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The Austrian ECOLOG-schools programme: History, structure, lessons learned, and impact of a network[1]

Franz Rauch[2] & Günther Pfaffenwimmer[3]

Abstract

This chapter describes networking for education for sustainable development within the Austrian ECOLOG-schools network. It discusses theoretical concepts of Education for Sustainable Development and school development from an Austrian perspective, as well as networks in education in general and the organization of the ECOLOG-network in particular. Furthermore, the international Environment and School Initiatives (ENSI) network is described as an influential stimulus for the development of ECOLOG. Based upon these foundations, the concept and results of evaluation studies of ECOLOG-schools are described and reflected. The impact of ECOLOG on the developments in environmental education/education for sustainable development in Austria is described and reflected. The paper concludes with a summary of the evaluation process and with an outlook for the future development of the network.

Keywords: environmental education, education for sustainable development, networks in education, school development

[1] ECOLOG stands for the Ecologization of Schools.

[2] Institute of Instructional and School Development, University of Klagenfurt, Sterneckstrasse 15, 9010 Klagenfurt, Austria, Email address: franz.rauch@aau.at, ORCID: 0000-0002-5414-3619

[3] Independent Researcher, Am Schierlingsgrund 21, 1220 Vienna, Austria, Email address: guenther.pfaffenwimmer@aon.at, ORCID: 0000-0002-0291-2877

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Education and Sustainable Development

Current discussions around education for sustainable development (ESD) in Austria focus on the notions of sustainable development, on environmental education (EE), on development education (or global learning or global citizenship education) and international peace as well as civic education, which have sparked debates on the nature of education in general (Rauch & Steiner, 2013). The current international United Nations programs like Sustainable Development Goals (especially goal 4 "for Quality Education") (UNESCO, 2017) and the 2015 UNESCO Global Action Programme on Education for Sustainable Development are in line with the conceptualization of ECOLOG.

As with human rights, sustainable development may be regarded as a regulatory idea (Kant, 1787/1956). Such ideas do not determine an object but serve as heuristic structures for reflection. They give direction to research and learning processes. In terms of sustainability, this implies that the contradictions, dilemmas, and conflicting goals inherent in this vision need to be constantly renegotiated 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 learning and innovative developments in education (Rauch, 2015). A central goal is the transformation of individuals, organizations, and the society. Learning is transformative "*when the learners, integrate and reinterpret knowledge into their own frames and put it into practice in their own lives. Learning is also one mechanism for changing the society and for transforming the society*" (Reardon, 2010, p. 9).

School Development Through Action Research (AR)

Holtappels and Rolff (2004) describe pedagogical school development as a triad made up of teaching development (Unterrichtsentwicklung), personnel development (PE), and organizational development. They emphasize that in a systems context, each of these ways leads to the others. Essential for a comprehensive understanding of educational work is a supplemental expansion of the intrascholastic system context as shown here through extrascholastic factors (e.g., school-governing entities, school supervisory boards, businesses, universities, cities, and regions).

Engaging in AR can lead to an improvement in current working situations through those involved examining and reflecting on current practices, further developing their own competence for handling work situations (practical theory) and contributing to their knowledge-level expansion (production and dissemination of "local knowledge;" Altrichter & Posch, 2009; Elliott, 1991). Within an AR context, pedagogical school development can be described with the following characteristics (Elliott, 1991):

- Development originates from teachers who seek to innovatively further develop their teaching as an answer to challenges from existing circumstances and practice.

- This pedagogical school development focuses on pedagogical interactions between teachers and students as well as among students themselves. The attempt is made to include students in the planning and execution of the teaching process.

- Development targets a connected process between the further development of pedagogical practice and development of conducive organizational structures and support systems.

- Standards for the development work are also derived from professional pedagogical values, which are embedded in the professional school culture.

Thus, AR does the preliminary work for an essential element of school quality development: the development of a feedback culture, in which reflective dialogues between all parties involved in school life (teachers, students, administration, and parents), belongs to the work and daily culture of the school.

