The ‘need’ approach for curriculum development in the TVET cooperation with developing countries – CBET meets work-process oriented curriculum design

1. Introduction

For more than five decades TVET policy transfer was the main focus of German development cooperation with foreign countries (Wolf, 2009, pp. 49ff.). At the turn of the millennium, new actors (besides development agencies) came into the picture. The development field was dominated by state agencies, e.g. the ministry of education and ministry of labour, and their support and advisory was organised by German international development agencies, e.g. the German International Cooperation Agency (formerly GTZ, now reorganised under the name GIZ). In the past ten years, more and more economically oriented players from Germany have entered the field of TVET policy transfer with developing countries, specifically German business companies offering TVET concepts, signifying the entry of new interests. The international market of economically driven cooperation in TVET with developing countries is very competitive, and it is dominated by German newcomers, e.g. business companies or craft organisations deploying training in the international TVET transfer market, needs support and advisory from scientific institutions to compete successfully in the field. Many different players have also emerged in developing countries. Besides public agencies and state institutions, more and more private companies from developing countries are entering the TVET field demanding training for their employees. To sum up, we may say that a diversification of the field of the German TVET policy transfer with developing countries is occurring (BMBF 2011).
With a close look at the Water-Energy-Building – Training and Transfer (WEB-TT) project, this article examines the process of developing international vocational education cooperation curricula. The WEB-TT project, funded by the German Ministry of Education and Research (BMBF) to improve the economic development of TVET transfer, is part of the process of diversification in Germany’s ongoing developments in engaging politically with foreign countries to transfer TVET policies. It consists of a consortium of different departments of the Technische Universität (TU) Berlin, a chamber of craft, training centres of the German crafts in construction, and a supporting organisation for technology and knowledge transfer processes. (For more information see <www.web-tt.org>). The main goal is to develop appropriate training modules for the Egyptian construction industries.

After the presentation of the two most influential curriculum development approaches, this article's focus shifts to WEB-TT and its objectives, and the didactic methodology will be examined more closely. The current situation in the Egyptian TVET system, and their activities in developing curricula in TVET, will not be the main focus, nor will this article concern itself with the specific role of the private or public economic sector in using or not using TVET training curricula. Yet it is important to note that the Egyptian TVET structure is highly complex, and an array of actors, variously supported by international donors, occupies the field of new curricula development. The practical use of any kind of TVET curriculum is very different, too. While it would be interesting and valuable to clarify these issues, this task is unfortunately beyond the scope of this article.

2. Procedures of curriculum-development in international TVET cooperation

2.1 On the compatibility of the German approach for the development of the curricula

The profitable field of international TVET has been left to a large extent to other international players, especially from Australia, England and the United States. There are several reasons for this. The curriculum development of the German approach is weak, and as of yet, no internationally competitive certificates from German TVET training exist.

The first set of reasons is that curriculum development for TVET cooperation with developing and emerging countries from Germany is weak, due to (1) Internal factors, including the weakness of German TVET research – there has been no systematic way of researching curriculum development that could extract (based on evidence from work- and business-processes) actual and upcoming qualifications (Pätzold & Rauner 2006); and there has been a failure to develop technical vocational training with an international outlook in the context of developing and emerging countries; (2) the "tradition" of German vocational education and training cooperation with foreign countries – cooperation from the German side was based from the beginning (in the mid-1950s) on a professional school-based approach, following the concepts of J. Wissing et al. (developed in the end 1920s), which strengthen the professional perspective of school-based learning. It interlocks professional theoretical learning in mathematics, natural sciences and technologies with professional learning in the vocation, through in-company trainings (the so called Frankfurter Methodik (Maslankowski & Pätzold 1986; Pukas 1989). (3) The appointed experts of the publically organised vocational education and training transfer have been recruited for decades solely from amongst the tenured teachers of German public vocational schools. Seldom are they company instructors or master craftsmen.

