



Developing Innovative and Attractive CVET programmes in industrial shoe production

General didactical principles for CVET courses in the industrial shoe production – Guidelines for CVET trainers

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In line with the DIA–CVET project’s goal to develop and implement attractive Continuing Vocational Education and Training (CVET) programmes, which qualify for tasks beyond machine operation on the shop floor in the shoe industries in three countries, it is essential to appropriately design training units for the projected target groups. This document provides the didactic principles for the training measures to be carried out. They are intended as an orientation for the training staff (CVET trainers and teachers) and should be taken into account when drafting the sphere-specific learning and teaching manuals.

Since the didactic principles are presented as general guidelines, their implementation in teaching and learning processes requires the appropriate consideration of the framing conditions in the companies and particularly the consideration of the actual learning contents. In order to determine these contents, during the project studies were carried out, on the basis of which 13 spheres of activity could be identified. Each sphere of activity includes certain processes, functions and activities that are more demanding in their qualification requirements and necessary competence levels than productive machine work (please refer to Intellectual Output 1 for more details). Thus, the proposed CVET program is suitable to open career opportunities in the footwear sector that are above the qualification level of an initial vocational training. The targeted EQF levels range between levels 5 and 7.

Besides the above-mentioned spheres of activity, which serve as content orientation, the learning station analyses (LSA) already developed and tested in the previous project provide the information necessary for didactic conception on the work processes, the conditions at the workplaces, the required competences as well as on the learning content and the curricular content to be realised. What the LSA also brought to light, however, are – in addition to the sectoral similarities – also clear differences between the cases, which are based on the particular characteristics of the underlying national VET systems, but also on company-specific peculiarities in dealing with vocational education, in particular with CVET.

Taking into consideration these framing references that were made apparent in the first phase of the project, the following basics of didactic considerations guide the didactics of further training measures to be carried out:

- The training measures are oriented towards the spheres of activity, i.e. they address activities or processes such as shoe design, technical development, quality assurance or training management, and the respective dominant (partial) work processes.
- The training measures refer to the results of the learning station analyses (LSA) insofar as they identify the special features of the respective workplace and describe sub-tasks and the learning opportunities inherent in them.
- The planned measures are CVET activities, i.e. they tie in with the participants’ previous vocational knowledge and experience-based work process knowledge, so the further training is not an academic but a vocational measure.

Three didactic pillars can be derived from these basic didactic considerations. First, the continuing vocational education and training measures must be aligned with a work and business process orientation; second, they must be oriented towards competences and thirdly, the measures must be geared towards the occupational capability to act and ensure its development (see figure 1).

In the following, the didactic principles which should guide the teaching and learning processes to be implemented are described in more detail. In addition, some less strict didactic considerations are made concerning the "time after the acquisition of competences" (or the framework conditions of the acquisition of competences). With the formulated didactic pillars (competence orientation, work process orientation and vocational ability to act), predominantly knowledge-oriented didactics are just as much excluded as constructivist or identity/subject-related didactics – however, borrowings from these special didactics can be sensibly made. Especially since competence-oriented didactics can comprise several components, e.g. phases of knowledge acquisition and phases of work-integrated, practical learning, whereby different didactics are used in the different phases.

Building on the well-known didactic triangle which relates learners, educators/teachers and learning contents, the challenges of didactic approaches particularly to CVET courses lie firstly in the specifics of the learning contents that have direct practical relevance and should promote the competence development of the learners, secondly and thirdly in the specifics of the learners and educators/teachers. In contrast to learners in schools or other areas of adult education, learners in CVET courses are adults who usually do not have a large 'distance' to the mentioned learning contents, because these contents are related to their field of experience, i.e. to work processes. Against this background, the didactic task of the teacher is to bridge the distance between the learner and the learning content. For basic didactic principles guiding the CVET measures this means designing the learning processes and learning arrangements in such a way that they

- are appropriate for the target group, i.e. appropriate to the learning styles of the learners which are more practical experiential rather than abstract academic;
- are designed along business and work processes;
- are introducing and presenting the content in such a way that it connects to the learner's prior knowledge and experience in shoe production;
- are embedded in the real world of production, i.e. learning processes are work-integrated or close to the work processes;
- integrate experience-based learning with other forms of knowledge acquisition.

