



Lifelong  
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Programme



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## Vocational educational training – teaching and learning in craft - conceptions for learning in crafts – an introduction

*„No handicraft without apprenticeship.“*

Charles de Secondat, Baron de La Brède et de Montesquieu (1689 - 1755),  
french political philosopher and author

### 1. Introduction

In our project „Training of the Trainer“ handicraft was a main focus because this sector offers especially young people and young people with a migrational background access to a professional training. In Germany more young people with a migrational background are educated in crafts than in any other economic sector. In 2006 in crafts 4,8 percent of the apprentices had a foreign nationality, compared to 1,7 % educated in the public sector or 3,7 % educated in industry and commerce“ (ZDH 2009, p. 10)<sup>1</sup>. Since handicraft had a special value in our project we found it was necessary for our work with trainers to describe its specific shemes and the characteristics of this sector in the field of education and professional training and to classify it within the ongoing discussion about education. This classification built the base for the (appropriate) interpretation of the trainers practice and for our approach in the coachings with them. In this article we present the different learning concepts in handicraft and we describe some main implications of the concepts. There is not much literature about professional training in VET in educational research and the traditional professions, as they can be found in crafts, have been neglected and not paid much attention to in occupational scientific research (see Meyser/Uhe 2005, p. 150). This is surprising considering the fact that a fourth of all enterprises in Germany are trade (or repair) businesses.

An overview shows that

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<sup>1</sup> ZDH = Zentralverband des Deutschen Handwerks. Since the ZDH does not collect data on migrational background they refer to data that indicate a foreign nationality (see ZDH 2009, p. 10).

„43,4 % of the enterprises are in the field of metal/electricity, 25,8 % in the field of (house) construction and supporting systems, 15,6 % in the health care and cleaning sector, 7,2 % in woodwork, 6,7 % in food and nutrition, 1 % in glass, paper, ceramics and other trades and less than 1 % in der clothing, textile- and leatherwear“ (<http://de.wikipedia.org/wiki/Handwerk#T.C3.A4tigkeitsfelder>).

About 4,8 millions of people work in about 967.200 enterprises, almost 480.000 apprentices get a qualified educational training there. 12,2 percent of all employees and 30,3 percent of all trainees in Germany work in handicraft ([www.zdh.de](http://www.zdh.de)). This means that 26% of all enterprises in Germany are trade businesses (ebd.). The main part of those are small enterprises. A study (IAB-study), made in 2003, showed that 50 % of the enterprises have less than five employees and 94% of the enterprises have less than 20 employees (<http://de.wikipedia.org/wiki/Handwerk>).

## **2. A comparison between learning in school and learning in VET**

A comparison between these two different ways of learning allows a first identification /determination of learning in vocational educational training. Learning situations in school and in crafts differ from each other concerning their framework conditions, the learning process, the social role and the stage of development of the learners (pupils/trainees). Schnabel (2001, p. 506-510) describes the following qualitative differences of the two learning situations:

### **a) Inactive / inertial knowledge versus problem solving**

Knowledge that is gained in school normally does not relate to the pupils coping with everyday life. The goal in school is to build up an integrated structure of domain- and subject-specific knowledge (ibid., p. 507). It could be called a „declarative expert knowledge“ (ibid.) with little relation to any application. This inactive knowledge has to be activated and transferred in specific situations. The content of learning in school is mainly abstract, detached from daily life situations and sometimes it is even oriented to science. In contrast the content of learning in VET is concrete, with a relation to objects and practice. The knowledge that is transferred in enterprises comes along with the knowledge how to use and to apply it in practice and in the working process. This fact implies that it always has to include knowledge for problem solving: Trainees learn what to do when a motor is defect or when a control mechanism or steering does not function. In other words: the learning process in an enterprise departs from a certain, more or less urgent, problem or a task, that needs to be solved. Learning processes in school are based on a theoretical curriculum.

### **b) Individual learning versus cooperative learning**

Although there are schools that practice cooperative learning in the meantime, learning in school is still very much focused on the abilities of the individual and his or her performance. Learning processes in enterprises are more cooperative processes. Work in an enterprise usually takes place in a team or it is part of a whole / total process that leads to a common product or goal.

### c) The role of the pupil versus the role of an employee

Pupils and trainees fill in different social roles. In vocational educational training trainees many times are integrated very early into production and take responsibility for their working processes, at least to a limited amount. They are employees that get a payment for what they do – even if the wage is low sometimes. This status influences their learning process - at least in an indirect way – positively, and it contributes to their motivation.

### d) Teacher focused learning versus self-directed learning

In school the person of the teacher is dominant. On the one hand he or she has to take care that pupils build up a cross-linked expert knowledge, on the other hand the teacher is supposed to have an eye on the psychological and social development of the children and adolescents (ibid., p. 506).

