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Sustainable Vocational Education and Further Training Practice Through Multiplier Training

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Abstract

Context: The structural anchoring of sustainability in vocational education and training practice is an essential goal of the National Action Plan (Germany) and represents a problem of vocational education and training for sustainable development that is still valid today.

Methods: A promising transfer path is offered by the targeted anchoring of offers in educational practice, flanked by pedagogical support. However, a complete structural anchoring of ESD is a necessary, but not sufficient condition for the transfer of didactic concepts of ESD into educational practice. This paper shows how a design-based research approach is used to familiarise trainers and company trainers with the contents and methods of ESD and make them capable of acting. The multiplier approach, which is presented here in more detail, serves to anchor sustainability more deeply in vocational education and training.

Findings: The article mainly refers to the hurdles that can occur during the transfer and how these are addressed in the project.

Keywords

ESD, multiplier approach, company trainers, trainers

1 Sustainable Vocational Education and Further Training in Germany

With the adoption of the Global Sustainability Agenda the global community has committed itself to ensuring quality, inclusive and equitable education for people by 2030. Therefore, vocational education and training also has a duty to develop this approach further. Transformation of learning and teaching environments plus the development of teacher and trainer skills is needed. Sustainability, to a greater or lesser extent, found its way into the legislation of the European states, which is a prerequisite for implementing for increasing its importance for in our case education. In Germany sustainability and environmental protection will, by august 1st 2021, be a fundamental educational content for every revised or new passed vocation (cf. BIBB-



Pressemitteilung 03/2021, 2021). The so-called “Standardberufsbildpositionen” (a set of minimum requirements in vocational education) mark a framework, which every vocational training must meet. This is good news, but it comes with some challenges, which will be addressed in this paper, too. An implementation on the legislative part doesn't include the practical implementation, adaption and establishment in the process of VET in the companies. Questions to be answered are for example: How can VET trainers get acquainted with education for sustainable development (ESD) or to be more precise vocational education and training for sustainable development (VETSD)? Where can they qualify themselves? In which way are trainers in further education prepared for training the trainers of the companies? The project TraNaxis (Transfer of sustainability into vocational education and training through multiplier qualification) aims to transfer learning tasks into further education. Two universities and several further education institutions are involved in this project, which is funded by the Federal Ministry of Education and Research (2020-2022). Initially, workshops are planned for the qualification of trainers in initial and further education as well as in-company trainers. The results of these events are to be evaluated, revised and finally transferred into practice. The first phase involves the qualification of trainers in further vocational education and training. In the second phase, they in turn organise workshops for company trainers from different sectors. This paper will discuss the basic structure of the project TraNaxis. The challenges of implanting VETSD in the practical VET and the handling with those in the project, on a theoretical and practical way, will be presented in second step. An actual state of process will complement the paper.

1.1 TraNaxis -Transfer of Sustainability Into Vocational Education and Training Through Multiplier Qualification

TraNaxis is based on findings from two previous projects on sustainable vocational education and training. The project Pro-DEENLA (Qualification of vocational training staff through learning tasks in dual training) pursued the question of how work routines can take ecological and social effects of economic activity into account. Therefore, learning tasks were developed that now represent the content for the transfer project (Fischer et al., 2018a, 2018b). And the project KoProNa (Concepts for the professionalization of training staff for sustainable vocational education and training) pursued the goal of supporting companies and educational institutions in developing, implementing and realizing concepts and strategies of sustainable vocational training (KoProNa, 2019b). The procedure for analysing the training reality developed here is used for the procedure in TraNaxis. In the TraNaxis transfer project, the results and products from the pilot projects are transferred into training and further education practice by means of a dual multiplier approach. One of the aims of TraNaxis is to transfer the results of the previous projects into further education practice. The learning tasks need adaptations, which are to be done at the beginning of the project with regard to a cross-sectoral approach on the one hand. And the preparation of the workshop regarding digitalisation and the qualification of multipliers on the other hand.

