



Expert evaluations of the working groups
for the second phase of development
of the German Qualifications Framework

Introduction

The final reports of the German Qualifications Framework (DQR) Working Groups are made available in unabridged form to those members of the general public interested in the development of the DQR on the DQR website (www.deutscherqualifikationsrahmen.de).

The aim here is to meet the objective of providing the greatest possible degree of transparency in the process for the development of a National Qualifications Framework for Germany.

For readers¹ who have not yet familiarised themselves with the DQR, the context in relation to the European Qualifications Framework and the development of the DQR is extensively presented under A Approach in the second phase of development, Chapters 1 to 4. This section has been prepared by the DQR Office. Chapters 1 to 3 of the Expert evaluations contained within Section B document the results prepared during the one-year pilot phase from May 2009 onwards by experts from trade and industry, academic research and educational practice within the four selected fields of activity (health, trade and commerce, IT, metal/electrical). Chapter C provides an opportunity to inspect the work documents drawn up. The aims were to use the draft DQR as a basis for achieving clear and consensual alignments of selected qualifications, for investigating the practical usefulness of the DQR matrix and for submitting proposals for further development where appropriate. These reports reflect the expert evaluations agreed in the Working Groups. We would like to take this opportunity to express our particular thanks to all experts for the patience they have brought to the table in agreeing to be involved in this complex harmonisation process and for the work they have done.

For the latest information on the development of the DQR, please visit our homepage.

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¹ In the interests of greater clarity, a conscious decision has been taken not always to include gender specific formulations. All personal designations apply to both genders.

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A Approach in the second phase of development of the DQR

1 Objective of the second phase of development

1.1 Alignment in the European context

The Lisbon Strategy was agreed at a special summit of European heads of state and government in March 2000 and encompasses a range of measures to increase the speed of innovation and social cohesion. One essential part of the Lisbon Process relates to the field of education. Qualified and well trained workers can strengthen employment and competitiveness in the EU. This requires a better transnational understanding of learning achievements and of qualifications acquired. One central instrument of transparency along this path is the EQF – European Qualifications Framework for Lifelong Learning. The EQF serves as a European meta-framework linking the various national qualifications systems and frameworks with one another. It acts as an instrument for the promotion of lifelong learning and cross-border mobility by mapping general, vocational and higher education qualifications in a uniform system of eight reference levels describing relevant learning outcomes in three categories. The EQF considers “Knowledge”, “Skills” and “Autonomy and responsibility”, the last of these three categories also being encapsulated under the overarching title of “Competence”. As a “meta-framework” which aims to relate the learning outcomes achieved in various educational systems, the EQF has intentionally been formulated in abstract and appropriately succinct terms.

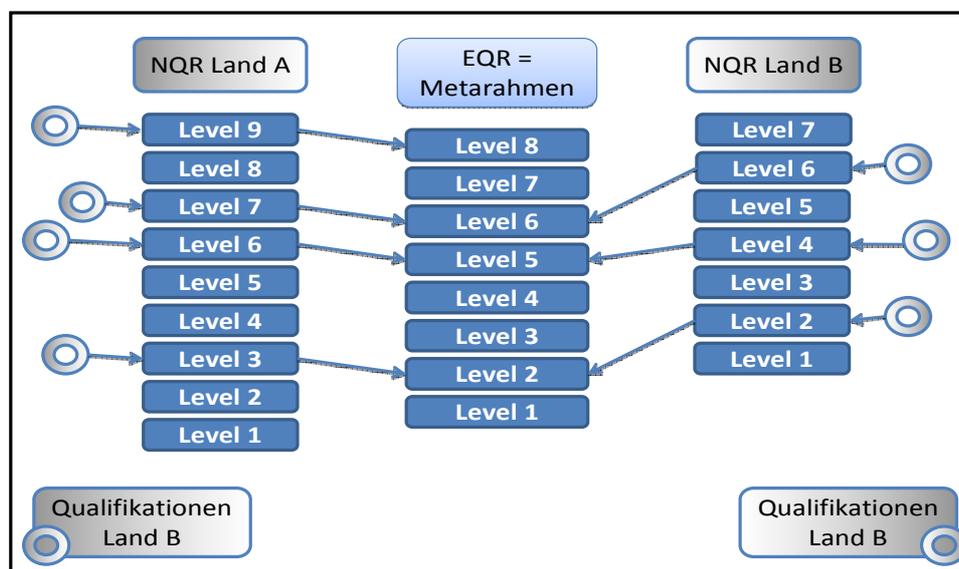


Figure 1: The EQF as a meta-framework

In order to pursue the further development of the European Education Area, the European Parliament and Council have acted on a proposal of the European Commission (which has in turn sought the advice of expert groups from the member states) in passing a series of recommendations. Alongside the EQF, the most important of these are:

- the Europass documentation system,
- the credit points instruments ECTS und ECVET²,
- the quality assurance instruments CQAF and EQARF³.

The Europass presents individual learning and qualifications progressions and helps explain certificates. The Europass documents are able to make the level categorisation of qualifications clearer and thus significantly increase the benefit of such a transparency instrument. Credit point instruments also relate to individual learning outcomes. The quality assurance instruments create important prerequisites for mutual trust with themselves acting as instruments of mobility and transparency.

The Recommendation on the Establishment of the European Qualifications Framework for Lifelong Learning is without prejudice to Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications.

1.2 Discussion Proposal for the Development of a German Qualifications Framework for Lifelong Learning (DQR) – drawn up by the “German Qualifications Framework Working Group”⁴

In October 2006, the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder in the Federal Republic of Germany (KMK) agreed to work together on the development of a German Qualifications Framework for Lifelong Learning (known by its German abbreviation of DQR). The starting point for this decision was the Recommendation of the European Parliament and of the Council on the Establishment of the European Qualifications Framework (EQF), which entered into force on 23 April 2008. This Recommendation urges the member states:

- to use the EQF as a reference tool to compare the qualifications systems (a kind of “conversion function”);
- to relate their national qualifications systems to the European Qualifications Framework by 2010, in particular by linking national qualification levels to the EQF reference levels;
- develop national qualifications frameworks in accordance with national legislation

² ECTS: European Credit Transfer System; ECVET: ECVET (European Credit System for Vocational Education and Training).

³ CQAF: Common Quality Assurance Framework; EQARF: European Quality Assurance Reference Framework

⁴ The text of this section is based on passages contained within the introduction to the DQR (Discussion Proposal for the Development of a German Qualifications Framework for Lifelong Learning drawn up by the “German Qualifications Framework Working Group”, February 2009). This Discussion Proposal also includes the full DQR Matrix and supplementary glossary.

and practice where appropriate and

- enact relevant measures to enable all new qualifications descriptions, diplomas and Europass documents issued by the competent bodies to contain a clear reference to the appropriate level within the European Qualifications Framework by 2012.

In embracing this recommendation, the primary objective of the Federal Ministry of Education and Research (BMBF) and the KMK was to achieve appropriate alignment within the EU of qualifications acquired in Germany. For this purpose, they established a joint “Federal Government-Federal State Coordination Group for the German Qualifications Framework” (known by its German abbreviation of B-L-KG DQR), which was commissioned with the task of managing the process of drawing up a DQR. This process involves a large number of stakeholders from general education, higher education and vocational training, the social partners and other experts from research and practice. Together with the B-L-KG DQR, these stakeholders make up the “German Qualifications Framework Working Group” (known by its German abbreviation of AK DQR) and thus facilitate feedback on results to delegates’ home institutions and committees. The German Qualifications Framework Working Group set up by the KMK also integrates the interests of the specialist conferences of other ministries via the respective representatives appointed. The Federal Ministry of Health (BMG) and the Federal Ministry of Economics and Technology (BMWi) joined the process in 2009.

