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Key Findings

Education for Sustainable Development

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Environmental education (EE) in 1977, "environmental education for sustainable development" (EESD) in 2004, then "education for sustainable development" (ESD) in 2007 are subjects on the curriculum of French pupils. Within the context of Unesco's Decade of Education for Sustainable Development the "generalization of ESD" results in giving it more room in the curriculum and initiatives in schools; it also raises the question of training not only teachers of all disciplines, but also all staff now concerned.

1. Questions of definitions

The vocabulary relating to environmental education underlines the variety of the values at stake and recalls the history of related ideas.

EE is the prime framework for environmental education throughout the world, as it was in France until 2004. EE is akin to "education by or in": people and social groups develop optimally through their relationship with the environment (Sauvé, 1997; Lange, 2008; Leininger, 2009). It concerns several dimensions of the relationship with the environment: affective, cognitive, social, political, economic and aesthetic. The ethical dimension in the broad sense of education is underlined (Villemagne, 2010; Jickling & Wals, 2008; Hortolan & Bruxelle, 2008). EE keeps at a distance any form of behaviourist education which might be limited to training in "eco-gestures": in this it remains a heritage that cannot be ignored (Lange & Martinand, 2007) even if the Bonhoure & Hagnerelle (2003) report agreed that there had been a relative failure of EE in France and if the move from EE to ESD marked a "breaking point" (Leininger, 2009).

Similar expressions ("environmental education", "ecological education" "sustainable education") point to different approaches and varied details of implementation (Lange, 2008; Burns & Norris, 2009; Villemagne, 2010). It can be observed that, in English-speaking countries, the term "ecoliteracy" may indicate radical movements of thought (Kahn, 2009) but in the broad sense, the concept of "functional ecoliteracy" is a useful one and is developing because it is apolitical and transdisciplinary (Nichols, 2009; Semetsky, 2010; Fleury, 2009; Quinn & Gaughran, 2007).The success of the expression "sustainable development" (SD) (André-Lamat, Couderchet & Hoyaux, 2009; Löwy, 2010), should not blind us to the variety of its definitions and their ideological positioning. Sustainable development may be perceived as a simplistic, ambiguous and inadequate framework (Sauvé, 2007; Jickling & Wals, 2008; Taleb, 2009). And yet, whether an "oxymoron", a "paradox" or a "perpetually awkward, contradictory concept", the expression may be used in various ways and precisely create tension which has the advantage of questioning civil society and decompartmentalizing disciplines (Lange & Martinand, 2007; Déléage, 2005; Lléna, 2008; Jollivet, 2002).

This document presents an overview of the key findings of the Dossier d'actualité.

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2. Education in acts: frameworks for initiatives in the field

The 2007 circular makes provision for a global and voluntary initiative which associates staff from all the members of the educational community, the local authorities, State services and schools, to which are added families, those involved with health, and associations (Brégeon, 2008).

Schools favour the implementation of global sustainable development initiatives, starting out from problems identified in the school's area and leading to interdisciplinary work. They use also the school Agenda 21, a variation of Agenda 21, an action plan adopted during the 1992 Earth Summit in Rio, to implement sustainable development on a regional scale which makes provision for action plans to answer social, environmental and economic problems identified at school level. Finally, the Eco-Schools network which brings together 44 countries and 25,000 schools in Europe) proposes six unifying topics: food, biodiversity, waste, water, energy and solidarity. The difficulties encountered in implementing various actions concern lack of motivation, resistance to change, the complexity of "the subject of sustainable development", the temptation of positivism and the difficulty of taking account of complex thought (Blanchard, 2010; Fortin-Debart & Girault, 2007). **Agricultural education** has been a pioneer for ESD in France since the reform of the CAP in 1992; the circular of September 12th 2007 added to its curriculum education in risks and uncertainty and education in making choices within a complex context.

