

Bridging Teaching and Socialisation: Trainers in the German Dual Vocational Training System

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Abstract

Competent teachers and trainers are essential for the quality of education. In the German system of dual vocational training, teachers are responsible for learning processes in vocational schools, while trainers support the young people's competence development in companies. Three kinds of trainers can be differentiated: fulltime trainers who work in the companies' training workshop (Lehrwerkstatt), part time trainers accompanying the apprentices during the regular work and external trainers. The focus of this article is to describe the role of trainers in German vocational education and training (VET), to explain how they were trained and to sketch perspectives on the further development of the trainers' role.

1 Introduction

The question how practical learning can be supported is a traditional issue of pedagogy. In Germany, there is the consensus that a good balance between the acquirement of abstract knowledge and the socialisation into a community of practice needs to be found (Schlösser et al. 1989, Bremer 2004). Therefore, in the German dual vocational training system, there are two main learning sites: vocational education schools and companies. Each student - or, more precisely, "apprentice" in the dual system of vocational education - has a contract with a company and spends more learning time in this company than in the corresponding school. Vocational learning both in schools and in companies follows a curriculum which is concerted by representatives of the employers and employees as well as by the responsible ministries. This integrated market-state mechanism indicates, as Gessler and Howe (2013, p. 17) point out, that "capitalism becomes more humane and democracy becomes more productive; in other words, it is nothing less than the combination and balance of 'equality' and 'efficiency'".

All in all, 328 vocational profiles for dual vocational education are in force in 2014. Those vocational profiles and their corresponding curricula are innovated continuously in order to match the demands of the labour market. This means that also teachers and trainers need to stay informed about changes and developments. In addition to this content-related dimension, there are a number of pedagogical challenges connected with vocational education:

- the learners form an extremely heterogeneous group which requires sophisticated didactical approaches;
- the vocational competence that is gained in apprenticeship training should be sufficient for working in the actual production, but also prepare for innovations and future challenges. Additionally, the idea of apprenticeship is to prepare young people to work in a certain occupation, but this preparation is often very much oriented on the work tasks and processes of the organisations which provides the training;
- the abstract knowledge which is gained in the VET school and the practical skills acquired in the company should be connected with each other. This connection must, of course, be made by the individual learner - the question is how trainers and teachers could support this.

Like in Germany, companies in Japan take on responsibility for the enterprise-based training system. Therefore, the reflection on trainers, their professionalization and role can contribute to intercultural

pedagogical exchange: some problems might be similar, the solutions different. So, this article is an invitation to pedagogical discussion.

2 The Role of Trainers in Germany

A great part of vocational learning in Germany happens casually in the process of work. Newcomers enter the workplace by “legitimate peripheral participation” (Lave & Wenger 1989). This means that they learn step by step what the working tasks, processes and values are by receiving more and more responsibility and becoming gradually part of a community of practice. Since personal involvement and the opportunity of social participation and integration are an important motivation for the students to learn, socialisation is regarded not only as a part, but even as a pre-requisite for learning (Lave & Wenger 1989, Bremer 2004). For trainers, different roles in this learning setting were institutionalized:

- part-time in-company trainers: these persons are craftsmen accompanying the apprentices during the regular work,
- full-time in-company trainers: they are usually people who initially worked as craftsmen and then became trainers who work in the companies' training workshop (Lehrwerkstatt), and
- external trainers who work in intermediate, usually private training organisations.

It is estimated that between 5,8 and 8,5 million employees in Germany take over more or less responsibility for apprenticeship training (Bahl et al. 2012, p. 6; Gross 2011, p. 124). Part-time in-company trainers are the biggest group of trainers. They are craftsmen or other workers who in addition to their productivity-related task also take over chaperonage for one or more apprentices. The learning model which underlies this is the one described above: learning is seen as part of working. Part-time trainers often have no additional qualifications as pedagogues; their authenticity and personal suitability are regarded as sufficient preconditions for their work. As studies point out, part-time trainers enjoy working with young people, but as work pressure rises they feel a discrepancy between the demand to work effectively and the necessity to provide sufficient pedagogic support (Bahl et al. 2012).

Fulltime trainers make out only approximately 6% of vocational trainers (Bahl et al. 2012), and in most cases they are employed in big companies in the industrial technical sector. Such trainers usually work in a specialized area, the training workshop (Lehrwerkstatt). Their task is to prepare apprentices for the practical work in the work processes. This means, first of all, that the trainers inform the apprentices about rules and regulations of safety and health - they want to assure that the young people are not only aware of dangers, but even incorporate how to behave safely. The trainers explain, show and train basic skills (sawing, filing, drilling) and make transparent how these basic skills are embedded in the overall work processes in the company. They need to assure that all relevant learning materials and training machines are available. More and more, project work becomes an additional part of learning in the training workshop: this project work often includes parts which are authentic products of the company or related with its work processes. Trainers are here responsible for the development of the project idea: they need to assure its pedagogic relevance. They also coordinate to which departments of the company the apprentices were sent to learn in the work setting and in many cases they document the apprentices' development. Finally, the trainers prepare the apprentices for the intermediate and final exams which are part of the apprenticeship training in Germany and which were organised by the regional responsible bodies, e.g. the chambers of handicrafts. In some companies, full time trainers are responsible also for the training of adult craftsmen in the sense of further education.

