

New Education Transition in Agroecology and Rurality – NECTAR: conceptual report of the Erasmus+ project for teaching practices in France and Austria

Zusammenfassung

Im Projekt NECTAR werden länderspezifische Bildungskonzepte der landwirtschaftlichen Berufsbildung für den Schwerpunkt Agrarökologie in Frankreich (CEZ-Bergerie Nationale) und Österreich (HAUP) näher untersucht. Das Projekt zielt darauf ab, die an der HAUP und der CEZ-Bergerie Nationale entwickelten und für die Lehrpläne der landwirtschaftlichen Schulen in den jeweiligen Ländern maßgeblichen konstruktivistischen Bildungskonzepte Grüne Pädagogik und Grounded Pedagogy zu vergleichen und zu synthetisieren. Die Konzepte werden in der länderübergreifenden Zusammenarbeit mit landwirtschaftlichen mittleren und höheren Schulen implementiert sowie forschend begleitet und reflektiert.

Schlüsselwörter: Grüne Pädagogik, Grounded Pedagogy, Transformatives Lernen, Fachdidaktisches Professionswissen, Aktionsforschung

Abstract

The NECTAR project aims at comparison of country-specific educational concepts of agricultural vocational education focussed on agroecology in France (CEZ-Bergerie Nationale) and Austria (HAUP). The two constructivist grounded educational concepts “Green Pedagogy” and “Grounded Pedagogy” were developed at HAUP and CEZ-Bergerie Nationale likewise and are relevant for the curricula of agricultural schools in the respective countries. Through study visits in six schools, the implementation can be observed and compared. These conceptions are implemented in this cross-national cooperation with agricultural middle and secondary schools, accompanied, and reflected upon in research.

Keywords: Green Pedagogy, Grounded Pedagogy, Transformative Learning, Reflection in/on action, Pedagogical Content Knowledge, Action Research

1. Introduction

In France, the Ministry of Agriculture has launched the strategic plan “Produire autrement” (2013) and for agricultural education, the action plan “Enseigner à produire autrement” (2014)¹. Among the institutes that support teachers in this challenge, the Bergerie nationale has developed the concept of “grounded pedagogy” to give substance to a renewed way of thinking about teaching and learning the transitions and agroecology based on territorial situations with problematic potential (Peltier, 2021; Peltier & Ringeval, 2022), which focuses on students to develop their cognitive concepts and their actions on agro-ecological transitions in a constructivist oriented teaching. There are the same challenges in Austria, where different educational projects aim at transformative learning processes (e.g. competency based education in agricultural schools: Faistauer et al. 2014). In this context, the educational concept of “Green Pedagogy”² initiates a sustainability discourse on land use by taking into account the dimensions of multi-perspectivity, systemic thinking, and engagement when conditions are uncertain in terms of ecology and economy. In this way, learners develop the ability to face future challenges and manage controversial dilemmas. The cross-case analysis of teaching practices in agricultural schools during the New EduCation Transition in Agroecology and Rurality (NECTAR) project should contribute to further innovation in agricultural vocational education.

2. Research questions for the project

RQ1: To what extent can topics of sustainable agroecology (soil fertility, regional food security, complexity in professional situations) be implemented with parameters of the constructivist concepts of the HAUP and CEZ-Bergerie Nationale?

RQ2: How can aspects of the theoretical didactical concepts “Green Pedagogy” and “Grounded Pedagogy for Transition” be synthesized for planning and reflecting school practice?

Since this is a research and development project, these two research questions are guiding our activities in terms of exchange as well as the research efforts.

3. Theoretical framework

Education for sustainable development requires special educational strategies that reveal controversial motives and paradoxes of the present situation and promotes tolerance of ambiguity, participation and critical thinking in order to open up scope for action. The didactic concept of “Green Pedagogy” (e.g. Forstner-Ebhart

1 More informations : “Produce differently”, <https://chlorofil.fr/eapa/plan/produire-autrement> ; “Teach to produce differently”, <https://chlorofil.fr/eapa>
2 <https://www.gruene-paedagogik.at/> (16.9.2022)