In February 2009, the AK DQR presented a DQR draft (comprising an introduction, matrix and glossary) to act as a discussion proposal for the second phase of development of the DQR⁵. The DQR represents the first attempt to create comprehensive matrix for the alignment of qualifications *extending across educational areas* and acting as a considerable aid to navigation within the German educational system.

Within the scope of the Bologna Process, the German Rectors’ Conference, the Conference of the Ministers of Education and Cultural Affairs (KMK) and the Federal Ministry of Education and Research collaborated on the drawing up of a Qualifications Framework for German Higher Education Qualifications (HQR)⁶ which was enacted by the KMK on 21 April 2005. The HQR “is initially focusing on the higher education area and includes the description of interfaces to vocational education and training”. The stipulation underlying the HQR is that the aim is for this initial fundamental systemic approach to serve as a basis for the further development of this framework for other areas within the educational system over the coming years (especially vocational education and training and the continuing training sector).⁷ The same objective has been

⁵ Discussion Proposal for the Development of a German Qualifications Framework for Lifelong Learning – drawn up by the “German Qualifications Framework Working Group”, February 2009

⁶ Qualifications Framework for German Higher Education Qualifications (jointly drawn up by the German Rectors’ Conference, the Conference of the Ministers of Education and Cultural Affairs (KMK) and the Federal Ministry of Education and Research and enacted by the KMK on 21 April 2005)

⁷ Ibid, p. 4

pursued with the development of the DQR. Consideration has been accorded to the compatibility of the terminology used in the DQR and HQR.

The aim is for the draft DQR to take the specific characteristics of the German educational system into account, the objective being for qualifications only to become comparable via linking the DQR with the EQF. In the same way as the EQF, the DQR is defined on eight reference levels. The plan is for each level of the DQR to be compatible with the relevant reference level of the EQF.

The qualifications aligned to the DQR draft on the individual reference levels are qualifications in respect of which there is an expectation that a link exists with the learning outcomes described due to standards secured via quality procedures. The DQR draft contains eight reference levels for the professional and personal competences used to inform the alignment of qualifications obtained in general education, higher education, vocational training and continuing training.

The term competence, which constitutes the heart of the DQR draft, depicts the ability and readiness of the individual to use knowledge, skills and personal, social and methodological competences and conduct himself or herself in a considered and individually and socially responsible manner. Competence is understood to refer to comprehensive employability skills within this context.

This means that, in line with the German understanding of education, the DQR draft is subject to a further educational concept even if the DQR, like the EQF, is expressly only focused on selected characteristics. In this regard, the aim is for characteristics such as reliability, precision, stamina and attentiveness, intercultural competence, active tolerance and democratic patterns of behaviour to act as constitutive elements for the development of employability skills at all reference levels within the meaning of the DQR. The same applies to the normative, cultural, ethical and religious aspects of employability skills and character building. Methodological competence is understood as a cross-sectional competence and for this reason is not separately stated within the DQR matrix.

The DQR draft differentiates between two categories of competence. These are "Professional competence", subdivided into "Knowledge" and "Skills" and "Personal competence", subdivided into "Social competence" and "Autonomy" ("four-pillar structure"). Personal competence describes a person's ability and readiness to develop further and to shape his or her own life in an autonomous and responsible manner within the respective social, cultural or occupational context. These analytical differentiations have been actioned in the full knowledge of the interdependence which exists between the various aspects of competence. Given the fact that the DQR draft consistently makes mention of competence, any use of the modal verb "can" has been avoided throughout the matrix of the DQR draft.

Table 1: Standardised structure for the description of the eight reference levels within the DQR draft

Level indicator			
Structure of requirements			
Professional competence		Personal competence	
Knowledge	Skills	Social competence	Autonomy
Breadth and depth	Instrumental and systematic skills, judgement	Team/leadership skills, involvement and communication	Independence/ responsibility, reflectiveness and learning competence

All *formal* qualifications within the German educational system, including general, higher education and vocational qualifications, are included in the alignment of qualifications to the DQR. A further objective is to accord due consideration to the results of non-formal and informal learning. This will take place in a separate second stage.

The Federal Government-Federal State Coordination Group and the DQR Working Group are in agreement that the alignment of the qualifications within the German educational system to the reference levels of the DQR should *not* replace the existing system of access qualifications. Alignment takes place in accordance with the principle that each qualification level should be accessible via various educational pathways. Achieving a certain reference level of the DQR does not provide automatic entitlement to access the next level. The achievement of a reference level also has no implications with regard to claims or evaluations arising under collective wage agreements and laws relating to remuneration. Legal aspects will be monitored at the end of the second phase.

1.3 Second phase of development of the DQR

A guide ⁸ has been developed to serve as the basis for the approach to be adopted in the second phase of development.

The aims of the second phase of development of the DQR (May 2009 to May 2010) are to achieve clear and consensual alignments of sample selected qualifications, to investigate the practical usefulness of the DQR matrix and to develop the matrix further where required. The objects of investigation were:

- to check the reference levels to which the example qualifications should be aligned within the meaning of the definition of competence adopted

⁸ Approach in the next phase of DQR development (Phase II) – A Guide – , May 2009

- and to monitor the areas of the draft matrix where adaptations may need to be made (e.g. because of a lack of clear delineation or understandability or due to a failure to establish compatibility with the EQF).

Within the scope of the development phase, a further aim is to undertake a repeated investigation of whether the use of the three-pillar structure deployed in line with the EQF exhibits any benefits compared to the four-pillar matrix structure contained within the Discussion Proposal.

Once the results achieved within the Working Groups have been evaluated, a DQR Handbook will be prepared, the aim of which will be to facilitate alignment of qualifications across the whole breadth of the German educational system.

In order to pilot the DQR, qualifications from the four selected occupational fields and areas of activity of

- health
- trade and commerce
- IT and
- metal/electrical

were set in relation to one another across educational fields.

The aim of the multi-stage procedure adopted was to make the decision-making process easier. This procedure does not express any devaluation of areas not submitted to initial consideration. The same applies to occupational fields and areas of activity not included in the piloting process and to dealing with the results of non-formal and informal learning.

The work conducted within the expert groups focused on *consensual example alignments which supported the development of the DQR by acting as expert evaluations*.

- The aim was to instigate a sample debate of the alignments of selected qualifications from all educational areas whilst including all the reference levels. The aim is to wait until the third phase of development of the DQR before aligning successive qualifications from the German educational system to the DQR. To this extent, the second stage of development should be viewed as a pilot.
- The objective wherever possible was to achieve agreement in respect of the alignment of the qualifications considered to the DQR reference levels. In cases where it was not possible to achieve agreement on the categorisation of individual qualifications, documentation on both majority and minority views was adopted.

- The results do not constitute recommendations. They form the foundations for further DQR development in the Federal Government-Federal State Coordination Group for the DQR and in the DQR Working Group.

Various reasons suggested the benefits of using the methodological instrument of an “expert workshop” in the second phase of development of the DQR.

- The involvement of specialists who have accumulated expertise across various contexts in the fields of competence description and assessment and in the development and interpretation of curricula allows the investigation of the practical usefulness of the DQR draft to take place within an experimental setting.
- The provision of outline problems and catalogues of questions permits group work to be structured without compromising the necessary openness required within the reflection process.
- The “expert workshop” format is particularly suited to the initiation of the type of discursive process extending across educational areas which is required for the development of a qualifications framework. Different premises, types of approach and terminological understandings can be made transparent, debated and documented.
- Processing of the final results in chaired group discussions is ultimately also to be recommended because of economy of time.

