

Gert Loose & Georg Spöttl

(Institute Technology and Education, University of Bremen)

Securing quality in TVET - A compendium of “best practices”: fourteen main principles for the improvement of Technical and Vocational Education and Training

Abstract

Worldwide high-tech work-processes require well trained individuals and industrial nations compete in designing concepts of training which can match the challenges of successful performance at the place of work. For the basic design of these concepts we need a symbiosis of assessment-oriented and experience-oriented training as the presently two leading models of training worldwide. Or in other words: we need to employ "intelligent standards" as reliable benchmarks and we need to involve practical experience in training as the target level for acquiring the competences required today.

Beyond this basic design we have attempted to cast the requirements which can safeguard the development of quality training programmes into fourteen "main principles". These principles range from defining a clear mission for each training institution to emphasizing the importance of the concept of the "skilled worker" and from alternating in training between theory in the classroom and practical training in the workshop to the establishment of paramount standards as reference for the kind of training provided as well as for a reliable orientation regarding the needs of the employers.

This structure renders sufficient orientation marks for the design of quality training, yet at the same time it allows for maintaining the flexibility which is needed for responding to different cultural, individual, economic and historical requirements.

1 Introduction

Worldwide, the drive for quality in education and training is receiving national priority. The high level of investment in the development of human resources finds itself confronted by an unprecedented surge of the expectations of what needs to be achieved by education and training. Yet, steadily increasing complexity – at the place of work and a rapid advance of technologies have generated a scenario which challenges the boundaries of what can be achieved by education and training.

The leading industrial nations are forcefully competing in finding effective answers to the question what today's manpower is expected to be competent of in detail in order to monitor and direct the work-process. Each culture finds itself tested to provide convincing answers to increasing complexity and rapid advance at the workplace. And it has become clear that there is no single answer for effective education and training today. The *assessment-oriented*

approach to training¹ and its competitor the *experience-oriented* approach to training² as the two worldwide dominant structures of total-systems approaches to training both have their merits and their shortcomings as well (cf. Loose 2008). Both, the *assessment-oriented* training approach mostly of the Anglo-Saxon countries and the *experience-oriented* training approach mostly of the countries in central Europe have been permanently trying to better match the challenges of training today, in particular by increasing their internal consistency. Yet, what is required is a true symbiosis of the two approaches. We need to work with “intelligent standards” (cf. Spöttl 2014) as reliable benchmarks on the *assessment side*, but we also need to make sure that practical experience at the actual place of work constitutes the core of the training programme on the *experience side*.

These two requirements are incorporated in the Advanced Occupational Standards (cf. Loose 2014) which follow the work-process oriented approach to training, which we regard as the only appropriate approach for high quality training today. And consequently when following this approach in curriculum development we need to start from establishing occupational standards before we contextualize actual work-processes which are intended to serve as learning scenarios.

This basic structure is underlying our “Guidelines for the Development of Advanced Occupational Profiles and Detailed Curricula”. We regard it as the foundation for securing effective training. It is indispensable for the development of state-of-the-art occupational profiles and curricula for vocational training and technical education. If skilfully developed and implemented, these curricula promise to be the launch-pad for “excellence” in conveying the competences which the graduates from our programmes need to be in command of.

Certainly, “excellence” cannot be parachuted into our training institutions. It needs to be build-up from within the institutions and the participative approach of occupational and curriculum development which we are advocating here, is a very important step in this direction. However, securing the quality of the training is a very complex process and it needs quite some considerations regarding “best practise” in order to avoid the pitfalls of curriculum development.

¹ Assessment-oriented training focuses on the question of assessing competence in order to determine if the skill requirements at the place of work are met.

² Experience-oriented training focuses on the question of providing first-hand experience to the learner, since the mastery of the skills gained at the place of work is considered as competence in vocational action.

2 Main principles for securing quality training

In order to target “occupational and curriculum development” in the way of designing the road-map for securing the quality of technical and vocational education and training, we intend to review fourteen main principles (cf. Euler 2013)³ which are intended to serve as the threshold for securing quality training. They are structured in six main topics.

2.1 Mission and opportunities

First principle: *Define a clear „mission” for Vocational Training Centers and Colleges of Technology*

Stating the mission should direct the efforts of the staff and win the interest of the young learners.

From the outset it should be clear that training is first of all a service for business and industry to enable them to carry out whatever mission they have. And as clear as their mission must be the corresponding mission of the Vocational Training Centers and Colleges of Technology which serve the manpower needs of business and industry.