Transferring products, as learning contents or workshop concepts, developed in previous projects into a more varied field of praxis presents a challenging task and manifold obstacles are to overcome. Trainers, who want to benefit from the results of the projects, and later use, modify and adapt the learning tasks, need to be helped to mentally penetrate the pedagogical structure of the learning tasks. For this reason, they need to participate in the process of adapting these to further fields of VET, which will be a big part in the qualification process during the workshops. We understand the trainers as constructors of knowledge, not receivers of what we think is best. Therefore, VET trainers need to analyse their own operational context. A tool, in which they will be trained in, helps fulfilling that task (KoProNa, 2019a).

2 Transferring Educational Products Into VET Practice

While transferring educational products into educational practice some obstacles are to be overcome. This applies to VETSD and its corresponding pedagogical interventions too. To address three of these challenges is part of the work progress in TraNaxis. As these are most likely more characteristic for the German model of apprenticeship some further remarks will be made on each topic. Orientation in the area of further training for company trainers, in our case for VETSD, is provided by offers that have been certified by a credible authority. In vocational education and training, the respective chambers are responsible for this task, among others. Certified qualifications by chambers represent cultural capital that can then be used on the labour market. So far, there is no nationwide certification for further training on BBNE, apart from a few regional initiatives from pilot projects. However, certificates following formalised education fulfil some not entirely unimportant functions. If learning, e.g. with regard to sustainability, is not already intrinsically motivated, certificates can provide an external incentive (c.f. Kell, 1995, p. 302). Furthermore, they offer orientation through the information contained in certificates and possibly grant entitlements to an extended range of work (c.f. Kell, 1995, p. 304). Therefore, in the transfer project, together with chambers from different regions, a regional certification is initially being sought, which should then be transferred to the federal level. A joint and coordinated cooperation of all transfer projects is also possible here.

Assuming that there is already a certified training course on VETSD, the next question is: Who conducts it? The answer would be trainers in various (supra-)regional educational institutions. However, the professional group of trainers represents a very heterogeneous formation (c.f. Autorengruppe wb-personalmonitor, 2016) with regard to their own pedagogical qualification as well as their affinity and prior knowledge of VETSD. Therefore, in the transfer project, previously selected and regionally networked trainers are familiarised and qualified with the products from the pilot projects. The project team takes on the task of carrying out the qualification by means of workshops. In terms of content, workshops address, for example, the pedagogical attitude of the educators, trying out and practising pedagogical-didactic methods for VETSD as well as theoretical content on sustainability and sustainable development. In the process, a training guideline is derived, which remains in the selected educational institutions and can be used to qualify further trainers.

The question of who is responsible for the practical implementation of VETSD at the company level is usually answered with the training personnel (c.f. Mohoric, 2014, p. 189), i.e. the company trainers and skilled workers providing training. However, there is also agreement that their pedagogical qualification is rather short and rudimentary (c.f. Eckert, 2017, p. 123). In contrast, the pedagogical products of the pilot projects are methodologically and didactically sophisticated and, in some cases, very demanding in their implementation. Consequently, it is important to sensitise and, above all, qualify company training personnel for VETSD. This should not be done on their own initiative, but proactively create offers. Appropriately qualified trainers offer certified further training on VETSD. The second project phase in the transfer project was also designed in this way. The trainers, accompanied by the project team in an advisory capacity, carry out the further training for the in-company training staff. After the evaluation of this project phase, regional and national certification will be announced.

3 Methodical Design

In order to generate practice-related and scientific findings regarding a successful transfer of the model projects for the qualification of training personnel, TraNaxis pursues a participatory, design-oriented research approach (Cobb et al., 2003; van den Akker et al., 2006a). Design-based research intends to relate research and practice within a collaborative, iterative as well as systematic process. The research's methodological approach refers to cycles of design,