The aim was to achieve a broad representation of educational areas and societal groupings and use an approach grounded in reality as a vehicle for doing justice to the requirements of society, the labour market and the educational system.

2 Approach within the Working Groups

2.1 Composition and area of activity

In order to arrive at example alignments of qualifications to the matrix of the DQR draft, Working Groups of identical structure extending across educational areas were instigated.

Each Working Group included representatives from the following areas.

- The general schools
- Ordinance issuers and the coordinating ministry from the company-based side of vocational education and training
- The company-based side of vocational education and training
- The trade unions
- The vocational schools

- The continuing training sector: Providers of continuing vocational training and company-based training
- Institutes of higher education, including the universities and the Universities of Applied Sciences
- Academic research experts
- Youth social and welfare services
- The Federal Government-Federal State Coordination Group for the German Qualifications Framework (B-L-KG DQR)
- The German Qualifications Framework Working Group (AK DQR)
- The DQR Office

2.2 Organisation of work

The Working Groups undertook their activities in the period from May 2009 to May 2010. Following an initial launch and constituent session on 25 May 2009, four or five one-day or two-day meetings were held by each Working Group.

At the constituent sessions, work and communication structures were agreed and proposals for the qualifications to be aligned within each respective domain discussed. Experts also received a materials folder containing supporting information. These folders were also managed in digital form in restricted work areas on the DQR website at www.deutscherqualifikationsrahmen.de. The DQR Office or chairmen were available to be contacted by telephone or e-mail throughout the whole of the process if questions or problems of a content-related or organisational nature arose.

The chairmen of the Federal Government-Federal State Coordination Group and the DQR Office remained in contact with the chairs of the Working Groups. Further coordination took place via video conferences staged on a regular basis. The first regular meetings of the Working Groups were held between 22 June and 8 August 2009. These meetings finalised the lists of qualifications, clarified areas of responsibility for the processing of the individual qualifications and formed sub-groups, some of which were established across educational areas.

The second meetings in September discussed unresolved questions relating to alignment and overarching methodological issues. Before the third meetings of the Working Groups, a supplementary international expert meeting involving representatives from other EU countries took place in Berlin on 22 October 2009. The chairmen of the Working Groups and a number of Working Group members also participated.

The main focuses of the third and fourth meetings were on the identification of possible adaptation requirements of the DQR matrix (e.g. to increase the clarity or graduations or the practicality of the matrix structure) and on requesting experts to provide reasoned recommendations for the alignment of qualifications across the breadth of the

German educational system planned for 2010. The fifth meeting was mainly characterised by a discussion of the proportionality of the alignments of general education qualifications to the alignments of VET and higher education qualifications.

3 General conditions relating to alignments

3.1 Types of qualification

The aim was for each Working Group to process approximately 12 to 16 qualifications in order to be able to align at least one qualification to all eight DQR reference levels wherever possible. Some groups somewhat exceeded the upper maximum.

The selection of qualifications was based on the following types of qualification.

- Educational courses leading to general educational qualifications
- Educational courses in prevocational training
- Introductory training courses as defined by § 235 b German Social Security Code III (SGB III)
- Partially qualifying initial training courses at vocational schools
- Fully qualifying initial training courses at vocational schools
- Vocational education and training courses leading to the acquisition of a university entrance qualification
- Dual courses of training (in particular in accordance with the Vocational Training Act)
- Educational courses pursuant to § 66 of the Vocational Training Act (disability)
- Regulated advanced training courses
- Educational courses at institutes of higher education incorporating dual courses of study

Selection was made on the basis of quantitative points of view (frequentation of qualification provision) and in accordance with the criterion of labour market relevance. In the case of alternative possibilities, recourse was made to qualifications based on regulatory instruments formulated in more strongly outcome oriented terms. With regard to higher education courses of study, the choice was to include courses which were already accredited and which had thus been designed in a competence oriented manner.

The main focus of the alignment work was on vocational and higher education courses of relevance to the labour market. Issues of federal state parity did not play any role in the undertaking of sample considerations of individual educational courses (e.g. a course of higher education study or a school-based course of vocational education and training).

Vocational education and training and higher education qualifications were considered. Because of the cross-educational character of the DQR, the aim was to accord due consideration to possible equivalences of vocational and general educational qualifications. General educational qualifications were not aligned due to the fact that the alignment of such qualifications took place in the Schools Committee of the Standing Conference of the Ministers of Education and Cultural Affairs (KMK).

A further object of interest in the field of higher education was the extent to which the Qualifications Framework for German Higher Education Qualifications (HQR) has been successfully integrated into the DQR draft, i.e. whether the formulations contained within the DQR draft are compatible with those used in the HQR.

3.2 Relevant sources and other documents

The sample alignment of the selected qualifications was based on relevant statutory stipulations (e.g. for healthcare and nursing), Ordinances (e.g. regarding training courses pursuant to the Vocational Training Act), KMK outline agreements (e.g. on technical assistants), guidelines and curricula issued by the federal states, higher education study regulations or documents (including module descriptions) and certificates from the accreditation agencies. Alongside the training regulations cited above, examination regulations were also used where required in order to provide indications of the validity of a competence.

Although the initial aim in assessing a vocational training course was to make reference to nationally standardised regulations, such aspects as relevant federal state specific regulatory instruments and chamber regulations were also used when necessary.

3.3 Alignment procedures

The DQR descriptors are not oriented towards input factors such as learning time, learning venue or learning context. They state the learning outcomes which learners should possess at the end of their period of learning.

Such a description according to learning outcomes is necessary in order to make courses comparable across educational areas. Within the field of education, learning outcomes are the common denominator. Without them, no comparison can take place. The focus is on learning outcomes which can be applied in activity-based situations rather than on the formal completion of training events (passing examinations, certificates and acquisition of access entitlements). Such an approach reflects the English language terminology of “input”, “output” and “outcome” which has now been professionally adopted.

- “Input” refers to the use of resources (e.g. time, learning and work materials).

- “Output” is the direct result of such investments (e.g. the passing of examinations).
- The term “outcome” designates the further effect of an activity – in the case of the qualifications framework: of learning processes.

Within the scope of the DQR, learning outcome orientation means that qualifications are assessed with regard to the employability skills acquired via them. This active character finds terminological expression in the fact that verbs are used to describe competences within the DQR (e.g. “provide simple skills transfers”).

In order to be able to relate the contents of qualifications to the descriptors of the DQR, the available documents needed to be considered in an outcome-oriented way. In other words, they had to be evaluated in terms of the indications they contained (including indications of a merely implicit nature where appropriate) of learning outcomes pursued within the meaning of the understanding of competence defined within the DQF and in terms of the stipulations of the EQF. This was used as a basis for the identification of correlations with the reference level descriptions of the DQR draft and for the development of proposals for reference level alignments.

The aim was to align each selected qualification to a reference level of the DQR draft and to give detailed reasons for the decision taken. A form was available for the purpose of documenting the results. The structure of this form is reproduced in the table below.