The second set of reasons are centred around the fact that curriculum development for a recognised occupation requiring formal
training in the German TVET system is a highly complex procedure (BIBB 2006). (1) The development of new curricula for the in-company part of the dual training, take strongly reference to these procedures. They build an epistemic and institutional basis of new curricula. Although this approach to curriculum development in TVET has proven to be stable and reliable in Germany, a one-to-one-transfer of this approach to other countries, where contexts and arrangement patterns are different, is not possible. Efforts to adapt this approach have are rare, or have simply been largely ineffective and unsuccessful. (2) An internationally acknowledged training certificate from Germany recognises only the high ranked complete training of a skilled journeyman (Facharbeiter), others, lower ranked certificates of e.g. specific training modules (Ausbildungsbausteine) does not exist. A German training certificate can only be provided to customers demanding German training according to the rules in Germany, i.e. after finishing the complete course of three and a half years, plus passing a craftsman examination or trade test. Exceptions to that rule, i.e. certificates for short-time skills trainings or a further training in specific technologies e.g. computer numeric controlled (CNC) chip removal, are very difficult to organise. No structured solution for this certification problem exists, and all solutions offering training certificates in line with Germany’s high standards have till now been isolated cases. Most of these exceptions would be possible in the framework of organised TVET with public support (Beckmann & Sommer 2012). Until now it has proven to be impossible to introduce an international TVET certificate according to German standards. (3) Various factors that make this more difficult include the high regulation density in which German training certificates are embedded, and the harsh political stand of social partners regarding the formal qualifications below the level of the craftsman or journeyman’s training (Facharbeiterausbildung) (Ehrke & Nehls 2007). This constellation of social and political interests impedes the approval of formally certified training measurements that meet international demand. But things are changing. The current debate in Germany about legal formulation of curricula for craftsmen training is centred around more modularised forms e.g. the so called Ausbildungsbau steine, which defines different tasks of a full journeyman ap-prenticeship in such a way that it is possible to pass an exam without completing a full programme of 3.5 years. In this way, the holistic German approach of a journeyman apprenticeship system could be internationalised more easily.

The other players competing in the international arena have been far more successful with their concepts of TVET and training certification, based on the training-on-the-job approach. In the international TVET arena one finds a lot of skill certificates from the Anglo-Saxon companies, e.g. City and Guilds, selling their programmes in developing and emerging countries successfully; but far fewer certificates come from German training companies or agencies.

Even at the beginning of the new century, Germany was forced to adapt its TVET cooperation concepts towards a more appropriate curriculum development process in German TVET transfer projects. This is above all due to the increasingly pressing need (expressed by developing and emerging countries) to implement national systems of qualification and vocational training standards. It was hoped that it would remedy the oft-encountered poor qualifications of the non-academic training there according to the needs of the companies (on the limits of the NQF approach, see Allais 2010).

Having briefly outlined Germany’s TVET system, including the two main problems concerning international diffusion of its curriculum development system, the focus of this article now shifts to the two internationally widely used concepts of curriculum development, both of which are adaptable to given local circumstances:

- The much observed, analysed and implemented concept of Competence-based Education and Training (CBET), with the “DACUM method” as its main toolkit.
- The concept of curriculum development based on ‘work process analysis’.

2.2 Competence Based Education and Training

CBET originated in the United States in the 1980s, when this concept became very popular as Competence Based Training (CBT) (Blank 1982). Its popularity derived from two factors: on the one hand, there
was the worldwide crisis of production in the capitalistic industrial countries, and the reorganisation of production with changed qualification standards that stemmed from it (Kern & Schumann 1984); on the other hand, there was a critical lack of curricular guidelines in the USA, and a noted study by Kern and Schumann recommended re-professionalisation of skilled work in the automotive industries. For these reasons, the new CBET concept, which met the necessities of the industry regarding qualifications, began its story of success. Its pragmatic approach, combined with a strong promoter in Ohio States University – R.E. Norton – would turn out to be successful in filling that gap.