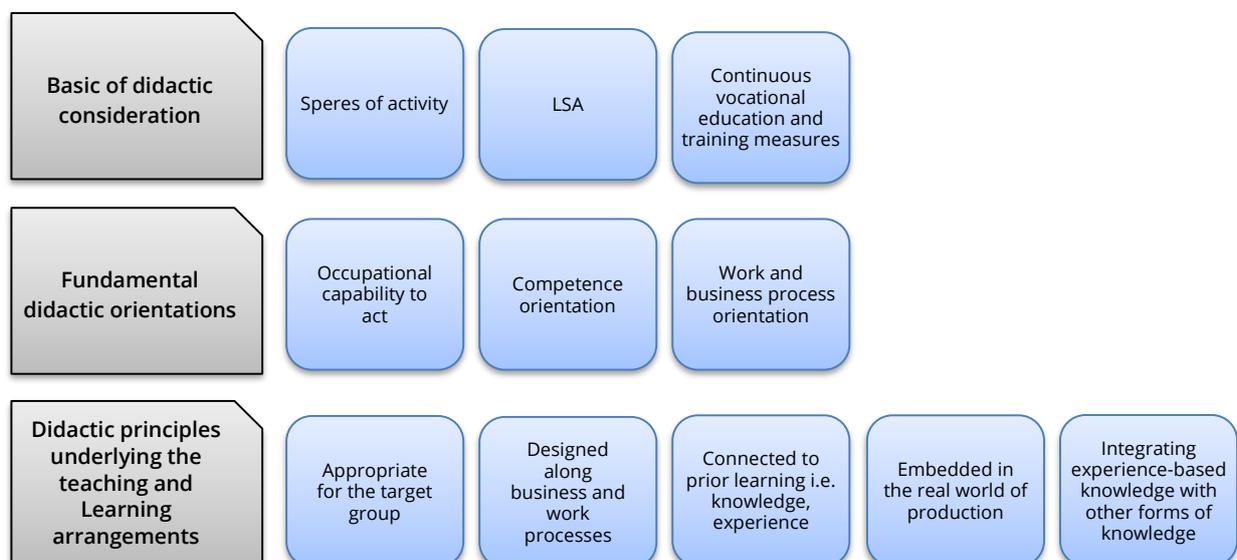


Figure 1: Overall Didactic Approach

Based on the above described and illustrated (see figure 1) fundamental didactic pillars (competence orientation, work process orientation and vocational ability to act) the implementation of these 5 dimensions is explained in the following paragraphs. But it has to be kept in mind that the practical implementation cannot be the same in all countries, since contexts such as national VET systems or company-specific work and (vocational) learning cultures may differ considerably.

The didactic implementation of target group adequacy must be connected to the competences and knowledge already acquired by the learners. It also requires recognising the predominant learning styles of the addressees, which in the case of CVET programmes are usually more practical and experiential by nature. The learning arrangements have to be adapted accordingly by focusing more on doing things, i.e. learning by acting in real work processes. Since the competence level to be achieved with the CVET program is significantly higher than the one corresponding to EQF level 4, it will also be important to impart theoretical knowledge (basics and overview knowledge) in suitable learning environments and with appropriate didactic methods. The guiding concept for target group adequacy is individualised learning, i.e. recognising individual strengths first, picking up on them, promoting them and enabling them being lifted up to a higher level of competence. For example, a learner's existing competencies, such as developing maintenance plans for a machine, can be expanded to the ability to develop general maintenance plans and lead to the competence to implement these plans for a production line (incl. personnel allocation, work safety and quality assurance).