Table 2: Structure of the form made available to the Working Groups

Name of qualification			
Documents and source texts used			
Proposed reference level alignment			
Competence area	Category/ sub-categories	Reference level	Reason/explanations
Professional competence	Knowledge (Breadth and depth)		
	Skills (instrumental and systemic; judgement)		
Personal competence	Social competence (team /leadership skills, involvement, communication)		
	Autonomy (autonomous responsibility/responsibility, reflectiveness, learning competence)		

The aim was also to document findings which assist in the further development of the DQR, e.g. findings with regard to the matrix structure, the descriptors and the compatibility of the DQR draft to the EQF.

Two basic conceivable approaches towards the alignment of qualifications emerged from the discussions held between the members and chairs of the Working Groups.

- An *“inductive” approach* which is input-oriented in that it is based on the structuring of the relevant source texts – e.g. the learning content listed in a curriculum – and which uses this as a foundation for concluding the learning outcomes to be aligned to the qualification
- A *“deductive” approach* which is based on hypotheses relating to the structural characteristics of the competence acquired in conjunction with a qualification and which summarises the contents of the source texts (making reference to the relevant reference points) to form (approximately five to ten) functional fields which correspond to the expected typical requirements structure.

Notwithstanding this, a decidedly interpretative access is required in every case due to the fact that the DQR offers a relatively rough grid compared to the microstructure of the regulatory instruments. In both cases, alignment initially takes place per line/competence bundle (See Tables 3 and 4) before the whole qualification is aligned.

All pillars of the matrix draft were included in each learning outcome oriented description. This could, however, lead to the result that the absence of relevant indications in the descriptions of the educational courses meant that no valid statements were possible in respect of individual descriptors or sub-categories. In addition to this, it emerged that various reference level alignments may occur in different pillars. A qualitative approach was agreed for the overall alignment of functional fields/competence bundles and whole qualifications. The arithmetical *“calculation”* of *“average values”* would contradict the logic of the DQR draft.

In order to do justice to the requirements for (pan-European) transparency, clarity and objectivity, an agreement was reached that the work stages and reasons for the outcome descriptions and alignments would be documented in detail.

A wish for *“model examples”* to be used in the alignment work was expressed on many occasions. For this reason, between the second and third meetings an example approach from the IT Group was sent out in order to support the other groups (dual training in the occupation of information technology specialist – specialising in applications development). This example outlines the respective approach to be adopted in accordance with the methods stated above (see Tables 3 and 4).

Table 3: Form for the analysis conducted in the case of the “inductive” approach

Structuring of the qualification <i>(5-19) Outcomes of a qualification on the basis of the formulations contained within the available regulatory instrument</i>	Level indicator <i>(to be filled out after the columns professional and personal competence)</i>	Professional competence		Personal competence		Reason for the reference level alignment	Issues outstanding
		(Breadth and depth)	Skills (instrumental and systemic; judgement)	Social competence (team /leadership skills, involvement, communication)	Autonomy (autonomous responsibility/responsibility, reflectiveness, learning competence)		
1. <i>Company providing training</i>	*)	*)	*)	*)	*)	*)	
2. <i>Business and management processes</i>							
3. <i>Work organisation and work techniques</i>							
4. <i>Information technology and telecommunications products and markets</i>							
5. <i>Production and management of system solutions</i>							
6. <i>System development</i>							
7. <i>Training</i>							
8. <i>Information technology and telecommunications systems</i>							
9. <i>Customer-specific applications solutions</i>							
10. <i>Specialist tasks within the field of deployment</i>							

*) The alignment considered to be most appropriate and the reason for this alignment should be entered into each field (a field may need to be left blank if no statement can be made in respect of the pillar). The qualification as a whole is finally described and aligned using the categories of the DQR matrix. The form included in the guide is used for this purpose.

Blue – example formulations (here according to general training plan; inclusion of learning fields according to the KMK skeleton curriculum is required)

Table 4: Form for the analysis conducted in the case of the “inductive” approach

Structuring of the qualification <i>(5-10) Activity/functional fields which characterise the employability skills typical of the qualification</i>	Source references to regulatory instruments	Level indicator	Professional competence		Personal competence		Reference level alignment with reason	Issues outstanding
			(Breadth and depth)	Skills (instrumental and systemic; judgement)	Social competence (team /leadership skills, involvement, communication)	Autonomy (autonomous responsibility/responsibility, reflectiveness, learning competence)		
1. <i>Involvement in company organisation</i>	No. 1, 3; LF 1, 3	*)	*)	*)	*)	*)	*)	
2. <i>Shaping of business processes in the field of IT</i>	No. 2; LF 2							
3. <i>Configuration of IT systems</i>	No. 4; LF 4							
4. <i>Development of (simple) software</i>	No. 5.2, 6.1, 6.2; LF 6							
5. <i>Development of database systems in accordance with customer wishes</i>	No. 5.6; LF 6							
6. <i>Networking of IT systems</i>	No. 4.4; LF 7, 9							
7. <i>Organisation and implementation of (complex) IT projects</i>	No. 6,9, 10; LF 7							
8. <i>Provision of IT service</i>	No. 7; LF 10							
9. <i>Marketing of IT systems</i>	LF 8							
10. <i>Determining the cost-effectiveness of IT services</i>	No. 2.5; LF 11							

*) The alignment considered to be most appropriate and the reason for this alignment should be entered into each field (a field may need to be left blank if no statement can be made in respect of the pillar). The qualification as a whole is finally described and aligned using the categories of the DQR matrix. The form included in the guide is used for this purpose.

Blue – example formulations (here proposal made by Dr. Bauer, IT Working Group – working version)

4 *Brief description of the types of qualification considered*

In order to provide a greater degree of understanding, the German vocational training, continuing training and higher education qualifications considered in the second phase of development of the DQR will be briefly explained below.

Course	Qualification/certificates
<i>Vocational training preparation</i>	
<ul style="list-style-type: none"> • Employment Agency measure • Prevocational training year • Introductory training for young people 	<ul style="list-style-type: none"> • Apprenticeship entry maturity, lower secondary school leaving qualification • Apprenticeship entry maturity, lower secondary school leaving qualification • Apprenticeship entry maturity, vocational orientation
<i>Full-time school-based vocational education and training</i>	
<i>Partially qualifying</i>	
<ul style="list-style-type: none"> • Full-time vocational school (1-year) • Full-time vocational school (2-year) 	<ul style="list-style-type: none"> • Basic vocational training • Basic vocational training, lower secondary school-leaving qualification
<i>Fully qualifying</i>	
<ul style="list-style-type: none"> • Full-time vocational schools for assistant occupations • Three-year full-time vocational school 	<ul style="list-style-type: none"> • State certified assistant in ... , Vocational education and training qualification • Skilled worker, skilled employee, journeyman qualification, commercial clerk, vocational education and training qualification
<i>Vocational training for the achievement of general educational qualifications</i>	
<ul style="list-style-type: none"> • Specialised upper secondary school • Vocational upper secondary school • Specialised grammar school/vocational grammar school 	<ul style="list-style-type: none"> • Ability to enter higher education, University of Applied Sciences entrance qualification • Ability to enter higher education, subject-specific or general higher education entrance qualification • Ability to enter higher education, general higher education entrance qualification
<i>Dual vocational education and training</i>	
<ul style="list-style-type: none"> • Two-year • Three(and a half)-year 	<ul style="list-style-type: none"> • Skilled worker, skilled employee, specialist, vocational education and training qualification • Skilled worker, skilled employee, journeyman qualification, commercial clerk, vocational education and training qualification
<i>Vocational education and training for the disabled (§64 ff Vocational Training Act, BBiG)</i>	
<ul style="list-style-type: none"> • Educational courses pursuant to § 66 BBiG 	<ul style="list-style-type: none"> • Specialist practitioner, vocational education and training qualification
<i>Continuing training</i>	
<ul style="list-style-type: none"> • In-service training/courses • In-service training/courses 	<ul style="list-style-type: none"> • IT specialist, advanced training qualification • Operative IT professional, advanced training qualification

