

Please cite this publication as:

Hensen, K.A.; Hippach-Schneider, U. (2016). *Key competences in vocational education and training – Germany*. Cedefop ReferNet thematic perspectives series.

http://libserver.cedefop.europa.eu/vetelib/2016/ReferNet_DE_KC.pdf

Authors: Kristina Alice Hensen and Ute Hippach-Schneider

Reviewed by Cedefop

© Copyright: BIBB (Cedefop ReferNet Germany), 2016

Reproduction is authorised, provided the source is acknowledged.

The thematic perspectives series complements the general information on vocational education and training (VET) systems provided in '[VET in Europe](#)' reports. The themes presented in the series feature high on the European agenda.

Thematic perspectives provide national overviews of specific themes in a common format and offer comparative dimension across the EU Member States, Iceland and Norway. They are available at:

<http://www.cedefop.europa.eu/en/events-and-projects/networks/refernet/thematic-perspectives>

This thematic perspective was prepared based on data/information from 2015.

The opinions expressed here do not necessarily reflect those of Cedefop.

Thematic perspectives are co-financed by the European Union and ReferNet national partners.

ReferNet is a network of institutions across Europe representing the 28 Member States, plus Iceland and Norway. The network provides Cedefop with information and analysis on national vocational education and training (VET). ReferNet also disseminates information on European VET and Cedefop's work to stakeholders in the EU Member States, Iceland and Norway.

<http://www.cedefop.europa.eu/en/events-and-projects/networks/refernet>

Table of contents

Introduction.....	4
Key competences	4
Conclusions	12
Bibliography.....	13

Introduction

Education and training supports economic growth, productivity and innovation. Competences acquired through education also allow individuals integrating into society and labour market that reduces unemployment.

Well-trained and skilled workers, in turn, promote the development of new ideas and technologies which then bring about a surge in innovation.

In recent years, the concept of competence has become a central idea in education and training. The quality of education and training processes is no longer defined exclusively by standards focussed on inputs, such as teaching staff qualifications or facilities offered. Instead, the focus has increasingly been on the actual learning outcomes achieved by pupils, apprentices and students. Companies consider the relevance of learning to work tasks and the competence of trainers important for the development of competences.

The term 'competence' is generally used to describe the accumulated knowledge, capabilities and skills of individuals which enable them to master specific tasks. Competences are developed through learning and development processes. They are acquired by learning in work and everyday life environment.

The individual key competences are not explicitly listed in the training regulations or the framework curricula in Germany. However they have an impact on training and teaching due to the underlying principle of acquiring vocational action competence (*berufliche Handlungskompetenz*) in vocational education and training in companies and schools.

Key competences

In dual vocational education and training (VET), the term 'vocational action competence' (*berufliche Handlungskompetenz*) is used. According to Vocational Training Act 'VET must deliver the vocational skills, knowledge and competences (vocational action competence) needed for the performance of an occupational activity in a changing work environment, and do this as part of an organised training course. It must also facilitate the acquisition of the necessary vocational experience' (Section 1 (3) BBiG). Vocational action competence (*berufliche Handlungskompetenz*) can be interpreted as 'empowering the individual to undertake independent and wide-ranging vocational activities in a variety of contexts' (Frank and Schreiber, 2006).

Vocational action competence comprises professional, methodological, social and personal competences that 'create the basis for independent planning, implementation and evaluation of the work and tasks assigned, and for personal reflection on one's own actions in a vocational context' (Frank and Schreiber, 2006). Professional, methodological, social and personal competences only form occupational competence

when combined and should not be considered as factors in isolation (Achtenhagen, 2004). The term 'vocational' also makes it clear that these are not only general abilities but those necessary in the occupations for which training is being undertaken.

The recommendation of the Federal Institute for VET (BIBB, 2015) obliges using the German qualifications framework (DQR) concept of competences in the future training regulations. In the DQR, competence is described as the ability and willingness of an individual to use knowledge and skills as well as personal, social and methodological competences to act in a reasoned as well as individually and socially responsible manner. In this context, competence is also understood as a broad vocational action competence. The DQR presents the competence dimensions: knowledge, skills and personal (social and independence) competences.

VET schools provide professional and general competences, develop vocational flexibility for dealing with the changing requirements in the work environment and in society, attract learners to advanced and continuing VET, and nurture the capability and willingness to act responsibly in private and public life ⁽¹⁾. In 2007, 'learning field concept' established understanding of teaching and learning the competences in VET schools. It helped to move from learning by subject to education focussed on vocational tasks and problems.