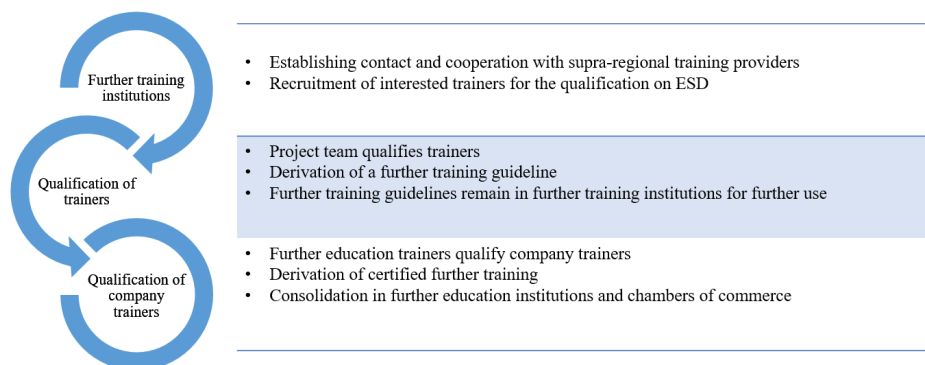
implementation, analysis and re-design (Reinmann, 2017). Squire 2004 (as cited in van den Akker et al., 2006b, p. 5) summarizes the variations of design-based research as follows: “a series of approaches, with the intent of producing new theories, artefacts, and practices that account for and potentially impact learning and teaching in naturalistic settings”. Even though design-based research can focus on different perspectives, this project focuses on the development of didactical concepts within a realistic setting (c.f. Prediger et al., 2012). Hence, it is highly relevant to include partners within the transfer project to link theoretical as well as practical goals. Concerning our project, the collaborative work with trainers in further education and companies is fundamental. Therefore, research in TraNaxis will be guided by Euler's phase model (Euler, 2014). Euler's 6-phase model depicts the cyclical development process in a circular form. Starting with the definition and specification of the problem and the subsequent review of literature as well as the evaluation of experiences, the development of a design, an intervention or a procedure follows. This is tested under continuous evaluation. In the process, design principles are generated for the design, the intervention or the procedure, which can be incorporated in a re-design. In this way, the own design undergoes various stages of concretisation and adaptation. When a satisfactory degree of maturity is reached, the summative evaluation takes place, which may again lead to the definition of a new problem. The problem to be solved, or rather the task for TraNaxis, is the transfer of already developed and tested learning materials for ESD into professional practice.

4 The Dual Multiplier Approach of TraNaxis

During the first research phase, the identification of the needs of the new context of further education and the target group of trainers as well as the adaptation of the programme planning are central. In the second phase, the focus is on analysis and processing of the results of the model tests as well as desk research. Even before the project began, a nationwide network consisting of four further education institutions was set up to ensure a broader regional transfer. Through the institutions involved in the project from Thuringia, Berlin, East Westphalia-Lippe and the Rhine-Main region, 20 trainers were acquired. The diagram shows that TraNaxis (Figure 1) not only focuses on the target group of in-company trainers, but also on continuing education trainers in an upstream qualification. The high heterogeneity of this sector is also reflected in the structure of the TraNaxis network. In our case teachers from continuing education providers, lecturers from chambers of industry and commerce or freelance trainers from business associations and societies take part in the first phase of the multiplier qualification. Consequently, their professional contexts and acquired qualifications are extremely complex. These contexts form the starting point of the adaptation processes and require reflection and explication in order to provide the basis for the learning process of the trainers.

After the successful acquisition of the trainers, a first interview took place. The basic aim was to get to know the university and practical actors, but questions were also asked about their professional background, professional qualifications, pedagogical experience and their own level of knowledge about VETSD. These were recorded and evaluated. The educational organisations participating in the project from the 4 project regions were analysed by means of document analysis. The online presences of the organisations served as a data source, which were analysed using a protocol. Relevant categories were the organisation's mission statement, projects carried out, locations, integration into networks and one category covering other aspects. The evaluations showed that both the group of continuing education trainers and the focus of the work of the continuing education organisations are extremely heterogeneous. Generally speaking, the group of trainers has a high proportion of academics and is divided into teaching and non-teaching staff. In the study "wb-personalmonitor", 63.7% of the continuing education trainers stated that they had a degree from a university of applied sciences or a university (c.f. Autorengruppe wb-personalmonitor, 2016, p. 110). It is striking that only 26.3% of all respond-