During the 1990s, following the development of Austrian schools' autonomy, a discussion regarding site-specific quality assurance and quality development was launched. The conception of the school program was the center of the development. Education department funded pilot projects, which were undertaken and concomitantly investigated (e.g., Krainz-Dürr, Posch, & Rauch, 2002); however, only a decade later were the resultant findings legally put into place. As of the school year 2014/2015, all schools have been required to prepare a development plan for their institution. They are supported during this process by Education Ministry platforms (Schulqualität Allgemeinbildung or school quality general education – for the general school sector and Qualitäts Initiative Berufsbildung, or career education quality initiatives – for the vocational school system) and offerings from educational universities. A school's quality ultimately presents itself by whether and to what degree students have learning experiences and meet learning outcomes, which allow them to build identity and feelings of self-worth and to develop discipline-specific, interdisciplinary, social, and personal competencies for active participation within the community in both career and private life. The learning and teaching within class and school is the place where these experiences and competencies – supported and guided through the teachers' professional expertise – should be acquired. However, school is not just a "learning space" but also a "living space." In a "living space" class and school, the students have social experiences in a larger group with specific rules. This should serve to satisfy basic human needs (e.g., security and recognition), but also facilitates learning about social relationships, work organization, and democracy, taking on responsibility, reliability, and give-and-take in social contexts.

The learning experiences that students acquire in the area of learning and teaching as well as in the "living space" class and school form the core of school work, which determines school and instructional quality. The individual school works on providing favorable conditions for these core activities. Through PE and further professionalization, teachers work on their competencies for the productive creation of a learning and living space in class and school as well as for their own reflection competency. Leadership and school management contribute to orientation and beneficial conditions for the work of all involved parties. Through the active creation of school partnerships and outside relationships, the school partners should be integrated, the school environment should be informed, and potentials for school support should be identified and cultivated.

However, not everything is dependent upon the internal work at the school; external influences also have an effect on the work of schools and the quality of their outcomes. Many of these influence sources are "far away," quasi outside schools' range of influence (e.g., legal frameworks and overall societal development). With other partners, the school stays in contact or can establish contact with them (e.g., continuing education, community, feeder, and receiver schools); therefore, the school itself has a certain influence whether these are beneficial, obstructive, or neutral conditions for school work (Rauch, Andreitz, & Dulle, 2018).

Theoretical Background of Networks in Education

In the early 1980s, the notion of "networks" became very popular within society as a whole and within the scientific community in particular. Naisbitt (1984) talked about a "megatrend" of transformation within and of hierarchies, arguing that informal networks of small groups become necessary to optimize organizational problem-solving processes, which can no longer be performed by hierarchical structures.

According to Castells' (2000) notion, networks constitute a new social morphology in society, where dominant functions and processes are increasingly organized around networks. New information technologies provide the material basis for its pervasive expansion throughout the entire social structure. Castells (2000) conceptualizes his notion of "network" as a highly dynamic, open system consisting of nodes and flows.

In the wake of these general social trends and this structural transformation, networks in educational contexts have also become increasingly attractive in educational systems. In the 1990s, systemic school modernization processes were launched by policymakers, prompted by the need for reformatory change in the light of the results of international assessments (such as the TIMSS and PISA studies). Having proclaimed "school autonomy" as goal, the central administration in Austria has focused increasingly on contextual steering activities while delegating responsibilities to decentralized units (Fullan, 2007; Posch &

Altrichter, 1993; Rauch & Scherz, 2009). Less bureaucratic steering generates a need for alternative coordination. Intermediate structures (Czerwanski, Hameyer, & Rolff, 2002) such as networks are conceived and expected to fill a structural gap and take over functions traditionally assigned to the hierarchy. Ideally, networks are conceived as an interface and an effective means of pooling competencies and resources (OECD, 2003; Posch, 1995). As intermediate structures, they manage autonomy as well as interdependent structures and processes and also try to explore new paths in learning and cooperation between individuals and institutions (Rauch, 2013).

