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# Development and interpretation of descriptors of the European Qualifications Framework

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## SUMMARY

The European Qualifications Framework (EQF) table, with descriptors for the reference levels, is by far the most comprehensively annotated table in Europe. Criticism of the table tends to misinterpret it, by looking at the EQF from only one perspective or, at most, two. In this article, we set out to show that the EQF can be understood only if it is considered from at least three perspectives, namely a hierarchy of education systems, a hierarchy of occupational tasks and functions, and a hierarchy of skills acquisition. In addition to this synchronic view of the descriptors, their development will be analysed in detail, and the reasons for changes in them will be explained. Both the synchronic and diachronic perspectives show that it does not seem to be possible to establish a theoretical basis for the EQF, nor do we claim to achieve this. What we offer is, rather, a hermeneutic approach in order better to understand the meaning of the EQF table.

## Key words

Lifelong learning, learning outcomes, transparency, comparability, reference levels, qualification frameworks

## 1. Introduction

This article discusses the genesis and interpretation of the descriptors of the European Qualifications Framework (EQF), which is described in the Proposal of the European Commission (of 5 September 2006) for a Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning (EQF). We shall make reference in particular to the core item in this text and in the EQF – a table with descriptors for eight reference levels. The EQF is intended as a kind of ‘common language’ to describe the levels of the various qualifications systems within the EU. This means that it can rightly be assumed that this text makes a major contribution to education in Europe. Consequently, we also proceed from the assumption that readers are already familiar with this text. Such prior knowledge is necessary in order to follow the arguments in this article.

Our article constitutes a critical interpretation based above all on a historical/analytical approach. This means that we approach the text from a particular perspective; while other interpretative approaches are possible, we shall not take account of them here. We wish to examine the text both synchronically and diachronically. For the diachronic perspective, we shall draw on discussions and documents from the Expert Group and the Technical Working Group to develop reference level descriptors (2006), and also on ongoing consultations for the European Commission on the further development of the EQF (2007). For the synchronic perspective, we shall draw on studies and practical work on classifying skills and competences.

Both the synchronic and diachronic perspectives show that it does not seem to be possible to establish a theoretical basis for the EQF, nor do we claim to achieve this. What we offer is, rather, a hermeneutic approach in order better to understand the meaning of the EQF table.

## 2. A brief history of the EQF (1)

The development and introduction of the EQF must be seen as being closely associated with the realisation of the EU's Lisbon objectives – namely, to strengthen Europe's position as a shared political and economic area, and hence make it more competitive, while ensuring social cohesion. Here, education and training have a key part to play. Improving the transparency of qualifications, and lifelong learning, are two fundamental elements of efforts to bring training and continuing training systems in the EU into line with both the needs of the knowledge-based society and the need for more and better employment. Finally, the 2004 Maastricht Communiqué included the decision that priority should be given to developing an EQF, which was to cover both general and vocational education and to promote transparency and mobility within and between national education and employment systems (Maastricht Communiqué, 2004).

Many experts in qualifications, qualifications systems and qualifications frameworks were involved in developing the EQF. A draft EQF was presented in July 2005, and the European Commission initiated an extensive EU-wide consultation process to discuss the proposal (European Commission, 2005). The results of this consultation were presented and discussed at a conference in Budapest in February 2006 under the Austrian Presidency of the Council. A small team of experts were then commissioned to revise the reference level descriptors. This revision was subsequently finalised in the summer of 2006 by a Technical Working Group comprising representatives of the Member States and the European social partner organisations. The revised version of the Proposal for a Recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning was finally put forward in September 2006.

The EQF's core element is the description of the eight reference levels already mentioned, which, generally speaking, indicate what learners with a qualification at a specific level should know and be capable of doing, irrespective of where or how this knowledge and ability were acquired. The EQF makes it possible to compare qualifications in terms of learning outcomes, in place of a comparison in terms of learning paths and learning content. This means that it resolves, at least in theory, some of the major challenges of European education policy. The eight levels cover the entire range of possible qualifications, from the end of compulsory schooling to the highest level of academic and vocational education. The focus on learning outcomes, irrespective of learn-

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(1) See also European Commission, 2006a.

ing paths, opens up possibilities for recognising non-formal and informal learning and, finally, the EQF supports the transfer of qualifications between countries, and hence mobility of learners and workers (see also Markowitsch, 2007).

### 3. The development of the EQF descriptors – diachronic perspective

In this section, we set out to describe briefly the path to the initial EQF proposal, which was then sent out for consultation. We shall, however, analyse in more detail the period between the initial proposal of July 2005 and the version of September 2006.

#### 3.1. Development of the EQF proposal for the consultation process

Studies commissioned by Cedefop, the European Centre for the Development of Vocational Training, and the Bologna Follow-up Group (BFUG) made a substantial contribution to the development of the initial EQF proposal.