& Linder, 2017) addresses these complex demands on teaching and aims to overcome linear cause-effect patterns of thought and develop a transformative literacy (Schneidewind, 2018, 13). Therefore “Green Pedagogy” can be valued as a constructivist didactical means (Reich, 2005) to include the Agenda 2030 goals³ into manifold educational settings. This should enable to understand the interplay of all dimensions of sustainability and to act according to the “VOPA+” model (e.g. Buhse, 2014), which means in short to trust in and be open to processes of participation, link diverse bases of knowledge and be flexible in thought. A didactical framework for analysis of learning arrangements with the focus on individual transformation processes is the educational reconstruction model (e.g. Kattmann et al., 1997). In vocational sustainability education, teachers are challenged by allowing attitudes and patterns of action to be questioned from multiple perspectives and giving space to aporias or perceived contradictions. The situational and social framing of learning arrangements is central: “...this means that didactics has to deal much more [...] with the pre-structures of the learning subjects, their biographical character and autoreferential closure” (Arnold, 2012, 52). “Green Pedagogy” invites learners to think in new directions to allow developing innovative approaches for dealing with future challenges. It should transform the learners’ perspectives and values so that they are able to embrace sustainability as a new paradigm or a lens through which to view the world and make a change. Research on learners’ conceptions are therefore the subject of projects in the research field of “Green Pedagogy”. Learners’ conceptions contain essential preliminary information for planning constructivist lessons to enable meaningful interactions with subject content (e.g. Kattmann, 2015).

The aim of “Green Pedagogy” is to develop transformative literacy, which also includes value orientations and leads to competences in line with the “VOPA+” model. Change and transformation processes should thus be triggered in order to break behavioural routines and reduce the attitude-behaviour gap according to Stanszus et al. (2017, 7f), which altogether is highly desirable in vocational education.

“Grounded Pedagogy” shares the orientations of “Green Pedagogy”. It gives a high value on, 1- the design of teaching sequences in which teachers problematise (Fabre, 2017) a professional/territorial situation with problematic potential (Mayen, 2017) in order to transform it into a learning situation; 2- the investigation of learners, the monitoring and support of their problematisation activity to the elaboration of solution hypotheses to the proposed problem-situation in terms of sustainability (weak/strong); 3- to the reflexivity on the proposed activities and to the explicitation of the learning achieved by the students. One of the objectives of the project is to deepen the understanding of both concepts and to compare and discuss those in more detail also to make them tangible for practitioners.

3 <https://www.bmbwf.gv.at/Themen/euint/ikoop/bikoop/sdgs.html> (22.11.2022)

4. Project organization and objectives

New EduCation Transition in Agroecology and Rurality (NECTAR) is an ERASMUS+ project⁴, which was developed as a follow up of an International Education Conference at the University College for Agricultural and Environmental Education in Vienna Austria in November 2018. This conference was the first occasion to share experiences about our constructivist pedagogies in France and in Austria in the context of agricultural vocational education. We wanted to go further in the shared development by connecting French and Austrian agricultural schools working together on shared topics, which have been identified as priorities by the teachers in agroecology. NECTAR finally started in autumn 2021 and lasts for two years.

In Austria and France, learning settings topics of agroecology (soil fertility, regional food security, complexity in professional situations) are developed at six agricultural schools, with scientific support from HAUP and CEZ- Bergerie Nationale. The topics were chosen due to interests of the schools and to meet current challenges in both countries. CEZ and HAUP help with their expertise in educational sciences guide the teaching teams with the frameworks of “Green Pedagogy” and “Grounded Pedagogy for Transition”. Each agricultural partner school was chosen for its experimentations and pedagogical innovations on the three selected topics: soil fertility (EPLEFPA de Cibeins and Gartenbauschule Langenlois), local food and autonomy (Bäuerliches Schul- und Bildungszentrum Hohenems and EPLEFPA de Bourg-en-Bresse), complexity in professional situations (EPLEFPA Terre d’horizon de Romans-sur-Isère and Höhere Bundeslehr- und Forschungsanstalt für Landwirtschaft Raumberg-Gumpenstein). Each pair of schools have the opportunity to prepare together pedagogical situations and sequences on the shared topics. The teachers from the partner country move over to observe and to analyse the pedagogical practices. Teacher educators from the HAUP and the CEZ take part to support the teams of the teachers. They help the schools during implementation of the selected projects, provide guidance and advice to the schools for the implementation of shared activities on their topics. They participate in the organisation of a school’s visits to its partner. They help to formulate and elicit the targeted/achieved learning with the students. Moreover, HAUP and CEZ are in charge of the pedagogical and didactic follow-up of the project.