VET schools aim at development of vocational action competence (*berufliche Handlungskompetenz*). It is defined in the framework curricula as 'the willingness and the ability of the individual to act in a reasoned as well as individually and socially responsible manner in vocational, social and private situations'. The competence comprises professional, self- and social competences.

Professional competence describes the willingness and ability to solve tasks and problems in a target-orientated, correct, methodical and independent manner using specialist knowledge and skills, and to assess the outcome.

Self-competence (replaces human competence) describes the willingness and capability to clarify, think through and assess the development opportunities, demands and limitations in family, professional and public life, to develop one's own talents and to form and continually develop plans for one's own life. It includes traits such as independence, ability to accept criticism, self-confidence, reliability, sense of responsibility and duty. This also includes, in particular, the development of reasoned value judgements and self-determined commitment to values.

(1) Framework agreement for vocational schools (KMK resolution of 15.3.1991).

Social competence describes the willingness and ability to sustain and develop social relationships, to take in and comprehend support and tension and to argue and make oneself understood with others in a rational and responsible manner. This also includes, in particular, the development of social responsibility and solidarity.

Professional, self- and social competences are further divided into methodological, communicative and learning competences.

Methodological competence describes the willingness and ability to adopt a target-orientated and planned approach to working on tasks and problems (for example, while planning work).

Communicative competence refers to the willingness and ability to understand and manage communicative situations. This includes being aware of your own views and needs as well as those of the communication partner, and understanding and representing these.

Learning competence is the willingness and ability to understand and evaluate information regarding facts and circumstances both independently, and together with others, and to arrange these into conceptual structures. Learning competence includes, in particular, the capability to develop learning techniques and learning strategies both within the occupation and outside the occupational area, and to use these for life-long learning

Figure 1. **Elements of vocational action competence**



Source: ReferNet Germany.

BIBB has developed a concept of the competence based training regulation based on the vocational action competence (*berufliche Handlungskompetenz*).

The competences which the apprentice should acquire are to be set as a minimum standard and done so in a binding manner. The competence based description takes into account the professional, methodological, social and personal dimensions.

The competence descriptions in the training regulations are focussed on learning outcomes. In future, the focus would therefore be on the objective of the training.

The training content / the competences to be acquired are structured according to work and business processes.

The concept principles are already partly integrated in training regulations ⁽²⁾ and this process continues.

Key competences as presented in the 2006 recommendation ⁽³⁾ are not explicit but rather integrated in VET that is delivered by schools and companies. While it is not possible to present each key competence separately, aggregated information on all key competences is presented in Table 1.

Table 1. **Description of developments in all key competences (aggregated)**

The acquisition of key competences at upper secondary VET is promoted at national/regional level		Yes
How are key competences promoted?		
• national/regional policy document(s)	<p>Vocational Training Act (BBIG) as of 23 March 2005.</p> <p>The BBIG governs vocational education and training in Germany and sets the framework for each training occupation in the dual system.</p> <p>Joint agreement on coordination of training regulations and framework curricula governs the content of training and coordinates the content which is taught in companies and in vocational schools.</p>	
• national/regional law(s), regulation(s)	<p>Vocational Training Act (BBIG) as of 23 March 2005.</p> <p>The BBIG governs vocational education and training in Germany and sets the framework for each training occupation in the dual system.</p>	
• national/regional curricula, standards and qualifications	<p>The vocational training regulation defines the company-based content of the training for the respective occupation. This forms the basis of the company-based training plan which is prepared for each apprentice. This differentiates the training content at a company specific level. The key competences are acquired implicitly in the company in the course of working.</p> <p>The framework curriculum for VET schools is geared to the vocational training regulation and sets out the school-based training content to be delivered. Individual key competencies are mentioned here explicitly.</p>	

⁽²⁾ The concept was tested in the 'Implementation of the concept of competence based training regulations in the selected occupations' project (*Umsetzung des Konzepts zu kompetenzbasierten Ausbildungsordnungen in zwei ausgewählten Berufen*).

⁽³⁾ communication in the mother tongue; communication in foreign languages; competences in maths, science and technology; digital competence; learning to learn; interpersonal, intercultural and social competences, and civic competence; entrepreneurship; cultural expression.

