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EDITORIAL

Editorial: environmental and sustainability education in compulsory education: challenges and practices in Francophone Europe

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ABSTRACT

This editorial introduces a Special Issue on Environmental and Sustainability Education (ESE) in Francophone Europe. It argues that although research in the field of ESE is well established, it is not yet structured at a national level, whether in France, Belgium or Switzerland. The main issues addressed by the contributors are presented with a view to establishing a dialogue with the Anglophone community. Three avenues are identified: (i) exploring the place of ESE in education systems, in terms of a continuum of education, (ii) exploring the specificities of ESE teaching practices, and (iii) exploring teacher education and training practices. The twelve contributions in this issue are then introduced. In conclusion, the guest editors suggest a number of courses of action and prospects for encouraging debate between both researchers and language communities, ranging from collaboration and shared research programmes, to a reworking of educational concepts and practices, and initial and continuing professional development, in relation to pressing pedagogical, social and environmental challenges.

Background

Environmental Education Research has published several Special Issues with a focus on research in a specific geographic or socio-cultural setting. Each collection explores concrete issues of wider transnational and international relevance to the journal's readership. Notable examples include:

- '*Environmental Education Research* and social change: Southern African perspectives' (Lotz-Sisitka 2004);
- 'Environmental education in three German-speaking countries: research perspectives and recent developments' (Nikel and Reid 2006);
- 'Learning as democratic action and communication: framing Danish and Swedish environmental and sustainability education' (Læssøe and Öhman 2010);

- 'Environmental and sustainability education in the Benelux countries: research, policy and practices at the intersection of education and societal transformation' (Van Poeck, König, and Wals 2018);
- '*Environmental Education Research* in Brazil' (Torreão Thiemann, Marcelo de Carvalho, and Torres de Oliveira 2018)'
- 'Promoting environmental and sustainability education in the Caribbean: research imperatives to inform practice' (Ferguson and Bramwell-Lalor 2023).

This Special Issue brings together contributions from French-speaking researchers in Belgium, France and Switzerland on ESE in compulsory education, for multiple reasons.

First, the collection showcases research contributions from those based in Francophone Europe, a relatively marginalised group of researchers in the broader Anglosphere. We note that the visibility of their particular research interests and outputs are typically under-represented in publications made by Anglophone contributors to international ESE journals such as, *Environmental Education Research* and *The Journal of Environmental Education*, but also in bilingual ones that specifically cater for Francophone authorship and contributions, most notable the *Canadian Journal of Environmental Education* and Francophone specific ESE-related journals too, e.g. *Éducation relative à l'environnement: Regards—Recherches—Réflexions*. Furthermore, studies from researchers in French-speaking Europe—their contexts, topics, insights or outputs—have not received sustained attention in international handbooks, nor have they yet received that *via* a Special Issue in any of the field's other English-medium journals. So, in order to address these gaps, we have gathered contributions from existing networks in the aforementioned three countries.

Second, there is good reason to consider similarities and synergies within and between English and French-speaking research teams, particularly because certain issues are shared in relation to educational challenges and practices. We are thinking, for example, of novel and enduring questions about the links between ESE and school subjects, interdisciplinary approaches, transformative pedagogies or outdoor education, depending on context. Such synergies require a reciprocated knowledge of research-based understandings, objects and practices, of theoretical references, and of different forms of academic writing.

Some of these themes and areas for further inquiry were raised in the recent Benelux Special Issue of *Environmental Education Research*, but we note that researchers and research topics from Luxembourg and the French-speaking community of Belgium should not be regarded as representative of the communities of research or practice in France or Switzerland. Thus, further comparison within and beyond the European Francophone communities is made possible by this collection, making known to an international readership both the diversity and commonalities in sources of ideas and interests of French-speaking researchers of ESE. As noted above, there is no French-speaking European journal dedicated to this field of research. So, while we acknowledge these topics are regularly discussed at the European Conference on Educational Research, especially Network 30 on Environmental and Sustainability Education Research of the European Educational Research Association, the wider international community is not always drawing on such work. This is why this Special Issue gives us the opportunity to bring together recent works from other parts of French-speaking Europe, helping the international community take broader stock of progress and identify avenues for future research.