- In-service training/courses
- In-service training/courses
- In-service training/courses
- In-service training/courses
- Trade and technical school
- Strategic professional, advanced training qualification
- Master craftsman qualification, advanced training qualification
- Certified senior clerk, advanced training qualification
- Business economist, advanced training qualification
- State certified technician/business economist advanced training qualification

Vocational retraining

- Recognised training occupations (§ 4 Paragraph 1 Vocational Training Act, BBiG or § 25 Paragraph 1 Crafts and Trades Regulation Code, HwO)
- Skilled worker, skilled employee, journeyman qualification, commercial clerk, vocational education and training qualification

Higher education

- Bachelor course of study
- Masters course of study
- Doctorate
- Bachelor of ... , academic degree
- Master of ... , academic degree
- Doctor, academic degree

1. Vocational training

1.1 Vocational training preparation

The aim of vocational training preparation is to impart the basic principles for the acquisition of employability skills and thus lead to vocational education and training in a recognised training occupation. It facilitates access into working life for young people who are not yet in possession of the necessary apprenticeship entry maturity upon leaving general schooling and is directed at persons who are experiencing learning difficulties or social disadvantage and who cannot therefore at their present stage of development be expected to undergo successful training within a recognised training occupation. Vocational training preparation is regulated in the Vocational Training Act and in the Crafts and Trades Regulation Code (§ 1 and 68 ff BBiG/§ 42 k ff HwO respectively).

The imparting of the basic principles for the acquisition of employability skills can particularly take place via learning units which are delineated in terms of content and time and which are developed from the contents of recognised training occupations (training modules in accordance with § 69 Vocational Training Act, BBiG).

Training modules can be provided within a *school-based measure within the scope of attendance of a prevocational training year at vocational schools* within the field of responsibility of the federal states or may take place in an extra-school manner in the form of participation in a *measure organised by the Federal Employment Agency*.

Certification is regulated in the “Ordinance on the certification of basic principles of employability skills within the scope of vocational training preparation” promulgated on 16 July 2003.

The function of the prevocational training year held at vocational schools is to prepare pupils for entry to vocational education and training or work. Particular support is given to measures which are delivered in conjunction with other providers and which improve opportunities to make the transition to employment. The aim of the prevocational training year is to facilitate subsequent acquisition of an educational qualification which is the equivalent of the lower secondary school leaving certificate.

The prevocational training year lasts for one school year.

1.2 Introductory training for young people pursuant to § 235b German Social Security Code III

Company-based introductory training courses are of between six and twelve months’ duration and were developed by trade and industry as part of the National Pact for Training to serve as a bridge into vocational education and training for young people

in respect of whom there are impediments to placement. At least 70 percent of an introductory training course must take place in-company. Vocational preparation (as described under 1.1 above) may also be viewed as part of introductory training and be taken into account when stipulating the duration of such introductory training.

In the case of introductory training measures, the imparting of the basic principles for the acquisition of employability skills usually takes place in the same way as in vocational training preparation in that learning units which are delineated in terms of content and time are developed from the contents of the first year of recognised training occupations (training modules in accordance with § 69 Vocational Training Act, BBiG).

1.3 Vocational education and training

1.3.1 Dual vocational education and training

The dual system of vocational education and training encompasses approximately 350 training occupations recognised pursuant to the Vocational Training Act (BBiG) and the Craft and Trades Regulation Code (HwO) which are divided up according to duration into two-year, three-year and three-and-a-half year training occupations.

Within the dual system of vocational education and training, training in recognised training occupations takes place at the dual venues of the company providing training and the vocational school. The statutory foundations of the system are the Vocational Training Act or the Craft and Trades Regulation Code and the school laws of the federal states. Training at the company venue is regulated by the Federal Government via training regulations. The Standing Conference of the Ministers of Education and Cultural Affairs (KMK) issues a skeleton curriculum for vocationally related teaching at the venue of the vocational school. The federal states may directly adopt the skeleton curriculum passed by the KMK and declare it to be the federal state curriculum. Insofar as they undertake amendments when implementing their federal state curriculum, the federal states are required to ensure that the coordination stipulated in the KMK skeleton curriculum in terms of structure of specialist content and time remains intact.

Although skeleton curricula and training regulations always take the level of the lower secondary school leaving certificate as their starting point, there is no formal entry requirement as such for dual vocational education and training. Actual prior learning thus deviates from this principle depending on the recruitment behaviour of the companies. Vocational schools are attended young people and adults who are different in terms of their prior learning, learning ability and cultural background and with regard to the experiences they bring from their respective companies providing training. For this reason, the skeleton curricula drawn up by the KMK need to permit adaptation of teaching to meet such requirements within the federal states.

The federal states themselves are responsible for developing curricula for cross-occupational teaching at vocational schools. The only area in which the KMK has produced regulations is for the part of vocational school teaching which relates to the examination in the subject of business and social studies for technical training occupations in the form of a resolution of 10 May 2007 on “Elements for teaching at vocational schools in the area of business and social studies for technical training occupations”.

The training regulations and the skeleton curriculum stipulating the objectives and content of vocational education and training form the basis for the imparting of final qualifications in a recognised training occupation and of the qualification issued by the vocational school in conjunction with teaching in further subjects. Training regulations also include the (standardised) examination requirements for the final vocational or journeyman examination encompassing both the company-based and school-based parts. The degree of permeability in place means that it is possible to achieve a higher general educational qualification in conjunction with vocational education and training (VET qualification) in most federal states. This enables the creation of the essential prerequisites for qualified employment and entry into school based and vocational advanced and continuing training courses.

The KMK skeleton curricula are structured in a learning outcomes oriented manner according to learning fields. Learning fields are thematic units described in terms of objective, contents and suggested time allocations. They are aligned towards occupational task assignments and fields of activity and reflect the work and business process. The totality of all learning fields constitutes the contribution made by the vocational school towards the vocational qualification. The aim of the formulation of a learning field is to express the employability skills to be acquired within the scope of the training. Employability skills to be obtained are differentiated according to the dimensions of professional competence, personal competence and social competence. Methodological and learning competence arise from a balanced development of these three dimensions.

1.3.1.1 Vocational education and training for the disabled (§64 ff Vocational Training Act, BBiG)

Disabled persons (§ 2 Paragraph 1 Clause 1 of Volume Nine of German Social Security Code) should be trained in recognised training occupations.

A vocational education and training contract with a disabled person should be recorded in the Index of Vocational Education and Training Contents (§ 34 Vocational Training Act, BBiG). A disabled person should be admitted to a final examination even in circumstances where the prerequisites pursuant to § 43 Paragraph 1 Clauses 2 and 3 BBiG are not in place.

§ 66 of the Vocational Training Act makes provision for the competent bodies to act on behalf of disabled persons or their statutory representatives in instigating training

regulations in accordance with the recommendations of the Board of the Federal Institute for Vocational Education and training for disabled persons for whom the nature and severity of their disability means that training in a recognised training occupation is not possible. The training contents of such regulations should be developed from the contents of recognised training occupations according due consideration to the status and development of the general labour market. An application made in accordance with Clause 1 needs to demonstrate a training opportunity in the training course in question.

§§ 64 to 66 BBiG apply to the advanced vocational training and vocational retraining of disabled persons insofar as required by the nature and severity of the disability.