We would like to achieve these objectives:

- Elaborate courses for students to share in both countries. Confront students with the complexity of the future demands and get engaged in critical or controversial discourse before making decisions. Students have to deal with different situations, with mixed groups, testing their communication skills; they have to act responsibly and autonomously and to follow their plans; they have to engage in systemic thinking processes.
- Conduct cross case analysis on the pedagogical and didactical practices in agricultural schools in the field of Education for Sustainable Development (ESD).

4 Funding: 2021-1-FR01-KA210-VET-000032864

Analyse how pedagogical teams deal with teaching agroecology in agricultural schools and what students have actually learnt.

5. Research methods

One of the objectives of the project is to analyse how teachers deal with teaching agroecology in agricultural high schools. During school visits, the researchers of CEZ and HAUP will be able to observe different pedagogical teams in practice and encourage them to share their methods and reflect on the experiences they have made during their teaching. The methods should follow the two constructivist conceptions and enable the learners to communicate, to evaluate with different perspectives, and to find local solutions in situated learning settings.

With the help of videos of the observation and planning rationals as well as protocols, the focus of reflection is directed to the thinking of learners. Different planning and reflection tools (e.g. Loughran et al., 2006; Scheuch & Keller, 2012; Peltier, 2021; Fabre, 2017) are used to reflect on the gap between everyday ideas and professional knowledge. These tools were developed in the context of professional development with in-service teachers to elicit their professional teaching knowledge. The term for the most useful part of the professional knowledge is “pedagogical content knowledge” (PCK, e.g. Gess-Newsome, 2015), in this project, we combine it with the concept of “Green Pedagogy”. Via the approach of action research (Altrichter & Posch, 2007) all participants from research and practice work cooperatively and as equal partners for competence development on all levels. For gathering data we are using pedagogical discourse, discussing theory-based lesson plans before teaching, make observations during teaching, reflect on the observed actions afterwards and constantly work on shared understandings (Altrichter & Posch, 2007). For the analysis of teaching activities we can mobilise the technique of “instructions to the double” (Saujat, 2002).

By means of transnational cross-case analyses (Yin, 2018), the respective educational concepts will be evaluated and a catalogue of criteria for the planning and reflection of agroecological topics will be created. The cases are the three school partnerships with their content specific focus (e.g. soil fertility). The data collected are lesson plannings, reflections based on the models of the two constructivist concepts, short videos of the learning activities or presentations, and observation notes.

The transnational cooperation of the institutions should also be experienced as profitable for the individual action partners, in the sense of an expansion of the possibilities for reflection.

6. Expected results

Each teacher group will experience at least one pedagogical situation as actor and teacher and at least one as observer. Depending on the plans for the teaching

sequences different criteria such as the following will be the focus of observation and object of discussion (list is not exhaustive):

- level complexity of the situation
- critical discourse in making decisions by the students
- most important conceptual knowledge enabling learners to build the capacity to make a critical judgement in terms of sustainability on a situation
- systemic thinking processes engaged by students
- autonomy and responsibility of the students
- creativity and innovation from students

The conclusion of the three school partnerships (including the pedagogical activities description) and different resources developed will be gathered in a logbook that will be used by the teachers to expand further on in their own learning.

All involved (students, teachers, teacher educators) are expected to benefit from the working mode and the results of this project since we view this as a learning community. The core elements of the projects are the exchange between two schools, which share the same topic. It will be an excellent opportunity to compare each others' work and learn about the different surroundings and contexts.

We have four levels of expected results:

- For the learners
The expected result will be to make them actually able to elaborate on a local problem, to be able to discuss it and to promote creativity and innovation. Students will become aware of relevant topics in their surroundings, the causes and effects at work since this is part of the learning and reflection processes.
- For the teachers
The teachers who are involved in this project develop their skills in dealing with ESD. They work in pluridisciplinary ways and experience different traditions and contexts in two different countries affecting the teaching. The expected result for the pedagogical activity will be the understanding how local experiences lead to a larger understanding of global issues.
- For the teacher educators
The teacher educators participate in the experimentation of pedagogical activities. The cross case comparison between the implementation of these activities in France and in Austria in total at six schools will provide valuable input for their research and further teaching activities
- For the project
The project will lead to analysis and to dissemination of an action sheet that will highlight the comparison of agro-ecological transition teaching in France and in Austria, on the topics of local food and autonomy, soil fertility and complexity. It will describe the results of this experimentation and disseminate to the teachers at a national level.

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