it shows the theories in practice, links theories to nature almost immediately.

1. Kids are opened to nature and the surrounding world, thus EE and Education for Environmental Citizenship are good tools to teach different scientific subjects outside. As the following quotation proves:

"Kids are extremely opened to nature. They love bird-watching, collecting anything."

2. This observation helps teachers to fulfil the goals of SE and Education for Environmental Citizenship. It "helps to understand local, national a global political processes, to find constructive solution to deal with environmental problems", and in the long-term it may result in changes to everyday habits.

As a kindergarten teacher emphasised: "Kids are opened to new information, and follow the example seen in the kindergarten."

10.3 Weaknesses of Education for Environmental Citizenship in Hungary

Experts found several possible weaknesses of EE and Education for Environmental Citizenship:

1. The role of EE and Education for Environmental Citizenship is overestimated.

"Sometimes we assume that solving environmental problems is a major issue for all, and they will be have to participate in it."
"I think it overestimates the changes that can be achieved by relying merely on voluntary participation of people in environmental activities."
"Wishful thinking about how people can be made active in this area."

2. Education for Environmental Citizenship is almost non-existent in Hungary:

"Education for Environmental Citizenship as a separate entity does not exist in Hungary and it is very hard to talk about its weaknesses, as its biggest weakness is its non-existence."

"It is taught in a very short time period: six months during the six years of school, and it is separated from other disciplines."

"It has no recognition as a separate educational area."

3. Teacher education is not sufficient:

"It is a real problem that it is up to the teacher where she makes the emphasis: if she is less experienced or interested in teaching about nature/environment, then it is not in the focus."

"It is boring. It is a buzzword, and students think they know what it is about."

4. Education for Environmental Citizenship should be taught through good practices and personal examples from both parents and teachers:

"Teachers themselves should show good examples of EE."

5. It is not part of the whole school curriculum and is not built into other sciences:

"It is difficult to continue the complex approach of Education for Environmental Citizenship later on."

10.4 Opportunities of Education for Environmental Citizenship in Hungary

Education for Environmental Citizenship has opportunities to improve:

1. It should be more practical:

"Help the younger generations to understand local, national and global political processes."

"Help the younger generations to find constructive solutions to deal with environmental problems."

"It should be clear that it is a part of everyday life."

"Changes in European policy definitely open more opportunities in Environmental Citizenship. Participatory approaches are explicitly preferred."

2. Complex development:

"Work more closely with all disciplines; not only science, but history, arts, etc."

3. Extending over disciplinary boundaries and involving teachers of other disciplines:

"The involvement of colleagues could be stronger."

"To collaborate other educational fields and make it clear that the ultimate goal is a common one: to ensure sustainability of humankind on Earth."

4. Finding the ways of EEC to all schools:

"Developing a curriculum for institutions in urban environment."

One of the interviewees offered a completely new approach by reorganising the structure of the academic year:

1. In Europe, the Water Framework directive (to improve the status of water bodies) and other regulations set obligations for public participation in decision making. This could be better used to trigger environmental education, raising the sensitivity of people toward sustainability.
2. It is very important to raise new generations who dare to express their needs toward decision-makers and know how to do it.
3. Fight to develop the necessary tools and channels that enable society to act in an environmental field. European legislation provides the legal basis for these, but the implementations have to be enforced and pushed.
4. It is very important to show society that a better environment and nature has a socio-economic benefit for everyone.

Experts also showed interesting trends to improve opportunities of Education for Environmental Citizenship:

- Teaching methods are more participatory now than 20 years ago. The topic itself requires interactive methods
- Students themselves require more participatory methods and they decisively think they can and should make more decisions regarding the curriculum
- Innovative learning environments: http://www.oecd.org/education/ceri/innovativelearningenvironments.htm
- New education methods
- New cooperation among the disciplines
- Better technology is available (Internet access)
- Companies to offer Education for Environmental Citizenship educational programmes (as the waterworks).

10.5 Threats of Education for Environmental Citizenship in Hungary

According to our expert interviews, there are inner and outer threats to Education for Environmental Citizenship. The main inner threats are assertiveness, being boring and losing its flexibility. There are many more threats from the surrounding world: the neglect of policy-makers, the general changes of the world, and the lack of well-trained teachers.

1. The following quotations refer to the inner threats of Education for Environmental Citizenship in Hungary:

"It should avoid being too pushy, requesting too much policy-related activity from people who are not that active or interested in policy."

"Simple knowledge transfer and forcing students to be involved in activities they are not interested in."

"Trying to be as fast as the everyday lives of students."

"Losing its openness."

"Being hypocritical."

2. The following quotations refer to the inner threats of Education for Environmental Citizenship in Hungary:

"Economic factors: for example, during economic crises the interest towards environmental issues declined."

"Trends in values that cannot be fully influenced by education."

"If it would not became an expectation for educational systems by the different stakeholders mainly the educational policymakers."

"Personal enthusiasm."

"It competes with other sustainability and environment related topics. Sometimes environment related courses have very similar titles and students cannot see the difference at a glance."

"A lack of training."

"A lack of available pedagogical resources."

"A lack of allocated time in schools for Education for Environmental Citizenship (EEC)."

"It is a minor subject."

"Students think they know about it, but they do not."

"Between the age of 13 and 16 students are interested in sex and not in Education for Environmental Citizenship."

"While environmental legislation and connected requirement of sustainability is a good basis, the interest in sustainability is often overruled by the short-term economic interest of some sectorial groups."

10.6 Conclusions

In our report we have presented the status of Education for Environmental Citizenship in Hungary. As the closest subjects of EE and citizenship studies are not among the most important subjects in the Hungarian primary and secondary education, teachers can hardly position it; they usually keep EE, ESD, and Education for Environmental Citizenship as synonyms. SE is well-known but is far from everyday practice, while CE is another far-from-reality subject.

In our report we present the main strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship, analysing the relevant policy documents and structured interviews conducted among experts, decision-makers, scientists and practitioners.

Education for Environmental Citizenship could build on strong SE by using the basics and by showing how the knowledge learned during SE classes could be turned into real experiences. Despite this unique opportunity, as EE and Education

for Environmental Citizenship are almost invisible and SE teachers are often not the same as EE (and Education for Environmental Citizenship) teachers, the link between the subjects remains invisible to the students. The situation is especially problematic in formal secondary education, as students have to prepare themselves for the university entrance exams which are based on traditional disciplines. The reorganisation of the Hungarian education system could change the roles of EE and ESD, while the future of Education for Environmental Citizenship depends very much on the changes of environmental policy in the longer term.

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11. SWOT Analysis of Education for Environmental Citizenship – Short Israeli Report

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Abstract: This chapter attempts to consolidate the views of experts in the area of education for the environment in Israel regarding the SWOT of Education for Environmental Citizenship. Seven participants – academics, teachers, and professionals affiliated to government and non-government decision-making answered the questionnaire. While a clearer distinction is made between Education for Environmental Citizenship and science education, the difference between Education for Environmental Citizenship and other approaches of education for the environment (Environmental Education (EE), Education for Sustainable Development (ESD)) is a little blurred. This area of education is unanimously perceived to be advantageous from educational, personal, social and environmental perspectives. It is acknowledged as a relevant education connected to people's lives that enables students to make personal meaning of what they learn, apply their learning to the real world and develop life skills. Since it combines cognitive learning with an emphasis on personal action, it may be more effective in narrowing the behavioural gap. Challenges originate from two major sources: internally-related and externally-related challenges. Internally-related challenges stem from its attributes, for example, the complexity of interdisciplinary education or achieving behavioural change, and externally-related challenges result from the low status of this field in the educational system, leading to a cascade of issues ranging from classroom-level through teacher preparation up to bureaucratic. Improvements largely require change in top-down policy; national policy that acknowledges this area as essential and compulsory education will enable to respond to the cascade of challenges. The need to better connect this educational area to research is identified. Local trends (e.g. social, technological, academic policy) that open opportunities are addressed.

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11.1 Introduction: Framing the Israeli Context

As defined by Dobson (2010), the essence of Environmental Citizenship is "pro-environmental behaviour, in public and private, driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy. It is about the active participation of citizens in moving towards sustainability". This concept is becoming increasingly pervasive in the discourse on sustainability and education for sustainability. Developing of Environmental Citizenship has been identified as a goal of environmental education – fostering a society that understands the need to adopt sustainability as a guiding principle, reflected in the decision individuals make and ways they choose to lead their lives (Bell, 2005; Dobson, 2010; Hawthorne and Alabaster, 1999). The concept resonates the idea that environmentally-responsible decision-making is a part of citizenship (Alkaher and Goldman, 2017; Goldman, Ayalon, Baum and Haham, 2015).

Education for Environmental Citizenship, defined as such, does not exist in Israel. Environmental Education (EE) or Education for Sustainability (EfS) (the terms are used interchangeably in education policy papers in Israel) is implemented in the formal education system in all of the three philosophical approaches put forth by Heimlich (1992) for incorporating 'environment' within curricula and teaching: infusion (infusing the topic within existing curricular subjects), imposition (inserting the topic as a distinct subject within the existing curriculum), and framing (creating an integrative frame-of-study for addressing environmental and sustainability issues which are cross-disciplinary by nature). Certifying 'Green schools' (pre-school to high school), which began in 2004 as a collaboration between the Ministry of Environmental Protection and The Ministry of Education, reflects the framing approach. This later extended to certifying 'Green Campuses' in higher education. Another significant national collaboration between these ministries, which also aims to incorporate education for the environment in a cross-curricular value-based approach (Pe'er. Yavetz and Goldman, 2013), is the programme 'Education for Sustainability: Weaving Life Together' (from pre-school throughout high school). Despite important developments in the implementation of EE/EfS in Israeli schools, there is ongoing critique that since education for the environment is not mandatory in the Israeli education system, and is not acknowledged as a school subject, it lacks the support that the regular school subjects benefit from. As a result, this education area is still marginal in schools (Tal and Peled, 2016).

Also relevant to setting the Israeli stage, it is noteworthy that in conducting EE/EfS, many schools outsource: they allocate out-of-school environmental organisations that develop and conduct environmental education programmes as one of the channels to achieving their environmental goals (Goldman, Ben-Zvi Assaraf and Shaarbani, 2013). Many of these are NGOs or professional educational organisations, some of which conduct education for the environment according to the principles of non-formal education.

This chapter attempts to consolidate and summarise the strengths, weaknesses, opportunities and threats concerning Education for Environmental Citizenship in

Israel, as these are perceived by the experts who answered the SWOT questionnaire. It is emphasised that the content of the following sections is not scientific, and since the number of consulted experts is low, it provides a general summary based on the points of view of the respondents, and does not reflect Education for Environmental Citizenship as perceived by the author.

Relevant to analysing the participants' perceptions of the Education for Environmental Citizenship SWOT is their view of the relationship between Education for Environmental Citizenship and the other types of education (EE, Education for Sustainable Development (ESD), Science Education (SE)). If these are not identified as significantly distinct educational approaches, the implication is that their responses on Education for Environmental Citizenship may also be addressing the strengths, weaknesses, opportunities and threats of EE/ESD. All the participants make a clear distinction between Education for Environmental Citizenship and science education (scores 1-2). This seems to be in line with concerns raised in the literature regarding various constraints of science education to effectively address the diverse dimensions of EE, especially those not directly related to science, namely the social-cultural-political-economic dimensions of sustainability, educating for values or the development of Environmental Citizenship (Dillon, 2002; Goldman et al., 2013; Gough, 2002). While their positions concerning the similarity between Education for Environmental Citizenship and Citizenship Education (CE) are more diverse (score 2-5) but with a tendency toward greater similarity between these two educational areas, this is less relevant for the practical implications of the current analysis, since (in Israel) the school subject of citizenship studies is currently not perceived as directly affiliated with sustainability or which can, or should, provide a platform for incorporating education for the environment. Overall, the participants perceive greater similarity of Education for Environmental Citizenship to both EE and ESD (mean scores 3.8 and 4, respectively), implying that their responses concerning the SWOT may also relate to EE and ESD. More specifically, the academic researchers identify a greater distinction between Education for Environmental Citizenship and EE (scores 2-3), while respondents connected (via policy or as educators) to the educational system and practice of EE, view a greater similarity between Education for Environmental Citizenship and EE/ESD (scores 4-5). Despite the limitations in making conclusions, due among else to the small sample, such differences may reflect the different focus of these groups: while academic discourse may include theoretical aspects that may lead to fine distinctions, educational practitioners focus on the practical challenges and aspects of implementing this education and are less concerned with definitions and fine differences.

11.2 Strengths of Education for Environmental Citizenship

Education for Environmental Citizenship is perceived to be advantageous from various perspectives – educational, personal, social and environmental. The fundamen-

tal attribute of Education for Environmental Citizenship mentioned by all the respondents, from which its various strengths result, is it being relevant education – it is acknowledged as education that is connected to people's lives, enabling experiential learning in out-of-school settings. This makes it meaningful education since it enables the students to make connections and apply their learning to the real world. In an era that overly emphasises theoretical knowledge, paralleled by increased disciplinarity, Education for Environmental Citizenship encourages learners to make personal meaning and enables the development of life skills. Additionally, from a pedagogical perspective, by encouraging learners to research, investigate and make decisions concerning complex issues, Education for Environmental Citizenship develops higher orders cognitive skills (HOCS) including critical and creative thinking which may lead to fostering a generation of an informed, critical and involved society (consumers, workforce, policy and decision-makers).

From the personal perspective, Education for Environmental Citizenship increases the individual's sense of place (place-attachment) that in a small intensively developed country like Israel is "…currently being lost due to sense-of lack of place". Education for Environmental Citizenship is associated with increased personal well-being, health and quality of life. According to contemporary measures of human development, for example the Happy Planet Index (http://happyplanetindex.org/about), which measures 'sustainable well-being', these are important components of individual's lives.

From a societal perspective, Education for Environmental Citizenship leads to many social benefits. Enhanced interaction, collaboration and team work implemented in Education for Environmental Citizenship contribute to developing a sense of belonging, a sense of community and greater social cohesion. Education for Environmental Citizenship assumes socio-cultural diversity. This ties it into the work of Fritjof Capra (1996), who asserts that the basic principles of ecology enabling ecosystem sustainability can provide a guiding framework for promoting sustainable human communities. Among the principles, Capra acknowledges the role of cultural diversity in achieving resilient human communities.

Inherent to Education for Environmental Citizenship is addressing issues related to democracy, human rights, and social justice. Thus, it is a 'values education' which develops personal and social responsibility.

The participants' responses emphasise the pedagogical, social and political aspects of Education for Environmental Citizenship, indicating a constructivist learner-centred educational approach of all the participants, in which the priority of education is to develop and empower the individual, and the environmental benefits will be the by-product of a more critical, empowered and creative citizenry. Nevertheless, active involvement/citizenship comes up in all the participants' responses as a central attribute of Environmental Citizenship and a goal of Education for Environmental Citizenship, but it is perceived as the outcome resulting from the pedagogical, personal, social and political attributes of Education for Environmental Citizenship. Since it combines cognitive education with an emphasis on action, it may more effectively narrow the attitude-behaviour gap, as put forth by one of the respondents:

> An adult is a person with broad horizons, with a multifaceted outlook on life, has the ability to identify personal and social interests, and understands the personal and environmental interactions. A person who cares, is involved and is an activist. A person with high moral standards, ethical with a global outlook. Environmental people contribute more, volunteer more, and are more tolerant, enlightened, liberal and humane. Creates more tolerant, liberal and compromising people.

When viewing the strengths through the lens of the national goals of education as defined by the Ministry of Education (Ministery of Education, 2000), it is noteworthy that Education for Environmental Citizenship implements seven of the eleven goals (goals 5-11). Thus, an important strength of Education for Environmental Citizenship is that it promotes the overall goals of education in Israel.

While Education for Environmental Citizenship is similar to the other types of education in question, it is seen as more interdisciplinary and integrative from various perspectives: the multidimensionality of environmental issues (social, economic, political and cultural systems) and the inter-related strands – knowledge (cognitive), decision-making (skills), values (affective) and action. This was nicely stated by one of the academic participants:

> The name Environmental Citizenship entails academic knowledge, civil knowledge, values and activism… EE focuses on the environmental discipline on an academic level… Scientific education will focus on science but Environmental Citizenship is a philosophical outlook…acquiring knowledge and activism, an understanding that both of these are intertwined. Studying is accompanied by activity and activity progresses and broadens the studying.

Thus, Education for Environmental Citizenship is viewed as "…more encompassing, its scope is wider" as compared to the other disciplines in questions. It is viewed as the outcome of the educational types – "In Education for Environmental Citizenship there is not only cognitive education but also action, an understanding that I am part of the study and I need to stand up and be active".

Educators identify the following strengths of Education for Environmental Citizenship: inviting deep acquaintance with the physical, human and social environment in a holistic, interdisciplinary approach; concern for the environment and contribution to REB; bridging social-cultural gaps; and developing critical thinking.

11.3 Weaknesses of Education for Environmental Citizenship

Weaknesses and areas for improvement are identified from two main directions: internal – resulting from the attributes of Education for Environmental Citizenship (summarised above), i.e. its strengths are what challenge it; and b) external – resulting largely from the status of this area of study in the formal education system.

The majority of responses address externally-related challenges resulting from the fact that Education for Environmental Citizenship is not officially recognised as a school subject in the educational system. This leads to issues at a number of levels ranging from the classroom (e.g. lack of sufficient educational resources such as textbooks for students and teachers; the complications with conducting outdoor out-of-school learning in the authentic environment in Israel), through to teacher preparation (requires appropriate education and training of educational teams; a need for an increase in suitable teaching staff in the schools; pedagogical innovation), and up to bureaucratic levels (lack of municipal and government support make it is hard to have an effect outside the school walls). As a result of its unofficial status, Education for Environmental Citizenship is largely dependent on a bottom-up initiative. As a result, it is not education for all but often only 'education for the wealthy'. Improvements will result from changes in a top-down policy, namely government recognition that Education for Environmental Citizenship is essential and an obligatory education. A top-down policy will enable to respond to the cascade of challenges specified above.

Challenges that result from the attributes of Education for Environmental Citizenship (i.e. internally-related) include: the complexity of addressing the attitude-behaviour gap; difficulty in allocating people to lead Education for Environmental Citizenship projects since it mixes fields of expertise; and the necessity for time (years) to see results that stem from Education for Environmental Citizenship as a long-term educational approach.

A challenge voiced is the necessity to strengthen the connection of this educational area to research from a number of aspects: an increase in research to enable more evidence-based education, and an increase in research that strengthens academia-field connections and engages more professionals (scientists and researchers) in teaching as opposed to a reliance on younger people, especially in cases of outsourcing. Strengthening field-academia connection is one of the major challenges identified by the EU.

Stemming from its attributes (internal factors), Education for Environmental Citizenship should avoid: education that indoctrinates (e.g. preference of specific types of behaviour, a tendency to do 'corrective' teaching or promoting a specific political identity, a fanatic or extreme education); superficial study that can result from teachers who lack in-depth understanding of the topic; limiting teaching to theoretical aspects without the practical aspects that can also result from insufficiently prepared teachers; ignoring multiculturalism that characterises many social settings; and a reliance on short-term financial support that can cut Education for Environmental Citizenship short in the midst of the process.

Factors that may inhibit the potential contributions of Education for Environmental Citizenship are related to the internally- and externally-oriented challenges described above, and include: first and foremost, national policy that does not encourage implementation of Education for Environmental Citizenship in formal contexts; (leading to) sporadic and superficial teaching of this area, which does equip students with the type of literacy and tool-kit required to be environmentally aware citizens; the lack of culturally adapted Education for Environmental Citizenship, which can lead to resentment on the part of the community.

11.4 Opportunities for Education for Environmental Citizenship

The majority of opportunities and supporting trends identified are related to the educational strengths of Education for Environmental Citizenship (due to the phrasing of the questions), such as: a connection among people and between people and places; a school-community collaboration; and inspiring and motivating activism through place-based approach of Education for Environmental Citizenship. Beyond the opportunities that may result from addressing the weaknesses and challenges of Education for Environmental Citizenship, some trends in Israel open up opportunities, as below.

Developments in the educational arena include: national calls for EE projects put forth by different ministries, such as the Ministry of Environmental Protection, the Ministry of Energy and Infrastructure; an increase in the implementation of learner-based constructivist approaches such as PBL (project-based-learning); and an increased implementation of ICT (information and communications technology).

Changes in social patterns, such as increasing awareness about public health issues (good nutrition, lowering obesity, addressing attention deficit disorders) resulting from unhealthy lifestyles broadens opportunities for Education for Environmental Citizenship that stem from the outdoor and out-of-classroom learning environment associated with it.

Changing policies in many academic and research institutions also provide opportunities: current standards of these institutions encourage contribution to the community. This creates opportunities for meaningful academia-field collaborations with teachers and environmental NGOs. Many research grants currently support out-of-academia participants in academic research. An excellent example is ‘citizen science’ (Wals, Brody, Dillon and Stevenson, 2014) which, through active involvement of citizens in academic research, promotes formal and non-formal Education for Environmental Citizenship. An increase in corporate social responsibility, involving local and global activism, the business community, NGOs and the educational system, can open new opportunities for Education for Environmental Citizenship.

Additionally, environmental issues in Israel are gaining increased coverage in social media and public discourse (newspapers, documentary investigative TV programmes). This provides opportunities for small, well-organised, local interest groups, which is important in light of the current bottom-up nature of environmental activism in Israel.

In addition to its multicultural characteristic, since Education for Environmental Citizenship (or education for the environment) is not identified as political in the sense of being identified with a specific political party, it not only provides an opportunity to connect among different cultural groups around common goals, but also provides a potential opportunity to connect diverse groups of decision-makers. The latter, if successful, can generate resources from different directions.

11.5 Threats for Education for Environmental Citizenship

It is difficult to separate the threats from weaknesses. This section will focus only on new contributions that were not raised in the responses to the previous dimensions, and are organised from top (policy level) to bottom (the individual). Noteworthy, the responses do not all address Education for Environmental Citizenship specifically, but environmental management in Israel in general. At the policy level, environmental considerations still do not have high enough status in national decision-making processes. Additionally, Education for Environmental Citizenship may be considered overly critical, radical or subversive by the government. At the public/societal level, achieving behavioural change is difficult. As a result, many environmental management initiatives undertaken by the government, in which substantial resources are invested such as solid waste separation (at the source, i.e. by the citizen), have limited success. Some minority groups feel that their culture is considered ignorant and therefore silenced, contributing to limited involvement at the personal level.

Overall, the respondents emphasise the limitation of readily accessible educational materials, and relate this to the low status of this subject/area. Materials that do exist are for EE or EfS and not Education for Environmental Citizenship, which does not exist in Israel. NGOs are identified as a source of materials, programmes and services.

The role of evolving technology is perceived mainly as an advantage, by enabling greater accessibility to knowledge, social networking, and providing solutions for environmental problems. The necessity to strike a balance between technology and outdoor activities in relation to Education for Environmental Citizenship is acknowledged. Additionally, the excessive involvement of youth in their personal electric gadgets is also perceived to inhibit social communication and interaction.

11.6 Additional Aspects

11.6.1 Level of Formal Education

When considering the SWOT of Education for Environmental Citizenship in relation to the level of formal education, despite that in theory there should be no differences in the involvement of the different levels in Education for Environmental Citizenship, in practice differences do exist that result from how education for the environment is incorporated within the curricula. In primary education (grades 1-6), education is less achievement-oriented and there is room for flexibility. Additionally, the majority of schools that have been certified as 'green schools' are primary nearly 1000 schools) and infuse the environment within school subjects. In secondary education, teachers and students are achievement-oriented in the specific school subjects towards the matriculations, so there is less room for flexibility. While EE is infused within the different environment-oriented subjects (Environmental Science, Geography and Environmental Development, Biology, Chemistry, Physics), it is marginal. The exceptions are Geography and Environmental Development and Environmental Science, but the latter is not a mandatory subject and is chosen by few students as their major matriculation.

11.6.2 Formal and Non-formal Education

Regarding the differences in SWOT between the formal and non-formal frameworks, it is broadly acknowledged that the non-formal framework provides significantly more opportunities for activism while formal education is tightly supervised and regulated by the state. Formal education can be limited to addressing activism theoretically without addressing the practical aspects, which are crucial for active involvement. The central role of voluntary activity in non-formal settings leads to increased enthusiasm on the one hand (i.e. a strength), but also to the risk of limited long-term commitment (i.e. a weakness) on the other. Currently, in the attempt to bring the strengths associated with non-formal education as an important arena for EE into the educational system, there is an increased incorporation of non-formal learning within formal education.

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12. Italy: Short Country Report

European Network for Environmental Citizenship (ENEC)

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Abstract: Environmental Education (EE) has been present in the Italian context since 1989 with the establishment of the national system INFEA. It was only in 2005, with the UNESCO Decade for Education for Sustainable Development, that there was a switch from EE to Education for Sustainable Development (ESD). Particular attention was paid to Citizenship Education (CE) in order to foster competencies for sustainability, though these three types of education are often still used interchangeably, especially EE and ESD. The responses of six experts to the questionnaires show that Education for Environmental Citizenship encourages and empowers citizens for active and democratic participation on environmental challenges. The most important strength of Education for Environmental Citizenship is the empowerment of people towards sustainability and to develop the values, skills, and competencies necessary to be and act as proactive citizens. The weakness that Education for Environmental Citizenship could face is the outline of the educational and learning approaches to embrace the complexity of the environmental problems and to empower young people for actions towards sustainability. Opportunities of Education for Environmental Citizenship relates to the presence of an increasing number of active and responsible citizens who are able to tackle the contemporary environmental dares and existing education alliance between the school system and the non-formal education organisations on ESD, EE and CE. The major threat of Education for Environmental Citizenship is the difficulty of carrying out a profound and deep cultural and pedagogical changes at the school system level.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology). We would like to thank the participants for their time and contributions in answering the questionnaire.

12.1 Introduction: Environmental Education, Education for Sustainable Development and Education for Environmental Citizenship in the Italian context.

The aim to promote policies on the environment and on education resulted in the development of the national system INFEA (Information, Learning and Environmental Education) in 1989. This national system facilitated the collaboration and the networking between Regional Ministry of Education Offices and non-formal education organisations to promote and combine knowledge and respect for the environment with a global, systemic and complex vision of the world and its relations.

In 2005, Italy joined the UNESCO DESS (Decade for Education for Sustainable Development) and fostered the switch from Environmental Education (EE) to Education for Sustainable Development (ESD). During the period 2005-2014, the Ministry of Education (MIUR) promoted ESD programmes and initiatives throughout the national territory under the UNESCO leadership for the purpose of spreading values, awareness and lifestyles that were oriented towards the respect for others, the planet and for future generations.

In 2009, the Ministry of Environment (MATTM) and the Ministry of Education (MIUR) jointly implemented the 'Guidelines for environmental education and sustainable development' with the aim of providing some innovative guidelines for the development of school curricula rather than for formal education organisations (MIUR, MATTM, 2009). This document emphasises and fosters the previous 'Guidelines for the experimentation of Citizenship and Constitution' for the promotion of citizenship competencies, skills and knowledge with disciplinary specifications, for the first time linking EE and ESD with Citizenship Education (CE). (MIUR, 2009).

More recently, successive national indications have revealed the deep interconnection between CE and ESD: the indications for the fulfilment of CE in 2010 (MIUR, 2010), the new guidelines for EE and ESD with indications of school programmes considering the environmental challenges and referring to the different dimensions of sustainability in 2015 (MIUR, 2015). The Ministerial Decree in 2012 on the national indications for the curriculum for primary and secondary schools (MIUR, 2012) indicates the following points to be crucial for development:

- Learning about the principle of knowledge – the universe, the planet, nature, life, humanity, society, the body, the mind, history – in a complex perspective, overcoming the fragmentation of disciplines and integrating them into new frameworks;
- Promoting a new humanism: the abilities to grasp the essential aspects of problems and to understand their complexity, to evaluate the limits and possibilities of knowledge, to be able to live and act in a constantly changing world;
- Spreading the awareness that the great challenges (the environmental degradation, climate change, energy crises, unequal distribution of resources, health and disease, bioethical dilemmas, quality of life) can be dealt with and resolved

through close collaboration not only between nations, but also between disciplines and between cultures, through participation.