1.3.2 Initial vocational education and training courses at vocational schools

1.3.2.1 Partially qualifying courses: full-time vocational school

In offering partially qualifying courses, full-time vocational schools pursue the aims of introducing pupils to one or more occupations and imparting an element of vocational training (e.g. basic vocational training) in one or more recognised training occupations as well as being able to provide an extended educational status (such as in the form of the intermediate secondary school leaving certificate).

Courses are of one or two years' duration.

Courses where the final qualification includes the intermediate secondary school leaving certificate take the lower secondary school leaving certificate as their starting point and last for at least two years.

1.3.2.2 Fully qualifying courses

1.3.2.2.1 Full-time vocational school for assistant occupations

Training as an assistant is offered at higher full-time vocational schools and includes courses for occupations which are regulated at Federal Government (in the case of the healthcare sector) and at federal state level and which lead to a vocational training qualification which is only achievable via attendance at a school.

The training is of two years' duration. Courses may also last between there and for years insofar as they include the acquisition of a University of Applied Sciences entrance qualification or a general higher education entrance qualification.

The prerequisite for entry is the intermediate secondary school leaving certificate or entitlement to enter upper secondary education.

Training as an assistant is taking on an important bridging function between school-based vocational qualification and dual VET whilst also opening up an opportunity for young people to enter higher training.

1.3.2.2.2 Three-year full-time vocational school

The three-year full-time vocational school offers fully school-based VET via courses which correspond to training occupations pursuant to the Vocational Training Act (BBiG) or the Crafts and Trades Regulation Code (HwO) or else are in accordance with training occupations within the healthcare sector subject to standardised nationwide regulation. The last named are only achievable via attendance at school. By dint of § 50 Paragraph 1 BBiG or § 40 HwO, the Federal Ministry of Economics and Technology may, having heard a submission from the Board of the Federal Institute for Vocational Education and Training, act in conjunction with the Federal Ministry of Education and Research in issuing a legal ordinance which establishes equivalence between the examination certificates of a three-year full-time vocational school and certificates issued in respect of the successful completion of a vocational education and training course and of a journeyman examination in the relevant training occupation.

1.3.2.3 Vocational courses leading to the acquisition of a University of Applied Sciences entrance qualification, a subject-specific or a general higher education entrance qualification

1.3.2.3.1 Specialised upper secondary school

The specialised upper secondary school leads to the University of Applied Sciences entrance qualification and to a subject-specific or general higher education entrance qualification under the conditions stated below. It provides pupils with the knowledge and skills required for the commencement and successful completion of a course of higher education study. The imparting of academic research and cross-disciplinary working methods and skills takes place with a view to a course of higher education study and takes place in a propaedeutic manner. The aims are to extend the general knowledge of the pupils and foster lifelong learning skills. Specialist upper secondary schools create practical and theoretical professional foundations in the selected occupational area insofar as these have not already been established as well as consolidating, deepening and supplementing basic knowledge. Further aims are to prepare pupils for the taking on of tasks areas in middle and higher functions and creating the prerequisites for autonomous activity.

Specialist upper secondary schools cover classes 11 and 12. If entrance conditions are already fulfilled (completed vocational education and training and intermediate secondary school leaving certificate), only class 12 is covered. Federal states may also include class 13. Federal states may also choose to include classes 12 and 13 at

vocational upper secondary school. Completion of class 13 leads to a subject-specific or general higher education entrance qualification. The federal states define the performance-related prerequisites for entry to class 13. The provisions of the Framework Agreement on Vocational Upper Secondary Schools apply accordingly with the exception of Clause 2 (entry conditions) and Clause 3 (subjects of training) as do standards for vocational upper secondary schools in the subjects of German, the continuing study of a foreign language and mathematics.

Training includes classroom teaching and professional practice. Training takes place on the basis of standards agreed by the Conference of the Ministers of Education and Cultural Affairs (KMK) and a generally stipulated framework timetable in accordance with the regulations of the federal states. The minimum number of teaching hours stated in the framework timetable must be met.

The written final examination includes the subjects of German, a compulsory foreign language, mathematics and a specific subject within the respective subject of training.

Professional practice takes place in class 11 in the form of a relevant guided practical placement in companies or equivalent institutions.

1.3.2.3.2 Vocational upper secondary school

Vocational upper secondary schools provide two years of full-time teaching leading to a subject-specific or general higher education entrance qualification if a second foreign language is included.

Within the scope of the educational remit, pupils also acquire general educational content, theoretical professional abilities and practical professional skills. Their competences are expanded with regard to professional skills, opportunities for methodological implementation and social responsibility in order to establish comprehensive employability skills. Central significance is accorded to the ability to enter higher education. Pupils are given the skills they need in order to participate actively in social life and to become involved in shaping their own life, learning and work conditions at school, in higher education, in initial and advanced training and at the workplace. Further aims are to prepare pupils for the taking on of tasks areas in middle and higher functions and creating the prerequisites for autonomous activity.

The first year at a vocational upper secondary school may be replaced by other completed educational pathways which lead to a University of Applied Sciences entrance qualification.

The written final examination includes the subjects of German, a compulsory foreign language, mathematics and a specific subject within the respective subject of training.

1.3.2.3.3 Specialised grammar school/vocational grammar school

Vocational grammar schools provide a three-year upper secondary school course with vocationally related educational provision leading to a general higher education entrance qualification.

A particular focus of the educational remit of the vocational grammar school is to provide pupils with comprehensive employability skills in order to prepare them for both later higher education study and other forms of vocational training.

The objective of vocational grammar schools is thus to foster professional, methodological, individual and social activity and planning competences in order to enable pupils to commence vocational education and training, employment activity or higher education study as well as facilitating values oriented, individual behaviour and providing the ability to assume responsibility for co-involvement in the shaping of public life.

The acquisition of competences in this regard and the monitoring of this via the upper secondary school leaving certificate examination are regulated in the framework agreements of the Conference of the Ministers of Education and Cultural Affairs (KMK).

2 *Continuing training*

Continuing and advanced vocational education and training is generally directed towards the retention, adaptation and expansion of employability skills and aims to facilitate occupational advancement by extending such skills (§ 1 Paragraph 4 Vocational Training Act, BBiG). Continuing and advanced training play an important role in lifelong learning.

Advanced training examinations generally require candidates to have completed a vocational education and training qualification and to have a minimum period of practical occupational experience. Preparation for and admission to an upgrading training examination may take place via attendance of a course or at a trade and technical school. As is the case with master craftsmen, however, this may also be achieved via such routes as the acquisition of occupational know-how via informal means and by the self-directed learning of theoretical professional knowledge.

The recognition and regulation of advanced training examinations is within the remit of the Federal Ministry of Education and Research operating in conjunction with the respective specialist ministries. These ministries then enact relevant legal ordinances jointly. These ordinances regulate the title of the advanced training qualification, the aim, content and requirements of the examinations, conditions for admission and the examination procedure (§ 53 Vocational Training Act, BBiG). The relevant competent bodies may enact advanced training examination regulations (§ 54 BBiG) insofar as no legal ordinances have been issued pursuant to § 53 BBiG.