In this, we note that in many European countries—including those mentioned in the recent Special Issues of this journal (see, in particular, Van Poeck, König, and Wals 2018)—researchers often promote research and development of critical education and education for complexity, while the most common school practices are often centred on 'eco-gestures' and small-scale biodiversity projects on a very local scale. Yet as we highlight in this collection, these forms of education may also require transformation of the school to develop experiential education and sophisticated work with educational partners. While since the 'climate marches', the question of the commitment of teachers and their pupils has also become increasingly significant in educational debates. Thus, as

a unique feature, this new contribution to the Special Issues of *Environmental Education Research* helps promote insights and reflection into engagement and collective action within and across language communities, and on the ground—i.e. not only at the level of an intellectual or abstract approach to environmental and sustainability issues in schooling.

Finally, it should be noted that the research carried out in this linguistically defined area takes place in contrasting educational contexts concerning environmental education and sustainability education. In brief, in French-speaking Belgium, environmental education is not very institutionalized. It is mainly promoted by non-governmental organizations. Conversely, in France and Switzerland, 'Education for Sustainable Development' (ESD) has become a highly institutionalized form of sustainability education over the last thirty years, typically implemented through partnerships with multilateral bodies and associations, e.g. UNESCO. In close relation with the international guidelines of the United Nations, ESD has an important place in the formal curricula of these two countries, while reference to environmental education is much less frequent, and at times, now nonexistent.

Environmental and sustainability education research in Francophone Europe

To continue, in this opening dialogue we introduce what takes place historically and now within French-speaking Europe, including between our different linguistic settings, *in* and *as* ESE.

Framing questions that give shape to such debate and dialogue—and that are, either implicitly or explicitly, addressed by the articles in this collection—include:

- What is the place of ESE in our education systems, particularly in terms of the continuum of formal education (from primary school to higher education), and what are the skills, resources, capacities and dispositions needed to address sustainability issues within and across this provision?
- What are the specificities of educational traditions and practices that work on sustainability issues in each area? Are they pluri-, inter- or transdisciplinary? What is distinctive, and what is common within and beyond this region? Are there particular stances of the teacher and/or educational system, or intended and unintended knowledge and values transmitted? How do classroom interactions change when engaging with proposals for ESE from within (e.g. locally determined to EU) and beyond the region (e.g. UNESCO)?
- While in the combined field of environmental and sustainability education, is there consensus about particular content that should be included during and beyond initial teacher education, and how is this determined? Should particular educational and training modalities be encouraged, to develop or disrupt current practice?

In the remainder of this editorial, we first identify some specific features of ESE research in the French-speaking European context that inform responses to these questions. Then we discuss three main lines of thought for this collection. Finally, we briefly outline the articles that make up this Special Issue, before our concluding observations as guest editors.

The least one can say about ESE research in French-speaking Europe is that it is rather fragmented, be that in terms of topic areas, theoretical frameworks, methodologies or scale of research design. Indeed, some work focuses on 'Education for' (sustainability, health, digital technology, …), others on socially vivid issues, others on complex thinking, and still others on environmental education (Roy, Pache, and Gremaud 2017). This explains why one does not generally find an 'ESE'-related tab on research portals for educational sciences, such as in *Cairn,* a 'Francophone humanities' portal.

