RESEARCH AND INNOVATION IN EDUCATION FOR SUSTAINABLE DEVELOPMENT

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Cultivating Action and Collaborative Research on ESD: Case study on the ‘new researchers generation’ in ENSI’s network.

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ABSTRACT
Engaging in research has always been one of the main pillars in the vision of the Environment and School Initiatives network (ENSI). Schools struggling to realise aspects of sustainability in collaboration with their local communities cannot contribute to the development of theoretical and practical frameworks for education for sustainable development, if not deeply involved in a reflection on their own action. Action research and collaborative research have grown in ENSI since 1986 and to foster this approach a special group was started in 2008 with the aim of sharing ENSI ideas and practices with a ‘new generation’ of researchers, not previously involved in ENSI. The following chapter examines the history of this group, the initial philosophy of aiming to share very different research experiences and the findings of a small survey among the group members involved. The experience was not easy but positive. During the last 8 years new people were invited to join the ENSI initiatives and projects, and ENSI was able to incorporate new ideas and practices.

KEYWORDS
ENSI, involving new generation of researchers, research and innovation network

A BIT OF ENSI HISTORY
In the ENSI vision, from the very beginning research was not meant as an academic feature but as an inclusive tool, oriented towards professional development. Action research was the main research approach ENSI proposed to teachers and researchers: “Action research is not a form of technical or instrumental means/ends reasoning because means and ends are investigated jointly. It is a process which aims both to improve practice and to develop better theories to guide it. Hence, action research not only increases our understanding of how to achieve an innovatory curriculum concept in local and national contexts, but also further develops that concept.” (Elliot 1991a, p.19)
The action research feature was taken further when ENSI was launched as a fully-fledged OECD CERI Project in 1991, and ‘a pedagogical support person’ (in many cases a researcher based in an university), was appointed in every country participating to the project, with the role of a teacher facilitator: “Problematising practice, destabilising the ‘self’ and becoming reflexive are all necessary conditions for adopting an action research approach” (Elliot 1995, p. 69).

This research vision is strictly connected with a vision of Environmental Education (EE) and of Education for Sustainable Development (ESD) as engagement for a future we cannot predict. If EE and ESD are conceived as ‘education for change’, then research (and action research) is not a luxury reserved for the few but it is an obligation for every professional engaged in innovation, including teachers: “As innovators, teachers are asked to take on, initially at least, the burden of incompetence” (Stenhouse 1975, p. 169).

EE and ESD had to accept being embedded in a culture of complexity and to be focused on the ‘structure which connects’ all the elements of reality (Bateson, 1972). In this situation it is no more possible to clearly separate the observer from the observed (Maturana and Varela, 1992) and it is essential to pay attention to the ‘relevance’ of questions and to the ‘values’ that guide theories and practice, rather than to the correctness of results.

ENSI proposed a systemic view of Education where governance, teaching-learning processes and educational research were strictly connected together. As a result, research became one of the main components of any ENSI project, and of the ENSI network as a whole. Other components of ENSI projects were the presence of Educational authorities and of active schools/teachers/students. Educational Research guarantees the characteristic of continuous exploration and innovation that EE and ESD should have. As it was written after the Rio+10 Johannesburg meeting; “What makes ENSI so particularly effective is that it has formed partnerships across different levels of education in a way that has not been done before. By linking up education practitioners, education authorities, higher education institutions and government agencies, ENSI’s partnerships are helping to address conflicting interests, and embed change towards Environmental Education and Sustainability in all levels of the education system” (Mayer 2004, p. 70).
In practice, what has characterized ENSI research was the interlinking of three main research lines:

- A collaborative research line mainly involving students, but also other local stakeholders, concerning SD problems and concrete actions to be carried out in order to improve the quality and the sustainability of the school or local community. In this line, ENSI focused on solving real problems, tackling controversial situations, and confronting the question of the values and interests of students, teachers and the local community. Students’ ownership of projects was seen as a ‘quality criterion’ of the ‘ownership of knowledge’ and of their capacity to take initiatives in their own situation (situated knowledge).

