School development through Education for Sustainable Development in Austria

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This article outlines the leading concepts which are being discussed in the current debate on education for sustainable development (ESD) in Austria, detailing their historic development and characteristic features, as well as the empirical experience gained in school development to date. These concepts are environmental education, development education/global learning and peace education. With the emergence of ESD and, notably, the launch of the United Nations Decade for ESD, these hitherto separate currents should start to converge. We will be seeing common endeavours to define ESD more concretely as a regulatory idea and to learn from one another and, in joint settings, to support cooperation, launch joint projects and also to enhance individual profiles. These endeavours should be promoted under an Austrian strategy for ESD.

We will start out with a brief historical overview of the concept of environmental education as discussed in the debate on education for sustainable development.

Environmental education

The term ‘environmental education’ has been used in German literature since the 1960s. From its outset, environmental education was a policy instrument for finding long-term solutions to existing environmental problems (Klenk, 1987). The prevalent issues at the time were waste separation, recycling, saving water and energy and using burlap and glass instead of plastics. The 1990s added new perspectives such as environmental ethics, time ecology, art and the environment, environmental education and the media, landscape perception and so forth.

At the level of legislative requirements, the 1979 decree on environmental education provided an impetus for anchoring environmental education in the Austrian
system of education. Environmental education became a principle of instruction in all subjects in schools catering for the 10–19 year age bracket (grades 5 to 12). Together with the decree on political education (see below), a fairly innovative legal framework was enacted. This aimed at developing eco-political action competence (Breiting & Mogensen, 1999) and at integrating know-how, reflection and action in school-based learning and teaching processes (Rauch, 1992).

A debate similar to that in Germany on the difference between environmental education and eco-pedagogy did not take place. In contrast, environmental issues gradually transformed into environmental projects, conducted partly on an interdisciplinary, action-oriented basis and in cooperation with external organisations. Ideas such as deep ecology, earth education and so on, which sit prominently on the agenda of some Eastern European countries, were not widespread. Nature experiences, inspired mainly by the writings of Joseph Cornell (1979), became a popular antipode to ecological doomsday pedagogy. The term ‘environment’ was to carry positive connotations, and the enjoyment of pristine nature should be an encouragement to protect the environment without a moralizing aspect. Environmental education projects, however, frequently remained on an activist level and failed to reflect on impacts and underlying causes (Lieschke, 1993), with the result that learning processes remained superficial.

Since the 1992 Earth Summit in Rio, the preferred policy discourse has shifted from environmental education to education for sustainable development (ESD). As a result, apart from ecological issues (consumption of resources, pollution of the environment, demographic explosion and so on), environmental education, on a normative level, is being determined by the idea of fair global distribution, forming a new mix of ecology and economy, as well as social, political and ethical dimensions (de Haan & Harenberg, 1999).

**The Austrian programme ‘Ecologisation of Schools—Education for Sustainability’ (ECOLOG)**

ECOLOG, a key action programme and network on the ecologisation of schools and education for sustainability, was developed by an Austrian team of teachers working on the international project ‘Environment and School Initiatives’ (ENSI) (Posch 1999) in the 1990s as a national support system with the aim of promoting and integrating the development of individual schools, and attempts are being made to embed the programme in Austria’s federal states through regional networks. Overall coordination is ensured by the Forum Umweltbildung, which operates as a contractor with the Federal Ministry of Education, Sciences and Culture and the Federal Ministry of Agriculture and Environment. In this setting, the ECOLOG programme may itself become sustainable and be seen as an interface between environmental education and school development. Throughout the seven years of the ECOLOG programme, a series of evaluations, inquiries and studies have been written (Thonhauser et al., 1998; Ehgartner, 1999; Payer et al., 2000; Schober-Schlatter, 2002; Rauch & Schrittesser, 2003; Heinrich & Mayr, 2005). These are now discussed.
With respect to school development, the findings of Thonhauser et al. (1998), Ehgartner (1999) and Schober-Schlatter (2002), which are based upon interviews with teachers, head teachers, facilitators of schools, observational data gathered at the schools and the analysis of material produced by the schools, could be summarised as follows. Environmental Education (EE)/ESD is a trigger for innovation in schools but schools do not fully use their professional freedom to develop these ideas. This is for a number of reasons. (1) School development, management processes and instruments are new to schools. (2) Communication has proved to be a central element of ecologically oriented steering in order to produce a common understanding of EE/ESD and the precondition for learning of all members of the school community. (3) The head teachers play an important role with their ‘official’ support of the project—for example, by putting it on the agenda of teachers’ conferences, and by symbolic communication of support in the public arena. Additionally, heads might provide incentives—for example, by coordinating and negotiating financial support with the body responsible for maintaining and financing schools.