In terms of funding, this is often minimal too, particularly as there are few national research programmes dedicated to ESE-related topics, in comparison with science education or EU Horizon

opportunities, for example. Notable exceptions are the 'ED2AO' programme that was supported in France by the National Research Agency between 2009 and 2012 and, in Switzerland, 'swissuniversities' has a plan to launch a national programme between 2025 and 2028. In Belgium, however, there is no national research programme on ESE. Research is usually linked to the personal involvement of one or more researchers. Moreover, research can be developed in other spheres than universities or high education institutions (for example, the non-profit organization *Ecotopie-laboratoire d'écopédagogie,* has had *Environmental Education Research* as one of its missions since 1991). To sum up, few local or national research groups or laboratories work exclusively on ESE today, as many other themes are addressed, such as disciplinary didactics or digital issues.

Arising from these initial considerations, we can now identify some of the recurring issues worked on in this shared cultural region, that provide a background to the current collection.

Exploring the place of ESE in education systems, in terms of a continuum of education

Faced with the contemporary challenges of preserving the environment, building social justice and reducing economic inequalities for sustainable societies, ESE has become a priority for many education systems in Europe and around the world. It therefore corresponds to the contemporary insertion—in the school—of a political-pedagogical project driven by the notion of sustainable development (Pache, Bugnard, and Haeberli 2011). However, the case for introducing this education in compulsory education is not self-evident. Indeed, various authors agree that the introduction of ESD, for example, disrupts the school's curriculum organization (Barthes 2018; Lebeaume 2012). Both professionals and researchers are debating these changes in the Francophone regions of Europe, and beyond.

Within the three countries themselves, the default aim of education systems is understood as that, throughout their schooling, pupils/students should be taught to be socially aware (Legardez and Simonneaux 2006) and educated in choice and decision-making (Orange-Ravachol and Doussot 2013). These injunctions necessitate scholarly inquiry and reflection on at least five issues relating to ESE and concerning researchers, trainers and teachers (Pache and Robin 2017):

1. To examine the links between knowledge and action, either by entering through action projects or by studying a situation or event (Audigier 2011). (This point is related to what Pache and Robin (2017) term a *strategic competency*.)
2. To identify the values underlying sustainable development: such as solidarity, openness to others, justice, equality and responsibility (a *normative competency*).
3. To develop complex thinking (Jenni, Varcher, and Hertig 2013) (a *system thinking competency*).
4. To develop abilities to construct a problem (Fabre 2011) (a *problem-solving competency*).
5. To develop prospective thinking, i.e. the ability to imagine not only a future, but possible futures (Gaudin 2005/2013) (an *anticipatory competency*).

The studies and literature drawn together in this collection suggest that these themes should be present in the curricula as soon as they are widely regarded as cross-cutting competencies for learners, as subsequently formalized by UNESCO. (2016), and linked to specific themes related to sustainability (climate, water, poverty, biodiversity, etc.), such as in UNESCO's Education for SDGs objectives (UNESCO. 2017). However, shifts in parameters for education and society invite a redefinition of the aims and scope of curriculum content, but also the mechanisms that enable the development of skills.

In this context, an investigative approach has been argued to be a particularly useful tool for teaching (Roy, Pache, and Gremaud 2017; Simonneaux 2019). Indeed, some researchers have

shown that school subjects must be recomposed to take ESE into account (Sgard, Audigier, and Tutiaux-Guillon 2013). Thus, an important question for this collection is whether schools should offer interdisciplinary spaces in order to be able to deal with major current issues (Curnier 2017), and pay attention to the progression of learning? Equally, one cannot have the same expectations or horizons of primary or secondary schooling, high school or university. On this issue, as the articles will show, curricula and support in Francophone European settings provide little guidance to teachers.

Exploring the specificities of ESE teaching practices

Regional research on ESE issues in the compulsory school context and on the pre-service education of primary and secondary school students and in-service professional development of teachers has also been developing over the past decade (Lange and Martinand 2010; Considère and Tutiaux-Guillon, 2013).