<ul style="list-style-type: none"> • training VET teachers trainers 	<p>Teachers and trainers undergo specific initial and continuing education and training in order to be able to deliver all competences and training content (see article by ReferNet Deutschland on Teachers and Trainers).</p>
<ul style="list-style-type: none"> • centralised assessment of the key competence in VET 	<p>The Chambers (Competent Bodies) are responsible for administering examinations. For this purpose, the Chambers have to set up examination committees for each occupation which comprise at least three members (one representative each of employers and employees and a vocational school teacher). The examination certificate is issued by the Chamber. The structure of examinations is laid down by individual training regulations which are applicable nationwide and specifies a uniform standard.</p> <p>A final examination covers four or five fields relevant to the occupation. Performance in general subjects, such as languages and mathematics, is evaluated within the framework of school reports. Various methods are used in examinations depending on the occupation and duration may vary especially in practical examination tasks. The overall duration of all examination areas in which examination assignments are to be performed in the form of a work sample and/or work task should not be less than one hour and should not exceed seven hours (excluding preparation and post-processing). For written tasks, a period of two hours is usually allocated for the examination, and oral examinations usually last 30 minutes.</p>
<ul style="list-style-type: none"> • other instruments (e.g. ways of working, teaching/learning methods) 	No
The progress of improving key competences' levels/learning outcomes among upper secondary VET students is monitored	
Yes	
How is it monitored?	
<ul style="list-style-type: none"> • through international or national statistical data 	No
<ul style="list-style-type: none"> • survey(s) 	No
<ul style="list-style-type: none"> • benchmark(s) 	No
<ul style="list-style-type: none"> • other instrument(s) 	<p>The learning progress is regularly assessed and reviewed through assessments by trainers in the company.</p> <p>The following is defined with regard to this in the BBIG: Duties of trainers</p> <p>Section 14 Vocational Education and Training</p> <p>Paragraph 1 Trainers must:</p> <ul style="list-style-type: none"> • ensure that vocational action competence for achieving the training objective is delivered to the apprentice and that vocational education and training is implemented in a planned, timely and clearly structured manner and in a form in keeping with this purpose such that the training objective can be achieved within the time available for training (sub paragraph 1) • instruct apprentices to attend the vocational school and to

	maintain written report portfolio (schriftlicher Ausbildungsnachweis) if this is part of the training and to examine these (sub paragraph 4).
Key competence level improved among upper secondary VET students since (+/-) 2010	No data

In addition the following table shows the information on the key competence 'communication in foreign languages' exemplary.

Table 2. **Key competence: communication in foreign languages**

The acquisition of key competences at upper secondary VET is promoted at national/regional level	Yes
How are key competences promoted?	
<ul style="list-style-type: none"> national/regional policy document(s) 	<p>Vocational Training Act (BBiG) as of 23 March 2005.</p> <p>The BIBB Board has already highlighted in their recommendation (1994) that knowledge of foreign languages is not only important for academic occupations but also for skilled workers and specialists in companies. For example, good foreign language skills increase the opportunities for career advancement.</p>
<ul style="list-style-type: none"> national/regional law(s), regulation(s) 	See above
<ul style="list-style-type: none"> national/regional curricula, standards and qualifications 	<p>It should also be noted that in vocational schools, foreign language courses exist within general education, cross-occupational and occupation related education. Courses from Chambers are often utilised for the company-based part of the training and large companies also offer voluntary courses. Key factors influencing the demand for foreign language skills also include the respective sector, foreign trade cooperation, the size of the company, the position in the company and the region in which the company is based.</p> <p>The relevance varies between occupations. In general, it can be assumed that the demand for foreign language skills is higher in commercial occupations than in industrial and technical occupations. Both sectors also differ in terms of the focus of the foreign language skills. In commercial occupations, the emphasis is more towards the written and verbal professional communication competences combined with an understanding of different cultural backgrounds. By contrast, in industrial and technical occupations, it is necessary to be able to understand specific foreign language texts, for example manuals or instructions.</p>
<ul style="list-style-type: none"> training VET teachers trainers 	Teachers and trainers undergo specific initial and continuing education and training in order to be able to deliver all competences and training content (see article by ReferNet Deutschland on Teachers and Trainers).
<ul style="list-style-type: none"> centralised assessment of the key competence in VET 	See above

• other instruments (e.g. ways of working, teaching/learning methods)	No
The progress of improving key competences' levels/learning outcomes among upper secondary VET students is monitored	Yes
How is it monitored?	
• through international or national statistical data	No
• survey(s)	No
• benchmark(s)	No
• other instrument(s)	See above
Key competence level improved among upper secondary VET students since (+/-) 2010	No data

The development of personal competence is important in the area of the key competence 'learning to learn'. Implementation paper to the recommendation regarding the structure and organisation of training regulations (*Arbeitshilfe zur Umsetzung der Empfehlung 160 des HA zur Struktur und Gestaltung von Ausbildungsordnungen*) sets out important aspects of personal competence at a national level. It consists of the capability and willingness to make use of learning guidance provided and to offer learning guidance oneself. Learning guidance means support for learning processes by highlighting the objective and the tools for learning. The intention is that this is integrated within the training regulations.