Education for Environmental Citizenship has made its first appearance in a document of the Lombardy Regional Office of the Ministry of Education in 2016, where it is reported that "Environmental Education and Education for Environmental Citizenship are considered coincident expressions, with the intention to underline that Environmental Education can be integrated in Citizenship Education in an interdisciplinary perspective" (MIUR, 2016).

Education for Environmental Citizenship, in the sense described by Dobson (Dobson, A., 2010), is reported for the experts in the introduction of the questionnaire as "pro-environmental behaviour, in public and private, driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy; it is about the active participation of citizens in moving towards sustainability". It is not clearly reported in any official documents and guidelines, even though in all recent indications both CE and ESD are referred as being essential for the development of an active and responsible citizen able to tackle the new challenges of the modern world.

This short report on Education for Environmental Citizenship in Italy introduces the views of six Italian experts on Education for Environmental Citizenship. Before analysing strengths, weaknesses, opportunities and threats on Education for Environmental Citizenship, it is interesting to analyse their opinions on the differences and relationships between all the types of education presented so far (synthesized in Table 12.1 and Chart 12.1).

While the experts make a clear distinction between Education for Environmental Citizenship and Science Education (SE) (mean=2.3), the same is not true for ESD (mean =3.7), for CE (mean 3.7) or for EE (mean 3.2), underlining the Italian present background where EE and ESD are often still used interchangeably and in the case of CE, most competencies for active citizenship are congruent with competencies for sustainability.

Chart 12.1. Responses to SWOT questionnaire (n=6 Experts).

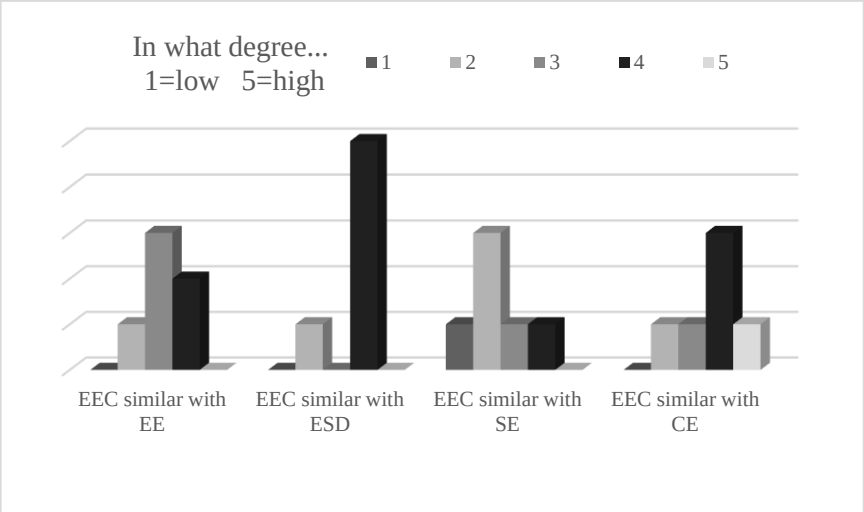

Table 12.1. Responses to SWOT questionnaire (n=6 Experts)

Questions 7-10	Mean
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Environmental Education (EE)?	**3.2**
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Education for Sustainable Development (ESD)?	**3.7**
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Science Education (SE)?	**2.3**
To what degree (1-5) is Education for Environmental Citizenship (EEC) similar to Citizenship Education (CE)?	**3.7**

12.2 Strengths of Education for Environmental Citizenship

According to the respondents, Education for Environmental Citizenship encourages and empowers citizens to have an active and democratic participation on environmental challenges.

Therefore, the most important strength of Education for Environmental Citizenship is people empowerment for a change towards sustainability. Education for Environmental Citizenship entrusts the future of the planet to the next generation who have to develop values, skills and competencies in order to be and act as proactive citizens and take part in the political and social debate about contemporary environmental issues.

Experts agree on the role of Education for Environmental Citizenship in the development of a scientific and ecological literacy to be able to understanding, sharing ideas and practices, and taking decisions on issues related to energy, water, transport and mobility, waste management, and use of land and ecosystem services.

It emerges that Education for Environmental Citizenship drives to consider the ethical and moral dimension of the environmental problems in particular, highlighting the belonging of the individual to the planet with rights and duties that such a relationship entails, linking the environment issues with topics like human rights, social justice and equity.

12.3 Weakness of Education for Environmental Citizenship

For the experts, one of the most important points that Education for Environmental Citizenship should face is the outline of effective educational and learning approaches to embrace the complexity of the environmental problems and to empower young people towards actions for sustainability. It is crucial to design curriculum, methods, approaches, teaching and evaluation tools to provoke behavioural change, to link the local dimension of the individual experience and the global dimension of the environmental challenges, and to fill the gaps between the current social, economic, and cultural development and sustainability's requirements.

Moreover, the complexity, uncertainty and the unclear solutions for environmental challenges could cause Education for Environmental Citizenship to be only theoretical, raising disheartenment and frustration instead of empowerment.

With a strong focus on the environment, another point to be aware of for Education for Environmental Citizenship is the involvement of the social and economic dimensions of environmental problems.

Education for Environmental Citizenship requires an alliance between schools, families, communities, organisations, and policy makers, all processes that need to be fostered and catalysed and require resources.

12.4 Opportunities of Education for Environmental Citizenship

Accordingly to the responders, the opportunities of Education for Environmental Citizenship relate to the presence of an increasing number of active, mature, aware

and responsible citizens who are able to tackle the environmental challenges that the planet is facing.

Interesting trends that could improve opportunities of Education for Environmental Citizenship are the following:

- The connection with the Index for Inclusion Approach for Education for Environmental Citizenship to foster inclusive values for promoting participation and action. The Index for Inclusion (Booth, T. and Ainscow, M., 2002) has been designed to support the inclusive development of schools to enhance learning and participation. Frameworks in learning according to these inclusive values (such as equity, respect for diversity, sense of community, participation, pacifism, compassion, honesty, courage, joy, love, optimism, hope, beauty) are decisive in supporting active involvement of children and young people, and empowering them to realise their own humanity and ability to take action for positive change.
- The increase of outdoor learning and place-based learning in education. Outdoor learning and real-world learning both play an important role for developing environmental sensitivity. (Bögeholz, S., 2006; Chawla, L., 1998; Vadala, C. E. et al., 2007)
- The existing alliance between formal and non-formal education in EE and ESD as a fertile contest where pilot Education for Environmental Citizenship programmes can be explored.
- The current changes in economic policies and social patterns that could require more active and responsible citizens and foster the need of a more inclusive society.
- Stronger connection between researchers and teachers and between researchers and students, for example with citizen science programmes;
- Network experiences available for schools (exchange and travel experiences, real tasks for students as in citizen science).
- Shared knowledge on environmental challenges available for schools, such as all the work on planetary boundaries of the Stockholm Resilience Centre (Rockstrom, J. et al., 2009)

12.5 Threats of Education for Environmental Citizenship

The major threat of Education for Environmental Citizenship is the difficulty of making a profound and deep cultural and pedagogical change at the school system level.

For CE, EE and ESD in Italy, the gap between goals and practices can be crucial and the lack of networking between institutions, policy makers, schools, society and organisations could produce only interesting experimental programmes and experiences for Education for Environmental Citizenship instead of a necessary reconsideration and an innovation of the school system.

There is a need to weave together Education for Environmental Citizenship with a cultural and social transformation, as Edgar Morin states (Morin, E., 1985), to be effective:

> The great social, environmental and educational challenges pass through the ability to connect and integrate. Political, economic, educational reforms conceived and perceived alone have been, are and will be condemned to self-sufficiency and failure. Each reform can progress only if the other ones progress, the reforming pathways are interrelated, interacting, interdependent.

Another point to be aware of is the need to share common values for the well-being for all – humans and nature – in order to frame Education for Environmental Citizenship. Without a common set of values, the process of being involved and taking action and responsibility could lead to the boomerang risk of feeling not relevant.

Other issues to address relating to the school system are:

- the lack of background knowledge and Education for Environmental Citizenship training among teachers;
- the resistance towards change;
- a general pessimism to tackle big issues related with environmental challenges;
- the pressure on teachers to teach in a standard way;
- conceptual, organisational and economical obstacles to carry out education experiences on environmental citizenship.

Technology isn't a default threat. As well as for all tools, effectiveness and potentiality largely depend on their type of use, assigning once again a key role to training and learning for a sharp and smart use of technology for Education for Environmental Citizenship.

12.6 Formal and non-formal education for Education for Environmental Citizenship

Experts highlight the relevance of the networking between formal and non-formal education for Education for Environmental Citizenship.
While formal education offers more opportunities for Education for Environmental Citizenship in terms of resources and curriculum, non-formal education provides a more flexible conceptual and organisational framework.

In non-formal education, participation isn't compulsory and students may get a chance to experiment responsibility, choosing and self-directing actions and processes.

Formal education struggles with providing concrete, real and democratic situations to develop a student's skills, knowledge, motivation and self-confidence in

taking decisions. This difficulty is due especially to organisational and standardisation issues. Therefore, non-formal education could offer more effective contexts where students could learn together and practice democratic decision-making and negotiations for a real situation and change.

Moreover, the network between formal and non-formal education could improve a more complex learning environment that allows cultural, intergenerational, social exchange between participants.

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13. SWOT Analysis of Environmental Citizenship Education in Lithuania

Understanding the current situation of Environmental Citizenship education and its possible future directions and possibilities

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Abstract: The aim of this report was to uncover the current situation of Environmental Citizenship education in Lithuania. Qualitative data was gathered from six experts working on diverse areas of Environmental Citizenship education in the country. Data were gathered from educators (working in primary and secondary levels of education), decision-makers from NGOs and governmental organisations, and from a researcher working in the field of Environmental Citizenship education. Qualitative analysis revealed that although there are grounds to be optimistic for Environmental Citizenship education in Lithuania and the experts who participated in the survey see positive and promising trends, there is much work to be done to make it education more structured, formalised and prevalent in all levels of education in Lithuania.

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13.1 Introduction

Environmental Citizenship education has not yet been investigated (qualitatively or quantitatively) in Lithuania. There is a gap of knowledge in the understanding of Environmental Citizenship in the country and this report therefore aims to focus on this need. Addressing this knowledge gap is important in making evidence-based decisions in Environmental Citizenship education (Dobson, 2007) and in promoting

pro-environmental actions through formal and informal means in primary, secondary, and higher education in Lithuania (Dagiliūtė & Liobikienė, 2015). In order to address the aforementioned knowledge gap, we have adopted a bottom-up approach of understanding Environmental Citizenship education in Lithuania; specifically, we asked experts working in the field of Environmental Citizenship education at various levels to provide their experience and insight on the topic. Adopting a bottom-up approach in investigating Environmental Citizenship enables a realistic and down-to-earth perspective on the education directed at it and on the various means and policies that lead to effective change in Lithuania.

This report will consist of the strengths and weaknesses of Environmental Citizenship in Lithuania as well as the opportunities and threats. This chapter concludes with realistic perspectives for Environmental Citizenship education in Lithuania and future directions for activities that would lead for its increase.

Six individuals participated in the analysis. We aimed at gathering answers from individuals who work in the field of Environmental Citizenship Education, however this field is underdeveloped in Lithuania, and in some cases we had to ask to individuals who mainly deal with Citizenship Education in activities that involve environmental issues. Their answers are coded as such:

A1 – Decision-maker in an Educational Professional Society

A2 - Educator – Teacher in Primary Education working in the field of Citizenship Education

A3 – Decision-maker in a National NGO working in the field of Environmental Education and Citizenship Education

A4 - Educator – Teacher in Secondary Education working in the field of Citizenship Education

A5 - Researcher – An academic from the research field of Citizenship Education

A6 – Policy-maker at the Ministry of Education of Lithuania.

13.2 Strengths of Environmental Citizenship education in Lithuania

Respondents were asked to answer four questions relating to the strengths of Environmental Citizenship education in Lithuania. The first question asked what the respondents thought were the advantages of educating individuals on the issues of Environmental Citizenship; the second asked respondents to identify what Environmental Citizenship education could do better than other types of Citizenship Education (CE) or Science Education (SE); the third asked respondents to identify the uniqueness of Environmental Citizenship education in comparison to SE and CE, and what Environmental Citizenship education can do that other types of education

cannot; the last question asked to identify the perceived strengths of Environmental Citizenship education.

In analysing the responses, we were able to detect a strong theme of Environmental Citizenship education being perceived as "raising qualifications and increasing responsibility" (A1). However, "in [Lithuania] <...> only non-governmental organisations are [spending the most effort in this area]" (A3). NGOs are doing work "by showing good examples" (A3), rather than talking about it, thus providing an opportunity for communities to learn how to become Environmental Citizens by doing good work. NGOs are very goal-driven, thus they invest in concrete activities that not only provide an educational benefit for communities, but provide a concrete benefit for society as well. Environmental Citizenship education is perceived as an interdisciplinary endeavour that involves a holistic understanding of how humans relate to the natural environment on various levels.

One of the key strengths of Environmental Citizenship education in Lithuania as perceived by all of the respondents is the need for Environmental Citizenship education to be deemed important and necessary, even if they did not engage in it directly or specifically themselves. The respondents were engaged in parts of Environmental Citizenship education solely on the basis of their perceived importance of Environmental Citizenship education: "Environmental Citizenship brings great benefits to us as a school community as well as to general Lithuanian society" and "Everybody wins (society and nature)" (A4). Others even see Environmental Citizenship education having general individual benefits as it "plays an important role in the overall development of the personality" (A6).

The analysis revealed that Environmental Citizenship education is perceived to have benefits that range from the individual level, to the local community, society in general, and ultimately the whole world. Environmental Citizenship education is seen to be beneficial not only to the environment, but in fostering the development of well balanced and moral individuals (Environmental Citizenship education reaches "universal values" (A5)) that will be able to deal with future environmental issues in a sustainable and environmentally friendly manner: "Environmental Education takes the most important role, it surrounds the child from the first days of life" (A6). Consistently with the literature (Hart, 2013), respondents see Education for Environmental Citizenship as something that is important from very early stages of an individual's development, in order to bring up responsible citizens that are already environmentally minded when they begin to make individual decisions on entering the workforce and becoming active agents in the society.

Another strong theme that emerged from the analysis is that Environmental Citizenship education plays a strong role in bringing communities together and fostering their connectedness with nature: "[Environmental Citizenship education] can teach a lot of important things, [to be] aesthetically aware [of] nature, cultural heritage, [it can also] bring up a sense of citizenship" (A6); "[Environmental Citizenship education tell us that] we must take care not only of ourselves, but also of people around us" (A3). A general theme of interdependence of humans and nature can be seen throughout the answers of the respondents (Dornhoff, Sothmann, Fiebelkorn, & Menzel, 2019).

The qualitative analysis revealed that Environmental Citizenship education has a potential to be integrated into formal and non-formal education in Lithuania, as all respondents indicated their favourable disposition toward it and are already implementing parts of Environmental Citizenship education, even if not specifically focusing on it. As others have pointed out (Tristão & Tristão, 2016), the biggest potential can be seen in the NGO sector, since NGOs are at the forefront of Environmental Citizenship education in Lithuania not only bringing knowledge to communities, but also actively making a concrete effort to preserve the environment.

13.3 Weaknesses of Environmental Citizenship education in Lithuania

Respondents were asked to answer five questions dealing with the weaknesses of Environmental Citizenship education in Lithuania. The first question asked to identify the weaknesses; the second asked what could be done to improve Environmental Citizenship education; the third question asked what Environmental Citizenship educators should avoid; the fourth asked what would be perceived as weaknesses of Environmental Citizenship education by students and educators implementing Environmental Citizenship education; and the last asked what the respondents thought could undermine Environmental Citizenship education in Lithuania.

It appears that there are no open platforms for communicating the message of Environmental Citizenship education, and there is also a lack of policies that could then result in formalising Environmental Citizenship education in schools and communities. One of the most salient themes that emerged from the analysis is the perception that Environmental Citizenship education is conducted non-systematically and without the required expertise. One respondent remarked on the "lack of expertise and coordination of various programmes" of Environmental Citizenship education (A1) and that Environmental Citizenship education programmes are "short-lived [and] episodic". "Students and teachers would not be as compelled by Environmental Citizenship education if there is not enough information on them" (A5), and a "lack of [a] united strategy [on] what and how to educate" (A4). One respondent said that "[they] are working with teachers and students, [however] teachers said it was difficult to get <...> information that interested children [while students remarked on] the complexity of information" (A3). The scarce Environmental Citizenship education programmes that are available are oriented toward presenting the negative consequences of unsustainable actions, and "people will be discouraged by information if we tell them only about negative things" (A3), existing programmes are mostly talk-oriented and are not implemented in practice, and all respondents expressed a need for "less declarations and [for] more tangible results locally" (A6).

Another salient theme emerged regarding the lack of resources, both material and temporal. First, both educators and students in Lithuania feel overwhelmed with

the existing school curriculum, thus any additional activities would take up precious time both from teachers and students: “If the teacher organises an event, it takes a lot of time” (A1). Environmental Citizenship education is “not a priority in education, often [dominated by] other areas [of education]” (A6). This also results in a “lack of motivation ([both] in students and teachers)” (A4). Additionally, the lack of material resources and funding remains a barrier for effective Environmental Citizenship education as it would not be possible “if there [were] <...> no funding” (A1).

There seems to be a lack of a “unified system and continuity” (A4) of Environmental Citizenship education, and the scarce information that is available is not always “available for all, or is presented in a too complicated way” (A3). Many respondents expressed the opinion that Environmental Citizenship education “should be included in the school curriculum” (A3). This lack of formal means of Environmental Citizenship education is potentially what leads to the problems expressed in the above paragraphs. These problems, however, might stem from the formal school curriculum, because there seems to be a perceived lack of interest in Environmental Citizenship education on the societal level. One educator remarked that “many times children tell us that their parents or grandparents do not understand the need of environmental protection” (A2).

The qualitative analysis revealed that the main weakness of Environmental Citizenship education in Lithuania is the lack of a unified and formalised approach toward Environmental Citizenship education in all levels of education. This lack leads to Environmental Citizenship education being chaotically implemented, while the shortage of standardised educational materials leads to suboptimal presentation of relevant information, thus resulting in Environmental Citizenship education not reaching its full potential in Lithuania.

13.4 Opportunities of Environmental Citizenship education in Lithuania

Respondents were asked to answer two questions relating to the opportunities of Environmental Citizenship education in Lithuania. The first question asked about the perceived opportunities of Environmental Citizenship education, while the second asked what interesting trends the respondents saw in Environmental Citizenship education in Lithuania.

A strong theme of perceived positive changes in policies can be identified in the responses. Respondents identified “[positive] changes in social patterns, population profiles, lifestyle changes. Everyone wants to live healthier” (A3). Others noted the “[positive] changes in government policy or European policy related to the field [of Environmental Citizenship education]” (A1). Respondents saw the sense in furthering the top-down perspective of effective policies for Environmental Citizenship

education in order to create a coherent framework for Environmental Citizenship education activities and their "integration [in the] educational process" (A6). The changing trends, however, are seen not only in policies, but on the societal level as well. For example, one respondent remarked about the increasing number of vegetarians, while others remarked on the use of social media as a means of disseminating Environmental Citizenship ideas.

There is a sense of a possible synergy among top-down and bottom-up approaches toward Environmental Citizenship education in Lithuania. In part, this opportunity arises in the context of there being a lack of Environmental Citizenship education altogether, but the changing societal trends, together with local policies, could result in an effective societal shift toward sustainable practices (Misiaszek, 2017).

Perhaps the main task in taking advantage of the opportunities of Environmental Citizenship education in Lithuania is to act in a congruent and a systematic manner in order to present Environmental Citizenship messages to the public in a holistic way. All agents working in the field of Environmental Citizenship education should make an effort to coordinate their actions and unify their approach in order to reach the public effectively (EEA, 2012).

13.5 Threats of Environmental Citizenship education in Lithuania

Respondents were asked to answer five question regarding the threats to Environmental Citizenship education in Lithuania. The first question asked about the perceived obstacles for Environmental Citizenship education; the second asked what other types of citizenship education are seen to do better than Environmental Citizenship education; the third asked about the availability of educational materials; the fourth asked whether changing technologies would pose a threat to Environmental Citizenship education; while the last question asked to express the respondents' opinions on whether any of the identified weaknesses of Environmental Citizenship education could pose a real threat to Environmental Citizenship education in general.

A theme of a perceived threat of indifference on the governmental level (regarding the Ministry of Education and the Ministry of the Environment) can be seen in the opinions of the respondents, as one remarked that "many suggested the introduction of [EC education] into the curriculum, but this has not yet even begun to be considered" (A3). This may lead to a perception of policies oriented toward Environmental Citizenship education being implemented only formally and without sincere intent of acting on them as there is an "absence of clear governmental policy" (A5).

Respondents have identified the "ignorance of people [and a general] lack of knowledge" (A4) as a potential threat. This is quite a salient threat in Lithuania for Environmental Citizenship education since no policy can be effectively implemented without the support and willingness of the society to comply with it, and if society does not understand the benefits or the necessity of these policies, they might be met with disapproval, thus disincentivising politicians from proposing such policies. Therefore, NGOs should make sufficient efforts to educate the community in order to eventually get governmental support for their activities in Environmental Citizenship education.

Another theme that can be identified in the responses is that education for Civic Engagement is quite prevalent in the school curriculum at the present moment, and trying to implement Environmental Citizenship education would probably meet some resistance since the current (and thus known and understood) methods and materials would need to be changed in order to accommodate the topics of Environmental Citizenship education. While there is a good possibility of integrating Environmental Citizenship education into the regular curriculum of education for Civic Engagement, this integration might not be sufficient in scale, thus removing material from the regular curriculum and not adding enough new material to make a tangible difference. The current situation is that "[Environmental Citizenship education] is almost non-existent in [the] school system, with rare fragmented exceptions in some classes during particular topics" (A4).

Respondents identified a lack of educational materials that could serve as a basis for Environmental Citizenship education in Lithuania. One respondent stated that the learning materials for Environmental Citizenship education are "almost non-existent" (A3), while another remarked that there is a "lack of teacher preparation and qualification" (A6). The scarce materials on Environmental Citizenship education are published by NGOs, and this might disincentivize their use by government-funded schools that are compelled to use only governmental-approved educational material and avoid any deviation from the standard curriculum.

Overall, the main theme of the threats to Environmental Citizenship education is the lack of a concrete and formalised approach toward Environmental Citizenship education. Without formal inclusion into the schooling curriculum and without sincere support from policy-makers, Environmental Citizenship education is perceived as a weak and episodic activity that lacks tangible impact (Misiaszek, 2017). Even though many societal trends point toward an increasingly positive perspective, there are doubts if this will be sufficient in order to effectively implement Environmental Citizenship education in Lithuania.

13.6 Concluding remarks

In the words of one of the respondents, “there are more weaknesses in formal education [while] informal education has much more opportunities in [promoting Environmental Citizenship]” (A6). Thus, formal education should be at the forefront of policy-makers and all agents who are involved in Environmental Citizenship education in Lithuania. Participants identify primary education as an especially promising means of promoting Environmental Citizenship, since “in primary education this [could be presented as] a game, but does not [necessarily require] commitment [or] sense of responsibility” (A6), thus allowing youngsters to explore environmental issues and foster their environmental values without feeling any pressure to pursue any actions.

A need for a coherent and formalised programme of actions is an overall theme that can be seen in the answers of all of the respondents. This indicates the need for synergy among various agents involved in Environmental Citizenship education (NGOs, governmental organisations, educators, communities, etc.); there is a need to bring all of these currently detached and separate parts into a common perspective with common goals and a common way of approaching Environmental Citizenship education.

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14. SWOT Analysis of Education for Environmental Citizenship – Short Latvia Report

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Abstract: The chapter analyses the position of Education for Environmental Citizenship in Latvia's educational system in respect to Environmental Education (EE) and Education for Sustainable Development (ESD). Education for Environmental Citizenship prospects are being evaluated based on expert interviews and the analysis of existing positions of EE and ESD. The significance of Education for Environmental Citizenship for the development of the educational system are evaluated.

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14.1 System of Education, Major Challenges and Strengths of Education for Environmental Citizenship in Latvia

According to ENEC (2018) the concept of Education for Environmental Citizenship (Dobson, 2010) is a highly attractive one, as it supports "pro-environmental behaviour, in public and private, driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy. It is about the active participation of citizens in moving towards sustainability". The concept covers several major aspects essential for development of educational system to improve citizens' involvement in society and promotes the significance of sustainable development.

Education for Environmental Citizenship can be considered as continuation of efforts to implement environmental education and ESD in Latvia (Ryden, 2009, Pelnena and Klavins, 2009). The preparation of a highly educated workforce, an investment in human resources, and social motivation for education shall all be deemed to be the crucial factors in determining the development of Latvia in the twenty-first century, in order to ensure its competitiveness at the European and global level. Latvia's geopolitical situation and its limited raw material resources and energy determine that its main competitive advantage will be educated people

and a qualified workforce. The system of establishments of general education means that primary education can be obtained within the proximity of the place of residence, as well as provide the opportunities for parents and pupils to choose the establishment of general education. National minorities are being afforded equal opportunities for general education promoting the preservation and maintenance of national culture. The implementation of educational programmes for national minorities is the precondition for social integration in Latvia. The financial allocations for the implementation of the general education policy however are insufficient. It ensures the maintenance of that sector, but fails to encourage the development thereof. The educational system is featured by the general shortage of a qualified workforce and an increase in the average age of pedagogues. There are differences in terms of access to and the availability of good quality education between the towns and rural areas and regional differences in the choice of educational programmes. The material and technical basis has not been renewed in most parts of the educational establishments at all levels and kinds. This considerably decreases the quality of educational process and makes the maintenance costs of such establishments more expensive. The structure of academic personnel is not proportional. The low pay standard makes it difficult to attract young academic staff and researchers. There is a wide offer of continuous education in the country at large, which is developing along with the demand. It would be necessary to set up a system to assess the quality of the continuing education programmes. There is no regulatory framework governing the financing of continuous education and sharing the responsibility regarding the financing for lifelong learning. Employers play a crucial role in providing apprenticeships. At present, the provision of internship possibilities is insufficient, therefore requiring an economic stimulus to foster the interest of businesses in providing internship to students in professional and higher education. Neither is the prentice system sufficiently developed in the country. The development of scientific research and innovations, the intensive use of knowledge and high technologies is the main and the only realistic direction of the development of the Latvian economy anticipated to ensure a stable welfare standard and in this respect environmental education and education for sustainable development is an important tool.

The concept of Education for Environmental Citizenship is a timely one considering the transformation process of education. This process can also include the need to develop competencies that are necessary in society such as being able to manage information flows, acquiring skills for future use, and handling the rapid development of new methods to achieve education goals at all levels.

14.2 Weaknesses of Education for Environmental Citizenship in Latvia

The results of the expert survey on Education for Environmental Citizenship indicates poor information on the concept even of experts in the field, not speaking about general public and teachers on all levels. This aspect can be considered as a significant weakness in implementing Education for Environmental Citizenship and indicating what actions need to be taken. There are actors supporting and promoting EE and ESD. EE is supported by political parties (Green Party) and those NGOs at the national and international level, and therefore it can rely on structured and institutional support. Numerous NGOs support several activities, from campaigns to the Ecoschool network along with the implementation of Environmental Education concepts into the regular education system. ESD in Latvia is supported by the National Committee of UNESCO and therefore the institutional support from ministries is secured. Major activities in the past that have supported the understanding of ESD at the UN level are reflected in the country's mass media and are also on the discussion agenda. The existing efforts are integrated into legislation, as the Law on Environment (paragraph 42) states: "in all study programs at universities concepts of environmental education should be included" (Law on the Environmental Protection of Republic of Latvia. Recent efforts has resulted in development of study materials, study programs, regular activities at school level and quite intensive efforts to achieve aims of the Environmental Education and Education for Sustainable Development (Klavins and Pelnena, 2010). Another major threat can be related to movement towards aims of Environmental Education (EE) and Education for Sustainable Development (ESD) as implementation of a third concept at large covering major issues included in Education for Environmental Citizenship can hamper progress to achieve intended aims and targets.