In a first/initial vocational educational training traditionally there is a master-trainee-situation, similar to the teacher-pupil situation. The goal in VET is the independant and autonomous usage of the knowledge by the prospective employee. Self-monitoring and self-directed work is the pursued goal. Recently this tendency has been reinforced, since there has been a shift from learning through instruction to a learning that is self-determined and seen as a way to gain knowledge and abilities in connecton with future learning processes (ibid., p. 507).

The typical differences of the two „learning worlds“ (school and enterprise) can be shown in an overview:

	learning in school	vocational educational learning
content of knowledge	abstract- more „scientific“	concrete - referring to a product or object
form of learning	individually / teacher- focused	cooperative / self- directed
social role	pupil	employee

(overview relates to the work of Schnabel 2001, p. 510)

These typical ways of learning can be probably found in all professional trainings, regardless how much diversity and differences there are with other issues. Learning in crafts can also be characterized by the above stated categories. The differences between learning in school and learning in an enterprise become obvious in the vocational educational training system for young people: The dual system in vocational educational training in Germany makes trainees experience both ways of learning at the same time. And they perceive and rate them differently. They appreciate (prefer) the periods when they learn in their company and in the training centres of the chambers more than the education in vocational school (ibid., p. 509). This was also stated by trainees that we had interviewed in our former projects.

The experiences and results, stemming from our last project, say, that the above described characteristics and traits of learning in a company can also be found in the vocational training centres of the chambers. We observed diverse forms of self-learning and self-acquisition of learning contents, learning in teams and concrete, object- or product-related learning there. These forms of learning offer(ed) space for facilitating disadvantaged young people, that is trainees with low education and few opportunities.

Obstacles and learning blockades which many of them encounter(ed) in school, did not play much of a role in the company or in the training center and disadvantaged young people had a better chance to get appreciation and to experience success in these contexts. Young people who experienced discrimination in school showed abilities and competences in the practical work that had remained undiscovered in the school environment. Further we could observe that trainees find models in trainers that they could identify with, rather/better than with the teachers in schools. (Which might have to do with their own family background, with the profession of their parents or with the parents (and their own) relation to this (more practical) kind of work). This identification contributes to a successful integration and education.

### 3. The master-novice-paradigm

A concept called „master-novice-learning“, that is sometimes paraphrased as „expert-beginner-learning“, is helpful to describe some of the specific elements of learning in VET (Rauner 2007, p. 60). Vocational educational training of young people can be understood as the development of abilities, skills and competences. They start as beginners and finish as experts (ibid.). The learning person develops his or her abilities step by step, until he or she is an expert and a master in his/her field. (Rauner 2002, p. 118). The single steps in this development of competences and skills can be described as follows (see Rauner 2002, p. 116-117):



The novice/beginner develops into an advanced beginner through the acquisition of orientation, through work experience and the application of (more or less) complicated rules in undetermined or unclear work situations.

The next level, the one of a competent actor, is reached, when the advanced beginner gets confronted with situations that contain many facts, patterns and rules that need to be understood and obeyed respectively applied.

The following step, which is to reach the level of a professional, is made when the trainee is able to gain detail knowledge out of complex tasks and problem situations where no anticipated solution is visible. These situations can only be solved with abilities that are already based on fundamental experience.

The learner becomes a master when he/she is capable of the responsible adoption of little structured tasks, that demand a great degree of expertise / technical knowledge. Gerstenmaier (2004, p. 155) defines „expert“ as follows: „An expert is a person, that shows exceptional, non-singular and non-accidental performance in a domain, such as chess or mathematics, music ... .

The difference between a novice and an expert is (according to Gerstenmaier) that experts memorize big and meaningful patterns and that they can perceive them easily, whereas the patterns that novices recognize are smaller, less sophisticated, more superficial and much less connected to conclusions and abstract principles.

According to Bremer (2005, p. 292) professional expert knowledge is developed in three dimensions:

1. **the „professional dimension“ contains:** the capability to apply tools or methods in professional life,
2. **the „technical dimension“ contains:** the organisation and self-regulation of ones own work,
3. **the „social dimension“ contains:** social skills and the ability to work with colleagues and authority figures (superiors, bosses).

The development of trainee competences takes place within these three dimensions. Bremer explains that trainees need to develop three concepts in accordance with these dimensions: a concept for their own professional learning, a concept for their business and a concept for the professional cooperation with others (Bremer 2005, p. 293).

As a conclusion we can formulate three hypothesis on what is necessary for the development of skills and competences in a professional context (competences that are also relevant for vocational educational training in crafts) (see *ibid.*):

1. ***a change from a scholastic concept for learning to a vocational/professional concept for learning***

In VET trainees are confronted with the typical demands that occur in work and in productional processes and they have to learn to deal with them. This fact brings about a change during which trainees are forced to lay aside the scholastic forms of learning which are more passive and to engage with the learning necessities of a profession/occupation“ (*ibid.*). „An adequate professional learning concept allows the subject to transform his/her naive access to the topics of his/her profession and the demands that come long with them

into a form of access that is structured by information and knowledge that has been gained in advance“ (ibid.).