"Pro-environmental behaviour" among young people has its source in various complementary activities which have long been related to both informal and formal education. Outdoor education, direct contact and the interaction between the learner and his/her environment, the experience of nature during childhood (family, youth movements, Forest Schools) and also reading take on an important educational function (Broda, 2007; Villemagne, 2010; Brégeon, 2008; Girault & Sauvé, 2008; Chavlaa & Cushing, 2007; O'Brien, 2009; Schwarzer, 2006). In the **Scandinavian countries**, concern for the common good and the link between environment and democracy facilitate the implementation of ESD, whether in the classroom or in society (Breiting & Wickenberg, 2010). Partnerships, in the broad sense, established by the school are very widespread; half of these concern EESD associations and a third, local authorities; the projects often involve several partners. The school form of activities is nevertheless prevalent (Leininger, 2009; Brégeon, 2008).

Among the many **French teaching resources** may be mentioned those of the national centre of competencies of the Sceren network in Amiens. The site of the UVED (Université Virtuelle Environnement et Développement durable - Virtual environment and sustainable development university) proposes training modules and resources. The academy of Rouen analyses the curriculum to see how ESD is taken into account at elementary school. ESD teachers in association with INRP subject project initiatives based on the convergence of multidisciplinary tools. Ifrée (an institute for training and research in environment education) organizes initial and in-service training for teachers. For agricultural education, the Chlorofil site gives practical information for the implementation of ESD. In the French community of **Belgium**, the Idee network (EE information and distribution) makes resources available and proposes training.

3. Teacher training: the "major challenge"

Teacher training is essential, especially taking into account the rapid move from EE to EESD then to ESD. However, it is still insufficient and the French compartmentalized and universalist educational model remains inappropriate (Martinand, 2008; Fortin-Debart & Girault, 2007; Lange, 2009). As the official texts stipulate, all the members of the educational community must be trained, even if it is active teachers who are at the moment requesting training (Brégeon, 2008; Bouquet, 2008). Training must take account of the complexity of ESD: the variety of approaches and the values at stake require appropriate training (history of science, philosophy, etc.). Some restructuring of disciplines must also be planned to help with the change of professional identity required from teachers. Finally, it is advisable to train teachers to adapt the level of thinking to the age of their pupils (Girault, Lange & Fortin-Debart, 2007).

The official texts recommend a "cross-disciplinary approach" but this is still not easy to implement. (Stevenson, 2007; Blanchard, 2010). Training must therefore

deal firstly with learning to decompartmentalize disciplines and with the co-disciplinary approach, which involves work on professional identity (Brandt-Pomares & Aravecchia, 2008; Charron, 2005; Salviat, 2009). While teachers are, in the main, receptive to ESD, they unanimously perceive the complexity of ESD, which concerns academic as much as social knowledge. The interdisciplinary approach is praised, insofar as it benefits from an institutional framework and time for consultation. Finally, there are many requests for in-service training; these relate to the very innovative aspects of the teacher's job: updating knowledge, but especially group work and teaching controversial issues (Pommier & Boyer, 2005).

The representations of ESD among life and earth science, and history and geography teachers show that the political and ideological dimension is assumed and the discourse of the media kept at a distance. The differences appear when disciplinary knowledge is engaged: evolution of living beings, teaching "hot knowledge". The perception of the relationship with nature and with progress is divergent. All teachers on the other hand deplore the headache caused by the articulation between the curriculum and the ESD instructions (Lange, 2008).

ESD is entering the field of **controversial issues**; the question of the place of man in ecosystems leads to a variety of approaches and has now moved into the social arena (Cavet, 2007; Villeneuve, 2005; Gaillard, 2009). Besides, an ESD approach centred on the teaching of environmental sciences is likely "to cool off" this controversial issue or reduce science teaching to a mere tool for learning about ESD. What should be done is rather to aim at helping to make pupils be disposed to "*to choose, decide and commit*" (Lange, 2008), as the 2007 circular puts it, making provision to train teachers in this direction. Primary teachers are hindered by ignorance of the circular about ESD, are lacking in educational assistance and training, or else their initiatives are reduced to behaviourist or positivist approaches, while their pupils have a hard time building the idea of a common and shared environment and giving meaning to what they do.