14.3 Opportunities of Education for Environmental Citizenship in Latvia

A major opportunity of Education for Environmental Citizenship in Latvia is to provide an input at the reorganisation of the educational system to ensure that this highly attractive concept is aimed at the active involvement of the whole society. This opportunity relates to the still existing aim to support the active involvement of all citizens in political and social processes for the country, and to mobilise resources to solve actual problems. Questions can be raised about the capacity to increase the potential and significance of EE, ESD and Education for Environmental Citizenship, all of which have good prospects in finding their positions in the reorganisation of the educational system. Another opportunity is to develop study (teaching) materials according to the latest achievements and methodologies in order to replace outdated methods and materials. As stated in the survey of experts:

"Acceptance (in governmental level) of the citizenship as complex multidimensional phenomenon and importance of environmental causality in the twenty-first century, .i.e., interaction between humans and environment" (Burgmanis, 2018).

14.4 Threats of Education for Environmental Citizenship in Latvia

Major threats to Education for Environmental Citizenship have been identified and are as follows: 1) a comprehensive environmental education system has not been established in Latvia, so the proposition of a new approach can 'dilute' existing efforts; 2) insufficient resources (intellectual, material, financial) to assure Education for Environmental Citizenship; 3) a shortage of study aids on the basic issues of environmental education for the assurance of different levels of environmental education; 4) a shortage of knowledge, motivation and environmental education in the process of further and continuing education; 5) the studies content has an insufficient place assigned to actual, objective information on environment conforming perception, which prevents an awareness of and responsibility for the interaction of environment and man; 6) the content of subjects does not coordinate with the guidelines of education and fails to assure succession at different levels of education; 7) an insufficient quantity of study and teaching aids for environmental education; 8) an insufficient number of qualified teachers; 9) a small number of students will acquire the knowledge of sustainable development and environmental protection during their studies at Latvian educational establishments; 10) a shortage of the state system of syllabi in higher environmental education due to the failure to satisfy the demand for environment management and environmental technologies in manpower market in full; 11) the country has no scientific research institutions, whose activities would allow the settlement of strategic and practical issues of environmental protection, as well the assurance of a scientific basis for decision-making.

14.5 Conclusion

Education for Environmental Citizenship is a concept that has a potentially high contribution to the reorganisation process of Latvia's educational system. In practice however, major efforts are required in order to achieve a real implementation of the Education for Environmental Citizenship in the educational praxis. A contribution from COST Action 'European Network for Environmental Citizenship' would be of importance so that real progress can be achieved.

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15. SWOT Analysis of Education for Environmental Citizenship – Short Report for the Netherlands

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Abstract: In the Netherlands, over the next few years, the theme of sustainability will be given increasing attention in both primary and secondary education. This is reflected in the increasing attention on the national level, for citizenship and sustainability education. The SWOT analysis shows what respondents regard as strengths: the introduction of new knowledge and skills in the classroom, dealing with planet, people and politics. Education for Environmental Citizenship may support change of attitude of students and introduce new pedagogies in the classroom. It is unique in the sense that it teaches skills and values, and makes students think about real world problems on a global level. However, Education for Environmental Citizenship is not part of formal school curriculums and teachers, who struggle with available time, lack the knowledge and skills required to teach Education for Environmental Citizenship. In addition, respondents questioned whether Education for Environmental Citizenship positons itself inside or outside politics and pointed at the existing gap between citizenship education and sustainability. A threat for Education for Environmental Citizenship concerns the previous ponderous experiences of implementing Environmental Education (EE), Education for Sustainable Development (ESD) and Citizenship Education (CE) in education. Opportunities for Education for Environmental Citizenship include the introduction of critical questioning in education, uncertainty, real world problem solving and twenty-first century skills. The weakness and threats for Education for Environmental Citizenship mainly concern formal education. In non-formal education, fewer obstacles exist. Crossing the boundaries between the two would foster Education for Environmental Citizenship. Although secondary school students are better at problem solving and designing research projects, the integral teaching in primary education offers more opportunities for school-wide topics, such as the environment.

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15.1 Introduction

The Netherlands has about 17 Million inhabitants of which approximately 3.75 million are between 4 and 18 years years old. The Dutch school system is divided in primary education (age 4-12), secondary education (age 12-18), and higher education. Secondary education is divided into four main tracks: a) pre-university education (a total of 6 years); b) senior general secondary education (a total of 5 years); c) pre-vocational education (a total of 4 years); and d) vocational training programme (a total of 4 years). Each level gives access to different higher education institutes, (i.e. university (a), higher professional education (b), senior secondary vocational education (c & d), (see Figure 15.1).

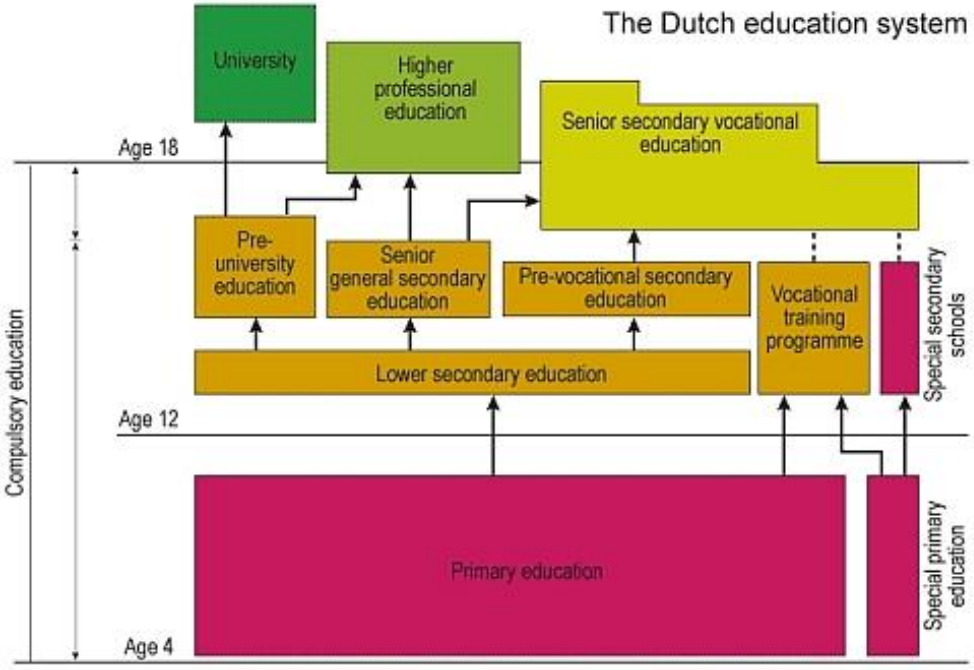

Figure 15.1: Overview Dutch education system

The current division of students over the different educational levels is depicted in Table 15.1 (school year 2016-2017).

Table 15.1 Overview number of institutes in the Dutch School System and number of students per education level in 2016-2017.

Educational level	Nr of institutes	Students 2016-2017
Primary education	6 894	1 528 422
Secondary education	648	995 725
Senior Secondary Vocational Education	66	483 922
Higher Professional Education	37	446 585
University	19	267 905

Source: CBS, 2018

As indicated in the Seventh Netherlands National Communication under the United Nations Framework Convention on Climate Change report (p. 198-199) [Ministry of Economic Affairs and Climate Policy, 2018]:

> In 2014, youth organisations joined forces and urged for an increase in education for sustainable development (ESD). Together with multinational corporations, teacher unions and research institutes, the youth organisations managed to sign an agreement with a majority of Parliament to take the next step in education for sustainable development. The government reacted to this agreement with a request for comprehensive research on two points: 1) how are we currently doing in terms of education for sustainable development and 2) what is needed to take things forward?
>
> The report[6], published in 2015, notes that one of the areas where the Netherlands is performing well (in an international perspective) is taking an integrated approach to education for sustainable development. Research by UNECE, among others, shows that education for sustainable development in many countries is restricted to "green themes" within the realm of nature or the environment and is focused on primary education. In the Netherlands, there tends to be a more comprehensive view of education for sustainable development. Having said so, the report notes that – especially in the formal education system – there is limited support for schools to move forward on this topic. Furthermore, structural implementation is far from optimal.
>
> The research found that only a very limited number of schools effectively integrated education for sustainable development. The classification "sustainable educational institution" was awarded to 4% of schools in primary education, 9% in secondary education, 7% of higher education institutions and 11% of research universities.
>
> Over the next few years, the theme of sustainability will be given increasing attention in primary and secondary education. It will also be included in the comprehensive review of the formal primary and secondary education curriculum, launched in 2016. The ideal situation is when

[6] Rapportage Onderzoek Duurzaam Onderwijs, 2015
https://www.rijksoverheid.nl/documenten/rapporten/2015/06/29/rapportage-onderzoek-duurzaam-onderwijs

schools apply the curriculum content alongside sustainable operational management and integration of sustainability concepts in their own policies as well as in their relationships with local sustainability partners. Both the ACE National Focal Point (climate envoy) and the Dutch youth representatives are involved in this process to ensure that sustainability is properly integrated.

This is reflected in the increasing attention on the national level (Onderwijs 2032, curriculum.nu) for citizenship education and to adhere more to fostering twenty-first century skills and make the substance of the education system more future proof. 'Onderwijs 2032' (Education 2032) was a large consultative process launched by the Dutch government on the future for education. The importance of citizenship education (for sustainability) is also reflected by the Dutch national science curriculum for both lower and upper secondary education (SLO). For instance, the curricular aim A9 'waarderen en oordelen' ('to value and evaluate') – which asks for evaluation of situations in nature and technological applications, using scientific arguments, normative considerations, and personal opinions – is incorporated in the national examination requirements for upper secondary curriculum of biology, chemistry, and physics since 2016 (CvTE, 2016). For lower secondary education, the 'Kennisbases' ('Knowledge base') included sustainability thinking ('denkwijze duurzaamheid') as a specific way of thinking to the science curriculum.

15.2 SWOT analysis

In the period January to March 2018, a total of eight persons were approached by the authors and responded to the online survey by ENEC:

Table 15.2 Characteristic of respondents.

Nr	Type of expertise	Gender	Age	Education
1	Decision-maker in educational professional society	F	41-50	Master
2	Decision-maker in educational professional society	M	41-50	Master
3	Educator/teacher secondary school	M	51-60	Master
4	Educator/teacher secondary school	F	31-40	Master
5	Decision-maker in educational professional society / NGO	M	51-60	Master
6	Policy-maker	M	51-60	Master
7	Researcher	M	51-60	PhD
8	Researcher	M	>60	PhD

In this report, the following abbreviations are used:
EEC Education for Environmental Citizenship
ESD Education for Sustainable Development

EE Environmental Education
CE Citizenship Education

15.2.1 Strengths

Knowledge
According to one respondent, the 'environment' constitutes a new element in citizenship education. Other respondents summed up the types of knowledge that Education for Environmental Citizenship would introduce: to become acquainted with real wicked problems, understand the world learners / citizens live in, and learn twenty-first century skills. Students get a wider perspective of sustainability, including social justice and poverty alleviation. In summary, bringing the three dimensions – planet, people, and politics – together is of vital importance in moving towards sustainability.

Attitude
In terms of attitude, students become aware that their actions impact the environment. They learn how think critically, also about the consequences of and for their own behaviour. Through Education for Environmental Citizenship they could become 'good citizens' and acquire the competences to act.

Pedagogies
Education for Environmental Citizenship helps to change learning approaches, as it could introduce the whole-school approach, activity-based learning and discovery-based learning (starting from the curiosity of students). Finally, it combines social and ecological aspects. According to one respondent, Education for Environmental Citizenship can mobilise actors who apparently have not been mobilised by ESD, EE, development education, and other 'adjectival' educations.

ESD as container concept
Four respondents regarded ESD as the container concept of which Education for Environmental Citizenship is part. One respondent turned this around: Education for Environmental Citizenship as the container term for EE, ESD, SE and CE. The answers show that there is substantial overlap between ESD and Education for Environmental Citizenship, as is in accordance with Table 18.3.

One respondent stressed that Education for Environmental Citizenship combines the other concepts. However, in Education for Environmental Citizenship the social aspect is stronger than in the other areas and, so far, the aspects of citizenship have not been combined with EE or SE; this combination provides an opportunity. A second respondent remarked that the focus on citizenship could provide for a whole person/lifestyle approach which connects with community and solidarity, rather than a behavioural approach, which tends to be overly instrumental and lacks attention for values and assumptions.

Unique features
Education for Environmental Citizenship is unique in the sense that it teaches skills and values and makes students think on the global level about real world problems. Moreover, students can do research taking various perspectives, e.g. their personal perspective, the perspective of a citizen, or a politician, and make choices based on values. Also mentioned were opportunities for multi- and transdisciplinarity, school-wide projects and system thinking skills.

15.2.2 Weaknesses

Practical shortcomings
Most respondents indicated that Education for Environmental Citizenship and ESD are not traditional school subjects, there are no official exams, and the teachers or subjects do not feel responsible. Many teachers lack the competences and the ability to oversee the big picture; therefore, at present, teaching citizenship depends on the skills of individual teachers. Citizenship is not (enough) educated in teacher colleges and is not part of the formal curriculum tests. Therefore, the position of citizenship education is weak. Moreover, Education for Environmental Citizenship could be framed as another 'social issue dumped at schools'.

Theoretical criticism
Two respondents criticised current theoretical thinking on Education for Environmental Citizenship; it is exclusively focused on a radical idea of democratic citizenship, emphasising spaces of critical deliberative debate outside the political system, instead of positioning itself within the reality of an imperfect, but actually existing political system. Another respondent saw a gap between citizenship and sustainability: a regular content of citizenship education is 'learning about the political system and parliamentary democracy' rather than about one's everyday choices and responsibilities. However, in practice, citizenship is seldom related to sustainability.

Improvements
Improvements listed by the respondents were the following:
- teacher training,
- good practices for teachers,
- providing didactics for Education for Environmental Citizenship,
- connecting various subjects with each other,
- providing clear definitions of the terms used,
- stronger position in the curriculum.

The main change that should be avoided, according to several respondents, would be to start 'a new thing', like a new subject or sending schools glossy mate-

rials. Better to develop materials that teachers can adapt and integrate in their current teaching. Education for Environmental Citizenship should not compete with existing subjects such as ESD and EE. Moreover, moralising in teaching materials (or teachers) should be avoided.

15.2.3 Opportunities

Education for Environmental Citizenship could support different pedagogies such as context-rich teaching, learning in interdisciplinairy settings, involving students in real-world problem solving, political debate of intercultural society at schools, and twenty-first century skills. It would also introduce critical questioning and how to deal with uncertainty, as well as systemic and personal responsibilities. In addition, Education for Environmental Citizenship could help to improve existing educational frameworks such as CE and EE. One respondent stressed the possibilites for treating topics, such as waste, climate change and food that is healthy for both people and planet.

Trends strengthening Education for Environmental Citizenship
A number of trends can improve the opportunities for Education for Environmental Citizenship. In additon to trends in climate change as such, the following were mentioned:

- secondary education: sustainability competences are part of the new exam programmes for science subjects,
- higher education: growing number of academic studies (bachelor and master) that focus on environmental issues,
- transitions in food, energy and economics – towards more shared, localised and circular systems,
- 'the energetic society' in which social innovation requires individual action and collective effort,
- increased awareness among political and business leaders that citizen engagement is crucial in successfully bringing about environmental change,
- increased speed of changing environmental issues after the Paris treaty.

15.2.4 Threats

Respondents mentioned a variety of obstacles, mostly similar to the points seen as weaknesses of Education for Environmental Citizenship. One respondent said that political choices need to be made first. Another one stressed the fact that technocratic view on environmental change is the biggest obstacle.

Respondents also mentioned the following obstacles: curriculum overload/lack of time, lack of teacher awareness and motivation, lack of support by school leadership, lack of teacher competences, overlap with related educational programmes such as ESD, and the absence of formal exams. From previous experiences of implementing EE, ESD and CE in education, implementing Education for Environmental Citizenship in formal education will be hard. It could also be regarded as a set of ideas that can be taken up in EE, CE or ESD, and in this way, they will all benefit.

Teaching materials for Education for Environmental Citizenship are scarce, according to two respondents, while another refers to an overload of EE materials for primary, secondary and vocational education. At the same time, many of these materials are scattered over schools, publishers and NGOs.

15.2.5 Differences between formal and non-formal education

Formal education has the advantage that all youngsters can be reached, as in non-formal education only 'believers' are engaged. Other respondents said that many Education for Environmental Citizenship aspects are non-formal at present, where it does not encounter that many difficulties, and could be made more formal. This is confirmed by some else who says that the weaknesses and threats are mainly related to formal education. Non-formal and informal education are important as in these, Education for Environmental Citizenship is part of 'social innovation'. Moreover, in non-formal education, politicians, teachers and policy-makers in particular should be role models. Finally, one respondent stressed the need to cross boundaries and create ecologies of learning with an ethic of care and empathy; this will inevitably mean that the boundaries between formal and non-formal will be blurred.

15.2.6 Differences between primary and secondary education

Learning objectives in primary education would be more orientated at awareness, and in secondary at problem solving. Several respondents stressed the advantages for primary education, where teaching is more integral and ethical questions are more implicit, while in secondary education the fragmentation in different subjects limits Education for Environmental Citizenship. On the other hand, in secondary education, more options for doing research exist and values related to the developing/existing situations around school or in (local) politics can be discussed. This is reflected in the (Dutch) concept-context methodology in secondary science teaching, which offers opportunities for Education for Environmental Citizenship.

Table 15.3 Similarities between Education for Environmental Citizenship and related concepts.

Question on a scale of 1-5	Min	Mean	Max
In what degree the Education for Environmental Citizenship (EEC) is similar with Environmental Education (EE)?	3	3.8	5
In what degree the Education for Environmental Citizenship (EEC) is similar with Education for Sustainable Development (ESD)?	4	4.5	5
In what degree the Education for Environmental Citizenship (EEC) is similar with Science Education (SE)?	1	2	3
In what degree the Education for Environmental Citizenship (EEC) is similar with Citizenship Education (CE)?	3	3.8	5

15.3 Conclusion

In The Netherlands over the next few years, the theme of sustainability will be given increasing attention in both primary and secondary education. This is reflected in the increasing attention on the national level for citizenship and sustainability education.

The SWOT analysis shows what respondents regard as strengths: the introduction of new knowledge and skills in the classroom, dealing with planet, people and politics. Education for Environmental Citizenship may support a change of attitude of students and introduce new pedagogies in the classroom. It is unique in the sense that it teaches skills and values and makes students think about real world problems on a global level.

Many weaknesses, threats (and possible improvements) for teaching Education for Environmental Citizenship are of a practical nature. Education for Environmental Citizenship is not part of formal school curriculums and teachers, who struggle with available time lack the knowledge and skills required to teach Education for Environmental Citizenship. In additon, fundamental critique should also be taken into account relating to the question whether Education for Environmental Citizenship positons itself inside or outside politics and the exisiting gap between citizenship education and sustainability. A threat for Education for Environmental Citizenship concerns the previous ponderous experiences of implementing EE, ESD and CE in education.

In line with the strengths, many opportunities for Education for Environmental Citizenship exist, such as introducing critical questioning in education, uncertainty, real world problem solving, and twenty-first century skills. Moreover, a number of trends, inside and outside (secondary and higher) of education support Education for Environmental Citizenship, from increased political awareness to the introduction of sustainability competences at school.

The weaknesses and threats for Education for Environmental Citizenship mainly concern formal education. In non-formal education on the other hand, there are fewer obstacles explaining why most Education for Environmental Citizenship activities are non-formal, at present. Crossing the boundaries between the two would foster Education for Environmental Citizenship. Although secondary school students are better at problem solving and designing research projects, the integral teaching in primary education offers more opportunities for topics that overarch school subjects, such as the environment. According to the respondents, Education for Environmental Citizenship largely resembles ESD and to a lesser extent EE and CE. However, they hardly see similarities with Science Education.

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16. Education for Environmental Citizenship in Norway

A SWOT Analysis

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Abstract: This chapter summarises and discusses the knowledge and experience on Education for Environmental Citizenship in Norway, based on the analysis of nine responses to a standardised set of SWOT survey questions. The nine Norwegian respondents include two academic researchers on environmental education, three policy makers from the Norwegian Ministry of Education, one decision maker from an NGO working in the field of environmental issues, one decision maker from an education professional society, one primary school teacher, and one secondary school teacher. The questions (including the survey introduction text) were translated into the Norwegian language and sent to the respondents beforehand. Some responses were obtained through telephone interviews, the rest through a Google Documents form.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology).

16.1 Introduction: Framing the Norwegian Context

Norway is a country with approximately 5.5 million inhabitants and a fairly dispersed population pattern. Like the other Nordic countries, Norway went through a rapid industrialisation, urbanisation, and economic growth after World War II. Norway is characterised by public health care, relatively high trust in government, high standards of living, and high levels of social cohesion, though this image is increasingly coming under pressure. Since 1973, Norway has become increasingly dependent on the high income that the oil industry provides. This dependency also creates some significant cultural and social ambivalences relating to environmental values

and citizenship, especially thanks to Norway's image as a 'green state' (Dryzek et al. 2003).

Political scientist John Barry (2003) argues that states do not become green by themselves; they have to be pushed towards environmental practices by green citizens. Norwegians face the challenges and opportunities that such forms of Environmental Citizenship open up in a number of arenas. Jørgensen (2013:500) has argued that "the idea of the green consumer-citizen is central to the Norwegian vision of a sustainable society". The consumer-citizen does not, however, act completely independently from surrounding institutions, norms, and other factors. Environmental Citizenship is something that needs to be facilitated, nurtured, and developed over time. Education for Environmental Citizenship is one of the main arenas for achieving this development.

One could argue that education is a particularly relevant field for developing Environmental Citizenship in Norway. In general, Norway has a fairly high educational level, above the OECD average. Women have slightly more education than men. The educational system is largely funded by the Norwegian state. Please refer to Eurydice website for a more detailed description of the education system in Norway: https://eacea.ec.europa.eu/national-policies/eurydice/content/norway_en.

Norway has an education system that consists different levels of schooling:

- Daycare ('barnehage') for children aged 1-5 years, who have a legal right to a place in daycare. Daycare has a pedagogical activity.
- Compulsory school ('grunnskole') is for children aged 6-15 years. It consists of primary school from grades 1-7 and lower secondary school from grades 8-10. Children from grades 1-4 also have an after-school programme which offers out-of-school activities organised by non-school personnel using school facilities.
- Upper secondary school ('videregående opplæring') is statutory and normally for three years, building on the compulsory school to prepare students for either vocational professions in the labour market or higher education.
- Higher education ('høyere utdanning') builds on the general study competence developed in upper secondary school, structured after a three-cycle model, with a three-year bachelor degree, two-year master, and a three-year PhD education.
- Adult education ('voksenopplæring') can be at different levels, including the elementary and high school levels, adult education associations ('studieforbund') offers courses; folk high schools ('folkehøyskole'), which are independent and general schools with integrative goals. In addition, there are online education programmes.

In 2016, 282,649 children were in daycare; 629,275 in elementary school; 243,414 in high school; 288,989 in higher education; the numbers for continued education are varied: 7,540 were in folk high schools, 12,918 were in elementary school education, 27,135 in high school education, and 504,898 participated in some way in adult education associations. These can be single courses, and a person

can be registered several times if they participated in more than one course (SSB 2018).

How is Education for Environmental Citizenship defined?

There is no established direct equivalent term to education for Environmental Citizenship in Norwegian. This does not mean that these issues are not high on the agenda. Sustainable development ("bærekraftig utvikling") is a term that is particularly well-established, in part due to the history of the concept, originating from the Brundtland commission. When it comes to the questions on Education for Environmental Citizenship and its relation to other types of education — Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE) or Citizenship Education (CE), Norwegian respondents typically see Education for Environmental Citizenship as broader and more holistic than other approaches, and even with a focus on empowerment. They are most in agreement that Education for Environmental Citizenship is similar with ESD and least in agreement that Education for Environmental Citizenship is similar with SE (see Table 16.1).

There is still some uncertainty about the meaning of Education for Environmental Citizenship, which is not an established term in Norway. Some see it as a particular vocational training, giving students knowledge about a subject and an education in general civic participation. The UN development goals also cover a lot, so in these cases sustainable development works better as a term. Several respondents argued that Education for Environmental Citizenship distinguished itself from other approaches in its appeal to the individual, as a personal commitment and a call to action. This is not wholly unproblematic, as we will see later.

Table 16.1. Responses on a Likert scale of lowest 1 to highest 5 on similarities of Education for Environmental Citizenship with other related education subjects (n=9 respondents)

	Average	Maximum	Minimum
In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Environmental Education (EE)?	3	5	1
In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Education for Sustainable Development (ESD)?	4	5	3
In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Science Education (SE)?	2.1	3	1
In what degree (1-5) the Education for Environmental Citizenship (EEC) is similar with Citizenship Education (CE)?	3.3	5	1

16.2 Strengths of Education for Environmental Citizenship in Norway

The Norwegian respondents indicated that Education for Environmental Citizenship, and similar approaches with other names, has an important role in school curricula. Most importantly, Education for Environmental Citizenship's holistic approach provides a way of thinking across the different subjects in school. It gives students the possibility to analyse and solve problems using an interdisciplinary perspective where environmental, economic, natural and social conditions are taken into consideration. It is multi-level as individual and collective, local and global.

As an individual approach, "it is like a personal commitment, it is a kind of personal 'call' to be and to become an environmental citizen," as one respondent stated. This does not only apply to students, but also to teachers, where Education for Environmental Citizenship can be a way of instilling a sense of ownership in different subjects and among teachers. Education for Environmental Citizenship can serve as a foundation in steering documents (such as curricula and syllabi) for schools (school education).

As a collective approach, "Education for Environmental Citizenship can serve to prevent sustainable development from being disconnected to studying subjects at school", and to highlight "environmental challenges facing the future, so it will be

of critical importance for younger generations". Education for Environmental Citizenship is considered to be a combination of "reflections and tools connecting knowledge to civic participation" and "helping students understand what they learn in a more holistic setting".

16.3 Weaknesses of Education for Environmental Citizenship

In a Norwegian school setting, curricula are designed at a national level. The students have much material to cover, and Education for Environmental Citizenship is only one of very many perspectives. One respondent stated that "sustainable development is an interdisciplinary subject, but it is often only integrated into one specific subject in school. It should be underlying in all of them." Others saw this as both strength and weakness — Education for Environmental Citizenship is a cross-cutting perspective with big potential, but that does not fit into the 'boxes' of the school system.

At the same time, Education for Environmental Citizenship is a very broad term that could easily end up without real content. As one respondent said, "According to the UN Sustainable development goals, education will contribute to a sustainable development. This means that education should not only be theoretical or on the present situation, but it should contribute to development. There is not a sufficient understanding on this point today, we do not have a clear plan for how education will help us reach the development goals."

While Education for Environmental Citizenship is in many ways a call to action, as previously mentioned, it can also be hard to translate into concrete action. What complicates this issue is that several respondents addressed the normative character of Education for Environmental Citizenship and similar approaches as something to be avoided. Education for Environmental Citizenship cannot provide simple solutions to complex problems; instead, it must inform and enable the Environmental Citizens of tomorrow to navigate the world they live in.

One respondent brought up that the term 'citizen' is too human-centric. Education for Environmental Citizenship needs to also recognise that we live in a more-than-human world. This point aligns with much scholarship in recent environmental humanities (Rose et al, 2012).

16.4 Opportunities for Education for Environmental Citizenship

As mentioned, the curricula ('læreplaner') that serve as guidelines for the whole school sector in Norway are currently under a major national revision, involving experts from a number of fields. This initiative, called 'Fagfornyelsen', involves both academics and practitioners in school and aims to make the school subjects more relevant for the future, and to strengthen the connections between the different

subjects (UDIR, 2018). The Norwegian government has decided that the new plans will feature three cross-cutting interdisciplinary themes, 'democracy and citizenship', 'sustainable development' and 'public health and coping with life' (Sinnes and Straume, 2017: 2). These provide unique possibilities for Education for Environmental Citizenship perspectives.

The respondents stressed how Education for Environmental Citizenship allowed education to connect the national and the global. The NGO decision maker argued that this connectivity is something that characterised modern society and that education needs to involve this. New information technologies connect people living completely different lives and who face different environmental issues in their day-to-day lives. Education for Environmental Citizenship can benefit from crossing social and working boundaries through cross-sectoral collaboration, maybe including schools and NGOs. By establishing collaborative projects across boundaries, one can strengthen the education and understanding of the challenges we face. Finally, Education for Environmental Citizenship allows for cross country learning, where students can see how different countries in different parts of the world deal with environmental issues and what solutions they choose. This could be the foundation for comparative analyses.