**2. a change from the standards that guide the learning activity to professional standards**

The products that the trainees manufacture and the services that they bring about are commodities that have a value because they are useful. They are not made for the reason of learning or for the trainees themselves. Bremer describes the consequences that this has for trainees as follows: „This means to understand that the norms for the application of what has been learned are no longer defined in relation to the abilities/capacity of the individual, but instead are defined through the value that comes from the utility (quality) of a product or service (ibid.).

**3. a shift/change from behavioral norms that are (mainly) determined by the peer group to an orientation towards rules that give access to the professional community**

One essential goal of a vocational education is to obtain acknowledgement, esteem and appreciation from colleagues in the professional community (ibid.). This means, trainees have to go through a transition process concerning their social behavioral and social rules: In the beginning they are still used to peer-to-peer-rules, that have a separating function as well as an integrating function. Since the habits that trainees have adopted in their peer group and their display of clothing and body usually do not work for them at the workplace (unless they work in professional branches like fashion or cosmetics) a change, that affects the whole person, has to take place (ibid., p. 293-294).

**4. Learning according to what is there in a given situation**

There is another concept for learning besides the master-novice-paradigm that distinguishes learning in handicraft from other areas in which young people learn. It is named „situiertes Lernen“, which means to learn according to what is there/what is given in a situation. Lave/Wenger (1991) described this concept. It can be summarized as follows: „The historical development and the social structure of a practical (vocational or scholastic) field is an integral and implicit part of what is learned (Clases/Wehner 2005, p. 562). This concept says that knowledge that has been gained in a certain situation can not be separated or abstracted easily from that situation. Lave illustrated that in a study, that he made in 1988. He showed, that californian housewives had no problems to add and compare prizes of consumption articles, except when they were in an environment that was similar to a class room ([http://de.wikipedia.org/wiki/Jean\\_Lave](http://de.wikipedia.org/wiki/Jean_Lave)). This means that the environment and the framework conditions under which learning and takes place influence the outcome significantly.

The master-novice-paradigm also plays a role in this concept. The development of skills and competences is located within the professional community as location for learning. This allows to take the increasing participation and integration of novices in the social practice of this historically determined place as a subject for exploration and inquiry (Clases/Wehner 2005, p. 562). Learning processes of novices, that grow from an expert to a master in their profession, are mainly described as *social* processes. In the context of vocational training we can say: „The logical goal of the training is the recognition as a colleague in the future professional community, brought about through the necessary and sufficient building-up of technical (specialized) skills and professional competences. (Bremer 2005, p. 293). The practical professional communities are a result of historically developed common patterns for interpretations and actions. They result from ongoing negotiation processes between their actors (Clases/Wehner 2005, p. 564). *Learning processes* within the communities have the following purpose: they serve the continuity of a certain practical field (**focus on reproduction**) and they produce discontinuity (**focus on innovation**), which normally leads to a further development of the community (see *ibid.*, p. 564). Professional learning has the goal to expand individual participation in societal meaningful activities. The acquisition of expert knowledge becomes a means for participation in (professional) life (*ibid.*).

Another important factor in the concept „*situiertes Lernen*“ is the „*function*“ and the „*role*“ of disturbances. Disturbances are taken/ are understood as impulses for learning processes: „One trigger for this form of learning are anticipated or actual disturbances or disturbances that can be generalized for all practical communities. Coping with disturbances happens through communication and exchange of knowledge and through cooperative negotiation processes. This needs preceding experience with the development of such processes.

Results that evolve out of this way to deal with disturbance are an improved ability to cooperate, better and deeper insights into procedures and, in the following, a more comprehensive anticipation of what might happen by the stakeholders“ (*ibid.*, p. 567). In participatory observations in the training centres we could observe the productive handling of disturbances and mistakes that occurred, also when mistakes happened to single trainees during their learning. Mistakes were just seen as a part of the process and as a part of learning.

## 5. Conclusion

Essential learning concepts in handicraft become visible when we compare them with the learning in another context, e. g. in school, and when we ask for specific approaches that are practised, such as the master-novice-learning or the learning in/from a specific situation. Embedded in a good teaching and learning culture /atmosphere, these concepts offer opportunities for disadvantages young people to make new and positive experiences with learning. One central point /characteristic of this kind of learning is, that the focus lays on professional competence and practical realization and on the utility of products and services. This offers trainees a variety of possibilities that can help them to balance negative experiences that they made with socialisation, learning and integration und it breaks ground for more productive paths of learning. One requirement that enables a positive change is, that trainers have the qualifications and know how to deal with / react to the effects of negative biographical and educational experiences of trainees. The goal of our project was to

support trainers with that and to qualify them some more to be able to do this in a helpful way.

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