The concept has gone through various developments since the 1980s. This article discusses the National Vocational Qualifications Framework based on CBET, with special attention paid to the activities of England and Scotland, both of which countries are concerned with the introduction of a national vocational training and education system (Clement 2003, pp. 139 f.). The original CBT has been expanded and strongly connected to the non-academic system, to form a Competence Based Education and Training (CBET) system. Supported by a successful marketing of the concept since the 1990s by important players in the field of international TVET cooperation, such as England, Australia and the USA, and due to the strong elements of the concept (outlined below), CBET has become very widespread in developing and emerging countries, and is the main point of reference for the development of many current TVET activities.

2.2.1 CBET in developing and emerging countries

CBET analyses skills, knowledge and competences, and not the disposition to act properly in a professional field, which is enshrined

1 These “competences” are listed in the federal German industrial regulations for vocational training under the table column Point three for the recognised occupations: “Skills and knowledge to be imparted with the inclusion of independent planning, execution and monitoring”. This list constitutes a minimum requirement for vocational training. For more information about the conceptual history of competence/competency and the confusing term usage and term significance, see Hellwig (2008, pp. 82 ff.).

in the German concept of occupational competence in combination with specific working fields in the industrial and manufacturing production and service industry. The novelty of the CBET approach is that this analysis is done systematically with predetermined instruments, and results in a systematic catalogue of verifiable learning objectives. CBET is less concerned with the learning process than the learning outcomes. To this end, it measures behavioural changes or the proper use of professional skills with the aid of specially designed tests (Greinert 2000, p. 129).

For countries with an unsystematic and/or an inappropriate training structure with regards to the needs of the labour market, the CBET approach is obviously very attractive. In Egypt, the CBET approach has been deployed in the last years mainly by international funders, e.g. the National Skill Standard project, which tried to implement a nationwide skill standard system and also a certification system (Perez & Hakim 2006). But Egypt’s legal regulations say nothing about any decisive obligation for trainers to use CBET. In most of these emerging countries, the TVET system is market-led, with companies typically qualifying their trainees in “On-the-Job Training”, exclusively for their own interests. Accordingly, the skills these trainees acquire are mostly non-transferable to other firms or sectors, as they remain company-specific. Or, if a formalised bureaucratically-driven TVET structure exists in these countries, it may happen that the formal, mostly state-organised vocational training has no (or very little) connection to the actual field of production, i.e. to product and service-supplying companies. This then leads to a mismatch between the learned content and the world of real work, and thus to a waste of social resources. Very often we can find a mingle-mangle of market and bureaucratic elements without a clear structure, as in Egypt (Amer 2007, p. 6). In such contexts, the CBET approach offers a formal structure of qualification standards that may be mandated by the state. At the same time, it is possible to bring order to a very disorderly form of vocational training through the establishment of a national qualifications framework and a uniform certification system (for Malaysia as an example in this regard, see Barabasch & Wolf 2010). Another advantage, especially from the perspective of developing and emerging countries, is the possibility
of more flexible entry requirements for vocational training, and to replace them with clear entry tests, which are matched to the qualification standards that are required by the CBET. Moreover, it is also possible to design the training sessions in a way that the sessions can be interrupted without resulting in a termination of training, so that training can be continued at a later point in time (Tippelt 2000).

2.2.2 The approach for the CBET-concept

To realise a CBET-concept of vocational training, it is necessary to know the knowledge and skills to be imparted. As mentioned above, the strength of the CBET-concept is its focus on activities that are required in the labour market. These activities are analysed in planning sessions by a “committee” of designated worker-experts, conducting moderated group discussions in which the tasks are described meticulously down to their individual components, e.g. how a cleaner in order to fulfil his task to clean a room, has to turn on the vacuum cleaner (Clement 2003, p. 133).