- An action research line carried out mainly by groups of teachers inside a school who agreed to document the ‘collaborative research’ and at the same time to reflect on their own educational methodologies and aims was. The purpose of this was to better develop students ‘dynamic qualities’ (Posch, 1993) and their ‘action competences’ for sustainability (Jensen and Schnack, 1997). In this line ENSI focused on the epistemological level, trying to tackle questions of interdisciplinarity and complexity, understanding that real problems can rarely be simplified and fit neatly into one discipline (Losito and Mayer, 1995).

- A second order action research line (Elliott, 1991b), involving external researchers and teachers in order to jointly reflect on the feasibility and effectiveness of a whole project. The teachers’ professional identity is often destabilised and their practices need to become reflexive rather than simply reflective. The researchers supported a whole project mainly as facilitator of the teachers’ reflexivity. They were involved in the construction, together with teachers, of ‘theoretical knowledge’ on the perspectives and obstacles of EE and ESD. Supporting research and action research processes is not a simple task. There are no recipes: “it requires people to know how to improvise, not to lose sight on research objectives, to make the most of unexpected situations, and to build a concrete example of ecosustainable relations and behaviours” (Mayer, 2006, p.150).

BUILDING THE ENSI ‘JUNIOR RESEARCHERS IN ESD’ NETWORK IN 2008

In 2008 the ENSI network began to reflect on the need to involve a new generation of researchers committed to ESD. Without such a change there was a risk that ENSI would remain a closed community and to lose contact with the research that other groups in Europe and in the world, were undertaking.

ENSI called the group it was seeking to establish ‘junior researchers’ (JR) because independently of their ages they were all at the ‘first step’ of their research career,
rich in energy and enthusiasm, open to different ideas, interested in listening and exploring new research lines. The ENSI aim was to constitute a ‘small community of practice’, sharing ideas and questions about EE and ESD under the umbrella of the ENSI international network. One of the foci of the ENSI JR idea was to involve the group in ENSI network activities and projects, and to offer members of the JR group opportunities for regular exchange in order to compare and debate research questions and research methodologies.

ENSI started JR activity 2008 with a seminar in Switzerland, organised with the support of the Council of Europe. The seminar sought ‘to harness the energy and enthusiasm of a new generation of researchers, committed to Education for Sustainable Development (ESD) and to pool the expertise of those research newcomers in the field of ESD by developing a small researcher’s network’ (ENSI Invitation letter).

The participants were invited to pool their research with others in their PhD or master’s thesis or in other relational research projects. The idea was to share different approaches, methodologies, research topics and priorities, and culture and values based research styles. ENSI offered the JR’s an experience in research collaboration and networking in the fields of EE and ESD. A deepening understanding of Action Research as a crucial methodology was also an outcome.

The seminar consisted to three days of sharing and debating with 19 researchers from 11 countries: Australia, Austria, Czech Republic, Germany, Hungary, Italy, The Netherlands, Spain, Sweden, Switzerland and the UK. Issues fundamental for any research practice were raised including:

- the ‘values issue’ and how ESD values influence the research paradigm,
- the impact of the “World Views” or “World Visions” (‘mundovision’ in Spanish), of epistemology and ontology, on research methodologies;
- the influence on research design of a consciousness of human and world complexity;
- the role of the research and ‘the researched’ in Educational Research;
- the influence on research of the kind of institution in which a research takes place, and vice versa.