Continuing vocational training at trade and technical schools for agriculture, design, technology, industry and commerce and social services is regulated in accordance with federal state law and deepens qualifications acquired in vocational education and training and in the exercising of employment. In March 2009, the Conference of the Ministers of Education and Cultural Affairs (KMK) passed a resolution opening up general access to higher education for those in possession of upgrading training qualifications (e.g. master craftsmen, technicians, certified senior clerks) without the requirement for an aptitude examination. Applicants who hold vocational qualifications and who have at least three years' occupational experience can also acquire a subject-specific higher education entrance qualification for a course of study related to the occupation learned via an aptitude assessment procedure. This furtherr relaxes access to higher education for those in possession of vocational qualifications.

2.1 Advanced training regulations pursuant to §§ 53/54 ff Vocational Training Act (BBiG) or §§ 42/42a ff Crafts and Trades Regulation Code (HwO)

2.1.1 IT advanced training

Continuing training for skilled workers in the IT sector are integrated into work processes (APO-IT: or "Work processed oriented continuing training in the IT branch"). Reference profiles and implementation guides have been developed for company-based continuing training for the profiles of IT Specialists and Operative IT Professionals⁹. The APO-IT constitutes upgrading training. The usual entry requirement for IT Specialist is a sufficient level of qualification on the basis of relevant vocational training or occupational experience. The examination provides procedure "personnel training" pursuant to ISO/IEC 17024. Those completing the qualification are certified to be in possession of a precisely defined competence. Accreditation is provided by the "Provider Consortium for Accreditation" (TGA) and by the bodies which the TGA has itself accredited.

There are plans for formalised recognition between IT continuing training and higher education.

2.1.2 Master craftsman qualifications

"Master craftsman" is an occupational title which is conferred in the form of a continuing training qualification via successful completion of the master craftsman examination (advanced certification), especially in commercial and technical occupations. The qualification certifies comprehensive theoretical knowledge and practical ability within the occupation and in terms of commercial aspects and

⁹ Statutory regulation has taken place via the "IT Advanced training Ordinance" of 3 May 2002 (Federal Law Gazette Part I, p. 1547) and the "Agreement of the Employers' Associations and Trade Unions" of 14 February 2002 (Federal Gazette, Supplement No. 105a of June 2002)

training. It permits the holder to run a business and to train apprentices in the occupation.

A differentiation needs to be drawn between a master craftsman in the craft trades and a master craftsman in industry (“certified industrial foreman”). The training of the latter is regulated by the Chambers of Industry and Commerce. Within industry, a certified industrial foreman occupies a position between skilled workers and engineers. The main task focus of the certified industrial foreman is on the professional, organisational and human resources management of work groups or departments in industrial companies.

Preparatory courses for the master craftsman examination are offered by the educational establishments of the chambers of crafts and trades, the chambers of industry and commerce and other training providers (full-time, approximately 1 year, part-time between 2 and 4 years, distance learning with supplementary seminars approximately 2 ½ years). Participation in preparatory courses is not, however, compulsory for admission to the master craftsman examination.

Access to higher education is regulated.

2.1.2 Certified senior clerk

The additional qualification of certified senior clerk relates to a **specific branch of trade and industry** and differs from the cross-disciplinary advanced training in such qualifications as certified business economist or a course of higher education study in Business Administration.

Certified senior clerks take on middle management tasks in industry, commerce, the craft trades and in the healthcare sector (e.g. management of out-patient medical care). They mainly exercise planning, organisational, commercial and production supervision or process related activities in these areas. Some certified senior clerks also work in sales and advise customers. Certified senior clerks work for industrial companies, craft trade firms and in institutions within the healthcare sector, particularly out-patient care.

Preparation courses for the continuing training examination are usually of up to 3 years’ duration if undertaken on a part-time basis. Weekend courses may last 18 months, whereas full-time courses and e-learning provision both extend over about 6 months. Participation in preparatory courses is not, however, compulsory for admission to the examination.

Alongside the branch-related advanced qualification of certified senior clerk, specialist commercial clerks are also deployed for comparable positions. Specialist commercial clerk is also a functionally related advanced training qualification and is offered in such areas as marketing, accountancy, procurement and warehousing etc.

Access to higher education is regulated.

2.1.3 Business economist

Business economist is a commercial business administration qualification involving upgrading training leading to an examination which is recognised in public law and conducted by a chamber of industry and commerce (certified business economist) or a chamber from within the liberal professions (e.g. the German Medical Council leading to a qualification as business economist for health service management). Business economist is one of the very highest qualifications which can be conferred under public law in Germany.

Business economists certified by the chambers of industry and commerce are qualified in such areas as bringing the necessary entrepreneurial employability skills to the table which enable them to act in a targeted manner in drawing up solutions for technical or commercial problems within the business management and performance process. This particularly includes an ability to assume independent and autonomous responsibility for carrying out the following related tasks: structuring and ongoing management of operational processes according due consideration to cost, benefits, quality and scheduling aspects; managing projects and providing technical and business support; coordinating technical and business management process interfaces; managing staff and those involved in the process. Within this context, business economists also need to take the economic, ecological and social dimensions of sustainable business practices into account. Certified technical business economist is an equivalent qualification which exists alongside the qualification of business economist. In order to achieve this qualification, candidates are required to sit the relevant advanced training examination set by the chamber responsible.

Business economists have knowledge, skills and experience which they have normally acquired via relevant vocational education and training and occupational experience extending over several years.

Candidates are admitted to the examination if they have successfully passed the examination as certified industrial foreman or a comparable master craftsman qualification, if they have successfully completed a state recognised examination in the qualification of technician, if they have passed an examination leading to the qualification of certified senior technical clerk, certified senior clerk or specialist commercial clerk or if they have successfully completed a state recognised examination leading to qualification as an engineer and can demonstrate at least two years of relevant occupational practice.

Training measures are also offered to enable candidates to prepare for the examination. The duration of such training measures is based on the differentiated functional and management tasks.

Continuing training is between 3 months' and approximately 2 years' duration if undertaken on a part-time or weekend basis. Full-time training lasts between 3 and 18 months. Continuing training in the form of scheduled teaching blocks takes up to

3 years whereas a distance learning course may be of 9 months duration, for example.

The qualification of business economist for health service management represents branch-specific advanced training. Business economists for health service management assist doctors and dentists with organisational and business management tasks in larger organisational units, with complex cooperation structures in out-patient medical care and with networking with the in-patient area. They act in conjunction with the medical decision making level in fulfilling leadership and management tasks in an autonomous way. This process builds on relevant training and experience in health occupations in order to enable appropriate consideration to be accorded to the specific aspects of patient care. Advanced training takes place on an in-service basis over a period of 2 years and leads to action skills in analysis, planning, management and evaluation in the fields of project and quality management, in human resources and training management, in ICT and telematics, in business administration management and in accountancy and finance systems.

Access to higher education is regulated.

2.2 Trade and technical schools

Trade and technical schools provide those in employment who have completed vocational education and training with an opportunity to prepare for a middle-management activity or to gain the skills for self-employment. Some teaching is offered on a part-time basis in order to enable attendance at a trade and technical school to take place in-service.

Courses only achievable via attendance at school are offered within the field of training occupations in the healthcare sector subject to standardised nationwide regulation.

Full-time teaching is of one to three years' duration depending on the course.

Access to higher education is regulated.

3 *Vocational re-training for a recognised training occupation*

§ 60 Vocational Training Act (BBiG) and § 42g Craft and Trades Regulation Code (HwO) stipulate that insofar as retraining regulations or a regulation made by the competent body with regard to retraining relate to a recognised training occupation then such retraining must take place on the basis of the relevant training profile, general training plan and examination requirements.

4 *Higher education*

4.1 **Bachelor and Masters**

Tertiary education encompasses educational processes at institutes of higher education and equivalent institutions. Institutes of higher education also offer provision in the fourth-tier sector of academic research continuing training within the scope of “lifelong learning” following the completion of a first vocationally qualifying degree.