External trainers work in intermediate training centres which are usually financed by federations of enterprises. These training centres therefore are private, profit-oriented companies. They are especially prevalent in the area of handicrafts and construction. In these two sectors, most companies in Germany are small or medium sized – most are very small. The external trainers in the intermediate training centres prepare the apprentices in the same sense as the full-time trainers in big construction companies: they inform about work safety and health protection at the workplace, assure that the apprentices have basic skills and that they know how to use the relevant tools and the (often expensive) machines. The idea behind this is that the quality of apprenticeship training is assured and that the students were well-prepared for everyday's work processes, e.g. on the construction site. The trainers who were employed by such intermediate training centres also often offer not only initial, but also adult education.

3. The Training of Trainers

Teachers in vocational education in Germany need to have a university degree. The regulations regarding trainers are less regulated in order to fit to the companies' needs. Each enterprise which provides apprenticeship needs to employ at least one formally defined trainer who is responsible for the coordination and organisation of the apprenticeship training. This person should have five years of work experience as craftsman in a company, adequate personal competences and a certificate according to the ordinance on aptitude of instructors (AEVO). This training, encompassing approximately 120 hours, focuses on four aspects:

1. Planning apprenticeship training: This part of the training includes to consult the company in regards to the demand for new apprentices and concerning the legal conditions (e.g. vocational profiles), but also to assure cooperation of the actors who are relevant for the quality of apprenticeship training.
2. Preparing apprenticeship training: This means to prepare a training plan according to the legal curriculum, to cooperate with the company's workers' council and the VET school, to reflect criteria for the selection of apprentices, to prove whether parts of the apprenticeship training can be done overseas, to prepare work contracts for the apprentices and to assure other legal procedures.
3. Conducting apprenticeship training: This is the biggest part of the training according to the AEVO. It focuses on how to create a learning environment which supports the development of the apprentices, how to give and receive feedback, how to combine the legal curricula and the company-specific work tasks and work processes. Questions of methods and individual support of apprentices are referred to as well as the measurement of the apprentices' achievements. It is important to underline here, that the trainers were not only regarded as responsible for the transmission of knowledge and skills, but also for the support of the apprentices' social, personal and intercultural skills. They were encouraged to formulate additional training offers in order to innovate their company's apprenticeship training.
4. Completing apprenticeship training: In this part of the AEVO-training, the trainers learn how to prepare the apprentices for intermediate and final exams, which legal regulations are important in this aspect, how to contribute to the creation of the apprentices' certificates and how to consult the young people about further paths of vocational education (in Germany, there are several vocational degrees which craftsmen can gain after apprenticeship training and also pathways between different apprenticeship trainings, e.g. one completed apprenticeship training can be credited if the student wants to make a second apprenticeship training).

In the last years, additional certificate-based educational offers were developed for trainers. They aim at

providing a learning path and also a career perspective. This also includes permeability between the vocational and the academic system: the highest certificate is settled on the bachelor level. These certificates were strongly fostered by the German trade unions, which since the 1970s aim at the clarifying and recognition of the role of in-company trainers. Up to now, nonetheless, these additional educational offers were not requested by the majority of trainers (Bahl et al. 2012, p. 5). This can be partly explained with the lack of transparency and the novelty of the offers. Another reason could be that the reference of these trainings to pedagogical challenges which the trainers have to master is up to now not explicit enough. Those challenges were described in the next chapter.

4. Pedagogical challenges of trainers in VET

As mentioned in the introduction, trainers in vocational education work with heterogeneous groups of apprentices. They need to prepare them for the requirements of the actual work as well as for future innovations and therefore they should support the connection between practical skills and theoretical knowledge. To inquire how trainers deal with these challenges is a quite new research question in Germany. A recent explorative study on full-time trainers provided first answers.

Burchert (in press) elaborated pedagogical self concepts of full-time trainers. The pedagogical self concept is defined by answers to the following questions:

- how trainers perceive apprentices, where they see their strengths and educational needs;
- which methods the trainers use and why;
- which goals the trainers delineate for the training;
- how the trainers relate to the content which they are teaching;
- how the trainers manage to realize their pedagogical concept within a certain company (and its possible restrictions).