Second principle: *Emphasize the training of „skilled workers“ and offer them opportunities for further training respectively education.*

Skilled workers constitute the backbone of the labour force and they mark the entry level of occupations, which are attractive for young learners.

A central role has to be allocated to the training and education of “skilled workers” because performing skilled work is meaningful for the individual and it should be the prime target of the programmes offered by the Vocational Training Centres and the Colleges of Technology

2.2 Concept, design and teacher training

Third principle: *Introduce a clear concept for the role of private institutions in training and technical education.*

Private institutions have their strength in the quick and flexible implementation of short-term programmes, they should be encouraged to offer these programmes in particular in the field of further training.

Basic training for skilled workers and beyond should be offered by public training institutions. Yet, at the age of lifelong learning further training has become very important. This should be the domain for the private training institutions since they have the flexibility to respond fast enough to new training requirements.

³ While Euler is concentrating on the transfer of the system approach of German vocational education and training, we focus on the development of advanced occupational profiles and curricula. We are convinced of the fact that the process of system development must originate from the respective countries.

Fourth principle: *Design and implement a comprehensive programme for training vocational/ technical teachers and instructors.*

It is essential to work towards having an indigenous „teach-force“ also in the technical and vocational field.

The state-of-the-art curriculum and the highly competent teacher/ instructor are the two core dimensions for excellence in training. We have so far concentrated on occupational and curriculum development. Yet, the teaching dimension is of equal importance. Therefore teacher training and further training of teachers need to be well supported in order to secure the excellence the teach-force.

2.3 Network and curriculum development

Fifth principle: *Create a network for the cooperation of vocational training and technical education with business and industry.*

Manpower training needs the permanent feedback with its clients in business and industry, and a comprehensive network is needed for this cooperation.

A key to successful training is the close cooperation between training institutions and the private sector. Only if actual on-site experience can be offered as part of the training programme can the graduates of the programmes master the challenges which they meet today at the place of work. This calls for a fine-tuned partnership between industry and training.

Sixth principle: *Enforce a common format for curriculum development.*

Colleges of Technology and Vocational Training Centres both offer manpower training which calls for a precise and explicit mode of curriculum development.

The format of curriculum development which has to be adopted for the programmes of the Vocational Training Centres should also be applied for the programmes of the Colleges of Technology. The graduates of the Colleges of Technology will be employed as semi-professionals, a level which emphasizes practical application. Therefore, the work-process orientation of advanced occupational standards and curriculum development should also be followed here.

Seventh principle: *Establish a network of vocational guidance services.*

Generating vocational awareness among young learners and providing them orientation in the world of work is a much-needed service for matching employment opportunities and the aspirations of young people.

Acquiring competence at the place of work is the central part of an individual's vocational development. This process of vocational development starts early in a child's life and should be carefully guided. A network of vocational guidance services should support this process. These services should start with *vocational awareness* in the kindergarten years and continue with *vocational systematization* and *vocational orientation* and proceed over *vocational exploration* to the final stage of *vocational preparation*.

2.4 Political support and programmes

Eighth principle: *Enhance the political support for vocational training and technical education.*

Only with strong public support young people can be motivated to undergo training. Finally and very importantly, political support should not only be geared towards education in general it should specifically be directed at vocational training and technical education. It is through skilful work that the foundations of a society are established. And these foundation are the indispensable core of any society. This is a delicate topic and it must by all means be avoided to raise the impression that vocational work is good for somebody else's boys or girls. It is important in this context to introduce measures to make vocational work attractive, including the offering of a generous pay.

Ninth principle: *Design the programmes on the basis of a broad spectrum of objectives incorporating economic, social and individual goals.*

Any training programme should address a „triad of goals“: economic, social and individual.

The training programmes need to cater (1) to the needs of the individual learner, (2) to the needs of the private sector and to the needs of the society (cf. Euler 2013) as a whole. All three parties should benefit from training and their respective benefits should be well balanced. Such a holistic well-balanced approach is one of the foundations of successful training.

Tenth principle: *The focal point of training programmes should be to convey the competence for vocational action in the framework of a flexible qualification for mobile specialists.*

Conveying competence at the place of work must be the central concern of a training programme.

Competence for vocational action today is no longer based on a fixed set of qualifications. With permanent change at the place of work a permanent readjustment of qualifications is required. The learner needs to have the willingness and the aptitude to engage in this permanent process of readjusting one's qualifications.