The implementation paper also describes the 'interpersonal, intercultural and social competences, and civic competence' key competence using the term 'social competence'. Social competence describes the ability and willingness to work with others in a focussed manner, to understand their interests and social situations, to confront them in a rational and responsible manner and to come to an understanding and to shape the work environment and everyday life together.

Examples

The framework curriculum for mechatronic technicians for two-wheeled vehicles is formulated in such a way that the competences listed include economic, legal, mathematical, communicative and social aspects (key competences 1, 2, 3, 6 of the 2006 recommendation). Mathematical and scientific content (key competence 3) is required to be delivered in an integrated manner within the learning fields. A total of 40 hours has been provided for the delivery of foreign language competencies (key competence 2). (2014 framework curriculum for the training occupation of mechatronic technician for two-wheeled vehicles).

The framework curriculum for industrial clerk defines that information procurement, processing and evaluation (key competence 1, 4) is delivered in an integrated manner via media and information technology systems in all learning fields. A total of at least 80 hours is provided for this in the framework curriculum. Forty hours are set for the delivery of foreign language qualifications (key competence 2) within the learning fields and in line with the training regulation for the development of relevant communication competences (key competence 1). In addition to this, 80 hours of occupation-specific foreign language teaching (key competence 2) can be offered voluntarily by the Federal States (*Länder*). The learning fields in the second and third training year provide opportunities to access foreign language learning situations (key competence 2). (2002 framework curriculum for the training occupations of industrial clerk)

Table 3. **Study fields of industrial clerk programme**

	Hours (recommended)		
	Year 1	Year 2	Year 3
Training and occupation orientation	40		
Learning about business processes and the industrial company	60		
Recording and documenting value streams and values	60		
Analysing and assessing value-added processes	80		
Planning, managing and monitoring production processes	80		
Planning, managing and monitoring procurement processes		80	
Performing personnel management tasks		80	
Analysing and evaluating annual financial statements		80	
Assessing the company in a macro and global economic context		40	
Planning, managing and monitoring sales processes			160
Planning investment and financing processes			40
Implementing corporate strategies and projects.			80
Total (880) hours:	320	280	280

Source: 2002 framework curriculum for the training occupations for industrial clerk, p.20.

In the training regulation for industrial clerk information, communication and work organisation are an integral component (key competence 1 and 2) as part of information procurement and processing, information and communications systems, planning and organisation, teamwork, communication and presentation and the use of a foreign language for specialist tasks. Mathematical and technological competences are also covered in the area of integrative corporate processes as part of logistics, quality and innovation, finance and controlling. The section of training covering invoicing of services, with its elements of accounting processes, management accounting and income statement as well as financial statements shows that the key competencies 2, 4, 5 and

7 are a part of the apprenticeship training. Finally, the area of business processes and markets covers the key competencies 6 and 7.

Conclusions

Key competencies are not explicitly mentioned in training regulations or framework school curricula in Germany. But they influence education and training by the holistic understanding of how vocational action competence is acquired; an understanding which forms the basis of vocational education and training. Key competences are a central and integral element of VET and are acquired both in the school-based as well as in the company-based part of apprenticeship. The level of the individual competences also differs between sectors and occupations, and other influencing factors such as the size of the company, the position in the company and the company location.

In addition to their acquisition in schools and companies, key competencies may also be obtained in the form of additional qualifications in courses offered by Chambers. Particularly worth mentioning with regard to this are foreign language and IT skills. The development of a person's competences - whether they are key competencies or other skills for a specific occupation - does not end with the successful completion of vocational education and training. It is rather a process of lifelong learning, which means the use of competences in everyday work up to continuing and further training courses, which facilitate a professional career.

The world of work is constantly changing and work requirements are transforming along with it. In the light of this, apprentices and qualified skilled workers are urged to continue training; or in other words, to obtain additional new competences and develop existing ones. For both the company and the individual it is important to go along with innovations and improve own qualifications. Finally, there is a link between well-qualified skilled workers, their opportunities to participate in society and the employment market and the competitiveness and productivity of companies and the economy as a whole. Well-qualified skilled workers are most important for the development of new technologies and for the transfer of these into new areas and fields of work.