Audigier et al. (2011), for example, outlined the contributions of social science disciplines that students are able to thematise in debates. They have also highlighted dilemmas that characterize the positioning of students: prevention/repair; immediate action/longer term action; fun and small arrangements/coherence of actions and points of view, freedom/constraint; and interest individual action/collective interest and action.

Meanwhile, Roy, Pache, and Gremaud (2017) have proposed a modelling of four possible theoretical configurations to describe and critique curriculum subjects and teaching practice in ESE. Their model is derived from an analysis of the parameters in tension during the design of *education-as-instruction* and *education-as-socialisation* (Lenoir 2009):

- *ESE as reproductive instruction*. While disciplinary mastery is the goal of this model, it tends to assume that the sciences are the most powerful and appropriate for interpretations of the world, given their unique status and indisputable knowledge. Preferred curricular and pedagogical mechanisms are centred on a traditional transmissive approach to knowledge.
- *ESE as emancipatory instruction*. Here, it is the construction (and not the imposition) of a universal culture that is aimed at. This leads to positioning school subjects at the forefront of a broader cultural project, apprehending them as resources for mobilising or building disciplinary knowledge about SD issues, e.g. the SDGs. The preferred mechanisms are centred on training in scientific approaches alongside the integration of problematisation, contextualisation, interdisciplinary approaches and reasoned debate.
- *ESE as inculcating socialisation*. In this model, the extra-curricular purpose is prioritised. This is often tinged with 'moral militancy' by groups of actors from outside the school who attempt to get school actors to uncritically adhere to their preferred norms, attitudes, behaviours, social values or actions to be implemented, which the outsiders consider unquestionable. Preferred mechanisms are training in cultural change and action-centred.
- *ESE as emancipatory socialisation*. In this model, the qualities of 'becoming' and 'being' of citizens in their axiological dimensions are to the fore. The aim is neither to condition students to imposed norms nor to inculcate value systems in order to respond to particular interests in society, but rather to give them intellectual tools to better understand and act upon and in the world. Preferred educational practices focus on ethical debate on value issues related to SD challenges.

Other focuses for inquiry have included: whether ESE leads to a rethinking of the relationships between learning domains, and if so, do they fall within the scope of inter- or trans-disciplinarity? Julien et al. (2018) proposed a transdisciplinary approach that consists of putting different disciplines into synergistic relationships and articulating them with a socially vivid question about the

future of a territory. The innovative framework they propose allows students to understand the different time frames (past, present, future) and to view time in its full complexity.

On the other hand, if we look at mainstream practices, we can see that teachers favour a magistro [teacher]-centric model, which leaves relatively little room for student initiative (Pache, Breithaupt, and Cacheiro 2018). Moreover, in interdisciplinary teaching arrangements, the specific tools of thinking for ESE are generally not clearly identified, as if all that is required to learn is to be active (Pache et al. 2016; Pache et al. 2017). In the context of primary schooling, it has also been shown that mainstream practices are often treated as a matter of common sense, and very rarely do they offer pupils the opportunity to begin constructing concepts, a secondary relationship to the world, or to issues appropriate to their age (Philippot, Glaudel, and Charpentier 2017).

Exploring teacher education and training practices

In the French-speaking part of Switzerland, for example, policies are beginning to recognise the importance of introducing specific ESE-related modules in teacher education/training, with a transformative aim (see also Lotz-Sisitka et al. 2015). This is, for example, what we are trying to do at the University of Teacher Education State of Vaud, in Lausanne, since 2019, with a module centred on ESE and the development of specific competencies. In particular, students are required to demonstrate their learning in the context of a portfolio. Another module proposes an intercultural exchange (Switzerland-India) and is based on a travel and learning notebook. Among the central elements to be addressed in teacher education/training, we can also mention project pedagogy and outdoor education (Pache and Lausselet 2019).