The emergence of a trainer's pedagogical self concept can be characterized as a development task in the sense of Erickson (1972) and (Havigurst 1972): in confrontation with a new challenge, individuals gather new sets of routines in terms of interpretation patterns and operational instructions. The forming of these routines is influenced by the individual's characteristics and biography, but also by the social environment in which the challenge is embedded. Finally, the challenge itself affects which routines were generated. Looking at full-time trainers in companies it therefore should be asked: what are from their perspective the main pedagogical challenges? How do they deal with them? The analysis of 15 interviews with full-time trainers revealed three main pedagogical challenges which serve as guideline for their work: firstly, apprentices have to develop an adequate learning concept; secondly, the apprentices need to understand the relevant work standards and thirdly the apprentices need to be integrated into a community of practice.

4.1 The development of an adequate learning concept

One basic problem which the trainers mention is the phenomenon that the apprentices quickly forget what they might have learned. As one trainer put it:

„What was explained today to the apprentices is forgotten by them tomorrow. [...] They can not transfer their knowledge into action. That means they have built up a component, they have calculated it, they have constructed it, have constructed it twice, and now errors occur. Now they should be able to

remember what was told them: what kind of parts are these, what are they doing. And then they should find the error. That does not work out at all!“ (CBe, 158).

The lack of an adequate learning concept was also observed by researchers (Drees 1997, Bereiter und Scardamalia 1989), but until now no scientific solution for it was formulated. The trainers, contrarily, have a number of strategies how to deal with the problem. Their basic approach is to make learning attractive, to motivate the students by showing what they can achieve if they start to engage with a certain area of expertise. They do this e.g. by giving the apprentices the opportunity to solve work-related problems autonomously in the training workshop. On the other hand, the trainers assure that the students feel safe in the learning situation and know that they can ask each question again and again. Inviting students to look for errors in a complex component (as mentioned in the quotation) is another strategy how trainers can foster their students' learning concept – but also to recognize what was forgotten. The trainers mention in the interviews that apprentices often use tricks to make e.g. group works effectively: a typical situation is that each group member does what he can best instead of challenging his weaknesses. Therefore the trainers have a look on work distribution in such project works and assure that learning indeed can take place. Differentiated support of students in regards to their achievements, but also their social and personal competences, is also part of the support in this aspect. For example, apprentices with certain technical weaknesses have the possibility to train specifically, and shy students were asked to show visitors around in the training workshop.

A last and rather defensive strategy of the trainers, finally, is to document what was done and what the students could have learned so that they can refer to it in case of a conflict.

4.2 The understanding of work standards

The trainers define as the main goal of their teaching that the apprentices should not only have practical skills, but also a deep understanding for practical problem solving. This means also that they are able to take over responsibility for their work. One trainer explained e.g.:

„It will give a handful [of trainees] which has this attitude already, and for the other, yes, 50, 60, 70%, I just have to do my work and first teach them this quality awareness: how does a surface look of my component? In the context I need to explain that there should be no damage on the surface, because this may have serious consequences. And this is where I have to get the young people, that they just carry this awareness with them and actually live it every day, this awareness“ (HBj, 44).

The trainers aim at supporting the understanding of work standards by giving such explanations in the relevant context, but also by certain tasks. One example:

“They have the requirement: ok, you shall later in the theory make 500 pieces of this, and in practice, we make five pieces of it. But the procedure is not that everyone builds those five components on his own, but each one builds one part of this component, and five components are to result. And since then they notice that if they do not work now in the tolerances, later the subcomponents will not match“ (ANj, 17).

Strategies to support the apprentices' understanding of work standards are also drawing and working with reference to drawings, documenting work and reflecting alternatives of the work processes used actually.

4.3 The integration into a community of practice

As mentioned above, practical learning in the company is not only a cognitive development, but also a

process of socialisation. This is also acknowledged by the trainers. One interview partner stated:

„It is not enough when the trainee complies with occupational safety and produces his components in a super quality and super time, but if he does not get along with the group. Because he will work later in group work only, and if no one wants to work with him, then there's no point if it is still as good“ (ANj Absatz 72).

Teamwork and integration of all apprentices therefore are important strategies of the trainers. This includes the reference to authentic work processes and also the connection to the rest of the company. In one interviewed enterprise, e.g., the apprentices know from the beginning where they will work if they manage to complete apprenticeship training: they get to know their department leader and learn who their colleagues will be. Also the trainers' background as craftsmen is important in this respect.

5. Perspectives

The actual work products and work processes shape the way in which in-company training is conducted. Therefore, the changes in this sphere become also an issue for the trainers. The demand of lifelong learning makes it probable that trainers in the future will have more responsibility for adult education, the training of experienced craftsmen. This requires the re-thinking of hitherto adequate pedagogical concepts. Further issues which will become relevant for trainers are digitalisation, internationalisation, the competition to win smart youngsters and the assurance of older worker's employability.

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