There are two main approaches of the CBET-concept to obtain detailed information about the essential skills and knowledge of professionals, for the development of standards or working-units. On the one hand, DACUM-analyses (Norton 1985) involve surveys conducted amongst skilled workers, organised as a focus group discussion, to question the workers about their working fields. The other possibility is ‘function analyses’, which draw conclusions about underlying activities from key roles in corporate and business processes (Clement 2003, pp. 130ff.). To develop curricula for whole branches in a country, both of these types of analysis can be combined.

In the focus groups – usually held in two-day sessions by a few selected workers and their superiors – the activities being carried out are described in detail so that the elements of the occupation or craft in question can be identified easily (see above the example of a cleaner who has to turn on his vacuum cleaner). Incidentally, and very importantly for the analysis, during these group interviews as much information about the four “enablers” of high-grade work is collected. This includes the knowledge, skills, tools, and behaviour of the workers that is necessary to accomplish “good work”. From these analyses the various duties of the “occupation/job” are generated, which are then divided into assigned “tasks” – usually between nine and twelve. As a result of this collective group process between interviewees and DACUM-experts, a detailed job description is attained. Based on this description, a DACUM Research Chart is developed, that arranges the task areas, one below the other in a hierarchical fashion, to which 12 tasks are added respectively (Norton 1985). With the aid of the identified enablers of the CBET processes, the tasks can be compiled, tested and certified into “terminal performance objectives” (Blank 1982, pp. 26ff.).

<table>
<thead>
<tr>
<th>Result of DACUM-Analysis</th>
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<tbody>
<tr>
<td>Naming of occupation or job</td>
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<tr>
<td>Duty</td>
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<tr>
<td>Task</td>
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<tr>
<td>Different elements of tasks have to be identified, and additionally the enablers, i.e. knowledge, skills, tools and activities and behaviour</td>
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1. Description of the job/occupation by the expert-worker
2. Description and explanation of the duties of a specific job/occupation
3. Collection of enablers during the group discussion

Figure 1: DACUM-Analysis-Grid, illustration by the author based on Norton (1985).

Having presented the internationally dominant concept, we can now present and evaluate an alternative one which conforms to the German tradition of internationally-oriented vocational education re-
search and curriculum development (Adam et al. 1998; Schröter 1996; Boehm 1997), and which has been formulated and tested in a scientific cooperation process in China (Dittrich 2009), among other places.

2.3 Work-process oriented curriculum development

The demand for curricula and qualification measurements can only be examined if 'deeper' findings on the practices of professionals are acquired, as mentioned above for the CBET approach. The scholars at Bremen and Flensburg universities have pursued a more ambitious approach to curriculum development, following the German way of conceptualising curricula through work process analyses. This approach is related to the older tradition of developing curricula for the TVET policy transfer from the eighties and early nineties of last century (Schröter 1996; Adam, Blumenstein & Boehm 1998). Knowledge about the practices of professionals necessitates a combined approach, merging different methods of TVET research (Rauner 2008). In addition to interviews with skilled workers in group discussions (so called "expert-skilled worker-workshops" (Spöttl 2006)), work-process studies are conducted, with accompanying observation of an employed specialist in combination with an expert interview. The work procedure of the specialist company worker is thereby observed, and to understand the specialist's purposes and intentions behind each specific action, a semi-structured interview is conducted with the worker (Becker 2006).

The sequence of the investigative steps in the above approach should ideally be modified to emulate the tried and tested techniques used in Germany. However, in Germany investigations can start with work process analyses first, because the researchers as well as the expert-workers are familiar with the work regulations and the work order as a system of shared cultural meanings (Rauner 2008; Becker 2006), but on account of the lack of a common understanding of the work process and the work regime in foreign countries, the group interviews need to be conducted first. They serve to identify relevant activities and work tasks. Only afterwards can work process analyses be conducted, in order to get a better grasp of the activities and working tasks (Dittrich 2009).