Furthermore, the new curricula under development create an opportunity to work with Education for Environmental Citizenship through the entire educational run.

16.5 Threats for Education for Environmental Citizenship

The threats for Education for Environmental Citizenship are highly related to the weaknesses. Respondents point out how these cross-cutting perspectives are very dependent on the teacher's initiative. While curricula are developed nationally, the actual integration in the subjects is highly variable. The literature used in schools is also limiting, as cross-cutting perspectives that are supposed to be integrated across disciplines may or may not be successfully included in subject-specific literature. This puts even more pressure on teachers to tie together different subjects and demonstrate connections.

Education for Environmental Citizenship can also be demotivating if it addresses subjects that the students can't actively change. Some respondents also meant that one should avoid complicating subjects.

The evaluation system in schools can oppose the work on sustainable development. As one respondent stated, "partial emphasis on easily measurable quantitative variables in education, f.ex. national exams, with a short term perspective instead of the education's broad social mandate embodied in the objects clause." It is therefore important to "avoid that the system of evaluation leads to a goal supply in education, which entails that the education turns to quantitative variables that are easy to measure."

16.6 Conclusion

Norwegian respondents are in agreement of the similarity between Education for Environmental Citizenship and ESD approach which is currently very much in use in school education. In addition, they also recognise that Education for Environmental Citizenship has its 'human' aspect/element and its holistic approaches (by the term citizenship including knowledge, attitudes and behaviour both at individual and collective levels) in relation to the environment, which we consider is the strength of Education for Environmental Citizenship beyond ESD.

Perspectives and themes related to Education for Environmental Citizenship is well-integrated in the Norwegian school system due to the importance of national curricula, though the actual implementation is highly dependent on local efforts by teachers. Experts and practitioners in the field who were interviewed for this article stressed the relevance of Education for Environmental Citizenship in preparing students for society. Yet, Education for Environmental Citizenship cannot provide simple solutions to complex problems; instead, it must inform and enable the Environmental Citizens of tomorrow to navigate the world they live in.

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17. Education for Environmental Citizenship in Portugal – A SWOT Analysis

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Abstract: This chapter presents the views of Portuguese experts regarding the Strengths, Weaknesses, Opportunities and Threats of Education for Environmental Citizenship. Seven experts – two teachers, one policy-maker and four researchers/academics – answered the questionnaire developed by the European Network for Environmental Citizenship (ENEC). This analysis shows that the Portuguese Government has supported the main principles behind the concept of Education for Environmental Citizenship (Citizenship Education and Environmental Education for Sustainability) throughout the last three decades. The participating experts have a very positive stance on this approach primarily because of its potential to: 1) address real problems, create meaningful learning contexts and motivate the students' involvement in school activities; 2) empower the students with the knowledge, skills, values and commitment to take the appropriate, responsible and effective actions required for active citizenship with regards to environmental problems; and 3) contribute to changing behaviours to the environment and towards a more democratic and just society. However, they believe that the implementation of Education for Environmental Citizenship is compromised by the lack of teachers' knowledge regarding this approach, by a school culture that is not very supportive of collaborative and dialogical practices, and by a lack of communication and coordination between teachers and school subjects. So, teacher education programmes are considered indispensable for the understanding and large-scale implementation of Education for Environmental Citizenship.

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17.1 Introduction – Education for Environmental Citizenship in Portugal

The concept of Education for Environmental Citizenship has not been widely used in Portugal. However, there is a long tradition of environmental concern in this country and for more than three decades environmental education for sustainability has been a pillar of Citizenship Education and a fundamental aspect of all education. It is therefore possible to say that there has been a strong commitment by the Ministry of Education towards the promotion of the ideas behind Education for Environmental Citizenship.

Portugal's pioneering spirit regarding environmental concerns was well expressed through the creation of the League for the Protection of Nature (LPN) in 1948, the participation in several United Nations conferences on the environment, and in the implementation of the measures adopted in those meetings.

Environmental Education (EE) is recognised in the Educational System Basic Law (since its publication in 1986) as a learning goal for students at all levels (Diário da República, 1986). Since 1989, environmental education for sustainability has been established as a pillar for Citizenship Education (CE), a fundamental dimension in education. It is seen as an awareness-raising process, promoting values and behaviour and attitudinal changes relating to the environment from a sustainable development perspective. Environmental education for sustainability is present in the curriculum and in the many school projects developed autonomously with the support of the Education and Environment Ministries, local municipalities, several NGOs and other civil society institutions.

However, even though the environment is a topic present in all school subjects through elementary and secondary education, it has not always included its social, political and economic features (Ministério da Educação, 2017). In Science Education (SE), despite the fact that curriculum emphasises the relationship between Science, Technology, Society, and the Environment (STSE interactions) and promotes investigative, dialogic and interdisciplinary practices (Ministério da Educação, 2001), school textbooks and many teachers' practices end up favouring strategies that are less focused on discussion and decision making and do not allow students to critically evaluate and position themselves regarding STSE interaction, therefore limiting their education for active citizenship scope (Galvão, Freire, Faria, Baptista & Reis, 2017).

In order to overcome this situation, the Ministry of Education proposed the Environmental and Sustainability Education Reference Guide in 2017, framing and supporting the implementation of education for citizenship in pre-school, primary and secondary education. This framework aims to encourage the introduction of cross-cutting themes contributing to changing behaviours and attitudes towards the environment for young people, their families and the communities where they live (Ministry of Education, 2017). It identifies global themes, subtopics, learning goals and performance descriptors in the field of environmental education for sustainability, taking into account the student's age and knowledge level. The proposed global

themes are: 1 - Sustainability, Ethics and Citizenship; 2 - Sustainable Production and Consumption; 3 - Territory and Landscape; 4 - Climate Change; 5 - Biodiversity; 6 - Energy; 7 - Water; 8 - Soils.

The Education for Environment and Sustainability Framework also includes a glossary divided into global themes, a bibliography, and a selection of relevant websites. In the glossary for theme '1 - Sustainability, Ethics and Citizenship', the concept of Environmental Citizenship is defined as "the implementation of good practices and public, individual and collective participation in environmental and social issues, through the design and development of information and communication strategies, as well as education and training, using the most appropriate channels, taking into account the requirements of the information society and for life-long learning" (Ministry of Education, 2017, p.103). However, this concept is not mentioned in the main body of this document and does not integrate the current curricular guidelines of the specific subjects at the different levels of education.

Thus, in Portugal, although environmental education for sustainability constitutes a pillar of citizenship education, the concept of Environmental Citizenship education is not frequently integrated in curriculum documents or in the discourse of educational agents.

The following SWOT analysis collected the views of seven Portuguese experts, heavily involved in environmental education initiatives and projects, on the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship. As shown in Figure 17.1, this group of specialists is composed of men and women of different ages who have a masters or doctoral level of education and practice different activities.

Name	Gender	Education Level	Age Level	Type of Expertise
M	♀	MEd	31-40	Educator – Teacher in Primary Education who works in the field of Science Education
Js	♂	PhD	51-60	Educator – Teacher in Secondary Education who works in the field of Science Education/Physics
H	♂	MEd	41-50	Policy-maker in the Ministry of Education
E	♀	PhD	31-40	Researcher/Academic from the research field of Environmental Education/Education for Sustainable Development/Science Education/Biology – Polytechnic Institute
G	♂	MEd	51-60	Researcher/Academic from the research field of Environmental Education/Education for Sustainable Development/Geography – Polytechnic Institute
F	♀	PhD	>60	Researcher/Academic from the research field of Environmental Education/Education for Sustainable Development/Science Education/Geology – University
Jr	♂	PhD	51-60	Researcher/Academic from the research field of Environmental Education/Education for Sustainable Development/Architecture – University

Fig. 17.1. SWOT analysis participant characterisation

17.2 Degree of Similarity between Education for Environmental Citizenship and other Types of Education

The SWOT analysis participants' perceptions regarding the degree of similarity between Education for Environmental Citizenship and other types of education (EE, SE, CE and Education for Sustainable Development (ESD)) vary considerably (Figure 17.2). For example, regarding the similarity between EE and CE, perceptions range from 1 to 5. The lack of consensus is evident among teachers, with differences reaching up to four levels. Among the researchers/academics there is a greater proximity of opinions, presenting a maximum divergence of two levels.

Name	Type of Expertise	EE	ESD	SE	CE
Ma	Educator – Primary School Teacher	1	1	1	1
Js	Educator – Secondary School Teacher	2	4	2	5
H	Policy-maker	5	4	2	2
E	Researcher/Academic – Science Education/Biology – Polytechnic Institute	4	4	4	4
G	Researcher/Academic – Geography – Polytechnic Institute	3	3	2	3
F	Researcher/Academic – Science Education/Geology – University	2	4	2	2
Jr	Researcher/Academic – Sustainable Development/Architecture – University	2	2	2	2
Average		2.71	3.14	2.14	2.71

Fig. 17.2. Participants' perceptions regarding the degree of similarity between Education for Environmental Citizenship and other types of education (EE, SE, CE and ESD)

Globally, we can say that participants consider Education for Environmental Citizenship to be closer to ESD and further away from SE (Figure 17.3). This result is in agreement with recent research carried out in Portugal that reveals some incapability of SE to promote the critical analysis of the STSE interactions and the dialogic and problem-solving practices of the Environmental Education for Sustainability component, as foreseen in science curricula (Galvão, Freire, Faria, Baptista & Reis, 2017).

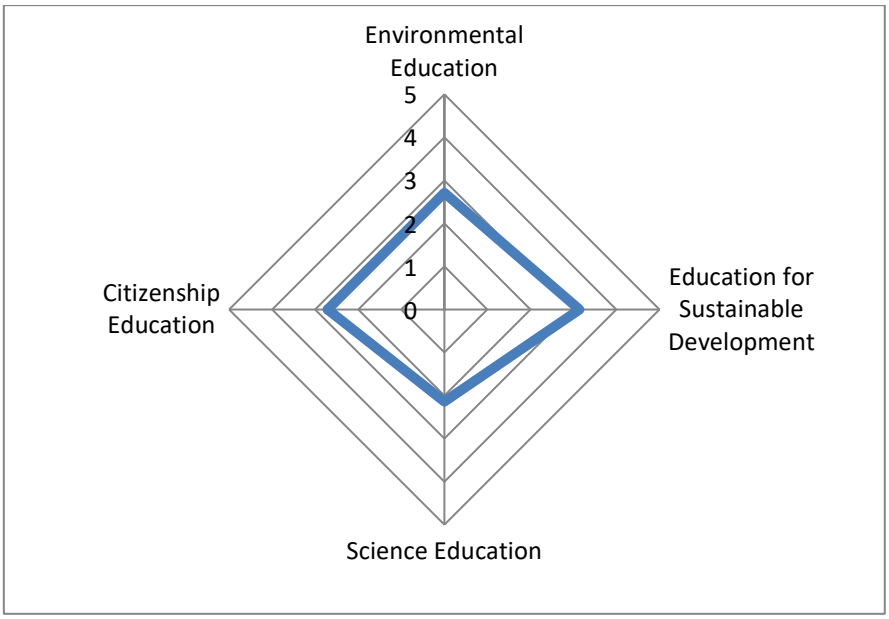

Fig. 17.3. Degree of similarity between Education for Environmental Citizenship and other types of education (1-5)

17.3 Strengths of Education for Environmental Citizenship

According to the experts, Education for Environmental Citizenship has the potential to: 1) promote an awareness about environment and citizens' responsibilities; 2) address real problems with local and global implications, creating meaningful learning contexts, motivating students involvement in school activities and reinforcing their perceptions about the relevance and importance of science education; 3) empower students with knowledge, skills, values and the commitment necessary to take the appropriate, responsible and effective actions that are required for an active citizenship regarding current environmental problems; 4) contribute to change behaviours towards the environment and to a more democratic and just society that won't compromise the rights of future generations; and 5) aim for a more fair distribution of environmental goods. The following quotations illustrate how experts expressed some of these ideas:

"Education for Environmental Citizenship has the merit of developing environmental awareness, promoting values, changing attitudes and behaviours towards the environment, in order to prepare students for the exercise of a conscious, dynamic

and informed citizenship regarding the current environmental problems" (H, policy-maker).

"Application of the principles of citizenship to the environment with a view to its sustainability through a participatory process, individual and collective, focused on the reflection and action on environmental problems affecting citizens on local and global levels with a view to social transformation" (E, researcher/academic).

"Most important in this area of studies is to give the student a creative, participative and active role, and in this way promote a more captivating, engaging and facilitating learning of knowledge" (Js, secondary school teacher).

"The development of more committed citizens" (G, researcher/academic).

"To understand the importance of the environment in general and the rights and needs of future generations, with a view to an environmentally more just society. To fight social exclusion and environmental inequalities. To improve democracy through people's involvement in decision-making regarding issues that will affect their lives" (E, researcher/academic).

"Fairness of the distribution of environmental goods, a concept that in my opinion is frequently forgotten by western society" (F, researcher/academic).

Education for Environmental Citizenship is considered a broader perspective when compared with other types of education mentioned in the questionnaire (EE, ESD and SE), mainly due to what participants consider to be its main feature: the focus on social transformation through citizens' democratic involvement in individual and collective problem-solving initiatives centred on environmental problems affecting their life. According to the respondents:

"Education for environmental citizenship has the advantage of promoting action, not just the transmission of information or the increase of knowledge. At school, Education for Environmental Citizenship seeks to involve students, making them feel committed to act in their community and with their families" (M, primary school teacher)

"[The main potentialities of Education for Environmental Citizenship are] To move to informed action, that is, to become active producers of knowledge, through research/inquiry, and the attempt to change situations and behaviour" (Js, secondary school teacher).

"[The main strength of Education for Environmental Citizenship is] To improve or to solve local and global environmental problems through concerted and shared action by various social actors. [Through Education for Environmental Citizenship] Individuals assume the role of decision makers capable of actively contributing to sustainable development" (E, researcher/academic).

"Only Education for Environmental Citizenship can raise a process of environmental awareness, promotion of values, change of attitudes and behaviour towards the environment, in order to prepare students for the exercise of a conscious, dynamic and informed citizenship in order to tackle current environmental problems" (Jr, researcher/academic).

Some participants believe that this focus on action counteracts the sense of incapacity and lack of power regarding socio-environmental problems that is common in the Portuguese population: "[To] Fight feelings of disappointment, lack of control and of incapacity in the face of socio-environmental problems that arise in everyday life" (Js, secondary school teacher).

Some participants call attention to the fact that in Portugal, , CE is traditionally considered to be the big umbrella covering EE, ESD and even the basic SE in terms of the scientific literacy considered necessary for an active citizenship regarding socio-scientific issues. Therefore, Education for Environmental Citizenship integrates and mobilises all the available knowledge on CE, EE, ESD and SE into action towards a better environment, bypassing the ambiguity and the different possible interpretations of Sustainable Development that makes this concept difficult to put into operation.

> According to the perspective underlying educational policies in Portugal, EE, ESD and EC interrelate. EE only makes sense with a view to promoting sustainable development, and both EE and ESD aim to comprise all citizens, in order to prepare them for a well-informed and active intervention on the issues that relate to the environment and sustainability. Hence, it is fundamental to promote citizenship practices. EE and ESD can thus be considered as components of citizenship education. In what concerns SE, since the identification and solution of environmental problems imply the mobilization of scientific knowledge, it is essential that this type of education is associated with EE and ESD. Indeed, in today's world, given the impact that science has on individuals and society in general, it is increasingly important for young people to be prepared to intervene as citizens on technological and scientific issues, which implies associating citizenship practices with SE (H, policy-maker).

"The very concept of DS, ambiguous and object of different interpretations, results in difficulties in operationalisation and some dissatisfaction about the results" (F, researcher/academic).

17.4 Weaknesses of Education for Environmental Citizenship

The experts had difficulties in separating the weaknesses from the threats, and in the majority of cases the same aspects were repeated in both situations. Therefore, it was decided in this section to only include those weaknesses related to the concept itself that would appear to compromise its implementation on a larger scale. The majority of the obstacles identified by the experts will be addressed in the section on threats.

According to some experts, the main weakness of Education for Environmental Citizenship is connected with its perceived novelty and with the fact that it is still poorly defined, without well-established borders and with a markedly ideological

and political character that can provoke some resistance from teachers – people tend to refuse what they don't know and what is new. Therefore, the implementation of Education for Environmental Citizenship requires a better and shared understanding of the concept by all teachers – regardless of their subject background.

17.5 Opportunities for Education for Environmental Citizenship

The questions centred on opportunities were understood differently by the experts. Some identified opportunities that were raised by the implementation of Education for Environmental Citizenship. Other experts listed activities that in their opinion constituted a good context for Education for Environmental Citizenship.

The main opportunity raised by the implementation/adoption of Education for Environmental Citizenship is connected to what the experts consider to be its main potential: the empowerment of citizens for socio-political action regarding socio-environmental problems, through the development of the awareness, multidisciplinary knowledge, skills, values and the predisposition and willingness to go into democratic action in order to try to solve these problems. This informed and active citizenship has a big impact in society and on the environment. The quality of democracy improves through the active participation of more citizens in the decision-making processes and problem-solving initiatives, with a positive impact on environmental, technological, social and economic policies. Better informed and involved citizens can influence and work with policy-makers towards more socially just and environmentally sustainable policies. Moreover, citizens' lifestyles in general could change in the direction of more democratic and environmentally sustainable behaviours/practices. Some experts highlighted the fact that in Portugal, as a result of school Education for Environmental Citizenship projects, young people have taken good environmental practices to their homes and the community in general.

As examples of good opportunities to promote Education for Environmental Citizenship, some experts presented their experiences with projects involving students and teachers in collective and research-based activism on socio-environmental issues (e.g. project 'We Act'). The involvement in inquiry-based learning activities regarding real-life problems allowed students to identify possible causes and solutions for those situations. This student-developed knowledge was then used for collective democratic problem-solving actions: initiatives where students tried to inform and mobilise the community into more environmental-friendly behaviours. Through the involvement in these actions, students began to recognise themselves as: 1) creators of knowledge (not only simple knowledge consumers as school often appears to support); 2) agents of change, who are capable of successfully implementing actions on their families, friends and communities; and 3) real citizens (independent of not being adults). These and other projects – supported by environmental non-governmental organisations, local authorities and higher education

institutions – articulate the scientific research with the local problems of communities, allowing students to contextualise knowledge and connect schooling to the real world, counteracting what teachers consider to be the apathy of some students in relation to the school activities, and proving to be excellent initiatives of citizenship regarding environmental issues.

17.6 Threats for Education for Environmental Citizenship

This SWOT analysis identified some threats for Education for Environmental Citizenship posed by schools, teachers, students and educational resources.

First of all, Education for Environmental Citizenship requires an interdisciplinary, collaborative and systemic approach that is difficult to materialise in a school strongly marked by a lack of communication and coordination between teachers and school subjects. In a very compartmentalised school it is very hard to find the common spaces and times needed to develop synergies among different knowledge and perspectives. In many schools, this problem is aggravated by a culture that is not very supportive of collaborative and dialogical practices and that doesn't foster plurality of opinions and perspectives. Additionally, during the last six years, some political decisions in the educational area were targeted at promoting better performances in specific subjects (Portuguese Language and Mathematics) than at stimulating interdisciplinary work. Thus, in some experts' opinions, the implementation of Education for Environmental Citizenship requires the development of less extensive curricula, a much more flexible school structure and a new culture, capable of adapting to new demands in terms of school aims, spaces and practices.

Another important threat identified by some experts is the novelty of the concept of Education for Environmental Citizenship and the teachers' consequent lack of knowledge in implementing this approach. Therefore, without teacher education programmes, all the efforts of the Ministry of Education towards the promotion of Education for Environmental Citizenship could be compromised: teachers can misunderstand the concept – identifying it as a synonymous of other more common and limited concepts – and begin implementing superficial and limited approaches to environmental problems not in line with the contextualised, student-centred, interdisciplinary, systemic, inquiry-based and action-based approach of Education for Environmental Citizenship. These programmes would imply a coordinated strategy between the Ministry of Education and the pre- and in-service teacher training institutions in order to promote the scientific and the pedagogical knowledge required for Education for Environmental Citizenship.

In the opinion of three of the experts, some students can represent a threat to the implementation of Education for Environmental Citizenship: 1) showing resistance to an approach they are not used to and don't consider efficient in assuring high results in national exams; and 2) lacking interest and involvement in active methodologies.

The availability of resources for Education for Environmental Citizenship represents another threat pointed out by the SWOT analysis participants. In Portugal, in spite of existing several learning materials and programmes of Education for Environmental Citizenship proposed by different organisations, these resources are not available in one specific and dedicated space. Their dispersion through a multitude of books and websites explains the unfamiliarity of the majority of the experts (both teachers and two of the researchers/academics) with these resources.

In addition, the school curricula do not provide resources for Education for Environmental Citizenship. To overcome this limitation, the Ministry of Education published in 2017 the Environmental Education for Sustainability Reference Framework (Ministério da Educação, 2017), identifying several topics (Sustainability, Ethics and Citizenship, Biodiversity, Climate Change, etc.), learning objectives, performance levels, concept definitions, document references and relevant websites in the area of education for environmental sustainability. This document intends to support teachers – throughout the 12 years of compulsory education and different school subjects – in addressing aspects of Environmental Citizenship in an interdisciplinary approach in order to capacitate students as active citizens regarding socio-environmental issues.

However, according to some of the experts, the pertinence of disseminating examples of good practices in Education for Environmental Citizenship (in a specific portal) taken from successful projects developed by schools, educational authorities and NGOs still persists.

The experts believe that new technologies do not represent a threat to Education for Environmental Citizenship. On the contrary, some think that new technologies can provide new opportunities of protecting our planet, namely through the development of new tools to support research and activism initiatives on environmental issues. Some of them consider that Education for Environmental Citizenship can play a very important role in assuring a sustainable technological development, providing more informed and active citizens capable of an effective action with political and economic agents.

17.7 Differences in the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship between Type and Level of Education

The majority of experts consider that there are no differences in the strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship between formal and non-formal education or between primary and secondary education. In their opinion, schools and many other institutions in Portugal, such as museums, non-governmental organisations, companies and other civil society groups, are quite committed to Education for Environmental Citizenship. Only one expert points out that the existence of just one teacher in primary school classes

facilitates a more interdisciplinary approach than in secondary schools, where the teachers from different subjects show some traditional resistance to working collaboratively and in an integrated way.

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18. SWOT Analysis of Education for Environmental Citizenship in Romania

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Abstract: Education for Environmental Citizenship is a very new concept for Romania. Based on the experts' evaluations from the educational sector, this concept is complex enough to include all the other types of education and should be approached from an early age. Meanwhile, Education for Environmental Citizenship is also perceived to be built around the key term 'environment', this being the binder between several types of education. However, its uniqueness – what lies from its complexity and ability to include all the other types of education – will have to overrun the conservative main feature of Romanian education system, this being a 'sine qua non' condition for a successful implementation. Unfortunately, the conservative educational system in Romania is a major weakness in implementing this Education for Environmental Citizenship concept. This chapter also approaches several opportunities and threats regarding Education for Environmental Citizenship implementation in Romania, emphasising the important role of social media, high quality projects, and the lack of support from different Governmental levels. A successful implementation of Education for Environmental Citizenship in Romania can be approached through a start-up process at primary education level using non-formal education techniques.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology). We thank the participants in this SWOT analysis for devoting their time to answer the questionnaire.

18.1 Education for Environmental Citizenship in Romania – a state of art

Education for Environmental Citizenship in Romania is a new concept, constantly confused with other concepts like ecological education and Education for Sustainable Development (ESD), concepts that have so far known a certain consecration.

Approaching a new concept like Education for Environmental Citizenship is a process that must be done in correlation with an educational system structure and needs to consider both its strengths and its weaknesses. This harmonization of terms like the 'environment' and 'citizenship' provides a new definition for the relation between people and nature, emphasising that we are all responsible for a good state of environmental conservation (Dobson, 2007; Meerah et al., 2010). David Orr (2004) considers that the educational process "emphasizes theories on the natural world and not on values; abstraction instead of consciousness; answers ordered instead of questions and technical efficiency on consciousness. [...] education is not a guarantee of decency, prudence, or wisdom. Not education but education of a certain type will be our salvation" (Orr, 2004).

The contact with ecosystems generally starts from a young age, thus being necessary to introduce basic concepts into the education process in order to minimise the impact that we can have on the environment throughout our lives. How can be this be achieved in the Romanian educational system?

First of all the authors would like to mention that the Romanian education system is organised on several levels, many of which are not compulsory. The first education level in Romania, and which is not compulsory, is kindergarten. At this level, educators propose that pre-school children should understand nature as being modifiable by the human beings with whom they interact. In this respect, the frame-reference objective of the 'science' domain at the kindergarten level is to train and practice habits of care and protection for the environment in order to educate a positive attitude towards it. However, the impact of this educational level can be reduced because it is not mandatory, being more accessible in urban than in rural areas.

The next education level, which is mandatory in Romania, is primary education for children between 6 and 11 years old. Since 2013, the curriculum for primary education is centered on competence training, offering the advantage of structuring the contents in a modular, interdisciplinary, original and creative vision, enabling each child to conduct activities at their own pace, according to their interests, age and individual peculiarities, and at the same time motivating the pupil to learn. According to the European Commission, the key competences were defined as transferable and multifunctional package of knowledge, skills and attitudes that all individuals need for personal fulfillment and development, social inclusion and professional insertion. These must be developed until the end of compulsory education and act as a foundation for further learning as part of lifelong learning (E.C., 2018)

In pedagogical terms, competence is the student's ability to mobilise an integrated set of knowledge, skills, attitudes and values to achieve learning task families. Competence is a potential to be proven/demonstrated by the student in concrete situations. Learning focused on competence development is not a teaching method, but an extended teaching approach. It may involve a wide range of methods, and some of them may take the form of traditional teaching. The essential aspect is that it focuses mainly on meeting the student's needs

National Education Law no. 1/2011 states that the national curriculum for primary and secondary education focuses on eight key competencies that determine the student's training profile. Four of them are strongly connected with Environmental Citizenship (EC) and Education for Environmental Citizenship: basic skills in mathematics, science and technology; social and civic competences; awareness and cultural expression skills; competence of learning to learn (National Law 1, 2011).

The specific competences that direct address Environmental Citizenship and Education for Environmental Citizenship are:

- Manifestation of care for correct behaviour in relation to the natural environment;
- Recognising the consequences of their own behaviour on the environment;
- Identifying ways to protect the environment;
- Acquiring an interest in understanding the role of the environment for the life and activity of society, including: understanding the need to protect the living environment, participation in environmental conservation activities and the formation of a civic attitude regarding the knowledge, the conservation and protection of the environment.

All these competencies are part of formal education system and they are acquired during five years of study (grades 0 to 4).

In Romania, schooling is compulsory until the tenth grade (usually corresponding to the ages of 16 or 17), including primary as well as part of secondary education. Alongside secondary education, the number of key competences passed on to pupils increases, their number being in correlation with the school type profile that is followed.

All of these key competences are part of ecological education/environmental education (these terms being interchangeable in Romania), a concept that was introduced in this country in the early 1990s. Only since 2007 has Environmental Education (EE) been introduced as an optional subject in the National Curriculum, as ‘Environmental education and environmental protection’ for preschool, primary and secondary (Öllerer, 2012). Environmental Education (EE) is a learning process that increases people’s knowledge and awareness about the environment and its associated challenges, it develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action (UNESCO-UNEP, 1978).

Thus, the authors tried to emphasise that the Romanian education system has the necessary resources and created the premises for the successful introduction of the Education for Environmental Citizenship.

18.2 Strengths of the Education for Environmental Citizenship in Country

Education for Environment Citizenship, from the point of view of the Romanian experts, presents a series of advantages focused mainly on the term 'environment' (protection, problems, future, improvement etc.) and ranging from understanding the basic concepts of a pro-environmental attitude to an active participation in community for finding sustainable solutions. Education for Environmental Citizenship is seen by our experts as a key concept that can either include other types of education or can complete them, mainly by increasing the awareness that environmental responsibilities (resulting from the environmental rights) are a matter of natural justice. There also opinions from the primary sector which conclude that Education for Environmental Citizenship should be symbiosis of Environmental Education (EE) and Citizenship Education (CE).