An initial draft of a framework covering all levels of qualifications was submitted in the study on 'European reference levels for education and training' (Cedefop, 2004). This draft built on the analysis of experience in those countries that had already developed a national qualifications framework (NQF) or were in the process of doing so. It also included international research papers on the various levels of competence development, with reference to, for example, the work of Dreyfus and Dreyfus (1986) <sup>(2)</sup>.

In March 2004, the BFUG set up a working group to coordinate the development of a qualifications framework for the European Higher Education Area (EHEA). The report of this working group (Bologna Working Group on Qualifications Frameworks, 2004) played an important part in defining more precisely the functions of the future EQF, particularly with reference to the relationship between European and national levels.

The initial draft of the EQF built on this work, and was submitted by an expert group in July 2005 <sup>(3)</sup>. In seven meetings between autumn 2004 and spring 2005, the group elaborated the aims and functions of the EQF and developed a proposal for the EQF's reference levels, based on learning outcomes. This

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<sup>(2)</sup> We shall come back to the work of Dreyfus and Dreyfus in section 4.

<sup>(3)</sup> European Commission, 2005. This group comprised experts from all areas of education and training (general education, adult education, vocational education and training, higher education), from various sectors and social partner organisations. The group was supported by Cedefop and the European Training Foundation (ETF).

draft contained a table of descriptors which already had a total of eight levels, but with six dimensions, the three main dimensions being 'knowledge', 'skills' and 'personal and professional competence'; the 'personal and professional competence' dimension was subdivided into four sub-dimensions, firstly autonomy and responsibility, secondly learning competence, thirdly communication and social competence, and, fourthly, professional and vocational competence.

The paper submitted by the working group formed the basis for a Europe-wide consultation process, which was initiated by the European Commission and conducted between July and December 2005 <sup>(4)</sup>. The first major international debate on the subject took place in Glasgow in September 2005 <sup>(5)</sup>. Among other things, there was already a call for the European qualifications framework model to be a simple one, sufficiently general for Member States to be able to relate their systems and NQFs to it, and for it to cover all forms of learning (formal, non-formal and informal). It was also stressed that a pragmatic approach was required in developing the EQF – it did not have to be perfect in order to serve its purpose.

### **3.2. Conclusion of the consultation process – the Budapest conference**

The European consultation process, which gave the EQF proposal a very positive evaluation overall, also raised a series of unanswered questions, criticisms and suggestions for improvements. On the other hand, however, few of these related to the specific formulation of the descriptors <sup>(6)</sup>. Nevertheless, the basic tenor of the comments amounted to a call for simplification of the description of the reference levels (hereafter referred to as the table of descriptors or simply 'the table'). In particular, the number of dimensions (columns) appeared to be too large, and the delimitation of the dimensions, or their designations, constantly led to misunderstandings. The third main dimension and its four sub-dimensions were identified as being particularly problematic. During the closing conference of the consultation process (The European Qualifications Framework. Consultation to Recommendation Conference), held in

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<sup>(4)</sup> The consultation process involved the 32 countries participating in the 'Education & Training 2010' work programme, European social partner organisations, relevant European associations, NGOs and networks, and European associations in various sectors of industry (e.g. information and communication technology, construction, marketing).

<sup>(5)</sup> The main results can be found in the conference proceedings (Raffe, 2005).

<sup>(6)</sup> Detailed information on the feedback can be found at [http://ec.europa.eu/education/policies/educ/eqf/resultsconsult\\_en.html](http://ec.europa.eu/education/policies/educ/eqf/resultsconsult_en.html).

Budapest on 27 and 28 February 2006 <sup>(7)</sup>, one workshop with some 100 participants specifically addressed this topic. The discussions held in this workshop produced only a few results that were not contradictory. Consequently these few results were all the more important, and they also gave expression to the request for further amendment:

- The EQF table needs to be redesigned, e.g. by rearranging or combining columns, and by amending the names for the columns. The table should include only those descriptors necessary in order to allocate national qualifications or national qualifications frameworks.
- Learning outcomes should be defined as competences, in the sense of the ability to take action in vocational or social contexts. 'Competences = learning outcomes in context' was used as an approximate definition. Lastly, the existing definitions also needed to be improved.
- The equivalence of vocational and academic competences should be better ensured. To this end, the descriptors in levels 6 to 8, which were perceived as over-academic, should be revised, but without losing the correlation with the Bologna cycles.

With reference to simplifying the table, two possible solutions were already being discussed. One suggestion was to present the descriptors only in a central column, i.e. as a list, under the heading of 'Competence', and simply identify the various sub-dimensions in the text. The second suggestion was to identify only the three main dimensions, and eliminate the sub-dimensions of the third main dimension. Both proposals placed greater emphasis on the concept of 'competence' than the original version had done. For example, the second proposed solution also provided for renaming of the dimensions to 'cognitive competence', 'functional competence' and 'professional and vocational competence', while the first proposed solution aimed to subsume all the descriptors under a general concept of competence. This debate was, incidentally, to continue alongside the further development right up to the final version.