What has been achieved in relation to the goals and objectives of the ECOLOG network? Rauch and Schrittesser (2003) note the following in a case study which focussed on the networking within the Austrian ECOLOG programme:

● The pilot phase of the network (1996–1998) successfully achieved its main goals of supporting ecological awareness and fostering school development through environmental projects.

● The nationwide contest (Phase II, 1997–1999) called ‘The Slightly Different Contest—Ecologising Schools’, with 200 participating schools, was a striking success. What made the contest innovative was that it was not the product that was examined but the growth in experience and change achieved in the schools.

● In Phase III (since 1999), which focused on the development of regional support networks, the cooperation with school authorities and environmental departments of the regional governments has been successfully established and has been working well in most Austrian provinces.

● Some federal states—such as Upper Austria and Styria—are repeatedly mentioned in the interviews as good practice models for this cooperation.

● An important source of information is represented by the homepage of the network: http://www.oekolog.at. It gives an overview of the aims of the network, of the participating schools, of the ongoing projects and of how to apply and become a member.

● Beside these forms of knowledge management there are also opportunities of gaining new knowledge: regular training workshops (e.g. team formation, curriculum, environmental topics) are offered to network members.

● A considerable number of school-development consultants showed a lively interest in participating in the network. These consultants are supposed to provide valuable knowledge and support concerning the further development of the network.

In all interviews, personal relationships within the network and the commitment to the project by individual people and schools were seen as necessary conditions for
development. Other essential conditions mentioned were time and space for meetings, federal (involving representatives from the regional networks) as well as regional. Such conditions reflect the vision of a network that brings people together face-to-face and gives them a sense of identity—although a certain stagnation within the discussions is mentioned, too. The backing of the initiative by the ministry is seen as a motivating factor for schools.

Problems were identified in relation to cooperation and the flow of information within the network, time pressures, tight deadlines and excessive workloads as a result, varying levels of commitment by staff in the coordination groups, and a lack of material and other resources for coordinators and schools. In the immediate future, keeping a balance between bottom-up and top-down developments, together with the introduction of some new organisational features (i.e. more team-oriented work and more horizontal connections between the network partners), will be the crucial challenges of the network Ecologising Schools—Education for Sustainable Development.

Heinrich & Mayr (2005) recently did a cross-case analysis of the reports of the regional networks with a focus on school development and identified the following strengths and weaknesses of ECOLOG: In general, ECOLOG is a successful part of the school-development movement in Austria, with some unwanted side effects arising out of a competitive environment. The diversity which unfolded in a bottom-up process, while being a useful resource, harbours the risk of overtaxing the participants. The network allows synergies at the expense of high friction losses. The pedagogical autonomy of the stakeholders on site is enhanced at the expense of teachers’ workloads. As a consequence, the survey recommends developing further the monitoring and support mechanisms for the regional network activities. This should include a revised political mandate, strengthened quality assurance (agreements on goals that are clear and practicable), early feedback on implementability, quality monitoring, concomitant scientific support, and safeguarding the resource base (material and non-material incentives).

**Education Support Fund for Health Education and Education for Sustainable Development**

Since 1992 the Fund for Health Education and Education for Sustainable Development has financed and promoted environmental education (EE)—oriented project instruction in schools and, since 1996, also health education (HE) projects. Schools and non-governmental organisations (NGOs) cooperating with schools are invited to submit projects, which are then evaluated. The fund is dedicated to smaller low-cost projects (500 per school) which promote direct participation of students and hands-on learning opportunities.