The following is the synthesis given by one of the JR, Monika Reti (2012) a few years after the meeting: “People in the first part of their professional careers found it overwhelmingly exciting to discuss their general dilemmas about sustainability, to discover how others struggle with some similar research problems, to share
their views about teaching and learning from the ESD perspective, to learn about innovations and genuine actions carried out by others or to find out how solutions emerging from other disciplines may improve the quality of their own research and development activities. It was especially fruitful because group members (besides coming from different countries, having diverse cultural background) represented miscellaneous disciplinary areas (from sociology to engineering or science) and were engaged in the teaching and learning processes at various levels of education (from kindergarten to university).”

Continuing the ENSI’s ‘Junior researchers in ESD’ initiative

The ENSI effort of involving JRs has continued from that initial seminar time until now. Different initiatives have been launched where the initial group met and where new people were invited to join the group. Some of the researchers became strong and effective agents of ENSI, others followed different life lines but many of them are in contact with ENSI, sharing their ideas and research results.

After the first seminar, ENSI tried to find situations and events where the JR group could meet. The digital platform was not easy to maintain as an active forum whilst personal contacts were strongly appreciated and gave opportunities to other ‘Junior Researchers’ to join the group.

In the Leuven Conference of 2009, ENSI gave the JR an important role. They were invited to be rapporteurs of workshops, to present posters and to conduct their own workshops bringing new ideas and fresh approaches to ESD. With the JR contribution, the conference served as an ‘intergenerational learning platform’ giving an opportunity to junior and senior researchers to share enthusiasm, doubts and questions. As Monika Reti wrote, the members of the Junior Research Group contributed to “making this conference a reciprocal learning exploit, which not only remains a pleasant memory but which empowers such future ambitions of professional exchange” (Reti, 2012).

The PRISM Research Conference held at the University of Gloucestershire in Cheltenham in 2011, gave the ENSI network the possibility to share ideas with another research network “of postgraduate and early career researchers, based in universities across the UK and overseas, who are engaged with the conceptualisation as well as the applied practice of sustainability-related research” (PRISM Conference Program). The focus of the Conference was the Interdisciplinary researcher, and research works were reported during three parallel sessions focusing on paradigms,
on practices and on possibilities. The PRISM Conference gave the ENSI JR network the opportunity to take part in a joint workshop on “Researching Education for Sustainable Development (ESD) for a Better World”. The workshop gave about 30 participants the opportunity to become acquainted with the research issues and methods of the ENSI network, to share experiences and concerns with ENSI junior and senior researchers, and to discuss research issues and methodologies.

In the PRISM ENSI workshop different questions about the utility of a research network were addressed. These questions included: what difficulties and/or open questions do researchers face and how can a research network help and support; what are the advantages for researchers in being active members of an international network; what are the research questions to suggest as a future challenge for an international network such as ENSI?

In the following period another important initiative was taken by ENSI in order to involve the JR network in concrete research practices. ENSI involved junior researchers in the CoDeS Life Long Learning project on Schools and Community for Sustainable Development. This project ran from 2011 to 2014 and the Quality Assurance of the CoDeS project was the responsibility of ENSI, and within the different features that characterised the ENSI approach to evaluation (discussed by Mayer and Dillon in a different chapter in this book), another innovative evaluation method was added. The internal evaluation of the three main conferences within the project was delegated each year to a different pair of junior researchers in ESD. These junior researchers were not involved in other partner institutions and they were new to the project. In this way, the evaluation process integrated fresh research perspectives and at the same time allowed people coming from different traditions to comment on the project.

The junior researchers worked under the guidance of Michela Mayer who served as Internal Evaluator of the CoDeS project and as such was responsible for their work. The JRs brought with them new ideas, new evaluation tools, fresh enthusiasm and produced good quality reports. They were also important for the dissemination of the CoDeS project work in institutions that were not CoDeS partners. The six junior researchers involved were all women, coming from different backgrounds and countries. Some of their comments after the completion of their work give an interesting reflection on the importance of this kind of exchange for researchers at the beginning of their career:
“Though my field is ESD in higher education, it made me realise that the challenges faced by schools and CoDeS project are similar to those in higher education for sustainability, and that we can learn from each other” (G. C. 2013).

