

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

Edited by

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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 analysis 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 explore the 23 European country reports.

It is important to clarify that this research 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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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 Commission, 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 trans-border activities 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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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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