Whilst all steps of such school project planning should focus on the involvement of students, on reflection and on documentation, many of the projects are still teacher-driven and less student-centred; they are rather actionist, with a lack of reflection and with difficulties regarding documentation of processes and experiences. There are
also difficulties in reaching and informing interested teachers. The evaluation by Johannes Tschapka (2002) recommends using the fund to support ESD initiatives in schools, especially for the ECO-School programme and the Healthy School programme, offering additional in-service training for teachers, especially on the methodology for project teaching, focusing on the aspect of student participation in the projects. In order to achieve improvements, clearer specification of content and a more effective organisational framework are being planned. Good projects (‘light-house projects’) will be singled out and rewarded by project monitoring. They will be widely publicised and may serve as models for other school projects (information and registration sheets can be found at www.umweltbildung.at).

**National environmental performance award for schools and educational institutions**

This is a national, government-based award; its criteria were put in force in January 2002. About half of the 120 criteria relate to EE, the school curriculum and school development. The other half refer to technical aspects such as energy saving. The award is valid for three years, after which the obligatory external evaluation has to be renewed (see www.umweltzeichen.at/schulen).

Study results (BMBWK, 2004) showed that the main obstacles for schools were the number of criteria on the one hand, and administrative difficulties in accessing the data needed (e.g. energy consumption data) on the other, owing to the complexities of funding school maintenance. The award aims to address highly committed schools. As it is built on a set of criteria, it enables all types of schools to evaluate their EE/ESD performances, in contrast to the EMAS/ISO 14001 scheme, which turned out to be suited only to upper secondary schools and vocational schools. This was due to the complexity of the Eco-Management and Audit Scheme (EMAS), which required more time and effort from teachers yet did not provide them with relevant content criteria. The ECOLOG programme (see above) serves as an important source for the formulation of pedagogical criteria. The experiences gathered in the pilot phase convinced the Ministry of Environment to recommend the ecologisation programme to schools after the first external evaluation in order to support their ongoing initiatives.

**Environmental education in teacher education - The ENITE network**

Environment–Innovation–Teacher Education (ENITE) is a research and development network that supports the development and study of initiatives in teacher education. In its first phase (1997–2000), teams of professors, teachers and students at several teacher-training institutions worked in environment-related teacher education as part of a research project. In accordance with the action research approach, the initiatives were analytically studied by those who actually implemented them, the aim having been the continuing development of these projects. The initiatives studied within ENITE had to include at least some of the following components:
student learning strongly relates to environmental initiatives at schools (cooperation between teacher-training institutions and schools);
- learning experiences build on the previous experiences of students and are influenced by them. This implies the active participation by the students in the development of the content and methodology of project work (from problem definition to quality evaluation);
- learning is designed as an inter-disciplinary process and not fragmented into disciplines;
- learning includes a research component based on systematic reflection on actual teacher practice (action research);
- the impact on and changes in work cultures and organisational structures are taken into account in the action and reflection processes (Rauch & Kreis, 2003).