There are additional problems as soon as one enters the unknown domain of labour in developing and emerging countries. The composition, i.e. the personal structure of the expert-skilled workers-workshop needs to take place with professionals who are able to reflect upon their own working activities and to identify future relevant activities during the group discussions. This is possible with professionals who have been socialised within the German TVET system, and within the production regime of German factories that have comparatively flat hierarchies (Becker & Spöttl 2006). But with professionals who are positioned within a strict formal hierarchy, having gained their know-how and specialised professional practice without systematic training (e.g. in a traditional apprenticeship training), the selection of expert-professionals becomes a big problem.

With the concept of work-process oriented curriculum development the selection of expert professionals is facilitated by prior sector analyses of the occupation area for which the new or modified curriculum is to be designed. This collection of data in advance of in-company analyses renders it possible to identify those companies whose participation is required to proceed with the following analysis steps, especially the work process analyses.

The core of the concept is formed by the working sessions with the experts-skilled workers-workshop. Through a communicative social process based on work biographies, the knowledge is more and more refined. At least a clear statement about the core activities of the working area will be feasible. With this process the intention is also to identify future-related activities, so that not only the status quo, but also prospective developments, and qualifying measures attached to them, can be predicted.

The key feature of work-process oriented curricula design is the combination of two main approaches of qualitative TVET research: the group interviews with skilled workers in an expert-skilled workers-workshop (Dittrich 2009, pp. 22 ff. for more details), and the work place analyses (Dittrich 2009, p. 37 and pp. 78 ff.). The combined interpretation of both results will avoid some misunderstandings of
the expressions during the expert-workers-workshop. At the end of the process a round table meeting to come to a communicative validation of the results, and a draft of a curriculum, finalises the whole process. (For more details on communicative validation see Schründen-Lenzen 1997, p. 110).

Work Process oriented Curricula Design

![Diagram of the Work Process oriented Curricula Design](image)

* The partition is in four qualification levels, from novice to expert, each of them subdivided into different learning fields (up to a maximum of 12)

Figure 2: Adapted Procedure for a Work-Process Oriented Curriculum Development, illustration by the author based on Dittrich (2009).

3 The practical knowledge of experts of practical work is not easy to encrypt and the work related expression of skilled and practical experienced workers to understand is not banal (for more see: Bourdieu 1993, pp. 157ff; Wolf 2012, pp. 33ff.)

2.4 Comparison of both procedures

Work-process oriented curriculum development has at least one advantage over the DACUM method and curriculum development under a CBET system; namely, that it seriously takes the working environment into consideration (Spöttl & Becker 2008). But the main strength of the CBET approach is its pragmatic process, with a clear goal of defining specific work-related skills and elements of tasks to be taught in skills training. The range of this approach is narrower than work-process oriented curriculum design, but broad enough for in-company trainings and for structuring TVET systems. The more complex “German approach” is more suited to handling knowledge gained through practice, compared to the DACUM concept. The expert-skilled worker-workshop might be similar to the DACUM concept regarding the work-biography approach, but the work process oriented curriculum development approach attempts to sidestep the weaknesses of an approach that relies solely on the verbal articulation of practice by adding complementarily accompanied observations of the work process. Both approaches make the correct assumption that skilled workers are experts in their own work environments. But the DACUM approach specifically fails to recognise the possibilities of verbally articulating practical knowledge, and moreover the readiness of workers to self-reflect and talk about it. As we know from industrial sociological studies, workers’ practical knowledge within the work regime always allows them to shape the real conditions of work to some extent – a reason for them to keep such knowledge secret.