To remedy these difficulties, various openings may be proposed. A co-operative initiative, "*characterized by co-operation in learning, and for co-operation in action*", or project-based teaching are suited to environmental education (Fortin-Debart & Girault, 2007). The concept of "an island of rationality" (defined as a "*theoretical representation which answers the question 'What is it about?' in a specific situation and with a view to contextualized projects*") makes it possible to think about disciplinary approaches from the transdisciplinary standpoint (Fourez, 1997; Bader & Therriault, 2008; Vergnolle, 2009) and to include non-academic knowledge, while research in ESD has been looking, since the early 2000s, at approaches related to regional contexts, particularly useful in the case of ESD, because "*several groups, each one with its own identity, may live in the same region, without having the same relationships with this region in terms of belonging, appropriation or claim*" (Fournier, 2007). It is also important to work with pupils from their very earliest years on the concept of common good, in order to be able to understand the difference between the public and the private sphere (Chawlaa & Cushing, 2007; Short, 2010). In French agricultural schools, the "eco-deputies" receive training in this.

The continuation of the reform of science teaching is another factor explaining the success of ESD in many countries which are also seeking to reassert the value of science teaching, often neglected at primary school (Girault, Lange & Fortin-Debart, 2007; Musset, 2009; Erdogan, 2009). The educational trend **Science-Technology-Society** (STS), one of the goals of which is to develop in pupils understanding of the interdependence between society and science, is very closely related to the concerns of ESD. Knowledge is not rejected but is linked to social practices and may possibly be rebuilt (Girault, Lange & Fortin-Debart, 2007; Lange, 2008).

Another contribution, that of *Science Studies*, relatively recent in France, which defines a relationship between *"science and society based on a relationship of critical appropriation"* and no longer on an unreasoning belief in scientific and technical progress.

Disciplines whose curriculum does not prescribe ESD must also take their place in a comprehensive approach which calls on the arts and sciences. Activities traditionally proposed by the school (excursions, school camps, etc.) must be made over by co-operative learning and dual education, which create bonds and rehabilitate the social imaginary (Centrone, 2008; Cottereau, 2001). All the disciplines must be called upon: philosophy, social sciences, literature, arts (Erkiliç, 2008; Zarka, 2010; La Branche & Milot, 2010; Sobel, 2008). Interdisciplinary seminars and

European programmes are being developed and allow teachers and researchers to share ideas and broaden their points of view (Comenius-Cedefop programme, Bees days, etc.): it is a question of developing the imagination of the future adults who will have to find innovative answers to questions, some of which are still to come. And yet one study notes that only six disciplines are effectively involved in ESD: "*except for physical sciences, all refer to at least two of the pillars of sustainable development: life and earth sciences provide a joint entry point into environmental and social concerns, technology connects economic and environmental approaches, economic and social sciences associate the economic and social fields. Geography is the only one to combine three areas […]. Civic education, and civic, legal and social education occupy a crucial place because they deal with the educative dimension*" Two disciplines, mathematics and French "*are made use of in interdisciplinary projects where they provide methods of analysis, expression and understanding"*. Other disciplines "*have very little room for ESD. This is the case for history which could however play a useful role in thinking about how different environments and the way they have been enhanced have changed over time*". As for the artistic disciplines (in particular the visual arts), philosophy, languages and physical education "*could contribute to ESD, but are still only slightly involved […]. It is therefore at the level of the interface between disciplines that potential synergies must first be sought*" (Vergnolle, 2009).

France is one of the countries which have long taken account of the environmental component of education and which chose to include it in the curriculum. Bolstered by this historical basis, school has become committed.

Even though questions of training and the connection between disciplines still remain to be solved, sustainable development is at the heart of the common core of knowledge and competencies, which defines the cultural and civic benchmarks that make up the contents of compulsory education and which includes its scientific, humanistic and economic dimensions. "*To master the common core […] is to be able to understand the great challenges of humanity, the diversity of cultures and the universality of human rights, the need for development and the requirements of protecting the planet*" (Brégeon, 2008).

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