In this process, authors consider the following aspects paramount:

- mutual intention and goals (Lieberman & Wood, 2003)
- trust orientation (McLaughlin, Black-Hawkins, McIntyre, & Townsend, 2008)
- voluntary participation (Boos, Exner, & Heitger, 2000; McLaughlin et al., 2008)
- principle of exchange (win–win relationship; McCormick, Fox, Carmichael, & Procter, 2011; OECD, 2003)
- steering platform (Dobischat, Düsseldorf, Nuissl, & Stuhldreier, 2006)
- synergy (Schäffter, 2006)
- learning (Czerwanski et al., 2002; O'Hair & Veugelers, 2005)

Per Dalin's (1999) description of how networks function in education is an important theoretical basis, which underlies the formation of regional networks in ECOLOG. Networks in education have an informative function, which becomes visible in a direct exchange of practice and knowledge for teaching and schools, and act as a bridge between practice and knowledge.

Through networking, further opportunities for learning and competence development (professionalization) are encouraged by the members who establish the learning function. Trust is a prerequisite for cooperation within a network. It is the basis for the psychological function of a network, which encourages and strengthens individuals. In the political function of networks, enforceability of educational concerns increases, following the motto "together we achieve more."

The Austrian ECOLOG-Schools Programme and Network

ECOLOG, a key action program and network for the greening of schools and education for sustainability, was developed in 1996 by an Austrian team of teachers working on the international Environment and School Initiatives (ENSI) project (Posch, 1999).

ENSI as stimulus for ECOLOG

In December 1985, the CERI Governing board (CERI is a research department of the OECD Directorate for Education and Skills; see http://www.oecd.org/education/ceri/) accepted the proposal for the ENSI project from Austria. This basic concept, in which the OECD highly esteemed demand for "dynamic qualities," was linked with the promotion of "environmental awareness," which stated that dynamic qualities could best be developed if students are enabled to take constructive initiatives in their proximate environment (Posch, 1990). AR was chosen and has proved to be the method to make dynamic qualities observable, to facilitate reflection and observe their enhancement, through for example, environmental-oriented project teaching.

ENSI was the first project focusing on dynamic qualities and linking them to environmental awareness and EE, which is still an ongoing task in the different member states (Rauch & Pfaffenwimmer, 2018).

In 1986, in Austria, a team of experienced teachers from different regions and different types of schools was chosen and formed to be the ENSI teacher team coordinated by staff at the Ministry of Education and scientifically facilitated by academics from Universities. The teacher team received training in AR to be able to document and publish their innovative work as case studies. The ENSI team has built a bridge between practice, policy, and research for many years until 2017. This team strongly influenced developments in Austria. In the summer 1995, the Minister of Education commissioned the ENSI teacher team to design the ECOLOG-school network, which after a 2-year pilot phase developed into a wider school network. The ECOLOG-school network contributed to the development of pedagogical criteria for "The Austrian Eco-label for Schools and Teacher Training Colleges" (www.umweltzeichen.at), which has been awarded by the government since 2002.

In 1999, Austria joined the Australian-led ENSI project "Learnscapes" (1999–2001) with the involvement of eight Austrian schools. Learnscapes has become a focal topic for the ECOLOG-school network and was also the starting point for the still ongoing collaboration with the Austrian Institute for School and Sport Facilities (ÖISS). One important result of this collaboration is recommendations for the design of school grounds (Mellauner & Clees, 2005).

In 2002, Austria submitted the first proposal for an ENSI-EU-project "School Development through Environmental Education SEED" (2002–2005). The proposal was successful, and Austria coordinated the SEED Project from 2002 through to 2005 (www.ensi.org/projects). The most influential publication is *Quality Criteria for ESD-Schools* (Breiting, Mayer, & Mogensen, 2005), which is translated into many languages. To facilitate understanding and implementation of the Quality Criteria for ESD-Schools, the ENSI

teacher team designed and piloted an in-service seminar for heads and coordinators of ECOLOG schools (Lechner & Rauch, 2014).

