

TEACHING AND LEARNING IN MODERN VOCATIONAL EDUCATION AND TRAINING SYSTEMS THE IMPORTANCE OF KEY COMPETENCES

Based on the lessons learned from an ETF project on key competences in vocational education and training, this policy briefing discusses both the roles of vocational training in meeting present and future challenges and action and problem-solving competences for formulating learning goals, curriculum organisation principles, pedagogies and learning sites. It raises issues that are relevant to national discussions on vocational education and training reform from a pedagogical perspective.

In 2006 and 2007, the ETF implemented a project to explore the concepts of competence and key competences and the degree to which these were nurtured in the vocational training systems of five South Eastern European countries¹. Relevant international literature and projects were reviewed, workshops held and major

assessments made, based on questionnaires, structured and semi-structured focus group interviews and desk research.

The ETF partner countries that participated in the project have undergone major economic transitions in recent years. Labour markets are less predictable and job profiles and contents have changed. Many people facing unemployment need to change direction and re-train. Meanwhile, surveys conducted in the different countries reveal that employers prefer to recruit people with a broad range of professional skills and key competences – in areas such as information technologies, communications and foreign languages – as well as enterprising people with positive attitudes to work and learning.

In more advanced economies the pace of technological development and changes in

how work is organised have led to a heightened focus on innovation and lifelong learning. With the world of global information at our fingertips, the significance of acquiring and storing huge quantities of quickly outdated, pre-selected knowledge has diminished tremendously. Self-directed and innovative approaches to work and learning have become key lifelong learning competences.

All these changes are transforming the way we perceive knowledge, skills and learning. Vocational education and training nowadays needs to prepare learners for a more volatile and complex society that calls for comprehensive and broad-based professional competences and the ability to adapt to changing circumstances and deal with unknown and unanticipated situations ●

¹ Albania, Croatia, the former Yugoslav Republic of Macedonia, Montenegro and Serbia.



INFORM

THE ROLE OF VOCATIONAL EDUCATION AND TRAINING TODAY

In the past, vocational education and training provided general education and prepared learners for a clearly defined trade or profession. Nowadays, the emphasis is on developing action competence, in other words, on developing capacities for dealing with certain work or life situations in which the ability to apply knowledge and solve practical problems is central. Action competence, nonetheless, continues to build on solid traditional knowledge and skills.

Vocational education and training also aims to prepare individuals to actively shape their personal and professional lives and take part in society in a self-guided manner. People need to learn how to reflect on their experiences and on the world around them with a view to seizing new opportunities, living up to challenges and ultimately becoming responsible citizens in a sustainable development context.

A kind of education and training is required that fosters motivation, self-evaluation, self-guidance, reflection, critical and cross-disciplinary thinking, team working and problem-solving skills. Competences of this

kind are not linked to any specific subject matter, but are, rather, cross-curricular key competences. They are key to building action competence that go beyond the traditional perception of technically trained people exercising a certain trade or profession ●

DEFINING LEARNING GOALS AND SHAPING CURRICULA

Key competences as described above cannot be viewed, taught or assessed in isolation nor can they simply be tagged on to training in trade-related knowledge and skills – as has been done in functionalist, skills and competence-based learning. These models, however, continue to be advocated in some vocational training reform projects under way in several transition and developing countries.

In contemporary vocational training, formulating the 'right' goals and choosing the 'right' learning content is more art than science. It would logically seem to be more meaningful to describe, with the help of employers, major areas of work and situations likely to be encountered by learners in their future working and social lives. This is the basis on which holistic interdisciplinary competence can be built.



Learning areas should be tailored to developing skills and attitudes which are both relevant to learners and to the foreseeable future. Once key learning areas have been defined with employers, curriculum developers need to identify the cognitive prerequisites for participating in related problem-solving processes. Furthermore, socially relevant issues – for example, environmental considerations such as saving energy or recycling materials – need to be identified and incorporated into learning.

Apart from tackling the question of learning content, the ETF project also dealt with curriculum organisation principles with a view to achieving the above-mentioned objectives. Subject-oriented curricula have been criticised for their inability to develop the skills necessary to solve complex problems crossing the boundaries of individual disciplines. Responding to this criticism, Switzerland, as one example, organises its vocational training curricula by themes, with the same theme on the agenda simultaneously in all subjects. In Germany, the latest experiments with core curricula depart entirely from the subject-based approach to follow the interdisciplinary learning area-based approach.

Participating countries in the ETF project have, in the past, formulated learning outcomes and goals – and these undoubtedly continue to be relevant, although their nature has changed. Modern approaches therefore call for the formulation of learning goals as follows.

1. They are problem-oriented and based on complex and challenging real-life situations.
2. They refer not only to possible learning outcomes but to the identification of learning processes suitable for developing holistic competence.



3. They promote overarching, networked learning (*vernetztes Lernen*) rather than the simple addition of new sets of learning content, independent of whether the organising principle of the curriculum is theme-based (aimed at keeping subjects) or area-based (aimed at replacing subjects).