“Being a bachelor student for business administration with a particular interest in sustainable development and education for sustainable development, I consider the participation in the CoDeS 2013 Conference as a great opportunity to get acquainted first-hand with the practices and possibilities of school-community collaboration. It was particularly interesting to experience the interaction between and active participation of a diverse variety of stakeholders” (L.R. 2013).

“Due to the role, I had the privilege to conduct interviews with many participants, which was a valuable chance to have deeper insights into the engagement and passion of the people. It was indeed inspiring experience to witness the willingness and the enthusiasm that people put into their work of ESD as a student interested in the field of SD” (J.A. 2014).

**Perspective of Junior Researchers in a small empirical survey**

To enrich the perspective of ENSI’s involvement of JRs since 2008 a small qualitative survey of 12 JR members was undertaken. They were asked three open-ended questions with the aim of capturing their subjective perspectives and understanding the reciprocal influences (Heinrich 2005, p. 92) that ENSI structures and JR members had in this mutual activity. “Meaningful text units” were structured in an open coding process (Saldaña 2012, p. 114), in order to analyse the results against the background of subjective plausibility and inter-subjective conceivability (Bosch 2010, p. 387). The aim was to try and identify components that showed a certain consistency that could be easily distinguished and that at the same time were connected inextricably (Deleuze and Guattari 1991, p. 19) to serve as axial coded references (Saldaña 2012, p. 222).

To begin with, the components in each of the three guiding questions below were identified. The findings are derived from the answers of the 12 JRs, which were paraphrased from their quotations. Paraphrasing instead of original quotations became necessary, because most of the JRs answers overlapped in some way. Some of the original quotes have been kept (shown between quotation marks), because they highlight some specific characteristic. The identities of the 12 JRs have been kept anonymous.
Q1. How did you perceive ENSI’s research and innovation activities when you approached ENSI?

- JRs perceived ENSI as a dynamic and independent network of research and innovation opening new ways of understanding environmental education and research paradigms. In particular the action-oriented approaches such as the action research undertaken by the network were seen as critical to link “theory to practice and action” connecting stakeholders at “all levels of the educational sector with expertise in curriculum, school policy…”
- ENSI connected researchers, fueling the competences of “my work and the work of others” and opening up a broader and different view of what ESD research could imply.
- ENSI involved the JR members in several European projects such as SEED, CSCT, SUPPORT and CoDeS, emphasising sustainable development and schools.
- The international cooperation has been mentioned as an encouraging but at the same time difficult endeavor due to language barriers and cultural diversity. This complicated the process to the extent that it hindered the emergence of real innovation.
- In general the participation in ENSI had been perceived as empowering for the JR members. The network welcomed them as young people with “open arms” and placed the responsibility of particular tasks on them. That was been perceived as a rare opportunity, because representatives of the “youth are seldom meaningfully engaged or consulted … for existing projects, programs and events”. This kind of support is important, because researchers at the beginning of their career often “face critique and unacceptance”, when undertaking innovative approaches.

Q2. To what extent your involvement with ENSI contributed to your vision of ESD and to your research activities?

- JR members valued following other researchers in the ENSI and JR community, experimenting on their “winding road, and in a continuum of reformulation and new ways to understand things”, which sometimes end up in PhD theses. The ENSI JR meetings served to structure work, and enrich it with contributions from other people and other research, and through being “taught to ask the right questions”. The members could actively and professionally explore the vision and principles of ESD.
- ENSI activities triggered JRs to approach ESD based on research paradigms “to achieve more human goals” as encounters to explore differences and to embrace complexity, the action competence approach, the socio-critical paradigm, the
interdisciplinary approaches (e.g. “dialogue with art”), “dealing with uncertainty” and the “focus on competences for SD”. In a more critical perspective these components of ENSI as well as being helpful as tended to be “a bit too theoretical (model-oriented)” and showed sometimes “too little cohesiveness and resources” to be meaningful in the work of the JR members.