More broadly, ESE-specific education and educator training provision has not been the subject of much work in Francophone Europe. It is therefore an aspect that we wish to develop in this special issue. Lange (2011), for example, has proposed three avenues for teacher training, which are all areas of tension to be questioned. The first is to opt for truly educational (and not normative or behaviouralist) actions. The second should enable everyone to form a reasoned opinion. The third is to consider complex and multi-referential approaches. A related question then is which of these would enable the implementation of a pathway, an open itinerary but with clear objectives and goals?

Recent research about initial teacher training and education shows that the practices envisaged by pre-service teaching students are often limited to the implementation of eco-citizen gestures and do little to encourage complex thinking, the learning of critical doubt, and reflection in times of uncertainty (Considère and Tutiaux-Guillon 2013).

In the field of in-service teacher training, some researchers have shown that teachers don't really identify the tools of complex thinking and that the teaching units set up often mobilise cross-cutting research procedure and only rarely include phases of institutionalisation (Pache, Hertig, and Curnier 2017). Other collaborative research shows that sustained support (e.g. 'a community of (interdisciplinary) practices') enables teachers to become more aware of sustainability concepts and to evolve their practices towards modalities conducing to emancipatory models of ESD. It includes, in particular, modelling teaching-learning problems, and problematising the teaching practices and prevailing models for ESD, e.g. from the perspective of boundary objects, using chocolate as an object of inquiry (Gremaud et al. 2021).

In this Special Issue then, we illustrate other training provision as well as more advanced research findings highlighting the professional development of teachers and the conditions that need to be in place to achieve this. For example, we show how student projects implemented at universities (e.g. sustainability week) contribute to the training of students to improve the living environment.

We now present an overview of each paper, listed in a corresponding order to the three themes mentioned above. Our intention is also to enable dialogue between contributions from different countries, and by degrees.

Presentation of the papers

How is biodiversity understood in compulsory education textbooks? A lexicographic analysis of teaching programs in the French-speaking part of Switzerland

Audrin (2022) assesses how the topic of biodiversity, as part of environmental education, is understood and presented in a selection of textbooks used in compulsory education in the French-speaking part of Switzerland. Audrin performed a lexicographic analysis using *IRaMuTeQ* on teaching programs for natural sciences and the humanities and social sciences in all levels of education. Results show that biodiversity is at the heart of each program and that interdisciplinarity is encouraged. Programs adopt a holistic vision of the concept of the living, integrating scientific as well as environmental aspects. Finally, the author encourages 'the use and creation of [technical tools], keeping in mind that the goal of biodiversity education is not only to develop knowledge and skills but also to cultivate attitudes that would enable society to meet these demands and responsibilities (Kassas 2002)'.

Integration of ESD in French primary schools: for what purpose, with what form of integration and with what content?

Charif (2022) examines the integration of Education for Sustainable Development (ESD) in the French educational system and more specifically, in primary schooling. The research investigates the purposes, forms of integration and definitions of the content of ESD. Charif (2022) presents and analyses the main features of these three topics as presented in the official texts of the Ministry of Education. Findings show that, both in the official texts and in the discourse of the interviewees, the purposes of ESD tend to be aligned with civic and emancipatory purposes. Furthermore, while the choice of content is left to the actors on the ground, the incoherence and lack of clarity of the official texts complicates their task. The author recommends generalising 'the engagement of schools in a holistic approach to sustainable development in order to enable the coordination of the practices of the different actors involved in ESD'.

How do students at the end of secondary school consider the challenges of sustainable development of the Seine in France? What avenues for education?

Jeziorski et al. (2022) aim to understand how students aged 14–17 consider the issues associated with the sustainable development of the river Seine in France. This study draws on a transformative, socio-critical approach to ESE, the didactics of socio-scientific and socially acute questions, and the principles of critical pedagogy. The findings highlight the students' commitments regarding the protection of the river and their evolving relationship with critical knowledge and pedagogy in an educational project. The work also shows 'that the partnership between the formal and non-formal environment could offer favourable conditions for young people to take charge of these issues for more eco-citizen commitment, insofar as it would make it possible to go beyond the traditional school form and offer varied learning'.

