European SWOT Analysis on Education for Environmental Citizenship

Edited by
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ENEC Cost Action Report

European SWOT Analysis on Education for Environmental Citizenship

Edited by
Andreas Ch. Hadjichambis[1,2], Pedro Reis[3], Demetra Paraskeva-Hadjichambi[1,2]

1: Cyprus Centre for Environmental Research and Education, CYCERE, Agiou Andreou 306, P.O. Box 56091, 3304 - Cyprus University of Technology, Lemesos, Cyprus, e-mail: a.chadjihambi@cytanet.com.cy

2: Cyprus Ministry of Education and Culture, Kimonos & Thoukididou, 1434, Nicosia, Cyprus, e-mail: demhad@ucy.ac.cy

3: Instituto de Educação – Universidade de Lisboa, Alameda da Universidade, Lisboa, Portugal, e-mail: preis@ie.ulisboa.pt

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Address

Cost Association Address: Avenue Louise 149, 1050 Brussels, Belgium
Postal Address: Cyprus Centre for Environmental Research and Education – CYCERE, Agiou Andreou 306, P.O. Box 56091, 3304, Lemesos, Cyprus.

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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.

Dr Andreas Ch. Hadjichambis
Prof Pedro Reis
Dr Demetra Paraskeva-Hadjichambi

European Network for
Environmental Citizenship
ENEC Cost Action CA16229

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

Daphne Goldman

Faculty of Education, Department of Environmental Science and Agriculture, Beit Berl College, Israel, e-mail: dafnag@netvision.net.il

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.

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 of this SWOT analysis for devoting their time to answer the questionnaire.

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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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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