However, defining the 'right' learning goals is not enough in itself. Decisive in developing holistic action competence is the organisation of individual and team experiences – which brings us to the micro-level ●

SCHOOLS, TEACHERS AND LEARNING METHODS

As the assessment implemented in the ETF project has shown, teaching practices in participating countries are, by and large, still geared towards soliciting pre-defined answers to questions posed by teachers. Learners frequently follow instructions in a passive manner, assimilating abstract pieces of information or acquiring skills through repetitive actions. Rather than solve real-life problems, they rote-learn solutions that are sometimes meaningless to them. Knowledge acquired this way is called 'idle' knowledge, as its transfer potential is limited.

Minimising this kind of idle knowledge acquisition poses a particular challenge for a training approach aimed at developing action competence, including the ability to deal with new, complex situations. ETF project participants have discussed new ways of teaching and learning that fit well with constructivist learning theories. Radical constructivists view knowledge as a social construct rather than as a kind of copy of reality. More moderate constructivists suggest that learners should be aware that there is not only one but different, complex truths about the world. This calls for more 'open questions' (also in tests) that allow for different answers and a flexible application of what has been learned.

ETF project participants agreed that teaching and learning in this context takes account of the following notions.

- Learners must be active and motivated and have an interest in the subject to acquire new knowledge.

- Knowledge acquisition and processes require self-regulation.
- Decontextualised knowledge is of limited value, while situated learning ensures the acquisition of transferable applied knowledge. 'Situated' implies that attention is paid not only to places and material conditions, but also to the social environment in which the learning takes place. For vocational training, most 'situated' learning takes place in a work environment, hence the rationale for greater employer involvement in its provision.

- Knowledge comes from social interactions with other people. Teaching and learning processes in this context aim at providing platforms for the construction of meaningful knowledge.

ETF project participants perceived learning as a process in which learners undergo a transformation by gaining new experiences, thereby adding new knowledge to their existing knowledge base. Key to this transformation is the learner's own initiative, as well as appropriate guidance and support from



teachers. This is not to say that teacher control and the acquisition of theoretical knowledge become meaningless; what matters is skilful switching between well-organised teacher-led instruction and learner-guided experience.

Participants in the project concluded that modern vocational training required greater emphasis on the following:

- learning *processes*, but without losing sight of learning goals and learning outcomes;
- forms of *cooperative learning*, with a focus on individual responsibility and shared competences;
- as a basis for lifelong learning, more *self-regulated learning* alternating with teacher-guided learning.

In this scenario, teachers switch between instructor and facilitator roles and use traditional techniques alongside more open methods, such as case studies, simulations, project work and role plays. Teachers need to be properly trained and supported in their new roles, and this calls for a paradigm shift in teacher training. Acquiring and testing techniques at school to support individual and team learning experience as well as gaining an insight into real-life problem-solving in companies are also important.

Methodological hints can usefully be included in the curriculum. Restricting course descriptions to the content to be 'taught' may lead teachers to make use of more traditional, easy-to-handle ways of transmitting knowledge, ultimately resulting in primarily 'idle' knowledge.

Evidence from the ETF project was insufficient to show whether autonomous

schools would be more successful in applying the above-mentioned practices. However, what was learned from the project is that schools operating in highly centralised systems restrict teachers' freedom to teach as they see fit. The same applies to overly descriptive, fully binding curricula.

Compulsory curricular elements are essential to ensuring that graduates progress and pass on to higher levels of education as well as monitoring the quality of instruction. However, competent schools and teachers need leeway to shape teaching and learning processes in more open ways, while taking into account class and individual interests and progress, regional specificities and innovative ideas. Hence, the ideal combination would seem to be compulsory frameworks or core curricula and complementary school curricula that take into account the above-mentioned principles ●

CONCLUSIONS

Preparing learners for complex societies and the world of work poses challenges for vocational education and training. People need broad work and life competences i.e. holistic action competence incorporating cross-disciplinary key competences. This alters the mandate for vocational education, as it is not sufficient to be trained once in a lifetime for a narrow specialisation in line with functional prescriptions. Building on solid traditional skills, vocational training needs to give people the skills to reflect on the world, seize opportunities and solve problems, especially in new and unexpected situations.

In line with the lessons learned from the ETF project, the policy briefing argues that key competences and the development of action competence in VET are about changed learning goals, curriculum organisation principles, pedagogies and learning sites. The following issues are recommended for consideration in the reform of vocational training systems.

- Learning goals should be formulated to address complex, real-life problems.
- Learning processes are central to competence development and should be interdisciplinary and promote overarching, networked learning.
- Teachers should have more freedom of choice with regard to what and how to teach.

- The teacher training system should develop an understanding of the different traditional knowledge mediation and skills training approaches that actively engage learners in self-guided activities at different learning sites.

All of this needs to be supported by enabling curricula and school management frameworks, quality assurance systems, etc. This shift towards reform will undoubtedly be very challenging ●



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