The uniqueness of this term stays in its complexity and ability to include all other types of education, in its potential to include both the ecological and civic duty of individuals. Education for Environmental Citizenship seems to be very easily approached through educational projects even from small ages.

18.3 Weaknesses of the Education for Environmental Citizenship in Country

The conservative educational system in Romania is a major weakness in implementing this Education for Environmental Citizenship concept. Education for Environmental Citizenship is also a very complex term which, in some cases, may lead to confusions in relations with other similar terms like EE or CE. For some Romanian academics, itis somehow equal to EE and/or Environmental Citizenship. Another weakness is represented by the lack in the Romanian scientific (educational) literature of a clear delineation and a coherent representation of what Education for Environmental Citizenship represents.

Education for Environmental Citizenship needs to be very practical, to easily translate the different environmental theories into schools without endangering the development of new educational materials appropriate to the age and/or professional categories they are addressing. Education for Environmental Citizenship shouldn't lose its essence by focusing on a wide range of areas/activities, and should be developed through a smooth process based mainly on constructive criticism and experiences and not by widespread aggressive implementation.

The main weaknesses of Education for Environmental Citizenship mentioned by students and teachers are represented by its novelty (e.g. why should we apply something that we know (almost) nothing about?) On the other hand, in not understanding its practical concept and applicability in everyday life, Education for Environmental Citizenship can appear to be an unnecessary tool. There are several

factors that may eliminate the success of Education for Environmental Citizenship and could be considered as weaknesses of this concept: the lack of a viable and clear presentation in schools, a lack of interest in such a concept, or a lack of projects focused on this concept.

A major weakness is represented by the political influence in Romanian educational systems. This influence resulted in very poorly prepared staff, but which are in decision-making positions, without the necessary expertise to take viable decisions, and lacking in foreign language skills etc.

18.4 Opportunities of the Education for Environmental Citizenship in Country

A good opportunity for Education for Environmental Citizenship is the formation of ecological thinking by introducing this concept in schools from an early age. In addition, this measure should be accompanied by generating high-quality projects which can have a significant impact in changing ecological behaviour, and with the support of stakeholders can determine legislative changes at national level. Social media is strengthening cooperation at international level between young people (and schools) and is seen as one of the most important trends that will positively impact the opportunities for Education for Environmental Citizenship.

18.5 Threats of the Education for Environmental Citizenship in Country

As any new concept that intends to appear in the Romanian educational system, Education for Environmental Citizenship must handle a series of threats. One of the most important ones is the lack of support from the Governmental level as well as the repeated, sometimes very wrong, changes/modifications in the educational system. We should not forget the convenience from schools that makes the intention to introduce new concepts (which takes time and work to be better understood and promoted) to be not easily accepted. SE and CE are seen as potential alternatives because these types of education are already met, at different levels, in Romanian schools.

Romanian learning materials on Education for Environmental Citizenship are not often found, except in the online environment. The experts agree that changing technology is not a threat for Education for Environmental Citizenship; on the contrary, it can be a supporting element. Opinions are divided on identifying a greater potential threat to Education for Environmental Citizenship but we can identify several key terms such as: developing countries (more sensitive to these threats), cor-

ruption (if the concept it is not of material interest, it will be hardly accepted), punctual solutions for punctual problems (the range of weaknesses is too wide to set up a pattern to counteract them).

18.6 Additional aspects

As long as the core principles of Education for Environmental Citizenship are correctly transmitted to users, there should be differences in form and not in substance. The information will be presented differently, maybe with a greater success when we are talking about non-formal education because this system is more open in comparison with the formal type.

The key word here is 'age'. There is certainly a difference in the level of thinking and in using the correct terms deriving from the years of training. With proper support and coordination, primary education could have a more important role in setting up a solid foundation for the Education for Environmental Citizenship concept.

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19. Short Country Report SERBIA

SWOT Analysis of Education for Environmental Citizenship

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Abstract: Environmental Education (EE) was established in Serbia at the beginning of the twentieth century. The oath for those pupils attending second grade of elementary school in 1914 was: "I swear that I will not destroy the trees, and treat flowers badly". From that time onwards, EE was integrated into various subjects of the curriculum and has existed in different kinds of education. There are a lot of challenges caused with dated and faulty technology, uncontrolled traffic, and other harmful influences that noticeably disturb the natural balance and harm the environment. This imposes a need for long life education so that the environment can be protected. A survey of where ecology is placed in educational system in Serbia, from the compulsory to university education, was conducted for this paper. The school subjects that do have ecology are mentioned. Since ecology is not a special subject in compulsory education, we gave an overview of the school subjects and activities in which the ecological contents are studied. The subjects in high school education that have ecological contents are reviewed according to areas of work and specific educational profiles. A review of university education where ecology has a significant place is also provided. As a conclusion of this survey we observed that the environmental education was included in the educational agenda in different forms for more than century but it never took the importance to be leading subject and terminology of EE and ESD, SE and CE was not clearly differentiated. The whole concept of EEC is not established and understood well in Serbia but it has a potential especially aspiring to become a member of EU.

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19.1 Introduction

In the modern world, system of ecological education plays an important role in the formation of ecological culture in the society. Environmental education should develop deep understanding of the problems in the material and spiritual life activities. A wide range of the environmental issues implies the synthesis of knowledge and skills from natural and social sciences.

In Serbia many reforms and adaptations which aim to face future challenge in the Serbian education system are already done and are expected in the near future, following the frequent government changes, but unfortunately none has the priority in EEC.

In the Republic of Serbia at the beginning of the school year 2018/19 there were 2842 preschool education institutions, 3,119 regular primary schools, 506 regular secondary schools. A total number of 527,834 pupils attended the study in primary schools, 260 507 students attended the first, obligatory, cycle of elementary education (1-4th grade), while the second cycle (5-8th grade) was attended by 267,327 pupils. There were 252,108 students attending regular secondary schools, and 256 172 students were signed at university education level (Statistical Office of the Republic of Serbia, 2019).

The basic principle of environmental education should be expressed not just in providing information about facts, but to develop life-long education, awareness and responsibility throughout educational systems adherence to environmental requirements. Ecological awareness consists not only of the knowledge, but also of emotionally-willing components that are very important, because knowledge without a belief and practical activity do not mean much (Ćurčić et al., 2012).

Ecological education and the formation of an ecological way of thinking start at a young age, and the role of educators is therefore very important at all levels to provide knowledge. The task of education is to provide such knowledge to the growing generations: teaching them how to solve environmental problems, the hazards of the endangered environment, and the methods of removing negative consequences of the disturbed ecological balance. Taking into consideration the philosophy of the education, it's perfectly clear that all activities should be directed towards professors and teachers and their ability to teach young people how to think and how to act. Emphasis is placed on skills developing and horizons broadening, that could be used in process of decisions making in risk management. Of at most importance is developing the way of critical thinking (Zint, 2001). In order to be able to expect ecological behaviour, changes in people's attitudes and pro-environmental behaviour can only be done by introducing ecological content into all levels of the educational system. Regarding the needs of environmental protection, it is necessary to answer the following points: What are the necessary factors, how many and when do they contribute to the goal of building an ecologically responsible personality? How an individual sees the contribution of individual factors in achieving

the goals and tasks that are posed as demands and needs of preserving a healthy and quality life is an important point.

The Environmental Education (EE) system in Serbia is not reflected in the concept of Education for Environmental Citizenship. This report aims to provide the orientation of Education for Environmental Citizenship in Serbia. The following SWOT analysis is based on the expert surveys of six decision-makers. Two experts work in the field of EE, Education for Sustainable Development (ESD) or in Science Education (SE)/Citizenship Education (CE) (n=2), one educator/teacher in primary education who works in EE/ESD or SE/CE (n=1), an educator/teacher in secondary education who works in EE/ESD or SE/CE (n=1), a decisionmaker at a national NGO who works in EE or ESD (or secondarily in SE or CE) (n=1), and a decisionmaker in Educational Professional Society who works in EE or ESD (or secondarily in SE or CE) (n=1).

Despite our initiative to involve in the survey representatives of the relevant ministry, policy-makers from the Ministry of Education RS, who should be the most competent to sublimate what is legally and formally established by the legislation in Serbian educational system in respect to environmental education, the ministry representatives did not respond.

According to the experts, Education for Environmental Citizenship is not seen as an applicable instrument to influence environmental responsibility on a large scale. Education for Environmental Citizenship alone cannot provide solutions to environmental problems. EEC requires interdisciplinary collaborations and long-term dimensions for its successful implementation. In formal education, it is not differentiated. For example, in primary and secondary schools EE is part of a broad range of subjects (biology, geography, physics, and chemistry), and Education for Environmental Citizenship requires precise preparation and planning from the teacher. The success of Education for Environmental Citizenship strongly depends on the teacher's potential to create a participative and motivating learning environment. In the future process of the more efficient actions in EEC digital and online learning (DOL) has to be more visible.

19.2 Strengths of Education for Environmental Citizenship in Serbia

According to the respondents of this survey, the major advantages of Education for Environmental Citizenship include: having a holistic approach; understanding of how nature and society are connected and dependent; developing responsibility; providing opportunities to merge students' experiences from different themes (i.e. cross-curricular and integrative topics); educating critical-minded citizens; facilitat-

ing decision-making at early age; facilitating students' self-awareness and prompting them to act accordingly; participating actively; being personally responsible; and taking into consideration local, regional and global issues.

19.3 Weaknesses of Education for Environmental Citizenship in Serbia

According to the experts, the weaknesses of Education for Environmental Citizenship in Serbia are: the discrepancy between engrained socio-economic and political community values (i.e. the local community is on the threshold of poverty); overall centralistic tendencies in the country; the complexity of issues addressed that could lead to excessive theorising; presenting Education for Environmental Citizenship in an old fashion manner and in academic manner (not applicable for all citizen to understand); values not appreciated by the overall social environment (i.e. gender equality in Serbia); a rigid and centralised education system; economic poverty at a community and individual level; political strife (efforts to attract foreign investors and to increase profits because of the lack of strict environmental protection regulations, at the expense of citizens and local natural resources, for example, small hydroelectric power plants construction are now a serious problem and reason for rebellion against government); the instability of the education system (change of educational policies with change in governmental structure); the lack of support of the important local/national stakeholders or decision-makers; no guarantee of behavioural change; the avoidance of theoretical learning; the lack of ministerial support; a lack of educational material; uneven regional development in Serbia where there are regions where rural schools do not have material for work, no writing boards, no pupils, no teachers; superficial learning; the potential of too much citizenship and not enough understanding of how nature works (remaining shallow and not going into the ethics of environmental protection); and an undeveloped environmental educational system on a country level.

19.4 Opportunities of Education for Environmental Citizenship in Serbia

19.4.1 Obligatory education

This level of education starts with the preschool curriculum (age 6 to 7) comprising of the mother tongue language, knowledge of nature and society, and artistic and musical education. By incorporating the ecosystem into the curricula of individual subjects, they become an integral and inseparable part of the programme.

The preparatory preschool programme is part of a compulsory nine-year education, realised within the framework of preschool education and prescribed by the

legislation. Getting to know the natural and social environment is one of the fields of work in the preparatory preschool programme, where the contents from the environmental protection are incorporated and goals are prescribed by the Order on the General Principles of the Preschool Programme. Some of the objectives include: knowledge of the common habitats of certain plants and animals and their connection to 'food chains'; the concept of living beings that adapt to living conditions (simple examples); knowledge of the ways in which the person affects the environment and the consequences; the methods of polluting water, soil and air, and the procedures where pollution is reduced or avoided; an awareness of how we can benefit from forests and ways to preserve and restore them; knowledge of noise as an kind of the environmental pollution and how to solve it; the knowledge that every individual has the ability to contribute to the preservation of the environment and have an elementary understanding of the ecological message 'Think globally, act locally'; awareness to respect and love nature, living beings, and the motivation of keeping and improving these values. These goals are set through various activities, such as workshops, observation, interviews, excursions in nature, etc. Still, the most appropriate activity is the game that provides the learning situation.

In the first cycle of elementary education, environmental content is often intertwined by correlation through almost all subjects. However, they are mostly represented in primary school subjects that are called ''The world around us'' in the first and second grade (age 7 and 8) and ''Nature and society'' in the third and fourth grade of elementary-primary education (from 9 to age of 11). The main goal is to make a basis about environment issues and to development environmental awareness. In the first and second grade (from age of 7 to age of 9), the most important aims include: forming basic knowledge about nature and society; encouraging children's interests, questions, ideas regarding the environment; supporting, developing research activities and encouraging the perception of causal relationships, phenomena and processes around us and developing a responsible attitudes toward ourselves and the environment respecting the others. Most of these goals are achieved through the realisation of the subject content that treats natural phenomena and processes in the environment. The curriculum of the subject ''Nature and Society'' is realised in the third and fourth grades (age of 9 up to age of 11). The general goal of this integrated teaching is getting to know yourself, your own natural and social environment and developing the capacity for a responsible living. This subject represents the continuity of previously acquired knowledge from younger grades and is realised through acquiring elementary scientific literacy, developing the ability to perceive basic properties of objects, phenomena and processes in the environment, and observation of their connection. Ecological content in older grades of elementary education, from grades 5 to 8, are represented through teaching subjects of natural sciences: biology, geography, chemistry and physics.

In the biology curriculum, environmental content is studied or interlaced through teaching content in grades 5 to 7. During the school year 2018/2019, a reform of education in Serbia started, and under this reform digital textbook for biology for the 5th grade was created, according to contemporary trends and it should fully correspond to the contents of the new Teaching and Learning Program for the

subject of biology (https://www.adriadaily.com/drustvo/predstavljen-digitalni-udzbenik-biologija-5-izdavacke-kuce-novi-logos/).

In the prescribed goals intended to be realised are a love for nature and a sense of duty to guard and protect it. These goals are achieved through the set of tasks in biology subject: students develop a sense of responsibility towards the state of the environment; they understand the degree of vulnerability biosphere and the role of each individual in protecting and promoting it. These tasks are being implemented through theoretical lessons, as well as during the exercises and practical work. In the grade of 7 the aims of the teaching biology are: understanding of ecology and its importance, understanding of environmental conditions and their importance; the realization of the system of environmental organizations in the nature and relationships within it; respecting the interrelations of living beings and the environment and the dynamics of the relationship between matter and energy; understanding the continuity of ecosystem maintenance; identification of causes and consequences of changes in them; understanding the importance of ecological balance for maintaining ecosystems; learning the basic types of ecosystem and the environment in them; developing ecological awareness and ecological culture; and understanding of the position and role of man in the biosphere.

Geography is taught in all grades of the second cycle, from grades 5 to 8. Environmental contents are mainly studied through the content of physical geography (lithosphere, atmosphere, hydrosphere, biosphere). The main task of this curriculum is that students should understand the need to preserve, improve and protect the nature and complex geographical environment in which humans exists. One of the goals of teaching geography is to educate students about the importance of protecting all Earth's spheres as an ecological framework for life on Earth and to form responsible attitudes towards the environment.

Chemistry is taught in grades 7 and 8 in elementary-primary education. General chemistry is studied in grade 7 (age 13 to age of 14), and inorganic and organic chemistry in grade 8 (age 14 to age of 15). One of the main goals of subject chemistry is to develop awareness of the importance of responsible and rational use and disposal of the various substances in everyday life. The goals are achieved through educating students to acquire knowledge about the properties of substances and to understand the importance of chemistry in everyday life. Teaching chemistry is realised through theoretical lessons, exercises and demonstration experiments.

Physics is taught in grades 6 to 8 (age from 12 to age of 15). The physics curriculum is designed to teach pupils basic physical laws and phenomena that prevail in nature. One of the teaching goals is to understand the connection between physical phenomena and ecology and develop awareness of the needs to protect, restore and improve the environment. The goals are achieved by educating about natural laws and forces, types of energy, and to understand these phenomena in nature.

19.4.2 Elective courses in compulsory education

Based on environmental content, the elective subject in the first cycle of primary education is Nature safeguards. Environmental contents are interwoven also through other elective subjects, such as Hand in Dough and National Tradition, etc. The subject Nature safeguards is offered as an elective in grades between 1 and 5 grade. The objective of the course is to develop awareness of the need and possibilities of personal engagement in the protection of the environment, the adoption and application of the principles of sustainability, ethics and the rights of future generations to live in preserved environment. The subject Hand in dough is offered as an elective in grades 1 to 4. The basic idea of introducing this elective course is to cultivate, encourage and develop natural child curiosity. The aim is the development of basic concepts of natural science and their interconnection.

The main aim of these elective subjects for the first grade pupils is to introduce kids with the basic elements of the environment, to spot and describe the basic concepts and changes in environment, threats to the environment, and to develop a responsible relationship with environment and the habit of rational use of natural resources. In the second grade the tasks are more complex and students are asked to master the concept of the environment, to recognise and describe the most striking changes, to acquire knowledge about problems and to develop responsible attitudes towards themselves and the environment. In the third class, the tasks to be accomplished include being able to recognise negative effects of the human relationship to the environment, notice the causal and consequential relationships, acquire the habits of responsible behaviour towards animals, and to solve the simple problem of the situation independently or in the team. Similar tasks are presented in the fourth grade.

In addition to the above-mentioned compulsory and elective subjects, the environmental education can be realized through optional activities. Such activities include teaching natural sciences through additional lessons ‘’sections’’ (ecological, biological, geographical, and hiking) mainly once or twice per week, as well as through ‘’school in the nature’’. These activities can include: eco actions, ecological corners, ecological excursions, and ecological workshops, etc.

Environmental content allows pupils in primary school to become familiar with the basic concepts such as the notion of disturbance of ecological balance and degradation of the environment, and how to acquire knowledge of the negative effects of the pollution and about prevention and protection of negative impacts. A modern environmental education requires that the teaching subjects that study the environmental issues should compile the standards and skills in ecology, and to strive to form valuable environmental orientation of the pupils. The structure of the eco-value system is influenced by other factors: the education system, global society, technological development, ecological movements and traditions. The family and collective contribute significantly to creation of ecological value system of the young population.

19.4.3 Secondary education

Environmental content is studied through general educational subjects (chemistry, physics, biology and geography) in most of the secondary schools. As a special separated teaching subject, ecology appears for the first time in particular secondary vocational schools. But generally the ecological content studied in secondary schools depends for what profession the students are educated. In grammar and language a school that belongs to a group of general educational secondary schools, ecology as a special teaching subject is not present. However, ecological contents are represented through the natural sciences subjects (chemistry, biology, physics and geography). Secondary vocational schools cover a large number of areas and wide range of educational profiles: art and craft, health and social welfare, agriculture and food processing, forestry and woodworking, economy, law and administration, trade, tourism, mechanical engineering and metalworking, engineering, geology, mining, metallurgy, chemistry, transport, textile and leather goods, etc. The inclusion of environmental content in the curricula depends on the educational profile and how close it is with natural science and environmental issues.

In four-year and three-year educational profiles, in almost all secondary schools content related to environment is studied through general education subjects (chemistry, physics, geography) and as special teaching subject ‘’ecology and environmental protection’’. In the most of the educational profiles this subject is studied during one school year. In three-year educational profiles that are directed to the topic of ecology and environment, knowledge on environmental protection are acquired through vocational subjects. Environmental content should ensure that students through secondary education acquire environmental knowledge which can be used in professional tasks, but also that after secondary vocational education we get ecologically educated personnel. Staffs that are trained for vocational educational profiles related to environmental protection must be trained to monitor measure and analyse pollution and take necessary preventative and protective measures. The educational process in secondary schools represents a conscious and planned development of environmental responsibility. This aims to develop an awareness of the basic characteristics of the environment, the relationship in it and to it, on the basis that a person will seek to preserve and improve the environment. At this level, eco-education should provide a reliable knowledge of the basic ecological issues of contemporary society; it should develop a critical attitude towards growing environmental degradation and point to the necessity of rational use of natural resources.

19.4.4 Higher education

The intention to reduce the negative consequences of various activities on the environment significantly influenced the growing interest of young people to study environmental issues. In the bachellor, specialist, master's and doctoral studies, study programs in the field of environmental protection are represented at many universities in the Republic of Serbia, in greater or lesser extent (Ćurčić et al, 2012).

Many faculties have departments that are specialized in providing higher education in eco-safety and environmental protection (i.e. Faculty of Physical Chemistry, Faculty of Biology, and Military Academy). Highly-qualified personnel must have a scientific potential that will create a strategy of ecological security as a comprehensive and durable programme that can successfully fight against environmental threats. Academic community and all interested parties must create a basis for the planning of ecological security. This issue is important in the process of creation emergency management system where employees have to have specific knowledge and skills. In the area of environmental emergency management in cross border this issue is one among the most important. The concept of EC could be a new tool which can help the border population without waiting the response of political elite (Jovanovic and Radovic, 2018).

Basic importance of programs and activities raising the level of higher education eco knowledge and skills should be to foster visionary, interdisciplinary research and participatory approach. High quality education will affect the construction of the system of values, encouraging the formation of attitudes to produce positive forms of behaviour and responsible decision-making. It is concluded that 'protection for the environment will be more successful if it is implemented as quickly as possible'. If the academic and scientific community, who should help in creating the basis for planning the development of society, do not seriously and responsibly understand the dangers that impend this world and if it does not vigorously warn society and decision makers, then the consequences of an irresponsible attitude towards the environment will become a threat to civilization. Educating on how to solve complex problems in a timely manner is a matter of knowledge, experience and training. In order to realise the concept of sustainable communities, i.e. secure the future and prevent a planetary catastrophe produced by society, it is necessary to make a profound education transformation in all fields of present social pattern of eco-security. The goal of the process is to ensure the quality of education and to make learning a pleasure and a joy. Teachers must always be able to discuss with students and attain experience and be able to measure their achievements. Environmental education requires being re-inventive (in economic terms, innovation represents applying new ideas, since every appearance of a new idea makes an invention) (Adamović, 2009).

If we want to avoid it and become a low-cost economy, then the government must do everything in its power to provide investment in environmental education and permanent learning. This will transform the educational system and result in a high-quality education institution. Philosophy is adapted to the ultimate goal of achieving perfection and this will greatly affect the different political and social environment. How much a country will develop largely depends on how much it invests in education. Money invested in education will reap rewards soon afterwards and this is why it is necessary to encourage the introduction of the environmental, sustainability and ethic principles into environmental education (Adamović, 2009).

Education played a major role in the development of human civilization and also is crucial for the achievement of sustainable development. UNESCO explains: "A key feature of the 2030 Agenda for Sustainable Development is its universality and

indivisibility. It addresses all countries – from the Global South and the Global North – as target countries and numerous influential international organizations (Al Zubi and Radovic, 2018 from United Nations Educational, Scientific and Cultural Organization [UNESCO], 2017, pg. 6).

19.5 Threats of Education for Environmental Citizenship in Serbia

According to interviewed experts, in Serbia we need better laws and role models (both people and organisations) to help raise the level of environmental awareness. There is overall insensitivity of political structures to educational issues in Serbia, especially regarding environmental education. Overall economic situation precludes necessary funding of education in general/reactive poverty of local communities. It is hard to implement education because of the lack of motivation, and there is also lack of competent well trained and well educated educators in the field. There is a progress, changes in the education system in accordance with the needs of the 21st century, primarily in making network of schools; modern programs are expected in the framework of dual education and reduction of regional inequality. It is about writing and providing textbooks for national minorities and SDG 4 (Sustainable development goal 4 – quality education) based on Agenda 2030 UN.

19.6 Conclusion

Despite the difficult historical legacy of communism and socialism in which the individual and the environment were neglected, in the last two decades, that is, after 2000, progress has been made. The legislations is slowly moving toward recognition of the importance of the individual and the environment. The private system at all levels has influenced the strengthening of competitiveness and the improvement of programs in the field of education, as well as in the area of EE and EEC.

It can be concluded that despite environment and ecology as a separate teaching subjects is not present in the compulsory education system, there is continuity in the study of ecological contents from the pre-school age. How much environmental content will be represented in the obligatory, electoral and optional activities depends on the affinities and interests of pupils, teachers, as well as the educational system as a whole. The weaknesses of EEC in Serbia are the dependences of possibilities to create a participative and motivating learning environment, lack of understanding of the environmental and social consequences of the own actions and sustainable responsibilities. The pace in which the Serbia is changing, demands matching ability of citizens to be better educated. It is the duty and job for policy makers, parents, teachers, businessmen, and all interested parties.

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20. SWOT Analysis of Education for Environmental Citizenship – Short Country Report Slovakia

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Abstract: This report summarises the views of experts in the area of environmental education in Slovakia. It introduces the SWOT analysis of Education for Environmental Citizenship. Six participants representing teachers, researchers and professionals working in government and non-government decision-making bodies responded to the questionnaire. The important outcome of the survey are remarks of respondents about unclearness of the terms used in the questionnaire. In fact, the differences between all the proposed kinds of education (Citizenship Education (CE), Environmental Citizenship (EC), Environmental Education (EE), Education for Sustainable Development (ESD), Science Education (SE), and Education for Environmental Citizenship (EEC) are not recognised in Slovakia. From a formal and institutional point of view, one of the main disadvantages is the formal status and position of Education for Environmental Citizenship within the educational system in Slovakia. In Slovakia, just the EE is a part of the State Educational Program in terms of goals, performance and content standards of education of almost all compulsory subjects and it is one of the cross-cutting themes. It is also a part of the National Education Program for all levels of education and could be an individual learning subject in school education programmes. 'Formality' could be seen to be an unsolved issue because Education for Environmental Citizenship is often only performed formally. Education for Environmental Citizenship focuses mostly on schools without having a broader impact on the public. Here, school managers and teachers are not properly motivated to develop environmental issues. On the other hand, several experts mentioned that non-formal Education for Environmental Citizenship is more easily applied, as any adjustments in formal education requires appropriate adjustments to legislation, directives and regulations related to school system.

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20.1 Strengths of Education for Environmental Citizenship

First of all, it should be mentioned that there is no difference between the terms 'Education for Environmental Citizenship' and 'Environmental Education' (EE) in Slovakia. Though respondents may understand that these terms do not mean the same, some answers should not have to take this fact into account. One participant responded that Education for Environmental Citizenship could cover a wider group of people and therefore have better impact on the environment (in case of active citizens). It is understood that EE is mainly aimed at children and students, while Education for Environmental Citizenship could focus on a wider group of adults and decision-makers. EE is part of the National Education Program for all levels of education and it is a subject in the school education programmes. At the same time, it offers a variety of forms and methods in schools, depending on the interest of the school, the teachers, pupils, the school region, etc. There is also an opportunity to appoint an EE school coordinator.

Other advantages identified by the respondents include being able to receive significant help from other organisations, it is attractive to schools (because of external support), and it yields good practice examples (e.g. participation in the Eco-Schools programme, the project Eat Responsibly, Young Reporters for the Environment, etc.) Participating teachers are motivated, and such projects enable active environmental education by NGOs (education for teachers, cooperation with schools). EE is also part of the obligatory school curriculum. Children are able to behave environmentally and think realistically. It is important to ensure that there is a link between education and practice.

Respondents also pointed out the areas in which Education for Environmental Citizenship could perform better than other types of educations. Education for Environmental Citizenship could concentrate more on decision-makers at family level, company level and society level. It has the potential to better explain the responsibilities necessary for the future of the environment and inform on the practical measures that citizens can implement within a family/community/municipality. It can comprise small environmental community projects, volunteering, environmental activities such as games or competitions. Education for Environmental Citizenship could contribute to the development of education and teacher preparation at universities, improve environmental education and ecological awareness within municipalities, and become part of the school reform system.

There are also several unique features to Education for Environmental Citizenship. It can support citizens in their response to the current social and ecological problems in our globalised world. It is an inquiry-based science education that directly connects and involves citizens. We need active and educated municipalities that cooperate with schools, we need the support of school clerks, and money for the education of teachers and for the realisation of projects in the practice. There is a great deal of readily available information, we have good practices, we know how, but we need better conditions. Education for Environmental Citizenship should without a doubt be considered as a type of project-based education.

The strengths of Education for Environmental Citizenship are based on the principles of sustainability. The main benefits identified by the respondents include a strong linkage to the educational standards of many compulsory subjects, an ability to connect educational organisations with institutions from practice, the use of personal experiences and strong motivation, the use of a heuristic method and the assurance of a long-term memory of students.