Collaborations between schools and their surrounding communities are crucial for real development and change in society. Therefore, the last project of ENSI, CoDeS (School and Community Cooperation for Sustainable Development), focused on this collaboration by gathering 29 experts from 17 countries. The project ran from 2011 to 2014 and was funded by EU Comenius funds (https://www.ensi.org/Projects/Our_Projects/CoDeS/).

Structure of ECOLOG

ECOLOG is based upon an AR approach, which was discussed previously. Schools analyze the ecological, technical, and social conditions of their environment and therefore define objectives, targets, concrete activities, and quality criteria to be implemented and evaluated. Students as well as all the other stakeholders of a school should be involved in a participatory way, and collaboration with authorities, businesses, and other interested parties is encouraged. The measures concern, among others, areas like saving resources (energy, water, etc.), reduction of emissions (i.e., waste and traffic), spatial arrangement (from the classroom to the campus), the culture of learning (communication and organizational structure), health promotion as well as the opening of the school to the community. Overall, over 550 schools with about 15,000 teachers and approximately 110,000 students are currently part of the network. Many others are reached through the website, teacher in-service-training seminars, and newsletters (Rauch & Pfaffenwimmer, 2014).

Given the uncertainty of what constitutes adequate action in complex situations, such as networking and the differences in understanding of conceptions like education and sustainable development, there is a need to reflect on one's actions. This helps to nurture an ability and readiness for the further development of one's actions in response to the outcome of the reflection process. Competent, professional action in complex situations, hence, requires concomitant learning processes as a *sine qua non*. Inversely, professional learning requires the experience of acting in complex practical situations. From these perspectives, professional action and professional learning coincide in one stream of action. As professional learning happens in practical situations, which, in turn, are seen to require reflection and further development, knowledge, and skill development go hand in hand with practical situational development (Altrichter & Posch, 2009). Stern, Townsend, Rauch, and Schuster (2014) have recently offered reflections on good AR. They argue that good AR pursues worthwhile practical purposes, connects theory with praxis, and is responsive and collaborative.

ECOLOG is a national support system with the aim of promoting and integrating an ecological approach into the development of individual schools and attempts are being

made to embed the program in Austria's federal states through regional networks (Rauch & Steiner, 2006). To provide support, a network structure involving ECOLOG regional teams in the nine Austrian provinces has been developed; furthermore, a scientific advisory board has been established. Central support is provided by the Ministry of Education and by the Institute of Instructional and School Development at the Alpen-Adria-University, Klagenfurt. Additional support measures are provided by the FORUM Environmental Education (an NGO) as well as via seminars for heads and coordinators of ECOLOG-schools network, the Education Support Fund for Health Education and Education for Sustainable Development, as well as via the National Environmental Performance Award for Schools and University Colleges of Teacher Education (Rauch & Pfaffenwimmer, 2014).

Evaluation studies of the ECOLOG-schools network

Throughout the past 20 years of the ECOLOG-schools network's existence, a series of evaluations, inquiries, and studies have been produced (Ehgartner, 1999; Heinrich & Mayr, 2005; Knoll & Szalai, 2009; Lechner & Rauch, 2014; Payer, Winkler-Rieder, & Landsteiner, 2000; Rauch & Schrittesser, 2003; Schober-Schlatter, 2002; Thonhauser, Ehgartner, & Sams, 1998).

Based on these evaluations, the Institute of Instructional and School Development at Alpen-Adria-University, Klagenfurt, was commissioned to conduct an evaluation study of those 23 schools that have been part of the ECOLOG program for the past 10 years (Rauch & Dulle, 2012).

The knowledge that teachers gained through their experiences of concrete ecological development processes and its systematic evaluation by way of participatory AR constitutes an invaluable reservoir of practical expertise for everyone involved in the ECOLOG program and everyone interested in ecological school development processes.