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<sup>(7)</sup> A summary of the results of the conference can be found at [http://ec.europa.eu/education/policies/educ/eqf/back\\_en.html](http://ec.europa.eu/education/policies/educ/eqf/back_en.html).

### 3.3. The expert group

Following the conference, the European Commission invited a small group of experts to discuss and implement these changes to the descriptors <sup>(8)</sup>. In three meetings between March and May 2006, this group drew up a new overall proposal for the table of descriptors and the associated definitions of the main terms. In the process, they once again discussed very basic issues, such as how competence was to be understood. Only the issue of the number of levels was not raised again, since although this had been called into question on occasion during the consultation process and at the Budapest conference, apparently the doubts had not been expressed with sufficient conviction and emphasis.

The general issues were discussed in the meetings, but in a first stage, the actual work of rewording was carried out independently, column by column. In each case, two experts took responsibility for revising a column. To ensure that this work was as coherent as possible, general revision principles were drawn up. The descriptors were to be written in such a way that <sup>(9)</sup>

- all forms of learning outcomes were covered, irrespective of the learning context or institutional context, from basic education via levels of school education or unskilled workers up to doctorate level or the level of senior professionals;
- an adequate distinction was made between the descriptors of lower and higher levels, and the dimension of progress vis-à-vis previous levels was clearly expressed;
- repetitions were avoided, i.e. each level should build on the lower levels and encompass all the previous levels;
- only positive statements were made, avoiding statements on what qualifications were not applicable to the level concerned;
- jargon was avoided and the descriptors could also be understood by people who were not experts;
- clear, specific statements were made (e.g. no terms such as 'appropriate', 'narrow' or 'good', and no references such as 'narrower' or 'broader'), which were at the same time as simple and general as possible.

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<sup>(8)</sup> In addition to the persons responsible within the Commission and Jens Bjørnåvold of Cedefop, this group included experts from the 'big countries' – Mike Coles (UK), Richard Maniak (FR), Georg Hanf (DE) – together with Edwin Mernagh (IE), as co-designer of a national qualifications framework, and Jörg Markowitsch (AT), who had acted as rapporteur in the workshop mentioned above.

<sup>(9)</sup> See also Explanatory Note, 2007.

**Table 1:** Example of application of the above revision principles

Examples from the 'Knowledge' column (the number refers to the relevant level)	Reasons for the change
2. Recall general knowledge and comprehend basic knowledge of a field, <del>the range of knowledge involved is limited to acts and main ideas</del>	Deleted because worded as a restriction (negative); the division into 'recall' and 'comprehend' was also subsequently rejected.
3. Apply knowledge of a field <del>that includes processes, techniques, materials, instruments, equipment, terminology</del> and some theoretical ideas	Deleted because of over-technical terms; was ultimately replaced by 'knowledge of facts, principles, processes and general concepts'.
4. <del>Use a wide range of field-specific practical and theoretical knowledge</del>	Deleted in full, because too general and applicable to all levels; no discernible delimitation vis-à-vis lower and higher levels.

Source: Internal records and email correspondence between the above-mentioned experts

Table 1 contains selected examples illustrating how these principles affected the revision in practice.

Naturally a particular challenge arose in the need to make clear both the dimensions of progress and the relevant gradation between the levels. The issue of what comprised these 'dimensions of progress' remained largely implicit during the revision. However, it was at least possible to identify the following dimensions <sup>(10)</sup>:

- the complexity and depth of knowledge and understanding;
- the degree of support or instruction required;
- the degree of integration, independence and creativity required;
- the scope and complexity of application/practice;
- the degree of transparency or dynamics of situations.

The experts endeavoured to fulfil the requirement for gradation by using keywords as an introduction or 'label' (e.g. 'factual and theoretical knowledge' in comparison with 'basic knowledge' at lower levels or 'specialised knowledge' at higher levels; as from levels 4 and 5, 'supervision' of the work or learning activities of others is included; this is not relevant at the lower levels). These keywords can also be understood as indicators of 'threshold' levels. In addition to these forms of simplification and clarification, fundamental changes ul-

<sup>(10)</sup> See also Explanatory Note, 2007, and Luomi-Messerer and Markowitsch, 2006.

timately involved more or less complete elimination of the original sub-dimensions 'learning competence' and 'communication and social competence', as well as essentially incorporating the 'professional and vocational competence' sub-dimension into the 'skills' dimension. This is clearly illustrated in the comparison of the versions of 8 July 2005 and 25 April 2006 in Table 2.