20.2 Weaknesses of Education for Environmental Citizenship

Respondents were asked to identify the weaknesses of Education for Environmental Citizenship. Considering its institutional and formal aspects there is a small number of accredited training programmes on the course as well as an absent undergraduate (future) teacher training resulting in the failure of teachers of different subjects to correctly implement the topic. Related to these is a weak motivation of school leaders and teachers, and the fact that the work of the environmental education coordinators is only performed at formal level, educational objectives are then met on this level only. There is a limited time scheduled for this kind of education, often the teaching is only theoretical and children do not believe that they can act environmentally. Moreover, it is believed that without the support from families, EE cannot be very effective. On a state administration level, there is insufficient self-government interest and too much political pressure towards municipalities. From the point of environmental NGOs (ENGOs) there are no sufficient official long-term financial resources available to develop this educational area (financing is tied to particular short-term projects).

Teachers and students see the main weaknesses of Education for Environmental Citizenship to be both the formal nature of this education and ineffectively applied measures, resulting in greenwashing. It is also time-consuming as many activities have to be organised after school for students as well as teachers. Some teachers see these activities as a burden. Unsuitable teaching methods appear to be a weakness.

Underlying factors behind these weaknesses are those linked to the unwillingness and apathy among teachers and students/citizens. Too much theory, information or school subjects (classes) relating to EE already exists. However, in reality the behaviour of society and, in particular, governments and politicians is changing very slowly in favour of the environment. Other factors include pressure from political parties and business corporations, weak self-confidence of students, social status of special communities (e. g. Roma/gypsy communities) and the low motivation of teachers.

To overcome these weakness, Education for Environmental Citizenship should not be aimed at explaining the basic ecological principles and the issues addressed by EE. Instead, it should focus on practical measures that citizens can apply in their everyday lives (as individuals or within the family/community/municipality). It should also avoid ‘reporting’ activities only formally (on paper) in order to meet the

planned task and concentrate on carrying out those activities in the practice. Improvements can be seen in the area of teachers' education towards Education for Environmental Citizenship, better implementation of Education for Environmental Citizenship in practice, increasing professional abilities and motivations of education coordinators.

20.3 Opportunities for Education for Environmental Citizenship

There are several factors favouring the development of Education for Environmental Citizenship. Several of them relate to the legislative environment (e.g. the adaption of legislation both governmental and EU) and include: supporting local producers of goods and services, and adapting regulations or measures to gradually reduce a consumer lifestyle (these measures should economically motivate people to adhere to the rules for reducing the consumption). The realisation of small environmental community projects, volunteering and environmental activities such as games or competitions can also be seen as opportunities. Another attractive prospect follows on from the fact that Education for Environmental Citizenship is based on the principles of sustainability – it could engage citizens to participate in project and activities in communities and help them move towards sustainability. Trained communities can inspire others to do similar things and therefore become aware of environmental issues. This can lead to an increased interest in studying environmental programmes, organising more voluntary activities and events as well as collecting and sharing new ideas to improve the environment.

There are also several trends that support these opportunities identified by the respondents. There are new technologies available for the production of clothing from renewable sources. Currently, plastics from recycled waste are used in the garment industry. However, the future will be products made from biomass (tencel, flax, bio cotton, cellulose and lignin). This new technology should also be supported by legislation in order to make biomass products economically beneficial. Another positive trend is that Education for Environmental Citizenship is considered to be an inquiry-based science education, incorporating interactive aspects, good practices and promoting cooperation between municipalities, schools and universities. Trends in consumer patterns (buying local food, minimalism, yard/garden sales, recycling, bio agriculture) are also in favour of the positive development of Education for Environmental Citizenship. At the same time the environmental legislation supports changes towards better conditions. Companies and their strategies and policies contribute to a better awareness of environmental education and environmental issues.

20.4 Threats for Education for Environmental Citizenship

Main threats are linked to obstacles that can impede the positive development in this area. They may be related to the weak economic motivation of citizens to adhere to the sustainable development goals and principles, the indifference of people to engage in participatory governance or to the strong economic and lobbing position/impact of transnational companies in the oil/plastics industry. Education for Environmental Citizenship is still not recognised by the government as an educational priority. In order to achieve this, a complex school curriculum reform is needed and there is a need for more non-political city management. From a methodological point of view there might be an absence of concrete methods for Education for Environmental Citizenship activities or an insufficient number of volunteers to teach these issues. Other obstacles can be of a financial nature that relate either to the low amount of available resources or a weak motivation to promote recycling. Some problems may also reflect the fact that Education for Environmental Citizenship is often only performed formally, school leaders and teachers are not properly motivated, and Education for Environmental Citizenship focuses mainly on schools without having a broader impact on the public.

Changing technologies are also considered to be a threat. There is currently a general economic and technology trend to produce products with a shorter life span. This trend forces the population to frequent store exchanges and to buy new products, although this might not be necessary. These technological and economic practices of companies have a negative impact not only on environment but on Education for Environmental Citizenship as well.

In general, most of respondents see threats and obstacles similar to weaknesses.

20.5 Additional Aspects of Education for Environmental Citizenship

Regarding the performance of Education for Environmental Citizenship in comparison to different types of education (EE, ESD, SE, ESD), it is difficult to define any substantial differences as, in Slovakia, there is little difference in terminology. Similarities between individual types of education are summarised in Table 20.1.

Table 20.1 Similarities between individual types of education.

SWOT question	mean	max	min
To what degree (1-5) is Education for Environmental Citizenship similar to Environmental Education (EE)?	3.8	5	2
To what degree (1-5) is Education for Environmental Citizenship similar to Education for Sustainable Development (ESD)?	3.8	5	3
To what degree (1-5) is Education for Environmental Citizenship similar to Science Education (SE)?	3.3	4	3
In what degree (1-5) is Education for Environmental Citizenship similar to Citizenship Education (CE)?	3.5	5	2

n=6

Respondents agreed that there is a general lack of study materials in the field of Education for Environmental Citizenship and materials in the Slovak language in particular. Existing materials are only translated from foreign languages and therefore do not necessarily reflect the specific country situation. On the other hand, there is a lot of good materials for EE and sometimes it is hard to choose the right one. When deciding on a particular material a critical judgment has to be applied. There are also different applications available and several ENGOs have published working sheets, short videos and organised different workshops. There are different forms and methods such as projects, seminars, teaching blocks, courses, excursions, exercises, creative workshops, different programmes and competitions.

Most of the respondents did not see differences between formal and non-formal education regarding the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship. However, some did point out that non-formal learning provides better experiences, contacts, materials, collaboration and communications and have a better impact on participants. Non-formal Education for Environmental Citizenship is much easier to apply and any adjustments in formal education require appropriate changes to the legislation, directives and regulations that relate to the school system.

There is stronger motivation and more time for different activities in primary education compared to secondary, as in secondary education such activities are only offered on a voluntary basis. There are also more projects available for primary education. However, even if primary education is quite good, the problem stands with the transfer of knowledges and skills from schools to households. Secondary school education is more engaged in volunteering. Age is a limiting factor for participating in environmental activities. Older children are enthusiastic to be different and they like to behave more like adults, so they feel they can really make a difference. However, in both degrees of education it depends on the teachers and their motivation to perform well.

20.6 References

Answers from the stakeholders:

- Standardized questionnaire – from 3 experts, January-February 2018
- Personal standardized interviews with 3 experts, carried out in January-February 2018

21. Spanish SWOT Analysis of Education for Environmental Citizenship

Strengths, weaknesses, opportunities and threats for Environmental Citizenship in Spain

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Abstract: The content analysis of experts' responses consider Education for Environmental Citizenship necessary to tackle current societal challenges and reveal a complex conceptualisation of the construct integrating features from other related approaches to enact a new model of citizenship. However, they consider it to be a complex and highly demanding educational approach that goes beyond the usual boundaries of teaching and learning. Its intention is to shape people's beliefs and habits, to deeply affect personal and social values and behaviours in order to promote highly committed citizens who are actively engaged in the mitigation of environmental problems. Additionally, they believe that Education for Environmental Citizenship is not a well-known concept at a national level and can be confused with other approaches such as Citizenship Education (CE), Environmental Education (EE) and Education for Sustainable Development (ESD). They mention the difficulties of integrating Education for Environmental Citizenship into the Spanish educational system, due to the current school structure and curriculum and the lack of concern, recognition and preparation from teachers. The other main threat mentioned by experts relates to the predominant economical model and consumerist values that go against Education for Environmental Citizenship goals and suggest reinforcing social networks of people sharing Education for Environmental Citizenship concerns. As opportunities, they mentioned an increasing preoccupation for environmental issues, particular trends in teacher education, the possibilities offered by current technologies, and specific programmes and funding in this line.

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21.1 Introduction

A group of experts in Science Education (SE), Citizenship Education (CE), Environmental Education (EE) and Education for Sustainable Development (ESD) from different fields took part in a national analysis of Strengths, Weaknesses, Opportunities and Threats (SWOT) for Education for Environmental Citizenship in Spain. They were selected to represent expertise as researchers (one participant), educators (two participants) and decision-makers in educational policy (one participant), professional associations (one participant) and a national NGO (one participant). Additionally, we received feedback from two additional decision-makers at professional associations and four researchers in the previously mentioned areas. A table outlining the experts and their fields is below.

Table 21.1 Background information of Spanish participants

Participant	Expertise	Field
JL	Decision-maker	Educational Professional Society
GS	Decision-maker	Educational Professional Society
FVC	Decision-maker	Educational Professional Society
SGS	Decision-maker	National NGO
EG	Policy-maker	Policy Maker in the Ministry of Education.
FG	Researcher	Researcher –Citizenship Education
MLL	Researcher	Researcher –Education for Sustainable Development.
IB	Teacher	Educator – Teacher in Secondary Education.
JP	Researcher	Researcher –Environmental Education and Science Education.
LM	Teacher	Educator – Teacher in Secondary Education.
RDM	Researcher	Researcher –Education for Sustainable Development.
SG	Researcher	Researcher –Citizenship Education.

21.2 Strengths of Education for Environmental Citizenship in Spain

When asked about advantages of Education for Environmental Citizenship, experts referred to it as the best alternative available to face current problems and key societal challenges relating to the future of our planet. Some of the benefits mentioned

include: the awareness of the impact of humans' actions, the concern about future generations, promoting sustainable behaviours, and fostering consistent policies that support mitigation of environmental issues. We present below some of the quotations that illustrate how experts express these ideas:

"Education for Environmental Citizenship is the best alternative that we, as individuals and educators, can offer society to try to counteract the self-destructive process in which humanity finds itself. Only new generations can reverse the planetary emergency situation that we live in" (JP, researcher).

"It prepares young citizens to face the serious environmental and social problems of our world" (FG, researcher).

"It connects environmental problems to daily life and individual and community problems, and generates an awareness of the environmental implications of our lifestyle" (JL, decision-maker at an educational professional society).

"It raises awareness of environmental issues, and the need to respect and conserve the world we live in" (IB, teacher).

"It has the potential to educate young citizens in collective responsibility with respect to the planet" (FG, researcher).

"It fosters solidarity through thinking of future generations, with a strong component on social justice" (MLL, researcher).

"It causes the demand of pro-environmental policies" (JL, decision maker).

"In my opinion, Education for Environmental Citizenship could help citizens become aware of the consequence of their daily actions, help them change their habits and organise themselves within networks that try to influence the political and economic powers, so that the pro-environmental values form part of the priorities agenda" (JP, researcher).

When reflecting on the implications of Education for Environmental Citizenship at the school level, experts talk about benefits relating to the promotion of environmental minds and habits in students and the opportunity of implementing a more active interdisciplinary education to better connect with students' lives. Below are quotations expressing these ideas:

"It promotes environmental minds in our students" (LM, teacher).

"Introduces concepts and habits of sustainability in schools" (GS, decision-maker at an educational professional association).

"It integrates content from various school subjects to achieve better educational objectives, connects the school context with the social contexts, develops responsibility and civic commitment of the students and offers the possibility to make school education more active" (FG, researcher).

Trying to categorise experts' responses according to prominent themes, we can see that some participants emphasise the behavioural component of Education for Environmental Citizenship:

"Environmental health depends on citizen/consumer behaviour" (GS, decision-maker at an educational professional association).

Environmental Citizenship has to do with "knowing how to behave as responsible citizens in the environment" (IB, teacher).

"It allows modulating consumption habits in terms of environmental impact" (JL, decision-maker at an educational professional society).

"It is a way of changing personal habits and it helps to strengthen civil society because people are invited to participate in social organisations" (FVC, decision-maker at an educational professional society).

We also find other responses that emphasise the citizenship dimension and consider Education for Environmental Citizenship as a necessary component of CE:

"Education for Environmental Citizenship is devoted to citizenship, which supposes social, political and economic considerations" (FVC, decision-maker at an educational professional society).

"Starting from the idea that the exercise of citizenship should permeate the different spaces of public and private life, Education for Environmental Citizenship implies a social pedagogy, which develops competences to live in a way that implies in the subjects the deliberate capacity to know how to choose between several options, based on ethical considerations and community interests" (EG, policy-maker).

"It will focus on citizen responsibility on environmental aspects. The citizen must be responsible in many other social areas, but especially in the environmental contents" (IB, teacher).

"According to Dobson, CE is the most appropriate option. The starting point must be SE and the educational curricula must contain ESD and EE in a transversal way. But the ultimate goal is to train future generations in a broader and deeper notion of citizenship, which assumes ecology as a necessary ontological condition" (SGS, decision-maker at a national NGO).

When comparing Education for Environmental Citizenship with CE, EE or ESD, several experts highlight similarities or consider that there are slight differences just concerning terminology or where the emphasis is placed:

"I think they are more rhetorical than substantive differences, except in the case of science education" (JP, researcher).

"I cannot see big differences with ESD, I see it as very complete. Perhaps I need to study it better" (MLL, researcher).

"Basically, only the emphasis on certain specific themes of education for EC differs from the other fields" (EG, policy maker, Ministry of Education).

"I think that from all the options you can work on issues of environmental responsibility" (IB, teacher).

However, other participants focus their responses on identifying differential features of Education for Environmental Citizenship. In the following we present some quotations pointing out differences between Education for Environmental Citizenship and other forms of education. Most of them refer to a stronger emphasis on behaviours with prevalence of the social dimension, highlighting concepts such as community, responsibility and citizenship when dealing with environmental issues:

"I think it is complementary to other types of non-formal education such as EE, and this will help us to establish and maintain sustainable behavioural habits from childhood" (GS, decision-maker, Educational Professional Society).

What is different is "adding to the environmental education the citizenship subjects, as the main factor for the success of environmental regulation and health" (FG, researcher).

"The transversality of pro-environmental behaviour is clearer than from classical environmental education; a naturalistic approach" (JL, decision-maker, Educational Professional Society).

"Environmental education could be very personal. Instead, Education for Environmental Citizenship includes a social point of view" (FVC, decision-maker, Educational Professional Society).

The main difference from the other options is "the social dimension of the action" (JP, researcher).

"The environmental responsibility of everyday acts at the community level is assumed in a more evident way" (JL, decision-maker, Educational Professional Society).

"The slight difference would be the social point of view, but ESD has it (the social point of view) very strongly" (MLL, researcher).

Additionally, some of the participants' responses to the question about the benefits of Education for Environmental Citizenship express a complex vision that goes beyond other approaches and combines key features of CE, EE or ESD. We present some quotations showing experts' responses in this line:

"It encourages citizens' participation in other areas beyond the environment; citizen participation in general and in local management of environmental problems in particular" (JL decision-maker, Educational Professional Society).

"Education for Environmental Citizenship provides more value towards sustainability such as the powerful knowledge of citizenship" (RDM, researcher).

"Citizenship awareness is capital for the right implementation of environmental policies…to ask for the right implementation of environmental policies and environmental laws" (FG, researcher).

Education for Environmental Citizenship "incorporates ecology as an intrinsic element of citizenship, overcomes the territorial limitations of Nation States, updates traditional concepts of citizenship (liberal, republican and communitarian approaches) and incorporates a moral and historical dimension to the political and economic conception of citizenship" (SGS, decision-maker, National NGO).

When asked about what is unique about Education for Environmental Citizenship or what could be done in a better way through this approach, we find complex responses referring to education in/on/for the environment, a better capacity of integration of key goals from different approaches or a new model of citizenship challenging predominant values and behaviours:

Unique to Education for Environmental Citizenship are "specifically the themes that drive and lead to educate in the environment, on the environment and for the environment; those themes that contribute towards building a citizenship that is

knowledgeable about the biophysical environment and its associated problems, with an awareness of how to help solve those problems and a motivation to work towards their solution" (EG, Policy Maker in the Ministry of Education).

"An educational orientation with a greater integration capacity than EE or EC, separately considered" (FG, researcher).

"EC should be the basis for creating a new model of citizenship. The other types of education help to sensitize, raise awareness or promote a more ecological way of life" (SGS, decision-maker, National NGO).

"EC cultivates a new model of citizenship. Therefore, people will be more motivated to plant this new model that new generations will pick up. EC can be much more inspiring and motivating than the other types of education" (SGS, decision-maker, National NGO).

"You will see that educating for Environmental Citizenship involves fighting against a series of contradictory elements that exist in everyday life in which we perform as social subjects, and that brings us changes in the relationship with the environment" (EG, policy maker in the Ministry of Education).

Education for Environmental Citizenship "improves self-esteem and community resilience. Many people and communities can recover a meaningful existence. The exercise of environmental virtue can be the seed for a new society" (SGS, decision-maker, National NGO).

"Education for Environmental Citizenship could contribute towards improving new forms of environmental and cultural policy; understanding it as a process where the formation of citizens allows for the gestation of appropriate relationships between us and the environment" (EG, policy maker in the Ministry of Education).

21.3 Weaknesses of Education for Environmental Citizenship in Spain

According to the Spanish experts, one of the main weaknesses of Education for Environmental Citizenship is that it is a term not very well known or widely spread in Spain and it can be easily confused with other similar approaches, such as EE, CE or ESD, which are better known and are already integrated into the educational system:

"I don't think that EC education is widespread enough in order to compete with EE and it is not well perceived or known by people in general" (GS, decision-maker, Educational Professional Society).

"Environmental Citizenship is easily confused with the other categories" (SGS, decision-maker, National NGO).

Additionally, Education for Environmental Citizenship is considered to be a topic that is difficult to integrate into Spanish schools:

"It has very different characteristics from the usual school subjects, therefore it is hard to include it into school education" (FG, researcher).

When asked about weaknesses of Education for Environmental Citizenship, several experts referred to the difficulties that are related to a complex, ambitious and highly demanding concept in term of engagement, commitment and a change of values and behaviours:

"EC is a theoretical construction that needs to be implemented correctly" and "it is a way of being, not a style of consumption or language. It can be hidden through pseudo-ecological or new age messages" (SGS, decision-maker, National NGO).

"A critical exercise in Education for Environmental Citizenship requires both the ability to learn to solve problems or to appropriately handle the terms of public debate, as well as the ability to learn to interpret and commit oneself to values that promote an emancipatory form of citizenship oriented towards new sensibilities and social relationships" (EG, policy-maker, Ministry of Education).

"EC requires a committed educational community. It is not an academic subject, but a way of life harmonious with the environment and society" (SGS, decision-maker, National NGO).

"It is a personal effort to follow good practices on environmental issues" (MLL, researcher).

"It is a very long process that requires family participation, assistance from the teaching staff, the students, the Administration and the rest of society" and "EC requires an internal transition that forces a change in values, beliefs, attitudes and individual and collective behaviours" (SGS, decision-maker, National NGO).

"Too ambitious for a carefree or uninformed citizen" and "too complex for a very busy citizen" (JL, decision-maker, Educational Professional Society).

These intrinsic characteristics of Education for Environmental Citizenship pose some challenges:

"Difficulty in imitating models of social behaviour of other countries that are much more committed to the environment" and "difficulty in shaping mentalities and habits that have been consolidated since childhood" (JL, decision-maker, Educational Professional Society).

"People are very lazy in working on environmental issues" (MLL, researcher).

"It requires a lot of intrinsic motivation to overcome the inertia of a selfish and anthropocentric consumer society" (SGS, decision-maker, National NGO).

When asked about what should be avoided to implement Education for Environmental Education, participants mentioned provoking despair or hopeless, asking for unattainable commitments and promoting a political utopia, environmentalism or activism without enough reflection. Conversely, we should enhance an individual's capacity to argue about big conflicts and to uptake consequent actions. The following quotations illustrate how these ideas are expressed:

"The demand for unattainable commitments" (JL, decision-maker, Educational Professional Society).

"I believe that it (Education for Environmental Citizenship) should avoid environmental activism without reflecting on the current model of life and alternatives for the future" (JP, researcher).

We should avoid "Environmentalism" and "the political utopia" (JL, decision-maker, Educational Professional Society).

"We should not avoid 'big conflicts, clashes', these should help on argumentation" (MLL, researcher).

One expert claims that we should avoid Education for Environmental Citizenship becoming "a school subject similar to existing school subjects; it must have different characteristics" (FG, researcher).

In the line of recognising Education for Environmental Citizenship as a complex subject, experts point out at the importance of getting a good integration of key components and a proper balance of complementary elements: knowledge/action, theory/practice, personal/social, local/global, individual/collective:

"We should avoid focusing on the individual effort above the collective" (JL, decision-maker, Educational Professional Society).

"If only focusses on social aspects and forgets personal habits" (FVC, decision-maker, Educational Professional Society).

"Focus on the contribution of knowledge, forgetting the basic objective of developing civic engagement and civic action" (FG, researcher).

"Working on problems not linked to the students' environment" should be avoided (FG, researcher).

"The realisation of educational activities directed to a citizenship that is oriented to face the current socio-environmental problems is not a simple task. The local-global interrelation, if it is not treated properly, can imply a reductionism that weakens the educational results being achieved in terms of Education for Environmental Citizenship" (EG, policy-maker, Ministry of Education).

"Providing information only on environmental problems should be avoided. We must go further. Understanding our responsibility as consumers and facing concrete actions for change" (GS, decision-maker, Educational Professional Society).

Experts also expressed the importance of developing Education for Environmental Citizenship based on current scientific knowledge, as well as on previous experiences in closely related fields:

"EC must be based on solid foundations from a moral and political philosophy, law, pedagogy, psychology, environmental study or sociology. The exercise of 'environmental virtue' must be practiced from the language and the action, not only remaining in the theoretical formulation of contents or in pilot programmes without a rigorous evaluation. Above all, it must avoid confusion with pseudo-scientific or pseudo-religious practices, but take advantage of all the theoretical-practical baggage of political ecology, green political theory, new economies…, transition towns, eco-villages, economy of the common good, blue economy) and new ethical approaches (post-cosmopolitanism)" (SGS, decision-maker, National NGO).

21.4 Opportunities of Education for Environmental Citizenship in Spain

The most mentioned aspects related to opportunities for EE are: higher levels of public information and concern, increasing political and educational interest in the topic, the existence of specific programmes and public funding in this line, and the opportunities offered by technology to enhance communication and facilitate the study and dissemination of environmental problems.

The negative effect of environmental issues are becoming more evident and this fact is mentioned as an opportunity for Education for Environmental Citizenship and the generation or specific networks and organisations to react against environmental problems:

"Migratory movements caused by climate change" and "the increase in environmental diseases" (JL, decision-maker, Educational Professional Society).

"They are connected with the implication of ecologist organisations" (FVC, decision-maker, Educational Professional Society).

"The expansion of social movements to achieve another world" (FG, researcher).

"Social networks and volunteering" (JP, researcher).

When asked about opportunities and trends that can support Education for Environmental Citizenship, responses were the following:

"Education for Environmental Citizenship is in demand around the world. It is a very current and necessary subject" (FVC, decision-maker, Educational Professional Society).

"There is an increasing concern and interest from different administrations", "what is reflected in existing environmental education programmes" and "changes in education policy syllabus at primary and secondary school level and in local policies" (GS, decision-maker, Educational Professional Society).

"Changes in Government Policy or European Policy related to the field" (IB, teacher).

"Public funds to organise different concrete actions" (GS, decision-maker, Educational Professional Society).

When identifying supportive trends, different educational programmes are mentioned as good opportunities for Education for Environmental Citizenship:

"The education on the 17 Sustainable Development Goals" (MLL, researcher).

"Participation in national and international academic together with these awards or programmes and promoting the mobility of students and teachers with institutional environmental programmes" (LM, teacher).

"Eco-orchards in educational centres and incorporating work in the orchards within the school curriculum" (GS, decision-maker, Educational Professional Society).

Pedagogical tools and trends are also mentioned by some experts as opportunities for Education for Environmental Citizenship:

"…interdisciplinary educational models… problem-based learning, project-based learning or cooperative learning. The model of teacher training based on teachers' *practical professional problems* (FG, researcher).

"Changes in the teaching methodology towards active methods" (IB, teacher).

"Movements of the new economies provide contrasting tools for the implementation of many aspects contained in Education for Environmental Citizenship (balance of the common good, index of happiness). There are also new social and pedagogical movements that develop key elements of EC (holocratical or sociocratical models) (SGS, decision-maker, National NGO).

Finally, the opportunities offered by technology were mentioned. In the following we present some quotations showing how these ideas are expressed:

"The serious environmental problems of our world are present in the media although no solutions are provided for them. We have a large amount of information from different sources to better study environmental problems. Students nowadays are in continuous contact with situations from different parts of the planet" (FG, researcher).

"To use the enormous power of dissemination and penetration of the media…reusing them from a critical perspective of social issues" (EG, policy-maker, Ministry of Education).

"The extension of the use of new technologies, which can facilitate work on environmental problems" (FG, researcher).

When explicitly asked if the changing technology is threatening Education for Environmental Citizenship, responses can be grouped in three categories: those who express uncertainty or consider it to be a threat (16%), those who consider it to be both a threat and an opportunity depending on how it is used (17%), and those who highlight the opportunities offered by technology for Education for Environmental Citizenship (67%). Below we present quotations to illustrate these categories:

"Yes, (it is threatening) but the human species must definitely accept that technology must be instrumental and an accessory within human relationships" (GS, decision-maker, Educational Professional Society).

"Technological changes can be a threat or an opportunity, depending on how they are used" (FG, researcher).

"No, it gives more opportunity for the knowledge, although it is not always followed by attitudes" (MLL, researcher).

"Not at all (a threat), I believe that it can contribute to the improvement of its development and implementation" (EG, policy-maker, Ministry of Education).

"No, to the contrary I think changing tech is able to be an instrument for awareness of EC" (SGS, decision-maker, National NGO).

21.5 Threats of Education for Environmental Citizenship in Spain

Some important threats identified by experts are related to the predominant economic model and consumerists and hedonist social values. Below we present some quotations illustrating these ideas:

"Economic interest is against environmental issues" (MLL, researcher).

"Apparently it goes against the progress of society" (JP, researcher).

"They can see that it goes against the trends of the society that idolises money and consumer goods" (JP, researcher).

Education for Environmental Citizenship has to fight against "a powerful set of political, economic and social interests that value consumption and economic growth above all, regardless of what is occurring and the unsustainable nature of that process" (JP, researcher).

"The media in general…highly biased and restricted…fully immersed in neoliberalism and oriented to consumption" (EG, policy-maker, Ministry of Education).

"The lack of promotion in the mass media" and "a discourse that poses attitudes and values that are not in line with those generally accepted by society and requires from them a critical review of their habitual ways of life" (JL, decision-maker, Educational Professional Society).

In relation to these trends against Education for Environmental Citizenship, it is claimed that one of the main challenges is "the social conditions for the change of values of citizens; it is therefore important that networks of people who share those values are created" (JP, researcher).

Another main threat repeatedly mentioned by participants is the lack of political and educational leadership.

"The lack of leadership of those who implement educational policies. Success is based on learning about *environmental virtue* as an honest and responsible attitude towards ecological challenges. For this, it is necessary for those who learn to observe the example of their teachers, mentors or managers" (SGS, decision-maker, National NGO).

"The political apathy in environmental matters" and "the lack of awareness among the political and educational leaders themselves" (JL, decision-maker, Educational Professional Society).

"Little credibility…the scarce environmental awareness of public administrations and large companies" (FVC, decision-makers, Educational Professional Society).