In spite of the strength of the concept of work-process oriented curriculum development, with its focus on an improved understanding of the operational reality and the inherent need there for qualifications when designing the curricula, it is much more complicated than the DACUM approach, and calls for a considerably longer phase of preliminary studies or preliminary curriculum development drafts when it comes to specific projects of VET-cooperation with developing and emerging countries. Both are usually no longer possible with customary funding; at best, they are possible only in cooperation with state-run educational institutions. Speed and efficiency are attractive features to potential private business cooperative partners,
which helps the Anglo-Saxon concepts to position themselves better in the international VET-market. TVET projects are confronted with a big challenge to find the proper way to plan suitable and demand-oriented curricula and to conduct adapted training measures successfully. On one side the process of designing new curricula could be to simple or on the other side it could be to complicated.

3. The WEB-TT project

As mentioned in the introduction, more and more private companies are demanding German VET-services internationally. This market is highly competitive, and the international players from the Anglo-Saxon countries have, for a long time now, been very successful in meeting private demand for training activities. In the WEB-TT project, the client requesting curricula and training programmes is a large Egyptian private sector construction company.

This private demand for German's TVET curricula indicates a significant change in the commonly existing approaches within international cooperation in vocational training. On the one hand, the development of curricula has to be completed quickly. This means that essentially the German trainers have to arrive with ready-made curricula, which, due to the cultural specificity of the German VET-system, is simply not possible. On the other hand, the curricula and training measures have to be adapted according to the needs and conditions of the client, without taking too much time for preliminary and development studies into account. Therefore, the German providers need research-based assistance that helps to solve the theory-practice-problems. Adaptation to the needs and conditions of the clients or the partners of VET-cooperation is a complex undertaking, which cannot be solved sufficiently by executing a standard business-like ‘requirements catalogue of supply and demand’ transaction. In the case of the WEB-TT Project, the managers and engineers in charge want their construction sites to be more efficient. The quality of construction should rise, the building processes should be optimised, and the teaching period for untrained construction workers should be reduced by 20%. To that end, specific training measures need to be formulated. Their formulation in turn requires an exact knowledge of the detailed demands for training measures by the management of the company. The project team develops a new concept to cope with the complex circumstances, and to create proper training measurements. The word demand does not solely mean the requirements of the company; it aligns itself also in two other directions. It means to take into account firstly the embedding of the training measures into the given local contexts, and secondly adaptation to the requirements of the participants in the qualifications programmes. We call this ‘three-partied demand orientation’. And on a higher theoretical level we call our concept “need approach” in which, and the use of different theoretical based assumptions and an entangled methodological procedure is integrated (Wolf 2012a; Wolf 2013).

3.1 Goals and approaches of the WEB-TT project

Under the aegis of a project-team consisting of staff members of three institutes of the TU Berlin, and with a consortium of five other partners in collaboration with the Egyptian construction industry, technology-specific vocational training courses in package solutions are being developed, tested and marketed. Funding comes from the German Federal Ministry of Education and Research. In cooperation with internationally active, private Egyptian construction companies, concepts for qualifications at the executive level on the construction sites are being developed. The first project step plans to carry out further training for skilled professionals at the company executive level (not the planning engineers), to become trainers in professional qualification programmes. To this end, it is necessary to develop adapted training activities to be able to conduct these goals successfully. This professional qualification is implemented in the form of training modules. These modules can be interpolated to each other so that training certificates, which are officially recognised by the German authorities, can be granted to the successful programme participants (Wolf 2012; Wolf 2012a; for more information see the web page: <www.web-tt.org>).
These training modules are combined with innovative technologies to create a “leverage-effect” which enables the German providers, especially the ones coming from the modern water and energy supply and construction technology sector, to gain access to the Egyptian market. At the same time, it makes it possible for the WEB-TT project to incorporate the training expertise of leading market players from the different fields of innovative technologies into the development of adapted vocational training modules. These modules are then converted into packages that can be used in other countries in the region after they have been tested. It is furthermore planned to develop a marketing strategy from the vocational training modules, using them as export packages to promote the international activities of the participating German training centres and to open up new business fields.