Through guideline-based interviews, the Lamnek's (2005) study collected and analyzed evaluations by heads of schools and ECOLOG coordinators of the effects of the ECOLOG program in their schools as well as the experiences the interview partners have had with the program during the past 10 years. The 23 schools that were part of this study came from all nine Austrian states and represent all school types, including primary schools, secondary schools, higher secondary schools, as well as vocational schools and higher vocational schools. At these schools, interviews were conducted with 16 heads and 23 ECOLOG coordinators (a total of 39 interview partners). The emphasis of the questions is related to past successes and positive impacts of the implementation of the program, potential problem areas, and general points of criticism.

These interviews were transcribed and analyzed according to the model of content analysis (Mayring, 2002), and additional materials available at the schools (annual ECOLOG reports, annual school reports, teaching materials, the school website, the ECOLOG website, press releases, and school folders) were integrated in the analysis.

Prior to the final analysis, a brochure was produced containing summaries of all ECOLOG-related activities in the form of illustrated profiles of the 23 schools as well as of their successes and challenges that were faced (Rauch & Dulle, 2011). This brochure and a number of theses, formulated from the preliminary results of the interviews, were presented and put forward for discussion in the context of a workshop with representatives of the schools interviewed and other schools taking part in the ECOLOG program.

In 2016, a study on the nine regional ECOLOG networks was commissioned. Based on interviews with members of the regional teams and selected teachers as well as the analysis of reports of ECOLOG schools and other documents, the goals, the structure, and effects of ECOLOG were examined (Ziener, 2017).

In the following section, lessons learned generated from all of these studies will be presented based on the studies undertaken.

Lessons Learned Based Upon the studies

ECOLOG is a highly demanding program

As a comprehensive concept of school development promoting ESD, which connects teaching and learning processes, school organization, and the school's collaboration with external partners, ECOLOG is a highly demanding program. After nearly 20 years, the relevance of ECOLOG varies greatly between different schools. In some instances, it is "merely one project among many others," while other schools have made it their "number one priority." ECOLOG has been integrated into the day-to-day life of around half of all participating schools, with most of those being primary schools.

The ECOLOG network supports further development

Schools that were able to build up a sustainable ecological school structure had often already had experiences with ecological education and school development before they joined ECOLOG. Building upon those experiences, the ECOLOG network supports further development, for example, through regional exchange of experiences and information, the generating of new ideas, the provision of educational materials, and through financial resources. This support is considered as very helpful. Further opportunities for support are found in the creation of a pool of external lecturers and advisors, the development of

more varied materials depending on different types of schools, as well as a stronger activity in the area of public relations and the provision of material resources.

The ECOLOG network schools face a number of challenges

Supporting the development of a sustainable school culture depends on taking seriously the different interests of stakeholders and on working collaboratively on common aims. Successful ECOLOG network schools have learned to deal with both internal as well as external changes and to embrace diversity.

ECOLOG has effects in numerous areas

The effects of ECOLOG are observed in numerous areas. Among them are changes in teaching methods (e.g., increased project-based learning and social learning), the increased integration of health-related topics as well as ecological and social topics in the teaching, the design and organization of the school building (e.g., the schoolyard and measures of energy optimization), and changes in school life (e.g., healthy foods for pupils and teachers). Participation in ECOLOG improves the image of the school. More empirical evidence is needed to understand better the middle- and long-term effects of ECOLOG especially on students.

ECOLOG depends on dedicated individuals

On the one hand, ECOLOG lives through the particular dedication of individual members of the teaching staff. On the other hand, a culture of mutual collaboration must be established for a sustainable school culture to thrive. This poses challenges for schools. The development of a team culture is crucial for sustainable whole-school development. In one third of the ECOLOG schools, the responsibility still lies strongly in the hands of individual teachers.

ECOLOG helps schools meet their legal reporting requirements

ECOLOG network schools commit themselves to principles of quality development and quality assurance. The production of annual reports in accordance with the concepts inherent in the school's development plan may often, especially in the beginning, cause difficulties. Efforts and benefits need to keep a healthy balance. After some years of experience, schools are often much better to be able to achieve this. At this stage, the annual ECOLOG report is often considered as a helpful tool for reflexion and planning. Thus, ECOLOG is able to make a thematic contribution to the practical realization of legal requirements, such as the establishment of a quality management system as well as of educational standards (especially in the natural sciences).