The didactic consideration of business and work process orientation is reflected in the design and arrangement of learning stations insofar as the latter can represent a partial business or work process. Within the framework of a training programme, not all learning stations can be run through according to the course of the complete business process, for example because some spheres do not correspond to sub-processes, but are to be understood as overarching (overview knowledge). Therefore, it will be necessary to include overview knowledge related to the entire business process in the training programme.

The connectivity of the planned training measures to the learner's prior knowledge and experience in shoe production has to be ensured. The identification of previous learning outcomes can be accomplished, for example, by means of portfolios. Besides being subject of accreditation this also means that the learning contents of the CVET programme need to be designed as an extension and deepening of existing knowledge. This also means taking into account the learners' learning modes of the past, building on them and also developing them further. Some more details on the role of experience-based learning are given in the above section on the target group adequacy.

Embedding the CVET programme in the real world of production is an eminently important requirement for the design of learning processes and learning arrangements in so far as it turns the workplace simultaneously into a learning place and thus enables work-integrated learning to be pursued. If not work-integrated in the strictest sense (i.e. not de-coupled from the real production process) learning in such an environment must at least take place close to the workplace or at a work and learning place that is (partially) decoupled from the work process. This is important because embedding learning in the work and production process ensures that the design (layout) of the workplace, all the tools and machines to be used, all the necessary information and also the interfaces to neighbouring and up- or downstream areas are available.

More detailed information on these preconditions are provided by the Learning Station Analyses as well as by the documentation of the spheres of activity of foremen in industrial shoe production.

A key point for designing learning processes and learning arrangements is the integration of experience-based learning with the acquisition of other forms of knowledge, such as overview knowledge, functional knowledge etc. As already mentioned above, experience-based or work-integrated learning is required to take place in or close to the production process which applies to almost all vocational learning processes. Compared to initial vocational education and training, CVET programmes aiming to reach the level of a specialist technician at lower management level will be even more dependent on linking practical learning with theory-based learning that is more focused on basic knowledge, overview knowledge and in-depth specialised knowledge. Thus, practical learning phases will have to alternate with more traditional “classroom learning” phases. The extent to which the latter can be realised through self-teaching depends on the contextual conditions in the respective countries and companies.

In order to ensure the integration of the various learning outcomes, the transfer of theoretical knowledge into practical action must be arranged as smoothly as possible from a didactic point of view, just as, conversely, practical knowledge should find its way into the acquisition of theoretical learning content. This is particularly important because in continuing vocational training it is a matter of implementing competence orientation (and not the expansion of knowledge) with the concrete goal of improving vocational and professional action competence.

Last but not least it should be noted here that learning to learn must also be learned by the learners so that they can control, organise and determine their learning processes themselves to a large extent. However, self-determined learning must be made possible by the didactic actions of the educators and trainers. The role of the educators and trainers is not that of a teacher/instructor, but that of an enabler.

Concluding advices for the implementation of the didactic principles

This brief elaboration of didactic principles and design guidelines for didactic action is of a general nature and largely lacks concrete recommendations for educators’ and trainers’ action. The lack of ‘recipe instructions’ is mainly due to the fact that the implementation of the didactical principles in the context of the implementation of CVET programmes in different countries requires adaptation to the respective national, sectoral, organisational and also situational specificities. In particular, the specifics of national education systems (especially vocational education and training) as well as prevailing learning cultures have to be taken into account when implementing the unfolded didactic principles. In moving from the abstract to the concrete, the spheres of activity developed and documented in the project as well as the learning station analyses (LSA) are particularly well suited to serve as a starting point for didactics guiding action of educators and trainers. But it must also be taken into account that, for example, the detailed process steps listed in the LSA as well as the described curriculum contents (could) require adjustments or at least different emphases in the participating countries. Likewise, if individual spheres or learning stations cannot be covered by one company, it may be necessary for learners to pass through these at another company or a company-independent training centre.

Despite the need to make adjustments, Klafki's maxim of always focusing on the learners and their appropriation (i.e. learning) processes should not be forgotten.