The outcomes are published, inter alia, in two books (Posch et al., 2000; Kyburz-Graber et al., 2003). This research project has triggered an ENITE-network initiative which should provide a platform for mutual exchange of experience and ideas in order to support the stabilisation of existing initiatives and their expansion to additional institutions of teacher training. Since 2000, the Forum Umweltbildung (see above) has been providing a home base for the ENITE network. Scientific supervision is provided by the Institute for Instructional and School Development of the University of Klagenfurt. After four years, the main outcome of the network is the ‘National Teacher Trainer Course on ESD—BINE’ (Bildung für eine Nachhaltige Entwicklung –Innovationen in der LehrerInnenbildung). This two-year course started in 2004 and invited teacher-trainers from teacher-training colleges and universities to work on sustainable development issues and their educational challenges. The course offers three one-week seminars plus regional mentoring meetings. The aim is to improve pedagogical research competences, to research and reflect on educational practice in teacher education in diverse educational subjects and to implement a consideration of such sustainable development issues in the teacher education curriculum. The ENITE principles (see above) form the basis of the BINE course of studies. The course is evaluated by a formative and summative self-evaluation concept with internal components (questionnaires, feedback by participants) and external components (interviews with participants at the beginning and the end of the course). At this time the course is half way through, and the evaluation results so far have shown that it seems an adequate instructional and learning strategy such that the participants construct the meaning of the complex issues of SD and ESD by researching, reflecting and exchanging in the learning group focused on concrete examples. It is a challenge not to simplify ESD and lose its potential to identify the inter-connections between the ecological, social, economic and cultural-political spheres more clearly and adequately. The action research process provides a basis for learning in order to further develop the participants’ concepts of ESD as well as research and implementation competences (Rauch & Steiner, 2005).
From development-policy education to global learning

Global learning may be regarded as the second main current in education for sustainable development in Austria. The development of global learning was triggered by the public-relations activities on ‘Third World issues’ in the 1960s and 1970s, largely non-political then, in which the churches raised funds for aid projects. Between 1970 and 1974, the Vienna Institute for Development and Cooperation (VIDS) published the first series for schools of ‘Instruction Materials on Developing Countries’ which, for their greater part, consisted of scientific or country-specific texts which lacked didactic references (Hartmeyer, 2001).

With the enactment of a decree on ‘political education in schools’, development policy work was promised in 1978 when political education was pronounced an interdisciplinary principle of instruction. It was to promote awareness of what it means to be Austrian, paired with openness to the world and a readiness to stand up for human rights, overcome prejudices and champion the cause of the disadvantaged. This occasion prompted organisations such as the Austrian Latin-America Institute, the Austrian Commission for UNESCO, the working party on schools at the Youth Council for Development Aid (which was later to form the core of the Austrian Information Service for Development Policy, ÖIE) to engage in in-service education of teachers. The development-policy educational work of the 1980s developed from a cognitive ideological critique in the 1970s to practical educational solutions in which affective elements started to play an ever growing role (Hartmeyer, 2001). Successful campaigns such as ‘Burlap, not Plastics’, ‘The Third World – a field of learning’ with Third World project days at schools, and the campaign ‘hunger is not a fate, hunger is made’ serve as examples.

In the 1990s, development-policy education was gradually replaced by the concept of global learning. With the globalisation of all walks of life and the emergence of the idea of global citizenship, education was faced with new challenges. ‘The interfaces between world-wide equity, multicultural society, global environmental issues, the peace issue, and the limits of growth in industrialized countries are all in the centre of global learning’ (Hartmeyer, 2001, p. 37). Quintessentially, global learning is not about conveying factual knowledge, but is a critical approach to concerns, interests and experiences. Global learning per se cannot serve to create a better world, but encourages self-determination in a global context.

Similar to environmental education, global learning presupposes competencies which individuals need to acquire if they want to actively shape the development of world society. These are, for example, systemic thinking, team skills, the ability to deal with insecurity, integrated thinking, readiness to cooperate, coping with change, creative and lateral thinking and readiness for compromise (Forghani, 2004).

How did global learning make its way into classrooms? Südwind Agentur (formerly ÖIE) and its regional chapters developed interactive exhibitions (e.g. the adventure exhibition “Acting global—We live from the soil”) and staged school workshops (ranging from chocolate to globalisation). For a token fee, speakers from Südwind pay a visit to schools to host a prepared workshop and design some classroom activities.
They also provide auxiliary material for teachers for follow-up activities. More often than not, these occasions remain one-time events, and follow-up activities at schools have not been studied so far. At least, this approach familiarises pupils with extramural organisations and enables them to find out about issues in a lively and interactive setting. Two-year further education programmes on global learning are thought to have some effect on school development, as they enable a continuous, action-oriented and participant-centred study of the issue (Grandits, 2003).