Ecologization needs to be integrated into school processes and identity

Processes of ecologization at schools are successful in the long term if they are viewed both as dependent on the build-up of experiences and routines as well as on the development of new ideas. ECOLOG offers a variety of thematic links and a support network that enables school-specific and autonomous developments. Every ECOLOG network school can find and develop its own identity.

Impact of the ECOLOG-schools program in Austria

An early impact of ECOLOG was the implementation of the *National Environmental Performance Award* for Schools and University Colleges of Teacher Education. This is a national government-based award to acknowledge top level performance since 2002. About half of the 120 criteria relate to EE and ESD, the school curriculum and school development. The other half refers to technical aspects, such as energy saving. The award is valid for 4 years; later, the compulsory external evaluation has to be renewed (Rauch & Pfaffenwimmer, 2014). The Ecologization Programme serves as an important source for the formulation of the pedagogical criteria (Pfaffenwimmer, 2004). Until today, over 100 schools have been awarded this Environmental Performance Award, some of them for the fourth time.

Since the 1990s, ECOLOG has proved to be a reference for other thematic networks in Austria focussing ESD like "climate alliance schools" (https://www.klimabuendnis.at/english), "climate schools" (https://klimaschulen.at) "nature parc schools" (https://www.naturparke.at/schulen-kindergaerten/schulen/), UNESCO schools (https://www.unesco.at/bildung/unesco-schulen/), and "healthy schools" (https://www.gesundeschule.at/). Between 2013 and 2018, the Austrian Ministry of Education, Department of Environmental Education compiled a list of all Austrian schools, which are active members in these thematic networks. One thousand schools are listed, some of them active in different networks. As there are 5,712 schools in Austria, we can state on this database that every sixth school in Austria has a continuous engagement in ESD.

From 1997 to 2004, the ENITE project (EE and ESD in teacher education) was carried out by the University of Klagenfurt as a research and development network, which supported the development and study of initiatives in teacher education and was inspired by ECOLOG especially at Universities of Teacher Education (Kyburz-Graber, Posch, & Peter, 2003; Posch, Rauch, & Kreis, 2000). The main outcome of the ENITE network to date is the National Teacher Training Course "Innovation in Teacher Education – Education for Sustainable Development" (BINE) offered by the Institute of Instructional and School Development at the University of Klagenfurt in cooperation with Universities of Teacher Education. The four-semester in-service course has run successfully four times, the fifth course is starting in 2019 (Rauch & Steiner, 2015). Since 2006/2007, teacher education is

involved in a dynamic reform process based on new legislation for teacher training. A positive result of the ENITE network and the BINE courses is that communication and collaboration and even participation between Universities of Teacher Education and the ECOLOG-schools network has been stabilized and enhanced (Rauch & Pfaffenwimmer, 2014).

In her recent evaluation study, Ziener (2017) writes that the annual reports by the participating schools, which are published on the ECOLOG website (https://www.oekolog.at/welcome.html), serve as outreach and impact of the program. Her analysis indicates the wide variety of external partners with whom schools regularly cooperate like parents' associations, municipalities/mayors, farmers, nature conservation associations, EE associations, national parks/nature parks, local universities and colleges, health and the social sector, industries, tourism, local media, etc.

Throughout the history of EE and ESD in Austria and especially since the Ministry's basic decrees for Environmental Education for Sustainable Development in 1985 and 2014 (Austrian Federal Ministry for Education and Women's Affairs, 2014), the engagement in locally relevant educational activities has been a central focus. Partnerships with external agencies and actors have proved as a valuable approach (Lukesch, Payer, Pfaffenwimmer, & Posch, 2009). In the years 2012–2014, "School-Community-Collaboration" was a focal topic for the ECOLOG program, also contributing to the ENSI-EU-Project CODES (2011–2014) (https://ensi.org/Projects/Our_Projects/CoDeS/; Rauch & Dulle, 2014).