Figure 1
The dual multiplier approach



ents have a degree in education or educational science. Only 7% stated that they had studied a minor subject in education. This shows that 33.3% of those with an academic background but no pedagogical background are involved in teaching in continuing education. However, 59.3% of the continuing education instructors stated that they had an additional qualification. A quarter of them hold the AEVO (training instructors aptitude) trainer qualification. Further additional qualifications were acquired through training in coaching, train-the-trainer, systemic counseling, etc. In addition, 81.8% of the trainers who are "active in the field of teaching, training or coaching" (Autorengruppe wb-personalmonitor, 2016, p. 114-127) participate in continuing education themselves. In terms of professional qualifications, the situation is similar for the trainers involved in the project. Some have sound pedagogical experience in different subject areas with diverse target groups. There are also participants who are at the beginning of their pedagogical work and use the cooperation in the project for their own further qualification. As expected, however, only a few are qualified in the field of VETSD. We find self-employed and permanently employed trainers. A second aspect, in which the trainers in the project differ, sometimes considerably, is their experience in relation to in-company training and in-company trainers. Here, the statements vary from the case that no experience is available to date to trainers who have worked as trainers themselves and can therefore contribute sound knowledge of the dual system in Germany and look back on their own experience. Finally, the trainers differ in terms of their knowledge of sustainability, sustainable development and VETSD. For the conception of continuing education for the group of trainers, this means that depending on the region and the profile of the trainers working there, an adaptation must be made from a thematic point of view. Professional pedagogical action is characterised by the fact that it is based on reflected theoretical knowledge. Therefore, the trainers in the TraNaxis project are always encouraged to reflect on their own theoretical practice. Likewise, the methods presented in the workshops are reflected upon together, discussed in terms of their usefulness for VETSD and theoretically substantiated. Reflection on one's own practice is a decisive condition for the successful adaptation of educational content not only for trainers but also for company trainers and constitutes a fundamental component of pedagogical professionalism (c.f. Reißland & Müller, 2020, p. 6). The results of the two pilot projects united in TraNaxis were able to show that reflection spaces (c.f. Fischer et al., 2021, p. 102f) with concrete reflection occasions must be opened up for in-company training personnel. Further education trainers are thus enabled to facilitate individual reflection processes for the target group of in-company trainers in order to be able to initiate in-company learning and change processes. The TraNaxis approach of a double qualification of multipliers represents a significant didactic basis for the development of a reflexive professional capacity to act in the context of sustainable development (c.f. Pranger & Hantke, 2020, p. 84).

The qualification approach of the trainers, who are enabled by the project team by means of training guidelines to further develop the existing results in a pedagogically and methodologically sound, individual, needs oriented and cross-domain manner, is new. In the second phase of the qualification, the knowledge gained can then be used to train the company trainers independently. The university project team then takes on an evaluating and advisory role. An elementary breaking point is the retention and independent adaptation of the continuing education guidelines into the own product portfolio. This also opens up a third problem area, which is only briefly mentioned here. Further education concepts for BBNE have not yet achieved nationwide recognition in the form of certificates. A recognised certificate is therefore envisaged in the transfer project, even if it does not currently cover the whole country.

5 Status of TraNaxis

A total of 24 trainers were acquired for the TraNaxis project. All of them have already been qualified by the project staff in the first and second module. The group of trainers includes teachers from continuing education providers, lecturers from chambers of industry and commerce or freelance trainers. The heterogeneity of the trainers already mentioned becomes apparent here. Their professional contexts and acquired qualifications are very different. This diversity is also reflected in their level of knowledge on the topic of sustainability in general. During the first modules, however, it was also found that the trainers had a rather low level of knowledge on the specific topics of ESD and VETSD. The high heterogeneity of the group as well as the different knowledge levels with a specific focus on VETSD requires constantly adaptation of the contents and methods according to needs. Thus, in the six trainings that have already been carried out, there are clear differences in the implementation, as these always have to be adapted to the trainers accordingly. Considering this knowledge clarifies that it is not enough to offer proven concepts, handouts and materials freely available in order to be able to implement and apply sustainability in education and training practice. Rather, comprehensive explanations, as well as specific guidance and adaptations are needed in order to be able to pass on and implement the pedagogically demanding VETSD materials. These initial findings also show that the approach of multiplier qualification in the TraNaxis project is sensible and purposeful in order to be prepared for the topic of sustainability in general on the one hand and with a special focus on the ESD and especially the VETSD on the other. The aim of the project is that the trainers enable the trainers in the companies to take acting when it comes to the topic of VETSD. In order to achieve this, the support of expert trainers is indispensable for the qualification of training and further education staff.

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