As indicated above, due to the short timespan of the prior phase for development studies, the first travels to Egypt to deepen contact with partners have served simultaneously as an opportunity for initial analysis of the situation of the construction site and the work processes. With the aid of German master-craftsmen coming from diverse construction trades, accompanied by vocational training academics, photographs have been taken, the construction work has been observed, and many expert-talks have been held with the managers and engineers of the construction company, covering a diverse array of questions about the development of adapted curricula. Later, these pictures were evaluated for the identification of specific qualification needs (Collier & Collier 2009; Bohnsack 2008). In addition, structured expert-interviews have been conducted with construction engineers from German companies, who possess knowledge of the Egyptian construction sector. This helped to get a better understanding of the working processes on Egyptian construction sites, as well as to get external verification of the interpretations that had been made thus far.

In a next step, talks have taken place with local engineers and managers about technical tasks that are to be taught within the project. One shortcoming of the decision-making phase regarding the technical tasks to be trained within each of the professional fields, was that it was not possible to conduct a proper work-process analysis on exemplary construction sites. But with the help of a comparative analysis of German training regulations for the in-company training of the dual apprenticeship system with the Egyptian Qualification Framework, it was possible to allocate the hitherto identified working activities on the Egyptian construction sites to the German in-company training curricula. This comparative approach helps at the same time to offer the strengths of the German inter-company training centres that specialise in the craft – namely their huge experience in the training of these skills and abilities⁴ – to international clients. However, further steps are necessary for adaptation to the needs of the company, as well as the conditions of the qualification activities. The process of adapting the programme to the needs of the company happens through dialogical coordination with the leading engineers and managers of the company. This coordination is flanked by an activity-analytical evaluation of materials, e.g. drawings, material lists, specifications, photos of construction activities and other technical documents that the contractor makes available. The adaptation to the requirements of qualification measures in Egypt is gained by a theory-based mix of methods from interviews and data analysis, in which the latter raises the context of the qualification measures. On the one hand, ‘context’ refers to the work culture background of vocational training in Egypt (Wolf 2011), while on the other hand, it also means the complex systemic-institutional requirements that directly influence the qualification measures and the requirements of the goods and job market, which have an influence over the training measures (Wolf 2010, p. 2640).

### 3.2 The didactic-methodical concept of ‘training measures’

In contrast to the CBET-concept, it is the learning process and not the certified learning results (no matter how they came to be) that is the focus of German vocational training. Therefore, the WEB-TT

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⁴ Under the item 3 in the table of all German training regulations we find the skills and abilities which are to be instructed. These are corresponding to a big degree with the competencies which are formulated in the CBET-System, so that a transmission into the vocational training regulations structured on CBET is well possible.
consortium has decided, following evaluation of the hitherto existing data, to support the training measures with adapted medial clusters, in situ as well as locally and on the internet. Through this measurement it can be ensured that the construction workers, who in Egypt have often only had a rudimentary school education and can barely read and write, can profit from qualification measures through the use of images and explanatory audio-material. The specific training measures are laid out in the first step for individual tasks of different craft groups, such as plumbers, tilers, plasterers, brick layers, drywall builders and roofers. Because a completely different organisational structure exists on the Egyptian construction sites, in comparison to the German ones, and at the same time the qualification requirements and the conceptions of the necessary qualifications are so different, it is self-evident that it is not possible to become qualified in a "vocation" (Beruf) according to German vocational categories. The Egyptian concept of qualification is strongly oriented towards on-the-job qualifications with narrowly defined activities and tasks according to the logic of the CBET. The participating German inter-company training centres, however, are easily able – based on their daily operations which consist in the realisation of training regulations for in-company training – to deliver training activities that meet the skills, knowledge and competencies that a CBET-based qualification requires. The detailed selection of these will be defined through a dialogue process with the partner companies.