A sustainable development project including a role-play: analysis of teachers' intentions to promote students' engagement

Dedieu and Plé (2023) raise the question of how to engage and develop the commitments of 9-12 year-old students, as future citizens, through ESD activities in schools. They present a case study in which students have to design a new living space, then interact with local actors during

a forum. The ensuing role-play aims to rework their existing knowledge in a new situation. The article analyses the creative nature of the project, identifies indicators of student engagement, and the conditions that facilitate the development of this engagement. Finally, the authors identify the particular strengths of this type of role-play in developing student engagement but also the limits, as, for example, the necessity of 'a strong commitment from the teacher team, which is not necessarily achieved in all school contexts'.

Climate change, a challenging topic in the French curriculum (in 7th grade)

Perrin's (2022) study unpacks the ways in which 7th Grade students appropriate concepts related to climate change and systemic reasoning. Perrin uses an epistemological analysis of teachers' discourse and students' work, and concludes that the case study approach presents obstacles for students. Ways are proposed to remedy this, such as the harmonisation of the geography and life and earth sciences curricula, introducing this topic in secondary schools, and reconsidering teacher training and practice in order to better adapt it to a systemic approach. Moreover, the author stresses the 'need to reconsider teacher training and practice in order to better adapt it to a systemic approach, even if this means bypassing the official curriculum'.

Assessment of cross-cutting competences in education for sustainable development

Gey et al. (2023) focus on transversal competences and how to assess them in the context of a strong sustainable development education. After identifying three types of competences (cognitive, metacognitive and socio-emotional), the authors develop resources based on project-based teaching through inquiry-based learning. The value of the approach is that it combines teacher assessment and student assessment in a way that promotes student progress and confidence rather than performance at a point in time. According to the authors, this approach is part of a 'paradigm shift (Curnier 2017), which is necessary to face the challenges of the Anthropocene'.

The role of 'experience' in teaching innovation in ESD in France

Redondo and Ladage (2022) examine the role that experience plays in both the field of ESD and in professional practices. Their research leads them to conclude that there is a significant gap, which could be explained by the complexity of the concept and its transposition into educational situations. They also highlight its multiple epistemological foundations, its recent emergence, and a lack of training for teachers in the use of this type of pedagogy. From this perspective, 'the contributions of the scientific literature (presented in the first part of the paper) provide references - albeit neither exhaustive nor definitive - theorising the inspirations behind the active and experiential pedagogies that dominate the field of ESD'.

ESD in school: understanding French-speaking Swiss pupils' representations of sustainability

Gavin and Audrin (2022) aim to understand French-speaking Swiss pupils' representations of sustainability. Based on the concept of social representation, their article presents a statistical analysis of 219 responses to a survey questionnaire. The results show the correlations between knowledge and gestures towards sustainability, and three types of attitudes towards sustainability: 'group 3, the '*confidant*', who represent the majority of pupils is

related to dominant representations and social practices; group 1, the '*cognisant*', is similar but has a more pessimistic view of the future. Finally, group 2, the '*passive*', which comes mainly from pupils in VT [vocational training] path demonstrates a passive attitude towards sustainability'. Discussed in the context of the Anthropocene, these results lead to considerations of the issue of reducing educational inequalities and on the value of practices of outdoor education and of creative thinking.

Development of teachers' practices in the field of education for sustainable development: a discursive community of interdisciplinarity practices focusing on the theme of chocolate

Letouzey-Pasquier et al. (2022) present a case study concerning a Discursive Community of Interdisciplinary Practices (DCIP) focusing on the theme of chocolate in a Swiss primary school. Based on a conceptual framework of complex thinking, problem construction and interdisciplinarity in school, this article questions the change in the teachers' approach that this collaborative training device promotes. According to the authors, 'the most important contribution has been the creation for all of interdisciplinary planifications [process of investigation for teachers] related to a general problem associated to several sub-questions in relation to the chocolate theme'. Moreover, the research show 'how teacher training could lead to a transformation of teachers' practices, moving from a normative education to a more reflexive one'.