Bibliography

- Achtenhagen, F. (2004): Prüfung von Leistungsindikatoren für die Berufsbildung sowie zur Ausdifferenzierung beruflicher Kompetenzprofile nach Wissensarten [Testing performance indicators for vocational training and for differentiating job-related competence profiles according to skill categories]. In: BMBF. *Expertisen zu den konzeptionellen Grundlagen für einen Nationalen Bildungsbericht*. p. 11-32
http://www.forschungsnetzwerk.at/downloadpub/bmbf_expertisen_zd_konzept_grundlagen_fn_bildungsbericht2004.pdf
- Bundesministeriums der Justiz und für Verbraucherschutz (2005): Berufsbildungsgesetz (BBiG). Available at http://www.gesetze-im-internet.de/bundesrecht/bbig_2005/gesamt.pdf [cited 20.11.2015]
- Empfehlung des Hauptausschusses des Bundesinstituts für Berufsbildung (BiBB) vom 26. Juni 2014 zur Struktur und Gestaltung von Ausbildungsordnungen – Ausbildungsberufsbild, Ausbildungsrahmenplan. In: *Bundesministeriums der Justiz und für Verbraucherschutz - Bundesanzeiger*. BAnz AT 25.7.2014 S1.
- Arbeitshilfe zur Umsetzung der HA-Empfehlung Nr. 160 zur Struktur und Gestaltung von Ausbildungsordnungen – Ausbildungsberufsbild, Ausbildungsrahmenplan. Available at. https://www.bibb.de/dokumente/pdf/HA160_Arbeitshilfe.pdf [cited 20.11.2015]
- Empfehlung des Hauptausschusses des Bundesinstituts für Berufsbildung (BIBB) zu Fremdsprachen in der beruflichen Bildung. In: *Bundesanzeiger* Nr. 54/94 vom 18.03.1994.
- Frank, I.; Schreiber, D. (2006). Bildungsstandards: Herausforderungen für das duale System [Educational standards: challenges for the dual system]. *Berufsbildung in Wissenschaft und Praxis (BWP)*, Vol. 35, No 4, p. 6-10.
- Hensen-Reifgens, K.; Hippach-Schneider, U. (2014). *ReferNet Germany – Supporting teachers and trainers for successful reforms and quality of VET*.
- Rahmenlehrplan für den Ausbildungsberuf Industriekaufmann/Industriekauffrau. Beschluss der Kultusministerkonferenz vom 14.06.2002. Available at: <http://www.kmk.org/fileadmin/pdf/Bildung/BeruflicheBildung/rlp/industriekfm.pdf> [cited 25.11.2015]
- Rahmenlehrplan für den Ausbildungsberuf Zweiradmechatroniker und Zweiradmechatronikerin. Beschluss der Kultusministerkonferenz vom 28.3.2014. Available at. http://www.kmk.org/fileadmin/pdf/Bildung/BeruflicheBildung/rlp/Zweiradmechatroniker14-03-28-E_01.pdf [cited 25.11.2015]
- Settelmeyer, A. et al (2014). *Sprachlich-kommunikative Anforderungen in der beruflichen Ausbildung – Zwischenbericht*. Bonn: BIBB.

Verordnung über die Berufsausbildung zum Industriekaufmann/zur Industriekauffrau vom 23. Juli 2002. Bundesgesetzblatt Jahrgang 2002 Teil I Nr. 51, ausgegeben zu Bonn am 26. Juli 2002. Available at:

https://www.bibb.de/tools/berufesuche/index.php/regulation/industriekaufmann_2002.pdf [cited 25.11.2015]

Verordnung über die Berufsausbildung zum Zweiradmechatroniker und zur Zweiradmechatronikerin (Zweiradmechatronikerausbildungsverordnung – ZweiradAusbV) vom 13. Juni 2014. Bundesgesetzblatt Jahrgang 2014 Teil I Nr. 25, ausgegeben zu Bonn am 20. Juni 2014. Available at;

<https://www.bibb.de/tools/berufesuche/index.php/regulation/zweiradmechatroniker2014.pdf> [cited 25.11.2015]

BMBF und KMK (2013): Deutscher EQR Referenzierungsreport: 13.6.2013. Available at: http://www.dqr.de/media/content/Deutscher_EQR_Referenzierungsbericht.pdf [cited 10.10.2015]