The didactic-methodical arrangements are based on specific work tasks that are designed to be problem-containing learning and work assignments (Howe & Berben 2006, pp. 387f.). The learning structure of the task is based on the didactic construct of "complete action", consisting of six learning steps: information gathering, planning, decision-making, implementation, monitoring and evaluation. Thus, on the one hand it is ensured that the training programmes meet the high problem-solving skills of Egyptian construction workers, and on the other hand, it also allows the transfer of new knowledge and skills to complement the established patterns of activity of the professionals with practical experience.

4. Summary and conclusion

The ‘need-orientation’ approach to transferring training elements has emerged as a challenging activity. Whereas the hitherto existing transfer method in vocational training cooperation between countries was always based on the express demands of public authorities from a beneficiary country, cooperation on a private sector basis is more dependent on the existing conditions in the reception country and the beneficiary companies. Therefore, in contrast to a simple understanding of supply serving articulated demands, the WEB-TT project aims to discover needs that are present but less visible. At the same time, it avoids simply serving a formulated demand from the companies' management, which is almost always a replica of the outcomes of German vocational training. The dominant, market-leading Anglo-Saxon CBET-concept is only suited to a limited extent to the listing of the required qualifications, and to conversion of these into a curriculum. Its identification of 'need' is insufficient, because this notion is basically limited to verbalised task descriptions. A critical view on the particularities of a "knowledge of practice", which composes the core know-how of a skilled professional, shows this clearly. The German concept that was developed in the field of international cooperation is focused on work process-oriented curriculum development, which is more suitable for developing curricula that are connected to the already extant technical skills, than the Anglo-Saxon concept. It uses the observation method to analyse the professional tasks in addition to verbalisation. On the downside, it proves to be considerably more complex and time-consuming than the Anglo-Saxon approach.

International VET-transfer from Germany therefore needs methods that require less expenditure of time and are easy to implement in private companies. These are to be developed, tested and coordinated for this sector within a specific VET-transfer project with the Egyptian construction industry. At the present, early stage of the project, it has already been shown that an adaptation of existing German dual vocational training curricula to the dominant CBET-concept is possible. With the combination of methods used, it has been equally possible to gain sufficient knowledge about the conditions of
qualification measures on Egyptian construction sites, and to incorporate them into the design of customised training measures/programmes. A critical evaluation and systematisation of methods for identification of needs is still pending in the course of the project. It is becoming apparent, however, that the chosen approach will continue to be viable and further applicable in other contexts following the completion of this specific project.

References


G. & Rauner, F. (Eds.): Qualifikationsforschung und Strategien und Methoden der Berufsbildungsforschung. Frankfurt/Main [u.a.]: Lang.


Result-based payment systems in vocational skills development

In mainstream development cooperation it is still a widespread practice that programmes negotiate input prices, allowances and overheads with the implementation partners. This is particularly common in Vocational Skills Development (VSD) programmes. The focus of the negotiations is usually on discussing implementation costs, instead of what the product or service is worth. On the contrary, in a common market situation, the customers do not discuss input costs with the vendor, but assess the products or services offered with regards to their quality, design, quantity and price, against those offered by other competitors. This raises the question: why are VSD programmes not buying the products and services they really want from their partner organisations? By sticking to input-based approaches, the programmes run a high risk that the price for such inefficient contracting is eventually paid by the targeted primary stakeholders of the programme (i.e. trainees), who may be provided with inadequate or poor quality skills training, and employment services which do not lead to the intended outputs and outcomes. Unfortunately, it is more of a question of how, through policy transfer, these models can be widely shared in the education sector amongst decision makers. Unfortunately, in VSD so far few analysable results from partnerships and under various implementation contexts in many countries. Hence, it is still too often the case that VSD programmes stop short of providing skills training, and fail to ensure that the graduates become sustainably and gainfully employed.

There is no need to ‘reinvent the wheel’, as result-based models have been developed and practised in a range of development sectors and under various implementation contexts in many countries. Hence, Switching programme implementation from the commonly applied activity-based replenishment system to result-based payment modalities may...