**Climate-alliance schools being a part of global learning**

‘Smart minds in the climate alliance’ is a school programme dealing with the environment and development. It is intended for schools in climate-alliance cities. The climate alliance is a global partnership for the protection of the world climate between more than 1,200 cities in Europe and the umbrella organisations of the indigenous peoples of the Amazonian rainforest. Public funding is granted for a national agency and eight regional offices. By decision of the staff council, entire schools subscribe to the climate alliance based on the principle of voluntary self-commitment. The overall aim is to strengthen cooperation between schools and local communities. The central idea is to protect rainforests and the climate, by learning how to safeguard the climate, develop specific measures, particularly in the areas of energy and transport, and work towards the preservation of the natural habitats of the alliance partners in the rainforest (Steiner, 2005).

**UNESCO schools**

The UNESCO Schools Network was founded in 1953; Austria acceded as early as 1954. The network’s original aim was to secure world peace and the understanding of peoples. UNESCO schools in Austria have pioneered an international dialogue through student exchange programmes. Today, the network addresses four subject areas: the role of the United Nations (UN) in solving global problems; intercultural learning; human rights, democracy and tolerance; and preserving the environment and the world heritage. The first widely scoped intercultural project in Austria in 1969 elaborated principles of instruction which are still being applied today: interdisciplinary instruction, extra-curricular activities, personal encounter, active and critical participation of pupils (Rossbacher & Goschnik, 2003).

Membership in the UNESCO Schools Network is also based on the idea of voluntary self-commitment. During a trial period of two years, schools carry out projects, write reports for the newsletter and attend the annual meetings. They then may apply for membership. They are recognised in an official document which carries the signature of UNESCO’s Director General. This international label carries high status and is seen as an appealing opportunity for schools to demonstrate their strengths vis-à-vis the outside world. There is also a possibility of applying for limited project funding without red tape.
To commemorate the 50th anniversary of the UNESCO schools, the University of Birmingham (Davies et al., 2003) performed an evaluation. Various research methods (questionnaires, interviews, observations, nationwide and school-based studies as well as the analysis of documents) were developed and evaluated by an independent evaluation team. One of the strong points identified was the added value that was being generated in the school climate, through innovative teaching methodologies, intercultural communication, and in the scope for language teaching. Participation and exchange broaden the horizon and give a more international dimension to schools (Goschnik, 2004). The following excerpt from a report of a UNESCO school serves to illustrate this point:

Being a UNESCO school, the secondary general practice school in Salzburg centres school life on the following principles: With education for tolerance, democracy, and the respect of human rights as an objective, it addresses the quality of being different as a challenge for society and the organisation of school routines. It contributes to international understanding and creates a frame for learning in global contexts. (Enzinger, 2003, p. 12)

Against the backdrop of the ESD decade, the UNESCO schools have adopted sustainability as a new key action theme. Every year, an annual slogan contributing to peaceful and tolerant interaction is proclaimed.

**Education and sustainable development**

The lines of reasoning currently being pursued in Austria focus on the notion of sustainable development, on the concept of environmental education, and on the concepts of development-policy education and international peace education (UNESCO schools) which sparked the impetus for a debate on the notion of education. As with human rights, sustainable development may be regarded as regulatory idea (Kant, 1787/1956). Such ideas do not indicate how an object is made up but serve as heuristic structures for reflection, they give direction to processes of research and learning. In terms of sustainability, this implies that the contradictions, dilemmas and conflicting targets inherent in this vision need to be constantly re-negotiated in a process of discourse between participants in each and every concrete situation (Minsch, 2004). This implies a great challenge but also has considerable potential to enhance innovative developments in education.

Based on an enlightened notion of education, the link between sustainable development and education can be sketched as follows: Sustainable development is an integral feature of the general mandate of education, the aim being to empower the succeeding generation to humanise their living conditions. The underlying notion of education is one that stresses self-development and self-determination of human beings who interact with the world, fellow humans and themselves. Education hence refers to the ability to contribute in a reflective and responsible manner to the developing of society for a sustainable future.