Nowadays, academic programmes and school systemic and organisational issues in Spain are mentioned as obstacles for the successful integration of Education for Environmental Citizenship, along with the lack of recognition, appropriate educational approaches and teacher training on this line:

"Current teaching staff at educational centres are not all trained to provide Education for Environmental Citizenship and also do not consider it to be important" (GS, decision-maker, Educational Professional Society).

"The main obstacles are the lack of a culture of environmental respect and the absence of hours of recognition for teachers who work" (LM, teacher).

"The lack of systemic support (social, political, economic and educational)…and public investment in education, and a shortage of economic incentives to existing programmes" (SGS, decision-maker, National NGO).

When asked about what could be improved in this respect, experts responded:

"The traditional organisation of the school curriculum; the traditional organisation of spaces and school times; teachers' resistance to assume this new education; and the lack of sensitivity of the educational authorities in relation to this education" (FG, researcher).

"Improve its importance in academic programmes" (LM, teacher).

"Its insertion into the school curriculum" (FG, researcher).

"The lack of transversal integration of the environment in educational programmes at all school levels" (JL, decision-maker, Educational Professional Society).

When asked whether there are Education for Environmental Citizenship learning materials, programmes or services available, experts considered that there are materials. These however are mostly related to other approaches such as SE, EE and CE, and in these cases where specific materials are available, they are not well-disseminated or integrated into coherent programmes. Here we offer illustrative quotations:

"There are currently many materials and resources for environmental education" (GS, decision-maker, Educational Professional Society).

"Yes, but from very different perspectives, corresponding to the subjects of the official curriculum" (IB, teacher).

"Materials, programmes and services are usually prepared for SE, EE and CE, but they could be reoriented towards Education for Environmental Citizenship" (FG, researcher).

When asked about the existence of specific teaching materials for EC they responded that there were some "but within very specialised sources, such as Ministry Webs, International Organizations web" (SGS, decision-maker, National NGO).

"In general, they are not very accessible. They are not disseminated correctly and this has a negative impact on their social and academic projection" (LM, teacher).

"Its construction and dissemination should be intensified between teachers and educational centres" (EG, policy-maker, Ministry of Education).

Other experts claim that the main problem is the lack of coordination or proper integration in coherent programs:

"There are many available materials and related pilot experiences, but they are not coordinated with each other. Generally, these initiatives distrust the political

action of the educational administration, which is very bureaucratic (it does not accept the educational heterodoxy)" (SG, decision-maker, Educational Professional Society).

"I think there are enough isolated resources but there is a lack of coherent and well evaluated programmes" (JP, researcher).

One of the experts is of the consideration that CE does not require teaching materials:

"It is not an exact science. Its main components are the reflection and awareness acquired through experience, and that is not learned in any book or teaching material" (JL, decision-maker, Educational Professional Society).

When explicitly asked whether any of the weaknesses seriously threaten Education for Environmental Citizenship, 58 percent of the participants referred to weaknesses or threats as important barriers for the successful achievement of CE goals. The following quotations illustrate the references to weaknesses:

"Too ambitious for a carefree or uninformed citizen" and "too complex for a very busy citizen" (JL, decision-maker, Educational Professional Society).

The predominant economic model, consumerist values, lack of leadership or appropriate teacher training are mentioned again as serious threats:

"The current socioeconomic model and the lack of time to respond quickly to the most urgent environmental challenges" (SG, researcher).

"That public figures, family and educators do not live and show alternative ways of thinking to the consumerist fever" (JP, researcher).

"The lack of environmental commitments of public authorities. Education for Environmental Citizenship is difficult to integrate into an official curriculum, it can only be done transversally" (IB, teacher).

"The main risk would lie in inadequate teacher training" (EG, policy-maker, Ministry of Education).

"The current educational system" (GS, decision-maker, Educational Professional Society).

On the other hand, 25 percent of participants consider that there is no serious threat to Education for Environmental Citizenship that cannot be overcome with the involvement of the main actors and with higher levels of commitment and investment.

"I think not; all the aforementioned threats can be overcome if there is a will on the part of the actors involved in Education for Environmental Citizenship" (FG, researcher).

"The key to combating weaknesses lies in the investment of more personnel and more money for technical means" (LM, teacher).

21.6 Comparing Education for Environmental Citizenship with Other Approaches in Spain

In this section we offer a view of experts' responses to questions intended to promote reflection on the differences between Education for Environmental Citizenship and other educational approaches education (e.g. EE, ESD, SE or CE).

When explicitly asked about what other types of education do better, 10 out of 12 experts either expressed uncertainty or pointed to EE, CE or ESD as being better established options at a national level.

"I'm not sure, but maybe EE" (JL, decision-maker, Educational Professional Society).

"EE and SE have a greater tradition with better established theoretical procedures and consensus" (JP, researcher).

"All public administrations participate and offer resources in the field of environmental education: City Councils, Provincial Councils and Administration" (GS, decision-maker, Educational Professional Society).

"Environmental education has a long trajectory with qualified professionals offering high quality and professional services" (GS, decision-maker, Educational Professional Society).

"ESD has more institutional support" (RDM, researcher).

"The other types of education allow an affordable learning about concepts relating to ecology. SE is supposed to be a great investment for the future economic development. CE has a greater tradition in many western educational systems." (SG, researcher).

"These contents can be treated transversally in all subjects, especially in Nature Sciences, Social Sciences, Ethics and Philosophy, etc." (IB, teacher).

Just one of the experts considered Education for Environmental Citizenship as the best option, and another claimed that any type of education can make valuable contributions as long as it is approached in an appropriate way:

"Education for Environmental Citizenship is the most appropriate approach; CE can also do well, if given an appropriate approach" (FG, researcher).

"We cannot establish a category of types of education. All of them can be beneficial and obtain results as long as the teaching staff is sufficiently documented and trained to implement them" (EG, policy-maker, Ministry of Education).

When asked whether are there any differences in the strengths, opportunities, weaknesses and threats for Education for Environmental Citizenship between formal and non-formal education, 25 percent of participants stated that SWOT for EC do not depend on the type of education and refer to actors or didactical interventions as key determinants:

"No, it depends on people as individuals, not on the type of education" (MLL, researcher).

"No, we said that Education for Environmental Citizenship has to be devoted to children and adults in every kind of programme and framework" (FVC, decision-maker, Educational Professional Society).

"Basically no, only that it will depend on the didactic treatment appropriate to the area of intervention" (EG, policy-maker, Ministry of Education).

Seventeen percent of experts identified differences between both types of education highlighting weaknesses of non-formal education:

"Non-formal education does not have quality filters, so it can be harmful for uninformed people" (JP, researcher).

"Of course, formal education can introduce speeches to students and teachers in a timely manner. Non-formal education is received and disseminated more sporadically" (LM, teacher).

However, 42 percent of participants mentioned positive aspects of non-formal education in comparison to formal education:

"Yes, I think non-formal education has more opportunities for Education for Environmental Citizenship" (RDM, researcher).

"Yes, in formal education it is stricter in terms of contents, times and forms. Non-formal education is more open to all of this" (IB, teacher).

"Of course, I think it can be addressed in a more comprehensive and effective way from non-formal education. Formal academic educators often lack the practical field experience that is essential" (JL, decision-maker, Educational Professional Society).

"Yes, I think Education for Environmental Citizenship is much more common and efficient on non-formal ways, such as adult education schools, NGOs activities, etc." (SG, researcher).

Finally, 17 percent of participants recognised both positive and negative aspects concerning the two types of education:

"Yes. Formal education is very conditioned to the educational curricula and to the achievement of certain results. However, Gunter Pauli admits that schools are the best place to develop a new socioeconomic model. On the other hand, non-formal education is developed in a context more open to learning by experience and the use of nature as a field of study and experimentation" (SG, researcher).

"Formal education requires that Education for Environmental Citizenship be adapted to the school framework and in particular to the existing curricular framework. Non-formal education also allows for the development of Education for Environmental Citizenship with more possibilities and resources, although it has the disadvantage of affecting a smaller number of students than school education" (FG, researcher).

When asked about the differences in strengths, opportunities, weaknesses and threats for Environmental Citizenship between primary and secondary education, 25 percent of participants considered that they did not depend on the educational stage, while 75 percent referred to the differences between primary and secondary school. Two experts focused their responses on secondary education considering it

to be more appropriate for EC or referring to the fact that secondary teachers are better prepared for teaching on this topic in spite of a higher curricular load. Conversely, other two experts considered primary education as a more appropriate context or highlight the importance of working on EC from the early years:

"Yes, teachers are more motivated (and dispose of more freedom) in primary school" (FVC, decision-maker, Educational Professional Society).

"Yes. In elementary school, there is a greater opportunity for new generations to incorporate the values and habits linked to EE. In high school, the lack of references and teacher commitment can make the learning more difficult" (SG, researcher).

The rest of responses pointed out the differences relating to students' age or motivations, the depth of contents or the kind of activities to carry out at any educational stage:

"Primary education should serve to generate emotionally positive experiences and secondary education should serve to work for environmentally positive projects" (JP, researcher).

"Yes. In primary school children have solidarity, they like to help others. In secondary school the students are more egoistic. Differences are on the growing process or the person, and therefore teachers cannot do that much. The syllabus is very strong on secondary education and the knowledge is wider and deeper" (MLL, researcher).

"Basically, Education for Environmental Citizenship can be very similar in both educational stages, but in secondary environmental problems can be worked on a broader scale and with greater support in scientific knowledge" (FG, researcher).

"The difference between both educational levels probably rests in the different presentation of the contents. They are not treated at the same level" (LM, teacher).

Differences are related to "the selection of topics, the depth and level of treatment in the classrooms and the resources used by the faculty in their implementation" (EG, policy-maker, Ministry of Education).

As a summary of this section, we can conclude that most of the experts' responses highlight differences concerning Education for Environmental Citizenship depending on the educational level (primary/secondary) and the type of education (formal/non-formal). They mention more opportunities and flexibility for non-formal education but consider it to be *sporadic* and often with less quality control and emphasise the need to address Education for Environmental Citizenship from formal education. In relation to the different educational levels, some responses mention that Education for Environmental Citizenship is essential at primary school to promote fundamental values and that should be worked in an experiential and emotional way; they also consider that at primary school teachers have more freedom and flexibility. However, some responses claim that teachers are better prepared at secondary school and Education for Environmental Citizenship can be worked with more in-depth knowledge. Teachers have to deal with content-driven overloaded curricula and not much freedom.

Finally, when trying to quantify the differences between Education for Environmental Citizenship and other types of education on a 5-point scale (1 = not similar;

5 = very similar), the most frequent value (mode) selected by experts in any case is 3 for EE; 4 for ESD; 4 for CE, and 2 for SE.

22. SWOT Analysis of Education for Environmental Citizenship – Short Swedish Report

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Abstract: The two responses altogether do not really see the any major benefits of introducing Education for Environmental Citizenship in Sweden. There are great similarities to Citizenship Education (CE), Environmental Education (EE) and especially to Education for Sustainable Development (ESD). One respondent pointed out the benefits of more action-oriented teaching towards the surrounding society as one positive possibility by the implementation of Education for Environmental Citizenship. The other respondent was troubled by the fact that a 'north' power perspective/worldview could be disseminated in schools if not a critical internal discussion is raised early in the implementation discussions of Education for Environmental Citizenship. However, there are some positive points about wholeness and action-oriented teaching and a possibility to better enhance teacher collaboration, increased sense of meaningfulness and relevance of education for all stakeholders involved. A raised weakness or concern is perhaps a too normative teaching/activist approach, one that research has shown is not an effective way to involve young people to work on societal changes. To summarise the overall result, there are some positive thoughts about the contribution of Education for Environmental Citizenship by a Swedish professional and researcher context but it seems not a priority on a national level.

Acknowledgments: This chapter is based on work from Cost Action ENEC – European Network for Environmental Citizenship (CA16229) supported by COST (European Cooperation in Science and Technology).

22.1 Strengths of Education for Environmental Citizenship in Country

- Education for Environmental Citizenship can contribute to a sense of wholeness and context in education by being a perspective that connects different subject disciplines.

- Education for Environmental Citizenship contributes knowledge and skills that are applicable in social and private life, which can provide a sense of meaningfulness and relevance of education.
- Competencies such as systems thinking and critical thinking can be promoted.
- Knowledge of complex issues and underlying perspectives and agendas of different interests can be developed, which provides a good foundation for informed decision making.
- The possibility of linking different subject disciplines into something that builds capabilities that are applicable to working life as well as everyday life.
- That collaboration among teachers opens up for new opportunities and ideas.

22.2 Weaknesses of Education for Environmental Citizenship in Country

Only two reviewers out of six that were contacted responded to the inquiry (a Decision Maker in Educational Professional Society, and a Researcher – Academic). The issue of concern, Education for Environmental Citizenship, is probably not an issue of concern in a Swedish context. Two of the respondents who did not answer are working on a national level with the implementation of Global Action Programme (GAP) by (UNESCO, 2017) and ESD (Scott & Gough, 2003)
at NGO and government level) and their absence in this inquiry is perhaps an answer. It may be interpreted that Education for Environmental Citizenship is concurring with ESD and GAP, or that they actually do not know enough about Education for Environmental Citizenship to have any opinions. This could be the case about the complete lack of answers from school practitioners. The inquiry was not easy to answer from a Swedish perspective.

In Sweden we are not familiar with the discussion of citizenship education or global citizenship education. This could explain why only two out of six respondents actually answered the questions. Citizenship is not a school subject at Swedish schools. Aspects and perspectives of people's citizenship are included as a part of different school subjects such as civics and history. Citizenship is a part of the Swedish school system expressed as 'the Swedish school system's value ground/fundamental values' that is supposed to permeate all activities in the elementary and secondary schools. All subjects on all levels in Sweden have to incorporate the teaching of fundamental values in education. In this case Sweden is unique since none of the other European countries have this mission. Citizenship is especially focused in the subject civics in compulsory schools. The subject of civics is, by nature, interdisciplinary. It is based on political science, sociology and economics along with other social science and humanities disciplines. The subject also has a historical perspective and with the aid of concepts, theories, models and methods from all of these disciplines, complex social issues are understood and explained (Education, 2011)

- There may be a risk of strong normative teaching which could limit the possibilities of Education for Environmental Citizenship. An extensive normative focus in teaching that limits the possibilities for students to develop analytical abilities and critical thinking.

- A low connection to and a low collaboration with the society surrounding schools can face the risk of not creating knowledge that is applicable and does not lead to the development of important capabilities.

- If it relates to Dobson's work (2003) his account perhaps seems to oversimplify North-South relations by presenting the South as only a site for Western forceful dominance or some 'grassroots' resistance.

22.3 Opportunities of Education for Environmental Citizenship in Country

- Increased willingness and capacity for citizens to take part in the development of society.
- Increased democratic competence and participation.
- More awareness of how actions, individual and collective, can contribute to development of society and to sustainability of the environment.
- Increased sense of meaning and relevance to education.
- Increased knowledge about how to think in relation to complex problems and how to apply knowledge from different disciplines.

22.4 Threats of Education for Environmental Citizenship in Country

Threats of the Education for Environmental Citizenship in Country
- A strong and one-sided subject discipline focus.
- Difficulties of finding ways to collaborate and organise collaboration among teachers
- Challenges concerning the inclusion of contents that may have political properties.
- The largest challenge is to propel human existence beyond a single story of progress, development, beyond consumerism, identities and belonging defined by the separation of humans from nature and the totalizing rationality of individualism.

- A lot of material within Global Citizenship Education (GCE) (Pashby, 2012) that is valuable and useful. Not sure that we need a new acronym like EEC (Education for Environmental Citizenship).
- It may be more difficult to organise, structure and carry out Education for Environmental Citizenship in the later stages of education due to stronger disciplinary focus.

- ESD and Education for Environmental Citizenship have many similarities and cannot be easily separated according to two responses.

Education for Environmental Citizenship and EE –
similar according to both responses
Education for Environmental Citizenship and ESD –
similar according to both responses
Education for Environmental Citizenship and SE –
similar according to both responses
Education for Environmental Citizenship and CE –
similar according to both responses

22.5 Conclusion

To summarise the overall result there are some positive thoughts about the contribution of Education for Environmental Citizenship by a Swedish professional and researcher context but it seems not a priority on a national level.

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23. Short Country Report Switzerland

European Network for Environmental Citizenship (ENEC COST Action CA16229) Country Report Switzerland

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Abstract: An expert survey was conducted on the strengths, weaknesses, opportunities and threats of Education for Environmental Citizenship in Switzerland. The participants' responses show that the term and concept of Education for Environmental Citizenship is not yet well-known in Switzerland. However, referring to the definitions provided in the ENEC Cost Action questionnaire expert responses show a positive picture and great potential of the concept for the future. Experts consider the concept closely related and quite similar to Education for Sustainable Development (ESD). However, they see the focus of Education for Environmental Citizenship on the environment and on sustainability, as well as on private and public and socio-political aspects as advantages of Education for Environmental Citizenship, compared to related concepts such as Environmental Education (EE) and Citizenship Education (CE) or ESD. However, coherent programmes and learning materials directed specifically at Education for Environmental Citizenship still need to be developed in Switzerland.

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23.1 Introduction

The COST Action CA16229 ‘European Network for Environmental Citizenship (ENEC)’ aims to improve the understanding and assessment of Environmental Citizenship and Education for Environmental Citizenship in European societies and participating countries.

As part of this COST Action, this report entails the results of a SWOT analysis of Education for Environmental Citizenship in Switzerland based on subjective opinions and judgments of six experts. The methodology for the study was developed within the Cost Action ENEC. An online survey was developed for completion by experts from all participating countries, excluding those experts who are COST action participants themselves. The purpose of the study was to identify the strengths, weaknesses, opportunities and threats regarding Education for Environmental Citizenship in Europe.

The method of the study will be described in the following section. The same method should be applied in all countries participating in the COST Action. A large database relying on opinions and judgments of many experts from diverse European Countries was generated. However, the database for each single country contained only six surveyed experts, which was too small for a scientifically sound description of the processes and practices in each country (leading to the cautious expression ‘non-scientific’ in the title of this Country report).

The Result section of this report is subdivided in 4 sub-units according to the goals of ENEC:

a) Strengths of Education for Environmental Citizenship in Switzerland

b) Weaknesses of Education for Environmental Citizenship in Switzerland

c) Opportunities of Education for Environmental Citizenship in Switzerland

d) Threats of Education for Environmental Citizenship in Switzerland.

Finally, a discussion and interpretation of the findings for Switzerland will close the report.

The method to be applied in the SWOT analysis has been defined by the COST Action. The proceeding in Switzerland followed the basic instructions that are valid for all countries. However, there was a slight deviation from the recommended proceeding regarding the recruitment of participants. The recruitment of contacted policy makers was not successful, due to their time constraints and lack of application and knowledge of the term and concept ‘Education for Environmental Citizenship’. Therefore, those participants who took part in the survey were of the expert categories a, c, d, e as described in the SWOT Methodology:

a. One Researcher – Academic primarily from the research field of Environmental Education or Education for Sustainable Development (or secondarily from the research field of Science Education or Citizenship Education).

b. One Policy Maker primarily from the Ministry of Education (e.g. inspector, advisor, decision maker).

c. Two educators – teachers. One from Primary Education and one from Secondary Education. Teachers who primarily work in the field of Environmental Education or Educational for Sustainable Development (or secondarily from the research field of Science Education or Citizenship Education).

d. One Decision Maker with an National NGO who works in the field of Environmental Education or Educational for Sustainable Development (or secondarily in field of Science Education or Citizenship Education).

e. One Decision Maker in Educational Professional Society who works in an Educational Professional Society in the field of Environmental Education or Educational for Sustainable Development (or secondarily in field of Science Education or Citizenship Education).

It was somehow problematic to identify these experts since the concept of Education for Environmental Citizenship is either not well known or often unknown to experts of the eligible categories. No policy maker could take part and in total four experts participated in the survey. One expert worked at an NGO, but classified herself at the same time as a 'Decision Maker in Educational Professional Society who works in the field of Environmental Education', so she belonged to two expert categories. The expert category of the surveyed experts will be denoted in the Tables with expert responses. As experts were granted anonymity, no further details on their organisation background will be published. We are very thankful for their participation and greatly appreciate their efforts. Experts were surveyed in February and March 2018.

23.2 Strengths of Education for Environmental Citizenship in Switzerland

The experts regarded foci on the environment and sustainability, as well as on private and public responsibility and socio-political aspects as advantages of Education for Environmental Citizenship. One expert regarded the concept as being rather new and not yet 'overused' to be an advantage. Expert responses describing advantages of Education for Environmental Citizenship in Switzerland are listed in Table 23.1.

Table 23.1 Responses to the question: "In your opinion (personal or organisational) what advantages does Education for Environmental Citizenship have?"

Category of Expert	Response
a Researcher	- Fresh and new concept at least in Switzerland. - Focus on responsibility. - Community building for sustainable development.
d, e NGO & Educational Society	- Citizenship is an important concept and goes far beyond the environment, so if people are environment-friendly citizens, they will also be concerned about other matters. - Linking environment-friendly private behaviour to public responsibility. - Can be practiced in reality- formal and non-formal.
c Educator / Teacher	- Enables experience of self-efficacy. - Allows to strengthen the connection of the individual to nature. - Precondition for a transformation of society towards a sustainable society. - *(Ermöglicht Erfahrung der Selbstwirksamkeit.* - *Erlaubt, Verbindung des Individuums zur Natur zu stärken.* - *Vorbedingung für eine Transformation der Gesellschaft hin zu einer nachhaltigen Gesellschaft).*
c Educator / Teacher	- Creating a consciousness for environmental issues.

The experts have difficulties to distinguish the goals of Education for Sustainable Development (ESD), Environmental Education (EE), Science Education (SE), Citizenship Education (CE), and Education for Environmental Citizenship and see them as aligned in many areas. However, according to one expert it is an advantage if various approaches and perspectives are offered as they have the potential to reach more people, even if these approaches are to some extent similar to each other (Table 23.2).

Table 23.2 Responses to the question: "What could Education for Environmental Citizenship do better than other types of education (e.g. EE, ESD, SE or CE)?"

Category of Expert	Response
a Researcher	- This strongly depends on the understanding of EE or ESD: ownership, citizenship can be approaches to both of it.
d, e NGO & Educational Society	- Education for Environmental Citizenship probably speaks to other people more than SE, for example. I don't think it's about what path is better, but to get as broad results as possible. - I see the goals of ESD, EE, SE, CE and Education for Environmental Citizenship aligned in many areas, and the more approaches and perspectives are offered, the more people we will reach.
c Educator / Teacher	- I have never known Environmental Citizenship before and I assume that it is a further development of environmental education and thus part of ESD. (*Ich kannte EC bisher nicht und gehe davon aus, dass es eine Weiterentwicklung von Umweltbildung und damit Teil von ESD ist*.)
c- Educator / Teacher	- Maybe it can be better focused on environmental issues.

As unique characteristics of Education for Environmental Citizenship, experts see the emphasis on political education, responsible action and that it can bring the concept of citizenship to environmental movements (Table 23.3).

Table 23.3 Responses to the question: "What is the unique aspect of Education for Environmental Citizenship that you can draw upon and that other types of education (e.g. EE or ESD or SE or CE) can't?"

Category of Expert	Response
a Researcher	- Bringing the concept of citizenship to environmental movements.
d, e NGO & Educational Society	- Singular perspective on Environmental Citizenship goals overlap between EE, ESD, SE and CE.
c Educator / Teacher	- Probably the aspect of political education is more emphasised in Environmental Citizenship? *(Vermutlich ist Aspekt der politischen Bildung stärker betont in EC?)*
c- Educator / Teacher	- It seems to strengthen more responsibility for action.

The link between private behaviour and public engagement and foci on participation and social responsibility are valued by experts as strengths of Education for Environmental Citizenship (Table 23.4).

Table 23.4 Responses to the question: "What will people in Education see as the strengths of Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Participation and responsibility.
d, e NGO & Educational Society	- Linking private behaviour with public engagement.
c Educator / Teacher	- Environmental Citizenship as a thrust within ESD emphasising social responsibility within environmental education. (*Environmental Citizenship als eine Stossrichtung innerhalb von ESD, welche die gesellschaftliche Verantwortung innerhalb der Umweltbildung betont.*)

23.3 Weaknesses of Education for Environmental Citizenship in Switzerland

According to the experts, the main weaknesses of Education for Environmental Citizenship are that it is uncommon, not yet established concept in Switzerland, and that it adds a new term that is not (yet) well-understood, and may not add something really new (to education for sustainable development). The focus of Education for Environmental Citizenship on the environment is regarded as a weakness as it renders the concept one-dimensional to some extent (Table 23.5).

Table 23.5 Responses to the question asking for possible weaknesses of Education for Environmental Citizenship

Category of Expert	Response
a Researcher	- A not common concept yet in Swiss EE/ESD. - Difficult to understand. - One-dimensional concept (ecological).
d, e NGO & Educational Society	- Yet another new word...but not really new goals? Is the approach really new? - The name 'Environmental Citizenship' is 'smaller' than the content - it does not open up the EE-ESD-debate. - Citizenship is not a well-known concept everywhere, it sounds very tiring.
c Educator / Teacher	- No established target, neither within the school nor in the non-formal field. (*Keine etabliertes Anliege, weder innerhalb der Schule noch im non-formalen Bereich*.)
c- Educator / Teacher	- It can be less effective, if taught on an academic way.

According to the experts, Education for Environmental Citizenship could be improved by bringing it to practice and by a cooperation between research institutions, teacher trainers and teachers (Table 23.6).

Table 23.6 Responses to the question: "What could be improved in Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Bringing it into practice.
d, e NGO & Educational Society	- Using it as a concept to describe what EE, ESD are trying to could work, but not if it is introduced as 'better method'. - I have never heard of Education for Environmental Citizenship before - so that would certainly have to improve
c Educator / Teacher	- Outstanding offers that convince the participants and are supported by an established organisation. (*Herausragende Angebote, welche die Teilnehmenden überzeugen und von einer etablierten Organisation getragen werden.*)
c- Educator / Teacher	- A collaboration between research institutions and teacher trainers and their classes and/or a collaboration between research institutions and teachers and their classes.

According to the experts, Education for Environmental Citizenship should avoid being too moral, too academic and one-dimensional. It should also not lose the connection to sustainability education and Environmental Education (Table 23.7).

Table 23.7 Responses to the question: "What should Education for Environmental Citizenship avoid?"

Category of Expert	Response
a Researcher	- Moralising - One-dimensional solutions - Lack of connections to other approaches (EE, ESD)
d, e NGO & Educational Society	- Comparing better-worse with other concepts/methods doesn't make sense: rather find out what works towards the goals of Education for Environmental Citizenship and develop these methods co-creatively with EE/ESD.
c Educator / Teacher	?
c- Educator / Teacher	- To be too academic.

According to the experts, teachers and students see the fact that Education for Environmental Citizenship is not well-known and that is resembles another name for ESD/EE goals as possible weaknesses (Table 23.8).

Table 23.8 Responses to the question "What do students and teachers likely see as weaknesses of Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Little-known concept in Switzerland.
d, e NGO & Educational Society	- Not everyone has the ambition to be an active citizen, but may want to act privately in an environmently-friendly way. - Just another new name for ESD/EE goals?
c Educator / Teacher	- Depending on the implementation of the concerns... *(Je nach Umsetzung der Anliegen...)*
c- Educator / Teacher	- Black boxes of knowledge.

According to the experts, the success of Education for Environmental Citizenship could be hindered by the lack of responsibility, too many messages, being missionary, and because the concept is not well known and is similar to other concepts (Table 23.9).

Table 23.9 Responses to the question "Which factors may eliminate the success of Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Lack of response in the community of EE and ESD.
d, e NGO & Educational Society	- Too many names for concepts that want the same thing. - Too many messages (be an active citizen, be environment-friendly) - Is not known in Switzerland/is not named in new curricula.
c Educator / Teacher	?
c- Educator / Teacher	If it is missionary.

23.4 Opportunities of Education for Environmental Citizenship in Switzerland

According to the experts, the main opportunities for Education for Environmental Citizenship are: that it is applied at the European level; that new educational programmes (in formal and informal education activities) will focus more on citizenship and/or the environment; that it enables participants to experience a sustainable society and its potential opportunities; and that it can increase awareness in society (Table 23.10).