- The working with and in respect of, the local community and the collaboration with educators, researchers and policy makers and in particular “isolated communities” helped to understand different stakeholders’ worldviews, priorities and experiences with ESD and to value networking.
- Offering opportunities to experiment and to design workshops together with other JR members in workshops, conferences and as an online community. Those experiences of collaboration “showed that 1 + 1 = 3!”.

Q3. Which advice can you give to the ENSI network to strengthen its “engaging research” platform and initiatives?

- The activity of the JR network depends heavily on joint activities such as CoDeS to provide purpose for collaboration and involvement on a regular basis. A common goal or outcome, such as “collaborating on a project or publication together”, is essential to encourage people to be active in a network. It might be important to clarify the role of JR in ENSI activities. The JRs could be more active if ENSI offered opportunities and funding to the JRs to organise and conduct small research projects to be undertaken by members.

- The phase in the career of the individual JR member should be considered, as some need support in PhD writing through PhD and master’s classes, whilst others who have started employment need support in researching their practice. This is particularly true for those who seek to research and innovate teaching and curricular practice, developing high quality international education projects that are “truly innovative”. It is a matter of fact that in this community JRs will only participate if they see an added value to enrich their daily work.

- JRs recommendations for joint activities included joint literature seminars, conferences, publishing and disseminating EE and ESD research papers and books, newsletter and ICT based conversations and web-seminars. Collaboration might include mutual data collection, exchange of theoretical ideas, research methods and lead to co-write articles and organisation of international workshops.

- Last but not least, ENSI is strongly requested to recruit and engage new JR’s and other ESD researchers through stronger networking.
CONCLUSION

The findings of the survey highlight some of the crucial components of a Junior Researcher’s involvement in an international network for research and innovation of EE and ESD. The JRs expressed their commitment to a network that offers a unique approach of diverse stakeholders in the educational field of EE and ESD. They appreciated the chances to participate in active roles as evaluators and co-researchers to gain in-depth views into the work of national and international collaboration of researchers, policy makers, community member and educational practitioners. The participation supported their student’s and research careers and enabled new perspectives on the epistemological paradigms of EE and ESD.

In summary it seems that the ENSI network offered something special. It was this first-hand experience in the practical actions conducted around the world in the field of ESD that make the ENSI JR ‘unique’. In the UNESCO Midterm review of contexts and structures for ESD, Arjen Wals in 2008, noticed: “Little evidence was provided in the mid-term review that there are policies in place in formal education, professional development and teacher training that encourage educators to become reflective practitioners themselves and to conduct their own research. There are, however, some networks of practitioners and academics that seek to bridge the theory practice divide using forms of action research to improve practices” (UNESCO 2009 p. 62; the ENSI description follows in Box 27).

The JRs also gave critical feedback and expressed aspirations in their feedback. International collaboration is expensive and as all cultural exchanges sometimes need significant effort in terms of language and intercultural abilities. In addition the personal life and careers of JR members naturally leads to a fluctuating membership and therefore a challenge to long-term collaborations. The willingness of the JRs to participate in ENSI in peripheral and sometimes central position is encouraging and it is up to ENSI to open their frequent activities to JR. For example, opportunities for JR to take part in both conferences and funded projects would be hugely welcomed by both existing JR members as well as new candidates.

Other possibilities to enhance this kind of exchange and collaboration might be to improve universities openness to action oriented international networks. What made a difference in the ENSI network wasn’t just the deepness of the theoretical approach – that could be offered by many universities – but the mixture of and balance between, academic rigour and practical involvement. The collaboration between universities is very important (at the moment there is in Europe an interesting
attempt to improve this collaboration through the Erasmus + project University Educators for SD - UE4SD but the connexion with national educational authorities and the concrete world of formal and informal educators is an added value that the research world should take into account.

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