In 2006, the Austrian UNESCO commission decided to award projects within the UN Decade ESD (DESD) that meet the international criteria of ESD. From 2007 to 2014, 201 projects of 168 organizations were awarded and documented in four publications of the UNESCO commission as well as in the "Bildungslandkarte" (Education Landscape)" of the FORUM Umweltbildung (Environmental Education FORUM; https://www.bildungslandkarte.at/). The "Education Landscape" is an electronic search tool to find Austrian organizations, which are active in the field of ESD and offer learning opportunities. At present, 525 organizations (actors) are registered. Since 2016, these institutions also have had the opportunity to apply for the Award "Education for sustainable development – BEST OF AUSTRIA" within the framework of the UN Global Action Programme.

Conclusions and Outlook

The ECOLOG program has been growing for many years, being the oldest network supported by the Ministry of Education. One reason for this is that ESD is always connected with current developments in the Austrian education system, such as quality evaluation and quality assurance. Other factors of success are the support system of the

network, which keeps the projects going, as well as an active evaluation culture, which includes AR as well as external, formative evaluations, which provide feedback and confirmation (Rauch & Pfaffenwimmer, 2014). The ECOLOG program influenced other developments in Austria, like the National Environmental Performance Award as well as other thematic school networks like Climate Alliance Schools, UNESCO Schools or Nature Park Schools. Overall, nearly 20% of the Austrian schools participate in one of these networks dealing with ESD issues. Beyond this impact, the experiences and evaluation outcomes gained in the ECOLOG program build foundations and provide orientation for awards like the UNESCO Award on ESD (in the context of UN DESD) and the current award Best of Austria (in context of the UN SDGs).

A challenge is still posed by sustainably anchoring ECOLOG at schools at the interface of innovation and as part of the dynamic everyday culture of these schools. In relation to regional support systems in the federal states, the respective professional and political contexts play a decisive role. The provision of stable and continuous support, which, at the same time, is flexible enough to dynamically respond to change, both makes high demands on all parties involved and, at the same time, also requires adequate resources.

The aim followed by ECOLOG is the implementation of ESD at individual schools in their respective local environment. ESD is conceptualized as the negotiation of conflicting interests. Without this, ESD cannot come to full fruition in the context of current social arrangements. Instead, ECOLOG challenges those conditions and formulates demands toward co-determination.

Hence, the ECOLOG program is caught between the danger of being instrumentalized by particular interest (e.g., one-sided economization) and being overburdened (by its claim to formative influence). The creation of spaces for exchange, networking, and reflexion are central elements of the ECOLOG program, through which it hopes to support ECOLOG network schools in their constructive handling of this area of tension (Rauch, 2016).

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About the Authors

Prof. Dr. FR is currently head of the Institute of Instructional and School Development (IUS) at the Alpen-Adria University Klagenfurt (Austria). He holds a master's degree in Natural Sciences (teaching certification), a PhD in Education at Graz University, and a Habilitation in Education (with a focus in EE). He has been involved in research and development projects internationally and nationally since many years. He served as

visiting scholar in Newcastle and as Fulbright scholar in St. Louis, USA. He is one of the editors of Educational Action Research Journal and serves on editorial boards of other Journals (like The Journal of Environmental Education). His areas of research, teaching, and publication are ESD, networks in education, school development, science education, continuing education for teachers, and AR.

GP is the retired head of the former Sub-Department for Environmental Education in the Austrian Federal Ministry of Education, Science and Research. He holds a master's degree in Biology and Environmental Sciences (teaching certification) and a PhD in Limnology from the University of Vienna. In his ministerial function, he was responsible for the development of all EE projects and programs in the Austrian education system, since 1986. He has served as the Austrian representative at the ENSI International board, coordinated the Austrian ENSI-Team, and was involved in programs of OECD/CERI, UNECE-ESD, and UNESCO.

Both the authors had full access to all data in the study and take responsibility for the integrity of the data and the accuracy of the data analysis.

Ethics

The study procedures were carried out in accordance with the Declaration of Helsinki. The Institutional Review Board of the Institute of Instructional and School Development of University of Klagenfurt approved the study.

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