2.5 Competence development and occupational standards

Eleventh principle: *Learning for vocational competence should alternate between theory in the classroom and practice in the workshop.*

Theoretical instruction in the classroom is needed for mastering the complexity of work and practical instruction in the workshop is indispensable for proceeding with a „rehearsal“ of what is needed on the job.

The complexity of qualifications today suggests a split between the necessary theories which are best conveyed in an institutional setting and the practical mastery of the skills required at the place of work; and this part should be conveyed at the workshop. Hence, in order to be effective, training should alternate between theory in the classroom and practise in the workshop.

Twelfth principle: *The occupational standards which are the basis for training should be paramount in being binding as outcomes of the programmes as well as reference points for the anticipated demand of the employers.*

A consistent system of occupational standards has to secure the quality of the training programmes on the one side and the compliance regarding the skill-based expectations of the employers on the other side.

The occupational standards portrait the qualifications required at the place of work. Consequently, they are on the one side the benchmark for the competence, which has to be acquired through training, and on the other side they represent the qualifications which the employers expect their trainees to attain.

2.6 Effective training and learning support

Thirteenth principle: *For effective training it is important to achieve a stable balance between maintaining for all learners at least minimum standards regarding the quality of training, yet allowing for flexibility in acquiring these standards due to the difference in learning requirements for each individual.*

We need to maintain universal minimum standards in the quality of training, but we have to allow for flexibility in matching these standards.

The private sector, the individual trainee and the society at large are the main stakeholders involved in training. In case their interests are balanced in the structural layout of the training system it will render most stability to the system. A dialogue between these main stakeholders is essential in order to achieve a balance of interests.

Fourteenth principle: *Training can only be successful, if learning as well as work have a positive image for the trainee; work in particular must be regarded as a positive value beyond earning one's livelihood.*

As a central objective of training programmes we need to generate in the trainees a supreme sense of identification with the individual, social and economic values of work in their particular occupation. Through this positive value which is attributed to the work in it the particular "occupation" of the worker becomes his *vocation*.

In case the individual worker regards work in his/her occupation with positive individual, social and economic value, this work is for him/her highly relevant for his/her *vocation*. Conveying this sense of a *vocation* (Beruflichkeit) should be a prime objective of training programmes.

3 Conclusions and ways forward

We have emphasized that in order to secure quality in training a symbiosis of an assessment-orientation and an experience-orientation is needed. Further on, we have introduced fourteen “best-practise”-principles and we have briefly described their context. Yet, most importantly we have placed a caveat that there is no single answer for the mode how to conduct effective education and training. So, finally, are we still in the dark regarding the mode of training which is required today? No, not quite so.

Increasing complexity and rapid technological advancement are phenomena which have to be addressed by training today. Hence, it is no longer sufficient to take “work” as the reference for designing training, we need to focus on “work-processes” which are incorporating all the change which we encounter at the place of work. In order to operationalize this change of paradigm we need to move ahead from a “static” understanding of the skills required at the place of work to a “dynamic” understanding of the necessary skills which have to respond to the permanently changing scenarios which we face at the place of work.

It also has become certain that we have to strongly rely on practical skill training. The mere observation of skills with the intention of learning them does only achieve a retention rate of 50 %, while every skill which is actually performed by the learner attains a retention rate of 90 % (cf. Kowalczyk/Ottich 1995). This is the main reason why the approach of the dual system of training represents such an effective mode of skill training. It relies on training in the work-process and it is an inescapable fact that effective training today has to be designed with the work-process as its focus.

Consequently it is our prime recommendation that any mainly experience-oriented national system of training should adopt a strong assessment component for objectively validating the outcomes of training. And any mainly assessment-oriented national system of training should design its pathways of learning in the way of a work-process orientation in order to grant the learners the chance to perform training as a “rehearsal” of what is required for employment. If we move ahead in this way to improve our respective training systems we can be sure to have a stable platform for training.

Further on, it is recommended to apply the fourteen principles of “best practise”, which have been outlined here. They can serve as effective guidelines for fine-tuning the effectiveness and efficiency of national training systems.

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The Authors



Dr. GERT LOOSE

Institut Technik und Bildung (ITB)
University of Bremen, Germany

E-mail: gert.loose@gmx.com

WWW: www.itb.uni-bremen.de



Prof. Dr. GEORG SPÖTTL

Institut Technik und Bildung (ITB)
University of Bremen, Germany

E-mail: spoettl@uni-bremen.de

WWW: www.itb.uni-bremen.de

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