In terms of sustainable development, learning means dealing with how the future may be shaped in a sustainable way in specific action fields. This includes close observation, analysis, evaluation, and shaping of concrete situations as creative and
cooperative processes. Above all, learning aims at acquiring a ‘reflective ability to shape the world’, rather than ‘acting blind’ or ‘adopting action patterns uncritically’. This may be based on ecological, social and political dimensions. Communities of learners (teachers, pupils, students, researchers) identify interrelations and options for action, they intervene, and reflect on their actions in a joint setting (Rauch, 2004).

**Discussion and outlook**

Compared with other German-speaking countries, ESD in Austria carries the imprint of the ENSI project (ECOLOG, ENITE/BINE) in which school development and research of practice/action research play a key role. In Austria, action research has been firmly established in quality development and assessment for schools since the late 1980s. The main reasons for this are the increasing autonomy of schools and the concomitant issues of on-site quality assessment. In this context, research and development projects as well as theoretical publications in the area of action research fell on fertile ground (Altrichter, 1990; Altrichter & Posch, 1996, 1998). Owing to the favourable environment, the potential of ENSI was developed and contributions to general school development were made (e.g. through studies and further-training schemes).

However, ECOLOG is still the only systematically designed support system for school development through ESD. Existing evaluation results (Thonhauser et al., 1998; Schober-Schlatter, 2002) indicate that a small core group of teachers and schools has been set up, in the context of which instructional and school development in the area of EE/ESD were initiated through reflexive processes of research and development. An extension beyond this group—estimated to represent 2–3% of Austrian schools—appears difficult. As evaluations of the ECOLOG network have shown (Rauch & Schrittesser, 2003; Heinrich & Mayr, 2005), the reasons for this are only partly to be found at network level. There is a lack of consistent legal provisions and support systems for instructional and school development and there are only isolated, albeit successful, initiatives.

ESD research is not well developed beyond the context of action research. With the exception of isolated doctoral and diploma theses, which frequently deal with issues relating to ENSI, there has been no large-scale specific research project in this area since the ENITE project (1997–2000). A first step to a larger project on education for sustainable development in Austrian schools might be the explorative pre-study on the future outlook of pupils in secondary higher education which has just been completed (Heinrich et al., 2005). This pre-study is a first attempt to focus on the points of view of upper-cycle pupils at secondary higher schools with a view to ESD. Interviews with 20 pupils at a total of four schools show that (1) pupils assess the problem with sober realism; (2) pupils are certainly able to project global problems onto themes that impact their own lives; (3) pupils are not so politically naïve as to simply accept contradictions without questioning them, but exist in a bipolar reality of social conditions and of norms that are formulated
counter to these very conditions, and (4) pupils place a thematic focus on the social dimension. Based upon these data and the mentioned existing research and evaluation, hypotheses might be developed and examined in a larger study in which cooperation with students and teachers, school development and education processes are to be scientifically monitored, reflected upon and re-constructed.

The Austrian National Strategy for Sustainable Development was approved by the government and parliament in 2002. Education is positioned clearly in this, in two chapters (A Sustainable Life Style, and Solutions through Education and Research) and not only as a cross-sectional topic. This, and the recent launch of the UNESCO decade, should foster a dynamic development of ESD in Austria, in which there is the chance of a closer convergence of global education and peace education (especially in UNESCO schools), which have evolved strictly separately from environmental education to date. The debate is already partly geared to the leadership position within the decade and the further development of ESD. Recently, the National Strategy on Education for Sustainability was commissioned by the Austrian Federal Ministries for Education and Environment, for completion by a group of four experts (one of them is the first author of the paper). The document should be completed by March 2006 and will involve a consultation process with different stakeholders such as the media, and the formal and informal education sectors. The paper will contain suggestions for common endeavours to define ESD more concretely as a regulatory idea, to learn from one another and in joint settings, to support cooperation, to launch joint projects and also to enhance individual profiles.

Note
The quotations in this article from reference works in German are the translations of the authors of the article and/or the editors, unless otherwise indicated.

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