Table 23.10 Responses to the question: "What good opportunities can you spot for Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- European support.
d, e NGO & Educational Society	- New curricula in Switzerland emphasise citizenship more than the old ones did. - Competences in curricula are oriented towards citizenship. - WWF names 'being active as a citizen' as one of the most important pro-environment-tips. - Organisations offering non-formal education activities in CE might get more environmental.
c Educator / Teacher	- Dedicated, open contact to the participants. - Participants can experience opportunities on the way to a sustainable society. - Projects can be a beacon for society. - *(Engagierter, offener Kontakt zu den TN* - *TN können Gestaltungsmöglichkeiten auf dem Weg zu einer nachhaltigen Gesellschaft erleben.* - *Projekte können Leuchtturmcharakter für die Gesellschaft haben.)*
c- Educator / Teacher	-To create awareness for action.

According to the experts, the main trends that support Education for Environmental Citizenship are: the increased attention to sustainability in living urban areas; the youth relative conservativeness, which can make the term 'citizenship' more appealing; that participation is increasingly open and inclusive to manage issues in cities; and that young people like to improve their environment (Table 23.11).

Table 23.11 Responses to the question "What interesting trends are you aware of that could improve opportunities for Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Increasing trends of sustainable living communities (transition towns and others).
d, e NGO & Educational Society	- Society and young people are more conservative than they used to be - maybe this is a chance to place positive messages around the term 'citizenship'.
c Educator / Teacher	- Participation processes that are being initiated today in order to solve upcoming problems in various cities. *(Partizipationsprozesse, die zur Lösung anstehender Probleme in verschiedenen Städten heute angestossen werden.)*
c- Educator / Teacher	- Young people like to improve their environment.

23.5 Threats of Education for Environmental Citizenship in Switzerland

According to the experts, the main obstacles facing Education for Environmental Citizenship are: the increased individualisation and inequality levels in society; that Education for Environmental Citizenship is unknown; that active citizenship is not desired by all - in particular at the political level; that it could be perceived as in a competition with other educational offers and other important global issues; and that it may only be a trend (Table 23.12).

Table 23.12 Responses to the question: "What obstacles does Education for Environmental Citizenship face?

Category of Expert	Response
a Researcher	- Trend to individualisation. - Economic trends, gap between rich and poor citizens.
d, e NGO & Educational Society	- Not known. - Not named in curricula. - Not everyone desires active citizenship. - Politicians that are against EE and ESD will also be against Education for Environmental Citizenship.
c Educator / Teacher	- That Environmental Citizenship is not perceived in competition with other offers. *(Dass EC nicht wahrgenommen wird in der Konkurrenz mit anderen Angeboten.)*
c- Educator / Teacher	- There are other issues to deal with such as migration, job security, digital world, etc. - Maybe Education for Environmental Citizenship is only a trend.

When comparing Education for Environmental Citizenship with other types of education, experts argue that ESD offers a multidimensional perspective that includes social and economic aspects, and shares the similar goals with EE, SE and CE (Table 23.13).

Table 23.13 Responses to the question "What can other types of education (e.g. EE or ESD or SE or CE) do better than Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- ESD is multidimensional.
d, e NGO & Educational Society	- ESD and EE share the same goals, SE and CE lead to many of these goals.
	- I don't understand the question.
c Educator / Teacher	- I don't see enough of a difference myself to be able to judge that. *(Sehe unterschiede selber zu wenig, um das beurteilen zu können.)*
c- Educator / Teacher	- ESD takes also economic and social aspects into account.

According to the experts, few materials, programmes or services of education for Education for Environmental Citizenship exist, and these come mainly from NGOs (Table 23.14).

Table 23.14 Responses to the question "Are learning materials, programmes or services of Education for Environmental Citizenship available?"

Category of Expert	Response
a Researcher	- Not as far as I know.
d, e NGO & Educational Society	- Yes, mainly through NGOs, but not using that name.
c Educator / Teacher	- That is beyond my knowledge. *(Das entzieht sich meiner Kenntnis.)*
c- Educator / Teacher	- Too few, there should be more that are of good quality.

According to the experts, technological developments are indispensable and therefore not threatening to Education for Environmental Citizenship (Table 23.15).

Table 23.15 Responses to the question "Is changing technology threatening Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Not per se.
d, e NGO & Educational Society	- No.
c Educator / Teacher	- Today, technical developments are indispensable. Therefore, new environmentally friendly technology must not become a threat to Environmental Citizenship. (*Technische Weiterentwicklungen sind heute unabdingbar. Ergo darf neue, umweltfreundliche Technologie nicht zu einer Bedrohung von EC werden.*)
c- Educator / Teacher	- Not necessarily.

According to the experts, the main weakness that could seriously threaten Education for Environmental Citizenship is the acceptance of it in Switzerland by the EE and ESD communities (Table 23.16).

Table 23.16 Responses to the question "Could any of the weaknesses seriously threaten Education for Environmental Citizenship?"

Category of Expert	Response
a Researcher	- Depends on how Environmental Citizenship will be adapted by Swiss EE/ESD community.
d, e NGO & Educational Society	- Content-wise, no, because they are shared in EE and ESD and these are part of our curricula. - Name-wise, yes, as I have never heard of the name in any of the national EE/ESD dialogues.
c Educator / Teacher	- Unanswerable for me. (*Für mich nicht beantwortbar.*)
c- Educator / Teacher	- Short-term thinking.

23.6 Further results

Two experts spotted differences between strengths, opportunities, weaknesses and threats of Education for Environmental Citizenship between formal and non-formal Education. One expert stated that Education for Environmental Citizenship is not yet established in the formal field, and will only be able to enter that field when it is increasingly applied to non-formal education. Another expert saw restrictions for Education for Environmental Citizenship in formal education due to the existence of corresponding fixed curricula (Table 23.17).

Table 23.17 Responses to the question "Do you determine any differences in the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship between formal and non-formal Education?"

Category of Expert	Response
a Researcher	- For formal education Education for Environmental Citizenship has to be part of 'Lehrplan', for non-formal education there are no such restrictions.
d, e NGO & Educational Society	- No.
c Educator / Teacher	- Environmental Citizenship is not established in the formal field. It can find its way there via non-formal education. (*Im formalen Bereich ist EC nicht etabliert. Sie kann via non-formaler Bildung dort Eingang finden*.)
c- Educator / Teacher	- No.

Only one person perceived differences between primary and secondary Education in the strengths, opportunities, weaknesses and threats for Education for Environmental Citizenship. However, they could not describe the differences in specific terms, but referred to differences between the respective curricula (Table 23.18).

Table 23.18 Responses to the question "Do you determine any differences in the Strengths, Opportunities, Weaknesses and Threats of Education for Environmental Citizenship between formal and non-formal Education?"

Category of Expert	Response
a Researcher	- Not per se.
d, e NGO & Educational Society	- Yes, in formal education, due to different curricula.
c Educator / Teacher	I know too little about current trends in primary school. (*Ich kenne aktuelle Trends in der Primarschule zu wenig.*)
c- Educator / Teacher	- No.

Education for Environmental Citizenship is perceived to be most similar to EE, followed closely by ESD and thereafter CE (Table 23.19). It is perceived to be least similar to SE.

Table 23.19 Average ratings of the participants regarding similarity between Education for Environmental Citizenship and other education concepts

Item: In what degree (1-5) is Education for Environmental Citizenship similar …	N	M	SD	Min.	Max.
… with Environmental Education (EE)?	4	4	1.15	3	5
… with Education for Sustainable Development (ESD)?	4	3.75	1.50	2	5
… with Science Education (SE)?	4	2.5	1.73	1	5
… with Citizenship Education (CE)?	4	3.5	1.29	2	5

23.7 Conclusions

The answers of the participants show that Environmental Citizenship and Education for Environmental Citizenship are not yet established or well-known terms in Switzerland. Whilst our experts were not highly familiar with the term, they understood it well enough based on the terms it included and the explanation provided in the questionnaire. On this basis, the experts highly valued the concepts of Environmental Citizenship and Education for Environmental Citizenship and judged it to be important and to have a great potential in the future, particularly since it is aligned with several educational and social trends that value citizenship and/or environmental protection. They saw some specific special emphases and strengths of Education for Environmental Citizenship such as the foci on the environment, and on the responsibility, social political issues and activities in relation to environmental issues. Education for Environmental Citizenship is thus perceived to be similar to environmental education as well as sustainability education and citizenship education. The academic aspect is not regarded to be so prominent in Education for Environmental Citizenship. On the contrary, practical approaches to education, including concrete actions and close collaboration with NGOs and stakeholders and effected people, are regarded as opportunities to make the education effective, whereas too academic and rather theoretical educational approaches are regarded as a potential thread to educational effectiveness. Experts identified no serious threats that could hinder the development of Education for Environmental Citizenship in Switzerland, apart from competition with other educational offers.

Based on the responses, it may be expected that the term and concept of Education for Environmental Citizenship will be better known and applied in the future in Switzerland. It seems to have a good potential to enter the non-formal and formal educational field on a broader basis.

24. Short Country Report United Kingdom

European Network for Environmental Citizenship

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Abstract: Education for Environmental Citizenship is a concept not used or discussed within the formal educational system in England, although some of the competencies, including knowledge, skills, values and attitudes associated with pro-environmental action and behaviours within the private and public sphere of young people are addressed through other means such as Science, Citizenship and Geography Education, as well as through informal cross-curricular learning opportunities. This chapter presents a short review of the Strengths, Weaknesses, Opportunities and Threats (SWOT) of Education for Environmental Citizenship, as this applies in the UK context, based on the views of five UK experts. Key findings include the recognition of Education for Environmental Citizenship as a concept that has the potential to promote young people's active participation and engagement in decision-making processes about the environment and sustainable development, and to allow them to take action on issues within their communities and social contexts. At the same time, our experts point out to the need to clarify and exemplify the uniqueness of Education for Environmental Citizenship compared to other similar approaches, whilst taking advantage of the existing research and good practices that have been developed for such approaches such as science education, citizenship education and education for sustainable development.

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24.1 Introduction

Education for Environmental Citizenship is a composite concept, which aims to address issues related to established approaches such as Environmental Education

(EE), Citizenship Education (CE) and Education for Sustainable Development (ESD), by explicitly focusing on promoting the competences required for Environmental Citizenship. For the purposes of the European Network for Environmental Citizenship (ENEC) project and the task of conducting a SWOT analysis, Education for Environmental Citizenship was defined as the type of education that promotes Environmental Citizenship. Based on Dobson's (2010, p. 6) work, Environmental Citizenship was defined as a "pro-environmental behaviour, in public and private, driven by a belief in fairness of the distribution of environmental goods, participation, and co-creation of sustainability policy. It is about the active participation of citizens in moving towards sustainability". Based on this definition, five experts from the UK have responded to our request to complete an online survey and share their views on Education for Environmental Citizenship so as to construct a SWOT analysis of Education for Environmental Citizenship, as applies within the UK context. Table 24.1 presents a summary of the background information of the five participating experts. All five experts were male.

Table 24.1 Background information of UK participants

Participant No.	Expertise	Education Level
Expert 1	Researcher – Academic	PhD
Expert 2	Decision Maker in National NGO	PhD
Expert 3	Researcher – Academic	PhD
Expert 4	Educator – Teacher in Secondary Education	PhD
Expert 5	Researcher – Academic	PhD

In this report, we first briefly discuss aspects of the concept of Education for Environmental Citizenship that are or are not present in formal education in the UK, before presenting the SWOT analysis of Education for Environmental Citizenship as it applies within the UK context based on the findings of the online survey. Formal education is the main focus in this report because this is what experts mainly referred to in their responses.

In England, EE is a subject not explicitly addressed through the National Curriculum. EE is to some extent a component of Science Education (SE) both at the primary and secondary school levels (Department for Education, 2015). For instance, at the primary school level students learn about materials and make links to environmentally-friendly attitudes and behaviours (e.g. through the Re-use/Reduce/Recycle model). At the secondary school level, students learn about global warming through studying the science of atmosphere and are asked to consider within such a unit, the implications of climate change to their everyday lives. Since 2014, when the latest iteration of the National Curriculum for England was intro-

duced for primary and secondary education, greater emphasis is placed on declarative knowledge, which leaves little time for science teachers to engage with their students on topics that are not directly linked to the NC specifications. This in itself is a challenge for Education for Environmental Citizenship since its components are 'hidden' and 'invisible' dimensions of science education in official curricula.

Conversely, dimensions of Education for Environmental Citizenship are more explicitly addressed within the programmes of study for Citizenship and Geography (Department for Education, 2013a, 2013b). Citizenship Education emphasises the need to "prepare pupils to take their place in society as responsible citizens" and mainly focuses on the development of knowledge and skills on a socio-political level without any mention of environmental issues, although the active involvement and consideration of communities is considered explicitly. For instance, students at Key Stage 4 (15-16 years old) should learn about "the different ways in which a citizen can contribute to the improvement of their community, to include the opportunity to participate actively in community volunteering, as well as other forms of responsible activity" (Department for Education, 2013a). Similarly, the Geography specification for Key Stage 3 states that pupils should "understand how human and physical processes interact to influence and change landscapes, environments and the climate; and how human activity relies on the effective functioning of natural systems" (Department for Education, 2013b).

24.2 Strengths of Education for Environmental Citizenship in the United Kingdom

Three main themes were identified in the experts' responses as advantages of Education for Environmental Citizenship. These are: (a) the fact that Education for Environmental Citizenship allows young people to explore the complex nature of environmental issues, (b) the potential that Education for Environmental Citizenship holds for promoting young people's active participation and taking action by engaging them in decision-making about the environment and sustainable development, and (c) the affordances that Education for Environmental Citizenship holds for considering issues related to the environment within their communities and social contexts, and thus making it relevant for them personally. The three themes identified reflect Dobson's (2010) definition of Environmental Citizenship, which was provided to the experts as part of the SWOT survey on Education for Environmental Citizenship. It is important to note that these three themes were interlinked within the experts' responses to the survey questions about the advantages of Education for Environmental Citizenship, its unique nature compared to other similar forms of Education (e.g. Environmental Education, Science Education), and its contribution to the field of Education.

The active participation of young people in decision-making and the potential for taking action to offset issues affecting the environment, was expressed as an

advantage by most experts, which saw "active participation" and "taking action" as two aspects that go hand-in-hand. For instance, Expert 2 noted that Education for Environmental Citizenship "provides knowledge, skills and understanding to support informed personal decision-making leading to practical action". Expert 5 considered Environmental Citizenship as a subset of citizenship and therefore argued that "active participation rather than passive engagement" would be a key strength of Education for Environmental Citizenship. In order to be able to participate actively and make decisions on environmental issues, it is also important to be able to deal with the complexity of environmental issues as "many of which may have no obvious solutions" (Expert 2). Such environmental issues are often cross-disciplinary and 'wicked problems' (Brown, Harris & Russell, 2010) as there is no obvious solution to them; Education for Environmental Citizenship can allow students to consider scientific issues within their wider context and at the same time can stimulate young people's interest in such issues and the scientific ideas that underpin them (Expert 4). What is more, Expert 4 argues that through Education for Environmental Citizenship young people may "see themselves as part of a complex web, understanding that their personal actions have wider effects" and thus allowing them to realise the responsibility they have as citizens in relation to the environment, both at a personal and at a societal level.

Education for Environmental Citizenship provides affordances for young people to consider issues of environmental relevance, and associated knowledge (e.g. scientific knowledge on ecology) within a societal context and within their communities. The community dimension of citizenship within Education for Environmental Citizenship was emphasised by most experts, in relation to decision-making and taking socio-political action, as noted previously. Expert 2 acknowledged that these actions need to be "positive", "environmentally-focused" and "sensitive to community needs", and should be taken both "at an individual and community level". The importance of considering the social context and dimensions of environmental issues is also pointed out by Expert 3, who notes a key strength of Education for Environmental Citizenship is that it can address and hopefully ameliorate "the assumption that Environmental issues have limited social dimensions" Education for Environmental Citizenship was also discussed as a construct that brings together different stakeholders in a way that overcomes the potential issues and problems created by addressing pro-environmental behaviour and action within a multidisciplinary field, as shown below.

> EEC offsets impediments between human, economic, social, political and environmental sciences by augmenting knowledge exchange, community-led research and experimentation of different stakeholders (eco-schools, researchers, scholars, teachers, practitioners, policy makers) related in Environmental Citizenship (Expert 1).

Finally, the experts' responses considered Education for Environmental Citizenship unique in having a positive approach to issues related to the environment; that is, it can create and promote "positive environmentally-focused actions by individuals which are sensitive to community needs" (Expert 2), taking advantage of established "theory, pedagogy and practice" (Expert 3) from citizenship education as

well as environmental education, both of which are well established research fields within education.

24.3 Weaknesses of Education for Environmental Citizenship in the United Kingdom

The weaknesses of Education for Environmental Citizenship discussed by the five UK experts can be summarised in the following three themes: (a) the place of Education for Environmental Citizenship within formal education, (b) young people's (negative) perceptions of Environmental Citizenship as a topic of investigation with formal education, and (c) the nature of Education for Environmental Citizenship as a distinct discipline compared with other similar approaches such as EE, SE, and ESD. These will be discussed in more detail below.

Experts E1, E2 and E3 commented on the place of Education for Environmental Citizenship within formal education, which based on their comments, could be characterised as peripheral to formal education. For instance, Expert 2 noted that Education for Environmental Citizenship "is still peripheral to most formal education thinking and organisation. There is no Environmental Citizenship 'curriculum' in schools and teachers don't understand it, and (at secondary school level) won't find time to engage with it." Comments from Expert 3 further support the idea that in the UK context, Education for Environmental Citizenship is not addressed as part of formal education:

> Simply the phrase [EEC] is unfamiliar to most UK-based practitioners. By extension, the underpinning rationale will be also. As will experience with, and confidence in, promoting theory and pedagogy related to issues of political decision making, participation (particularly 'participatory democracy'), social justice (and related concepts such as 'environmental racism') etc. (Expert 3)

Another issue raised by experts was the fact that there were no materials available for teachers to use within formal education settings for addressing Environmental Citizenship, which in combination with a lack of subject matter knowledge on the issues involved, and knowledge of appropriate pedagogies for Education for Environmental Citizenship by teachers, made the tasks onerous for addressing Education for Environmental Citizenship via formal education. Expert 1 notes that "teaching approaches that are more theoretical and non-sensory" instead of learning Education for Environmental Citizenship by "doing and experimenting with live projects" is a possible weakness of Education for Environmental Citizenship within formal education. However, it should be acknowledged that the experiential learning that Expert 1 argues for is part of the way that some subjects related to Environmental Citizenship are taught, for instance within science and environmental education. The issue of the assessment requirements of formal education was raised by

Expert 4. Within formal education in the UK there is great pressure on delivering the curriculum and preparing students for their exams, the results of which can determine whether they progress to post-16 education and higher education. This means that there is little flexibility for teachers to address topics and themes that go beyond the curriculum or that are interdisciplinary as this would require more time for preparation and delivery.

The issue of high-stakes assessment is also related to the second theme identified in the experts' responses on the weaknesses of Education for Environmental Citizenship. In particular, it was noted that young people's perceptions of Environmental Citizenship as a topic of investigation with formal education might be negative, as often students in the latter years of secondary education "like knowing 'is this on the examination'– they need convincing that Education for Environmental Citizenship approach helps understand the material for the examination (maybe better than other methods) and is interesting and helps them prepare for adult life" (Expert 4). Expert 2 also pointed out that students and teachers might "expect a focus on environmental science topics more purely, and would not expect/enjoy/appreciate a more 'human-politico-cultural' dimension".

The final and possibly the most important weakness of Education for Environmental Citizenship identified by UK experts is its nature as a distinct discipline compared to other similar approaches such as EE, SE, and ESD. This is an important concern and needs to be considered carefully in order to realise the potential that Education for Environmental Citizenship has for promoting pro-environmental action and behaviour by citizens within formal and informal educational settings. Expert 5 pointed out that Education for Environmental Citizenship "is weak in appearing like a 'repackaging' of previous forms of ESD and CE" as well as in "not considering social and economic aspects as much as environmental ones". Additionally, all experts agreed that more is known and taught about ESD and EE in the UK compared with Environmental Citizenship, and more teaching materials are available for these approaches, which puts Education for Environmental Citizenship to a disadvantage compared with other educational approaches that are similar to Education for Environmental Citizenship. In conclusion, the UK experts agree that the construct of Education for Environmental Citizenship is "confusing" (E2), at least as it applies in the UK context, which points out the importance of clarifying the unique and distinct features and added value of Education for Environmental Citizenship if students, teachers and the wider public are going to be convinced that such an approach is worth adopting and engaging with.

24.4 Opportunities of Education for Environmental Citizenship in the United Kingdom

There were two main themes identified in the experts' responses as opportunities of Education for Environmental Citizenship. These were (a) the common ground

shared with other educational approaches (SE, EE, CE, ESD), and (b) the potential that Education for Environmental Citizenship holds for promoting young people's active participation and taking action by engaging them in decision-making about the environment and sustainable development (which was also identified as a strength).

According to the experts' responses, commonalities between Education for Environmental Citizenship and other similar approaches such as EE and ESD could be an opportunity for Education for Environmental Citizenship since it could use established practices as a starting point to build on, and to strengthen the message about the need to prioritise and take action on environmental issues. For instance, Expert 2 gave an example of such a similar approach within the Welsh context that could be used as a starting point for developing Education for Environmental Citizenship, by referring to the 'Education for Sustainability and Global Citizenship' initiative. This initiative adopts a whole school approach to educating young people about issues such as climate change, poverty and waste and consumption issues and enabling them to take action on these issues (Department for Children, Education, Lifelong Learning and Skills, 2008). EE and Environmental Citizenship were also noted as good starting points for developing and implementing Education for Environmental Citizenship by Expert 5, as he considered them to be "more established" fields compared with Education for Environmental Citizenship. It is interesting to note that both Expert 2 and Expert 4 considered SE as a less appropriate route to developing and implementing Education for Environmental Citizenship "because it tends to be too introspective and wary of sharing ideas and approaches with other subjects" (Expert 2), and because "sometimes the science is hard enough let alone when set in the context of a problem" (Expert 4).

The potential that Education for Environmental Citizenship holds for promoting young people's active participation and taking action by engaging them in decision-making about the environment and sustainable development was another opportunity identified for Education for Environmental Citizenship. Active participation and taking action were noted in relation to promoting citizen science, social innovation, political decision-making, people's pro-environmental attitudes and behaviour, and social justice within a participatory democracy (Expert 1, Expert 3, and Expert 5).

24.5 Threats to Education for Environmental Citizenship in the United Kingdom

The threats to Education for Environmental Citizenship that the five UK experts have identified can be summarised under the following three themes: (a) lack of political will and consideration of Environmental Citizenship at policy level, (b) awareness (or lack of) of and implementation of appropriate pedagogies for Envi-

ronmental Citizenship, and (c) students', teachers', parents' and citizens' perceptions of Environmental Citizenship and Education for Environmental Citizenship, their utility and added value. These are discussed in more detail below.

The first threat identified in our analysis of the experts' responses is a lack of political will and consideration of Environmental Citizenship at policy level, which might threaten the way in which it is viewed by the wider public and makes it difficult to justify why Education for Environmental Citizenship is necessary. As Expert 2 commented, "an ageing population in many developed countries such as the UK [is a threat for Education for Environmental Citizenship]. They are the voters who sway government decisions and, historically, will be focused on health, wealth and personal (and immediate family) security – not the environment".

The second theme identified as a threat to Education for Environmental Citizenship is the extent to which educators are aware of Environmental Citizenship and of appropriate pedagogies for it that would enable educators in both formal and informal educational settings to implement Education for Environmental Citizenship. As Expert 1 argues "Education for Environmental Citizenship should stimulate haptic experiences involving DIY and hands-on activities outside the classroom/lab". Appropriate pedagogical approaches such as experiential and hands-on learning are important in order to address the core issues of Environmental Citizenship and not to alienate individuals. Expert 3 further argued this point by commenting that within Education for Environmental Citizenship controversial issues would have to be addressed, "however, sensitivity would be needed and considerations of level of maturity of the learners, and capacity to take action versus dangers of becoming disempowered, disillusioned and overwhelmed (considerations of e.g. developmental readiness etc.)". At the same time it is important to be cautious not to recreate or 'repackage' what has been achieved and produced as a result of other similar educational approaches such as EE, SE, CE, and ESD. This is pointed out by Expert 5 who noted that Education for Environmental Citizenship "should avoid replicating what's already being done well in ESD and CE programmes under a different banner, as this will just cause confusion and unnecessary competition between groups already doing a good job". As noted in the Opportunities section, it is important to work together with scholars and practitioners within other similar approaches to Environmental Citizenship in order to ensure coherency and further development of the concept of Environmental Citizenship and Education for Environmental Citizenship rather than place it in opposition to other similar approaches.

Finally, students', teachers' and parents' perceptions of the importance and necessity of Education for Environmental Citizenship need to be considered as these might become an obstacle in successfully addressing Environmental Citizenship. For instance, our experts noted that curriculum time is limited within formal education in the UK; therefore, for Education for Environmental Citizenship to be considered more seriously by teachers, students and schools, this needs to addressed at policy level (as noted in the first threat discussed in this section, and it also needs to be addressed) for instance by making environmental education and citizenship education a priority in school curricula (Expert 5). Our experts' comments on the issue are pessimistic about the realities of formal education and a high-stakes examination

system in the UK. Expert 4 commented that “I’m afraid that in the UK, GCSE and A level assessment is so prescribed now that Education for Environmental Citizenship will only be effective if it links very closely to assessment outcomes”. This was also clear in Expert 2’s comments who said that “the curriculum, examinations and assessment are vital in formal education in secondary schools. If Environmental Citizenship is not linked to any of these it will be irrelevant to most teachers, and therefore also the students”.

24.6 Conclusions

Table 24.2 presents a summary of the SWOT analysis of Education for Environmental Citizenship from UK experts, based on the themes identified in their responses.

Table 24.2 A summary of the SWOT analysis of Education for Environmental Citizenship in the UK.

	Main themes identified in SWOT analysis		
Strengths	(a) EEC allows young people to explore the complex nature of environmental issues	(b) promoting young people's active participation and taking action by engaging them in decision-making about the environment and sustainable development	(c) considering issues related to the environment within communities and social contexts, and personal relevance
Weaknesses	(a) the place of EEC within formal education	(b) young people's (negative) perceptions of EC as a topic of investigation with formal education	(c) the distinguishing characteristics and unique nature of EEC compared to other similar approaches such as EE, SE, and ESD
Opportunities	(a) the common ground shared with other educational approaches (SE, EE, CE, ESD)	(b) the potential that EEC holds for promoting young people's active participation and taking action by engaging them in decision-making about the environment and sustainable development	
Threats	(a) Lack of political will and consideration of EC at policy level	(b) Awareness (or lack of) and implementation of appropriate pedagogies for EC	(c) Students', teachers', parents' and citizens' perceptions of EC and EEC, their utility and added value

Overall, the five participating experts acknowledged that Education for Environmental Citizenship addresses important issues within the UK context, and should therefore be considered within formal and informal educational settings. At the same time, they also acknowledged the challenges that the UK educational systems would pose on attempts to promote Education for Environmental Citizenship within formal education, especially at the secondary school level. A way to address this challenge would be to clarify and exemplify the uniqueness of Education for Environmental Citizenship compared to other similar approaches, whilst taking advantage of the existing research and good practices that have been developed for such approaches such as science education, citizenship education and education for sustainable development and enhance these in order to develop Education for Environmental Citizenship.

24.7 References

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The European Network for Environmental Citizenship (ENEC) – funded as a COST Action (CA16229-Horizon 2020) – brings together more than 120 experts from 37 countries with the objective to improve the understanding, the practice and the assessment of Environmental Citizenship in Europe and the participating countries.

Environmental Citizenship has been an influential concept in many different arenas such as economy, policy, philosophy, organizational and corporation management and marketing and could be better exploited and established furthermore in the field of education as well.

This report examines the Strengths, Weaknesses, Opportunities and Threats of Education for Environmental Citizenship in Europe. In the first part of the report, the need for Education for Environmental Citizenship, is examined along with the methodology and results of an extensive research from more than 157 experts in 28 European countries and Israel. In the second part of the report, the country chapters for the 23 European countries and Israel emphasise the similarities, differences and special features of these case studies.

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