Research approaches in ESD/ESE: reflections of Swiss researchers

Pache et al. (2023) propose several reading grids to understand Swiss research methods about ESD/ESE. Three studies are presented to illustrate different viewpoints and methodologies. The authors also wish to question the values conveyed in the various research projects, focusing in on the values of competition or cooperation: 'Thus questioning underlying paradigms by using another framing to look at ESD, tackling the complexity of implementing ESD through mixed methods, and working with collaborative approaches that empower teachers and learners as an ESD community seem to fit the needs within the field'.

A five-month full-time eco-traineeship in pre-service primary school training

Partoune et al. (2022) are convinced that the environment surrounding the school is a precious resource for developing learning in all disciplines as well as environmental and ecocitizenship education. Their research focuses on the pre-service training of primary school teachers to carry out educational projects in this direction. Given the unsatisfactory results of previous training schemes, a service-learning approach was tested for two years. The results were encouraging: the students teachers felt more responsible for the environment and have acquired skills to teach outdoors. In conclusion, four conditions are proposed for a renewal of teacher training: 'institutional support', 'extramural teacher training', 'environmental education awareness for all educational stakeholders' and 'interesting and exciting environment near the school'.

Eduquer à l'environnement par l'approche sensible. Art, ethnologie et écologie [To educate about the environment through a sensitive approach. Art, ethnology and ecology]

Planche's (2022) contribution to the collection has a special status. It is a review of her book entitled '*To educate about the environment through a sensitive approach. Art, ethnology and ecology*'. The guest editors felt that this book deserved to be brought to the attention of an English-speaking

audience. The author first presents the anthropological context of her approach, then a summary of each of the two parts of the book. In the first part, the author shows that the rupture between science and art is similar to the rupture between nature and culture. In the second part, the author develops the idea that pedagogy must be based on the senses and sensibility. In conclusion, 'the book shows how the approach based on daily and local experience, the re-enchantment of reality *via* the artistic approach, the ethnographic approach that makes the territory precious, are vectors of links, emotions and involvement, to move from the information not sufficient (Cottereau 1994) or from the risks of injunction in ESE (Jeziorski 2017), to an incorporated responsibility because it makes sense'.

Conclusion and perspectives

All the contributions to this collection show that research in ESE is now well established in Francophone Europe, even if it is not always encouraged by national funding bodies and universities. Nevertheless, participating in the creation of this collection has contributed to developing the Francophone network of ESE researchers who, together, strive to develop innovative and forward-looking projects.

In terms of our main conclusions, we note the usual gap between official texts which advocate ESD, and associated practices, which are still in their infancy. A key feature in the region, be it for EE or particular forms of ESE, is the work is carried out by smaller groups of convinced people rather than the teaching profession (including teacher educators and allied workers), as a whole. Thus, the key may lie in reinventing and reinvigorating teacher training and professional development in order to integrate in all courses of study, content and teaching methods favourable to ESE (see also Stevenson 2007). As with the broader ENSI project throughout Europe (Affolter and Varga 2018), educators in Europe need to work together on supporting the evolution of the school sector and compulsory education towards a new model of society that is more respectful of the limits of the biosphere and of basic social needs.

Finally, we should not overlook the significance of the climate emergency, which is now impacting all areas of life in society, and the commitment of young people. This opens up many new avenues for action, and research is particularly promising in this context, whether it is analysing the role of digital tools (school correspondence, climate marches, etc.) or analysing the impact of actions undertaken (Youth in Action, national and local projects, etc.).

We invite researchers to take a look at this thematic issue and to continue the dialogue around EE/ESE/ESD in the region, and beyond.

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