Detailed regulations in this area are the responsibility of the individual federal states.

Within the scope of the Bologna Process, the Conference of the Ministers of Education and Cultural Affairs (KMK) resolved the common federal state structural stipulations for the accreditation of Bachelor and Masters courses of study on 10 October 2003. This was revised via a resolution of 4 February 2010.¹⁰ The German Rectors’ Conference, the Conference of the Ministers of Education and Cultural Affairs (KMK) and the Federal Ministry of Education and Research also collaborated on the drawing up of a Qualifications Framework for German Higher Education Qualifications (HQR).¹¹ This was enacted by the KMK on 21 April 2005. The definition of the quality level for Bachelor and Masters qualifications constitutes the basis for conferring the same academic and vocational entitlements regardless of profile and type of course of study and thus achieving the same competence level in accordance with the Qualifications Framework for German Higher Education Qualifications (HQR). The HQR incorporates the description of interfaces to vocational training.

Examination regulations stipulate a standard period of study for each course and state the time in which a course of study may be completed via the examination aimed at. The standard periods of study for courses which still lead to the traditional German higher education qualifications of “Diplom” (first degree), “Magister” and State Examinations are mostly eight to ten semesters. The standard period of study for medicine is six years and three months. Average actual periods of study are, however, longer than the standard periods.

The overall standard period of study for consecutive Bachelor and Masters courses of study is a maximum of five years, the standard period of study for bachelor courses of study being a minimum of three years and a maximum of four years and the corresponding periods for a Masters course of study being one and two years respectively. Initial experiences with the new higher education study structures show that Bachelor graduates only exceed the standard period of study by half a semester

¹⁰ Common federal state structural stipulations for the accreditation of Bachelor and Masters courses of study (KMK resolution of 10 October 2003 as updated on 4 February 2010).

¹¹ Qualifications Framework for German Higher Education Qualifications (jointly drawn up by the German Rectors’ Conference, the Conference of the Ministers of Education and Cultural Affairs (KMK) and the Federal Ministry of Education and Research and enacted by the KMK on 21 April 2005)

on average. This gives rise to the expectation that actual periods of study will fall in future.

Pursuant to §§ 18 and 19 of the German Higher Education Act (HRG)¹², institutes of higher education and universities will establish Bachelor and Masters courses of study and confer relevant higher education degrees.

Bachelor courses of study impart the basic principles of academic research, methodological competence and occupational field related qualifications and lead to a Bachelor degree. Masters courses of study differentiate more clearly between research oriented courses and courses which are more application oriented. They require a vocationally qualifying higher education qualification and lead to a Masters degree. The degree title itself is not differentiated according to type of educational establishment or standard period of study. Masters courses of study may be differentiated according to the profile types of “application oriented” and “research oriented”. A Bachelor degree fundamentally confers the same entitlements as a “Diplom” obtained at a University of Applied Sciences in the previous structure of qualifications. A Masters degree confers the same entitlements as a “Diplom” (first degree) or “Magister” degree obtained at a university or institute of higher education of equivalent standing.

Bachelor qualifications achieved at Universities of Cooperative Education are accorded equivalent status to Bachelor degrees obtained at institutes of higher education if accreditation is in place. The aim is to tie in academic equivalence with equivalence in vocational training law.

The titles of Bachelor and consecutive Masters degrees are listed at the end of the common federal state structural stipulations.

In the case of further Masters courses of study, institutions are not bound by these stipulations with regard to the choice of the final degrees. Further courses of study require qualified practical occupational experience. In terms of content, such courses link in with the prior occupational experiences of students and take account of their individual learning requirements. If accredited, they confer the same entitlements as consecutive courses of study.

Courses of study which lead to occupations which are a particular object of public interest are concluded with a State Examination. This is the case in respect of courses of study in medicine, dentistry, veterinary science, pharmacy, food technology, law and some teaching courses. The performance requirements for State Examinations are the same as for higher education examinations. The purpose of State Examinations is to achieve quality assurance either in respect of preparation for an activity which is an object of state interest (law, teaching) or with regard to the

¹² German Higher Education Act of 26 January 1976, revised on 19 January 1999 (Federal Law Gazette, BGBl. I p. 18), last amended on 12 April 2007 (Federal Law Gazette, BGBl. I p. 506).

protection of individual patients or the health of the whole population (medicine, dentistry). In State Examinations, representatives of state examination offices act as examiners alongside professors. For those training to be lawyers and teachers there is, following the first State Examination, a particular additional requirement to undertake a period of preparatory service. This period concludes with a further State Examination.

In 2005, the Conference of the Ministers of Education and Cultural Affairs (KMK) 2005 established benchmarks¹³ for the mutual recognition of Bachelor and masters qualifications in courses of study which are used to stipulate the educational requirements for teachers. This allows for the acceptance of courses of study containing Bachelor and Masters structures within teacher training and recognises qualifications thus acquired as long as certain stipulations are fulfilled. The KMK drew up a corresponding supplement to the common federal state structural stipulations for the accreditation of Bachelor and Masters courses of study in 2005.¹⁴

The decision whether to retain the previous higher education study structure and the concluding State Examination or to undertake a transition to the staged structure of higher education study is a matter for the federal states. Staged higher education structures have already been introduced into teacher training in several federal states. Qualifications acquired via these new courses of study enjoy mutual recognition by the federal states insofar as they are in accordance with the standards stipulated by the KMK.

Church examinations take place within the subject of theology and correspond to State Examinations to a certain extent.

4.2 Doctorates

Access to Doctorate course of study is regulated in the Doctorate Regulations of the universities. Opportunities to proceed to Doctorate courses of study are opened up via the successful completion of a lower degree ending in a “Diplom”, “Magister” or State Examination or a Masters qualification if students display a certain performance profile. Particularly qualified holders of a Bachelor degree may be admitted to a Doctorate course of study via an aptitude assessment procedure even if they have not acquired a higher degree.

Particularly qualified holders of a “Diplom” from a University of Applied Sciences may also be admitted to a Doctorate course of study via an aptitude assessment procedure even if they have not obtained a higher degree. Access to and regulation of such an aptitude assessment procedure is stipulated by the universities in their

¹³ Benchmarks for the mutual recognition of Bachelor and masters qualifications in courses of study which are used to determine the educational requirements for teachers (resolution of the KMK of 2 June 2005).

¹⁴ Common federal state structural stipulations pursuant to § 9 Paragraph 2 German Higher Education Act (HRG) for the accreditation of Bachelor and Masters courses of study (KMK resolution of 10 October 2003 as updated on 4 February 2010).

Doctorate Regulations acting in conjunction with the Universities of Applied Sciences where appropriate. In addition to any respective qualification, academic research studies in the Doctorate subjects in preparation for the Doctorate or a supplementary course of study at the university or a Doctorate aptitude examination are also required. With regard to access to a Doctorate course of study, the same conditions apply for Bachelor and Masters degrees acquired at Universities of Applied Sciences as for Bachelor and Masters degrees obtained at universities or institutes of higher education of equal status.

The Doctorate is awarded on the basis of the preparation of a dissertation which is the result of independent research work and on the basis of oral examinations (referred to in Germany as "Rigorosum"). The oral examinations may be replaced by a defence of the dissertation (referred to in Germany as "Disputation"). No defined length of the dissertation is stipulated except in structured Doctorate programmes. Completion of the Doctorate confers the title of "Doctor".