The general discussion focused on the following main issues: whether competence was the appropriate umbrella term; what was understood by competence; and what the columns should be called.

It was clear from the results of the Budapest conference that 'competence(s)' was the key term. So at first the various definitions and typologies of competence were once again considered, with a division into three apparently being seen as particularly attractive, such as the division by Katz (1974) into 'technical, human and conceptual skills', or the division customary in France into *savoir*, *savoir-faire* and *savoir-être* (see Cedefop; Winterton et al., 2006). Understandably, the German expert argued in favour of the German division into *Fachkompetenz* (professional competence), *Methodenkompetenz* (methodological competence), *Personalkompetenz* (personal competence) and *Sozialkompetenz* (social competence), while the representatives of the English-speaking countries supported the categorisation customary in their context, namely 'cognitive competence', 'functional competence' and 'social competence' <sup>(1)</sup>.

In the course of the discussions, however, this strong focus on competence(s) was again discarded, and the concept of learning outcomes was regarded as more comprehensive. While this virtually amounted to a reversal of the conclusions of the Budapest conference, ultimately it opened up the possibility of putting an end to the discussion, with its irreconcilable views, of the definition or typologies of competences. In any case, learning outcomes are more comprehensive than competences, and hence the term 'learning outcome' can be used as an umbrella term for competence(s), while the reverse is not the case. Learning outcomes can also exist in the form of knowledge, to which no (practical) competence [*(Handlungs-)Kompetenz*] corresponds. This becomes clear when we consider the division into explicit, implicit and inert knowledge developed by Polanyi and taken up much later in the discourse on vocational pedagogics (see, for example, Rauner, 2004; Neuweg, 2006; Markowitsch and Messerer, 2006). According to this distinction, inert knowledge is explicit knowledge to which no (practical) competence (implicit component of knowledge) corresponds. Knowing the height of Mount Everest or

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<sup>(1)</sup> See also EQF Explanatory Note, 2007.

who painted 'Girl with a pearl earring' does not lead to corresponding skills or competence(s). This means that the debate on whether the qualifications framework should be based on learning outcomes or competences could actually also be interpreted as a debate on the status of inert knowledge.

The convincing argument, however, was not the relationship between the terms 'learning outcome' and 'competence(s)', but the illuminating fact that the purpose of the EQF was not to classify individual competences. Thus the EQF is not a competence framework, since it makes it possible to classify qualifications levels and systems. It is a framework based on learning outcomes, whose descriptors describe all forms of learning outcomes. Misinterpretation of the EQF as a competence framework is due to the fact that learning outcomes are, among other things, formulated as statements of what learners are capable of doing on completing a learning process; this means that to some extent it is oriented towards competences. If learning outcomes were to be defined, as was sometimes the case, only in terms of what a learner knows, and not what he or she can do, this orientation towards competences would not exist. We can even go further and assert that what has gone under the heading of 'orientation towards competences' in the discourse to date is now coming out, with a few shifts in nuance, as 'orientation towards learning outcomes'.

Ultimately, this approach also opened up the way to less technical names for the columns and to coming closer to the original names, and in the end it was suggested that the columns should be called 'Knowledge', 'Skills' and 'Autonomy and responsibility'. The fact that this meant that the term 'competence(s)', which was originally central, no longer occurred at all eventually proved to be their undoing. For in the course of further discussions demands were made for this to be reintroduced for the third column, which meant that there were ongoing misunderstandings and apparent contradictions.

### 3.4 The Technical Working Group

After this, the proposal drawn up by the experts was taken to a newly established Technical Working Group (TWG) comprising representatives of Member States. The TWG met three times in Brussels in May and June 2006, welcomed the new proposal in principle, and essentially commented as follows on the new table of descriptors (Cedefop, 2006):

- There is still concern about the balance between vocational and academic qualifications; terms such as 'research' and 'scholarly', which tend to be ascribed to the academic sphere, should be avoided.
- The descriptors should make it clear that an advancing standard does not

necessarily involve specialisation. Thus reaching a higher level does not necessarily mean that the skills and knowledge required are more specialised, although this may be the case in many academic or research-based contexts. In some learning or work contexts, a higher level may mean greater generalisation.

- The designation of the columns should be reconsidered. While the names for the first two columns, 'Knowledge' and 'Skills', met with general approval, some representatives were not happy with 'Autonomy and responsibility'.

Suggestions that went beyond the descriptors involved, for example, advice on clarifying the reference to 'key competences' (European Commission, 2005b), the reference to ISCED (International Standard Classification of Education) (UNESCO, 1997) and to ISCO (International Standard Classification of Occupations) (ILO, 1988) and on revising the definitions. This meant that no further structural changes were involved at this stage, and it proved possible to fulfil the first two requirements with relatively minor amendments. For example, the term 'research' at levels 7 and 8 was supplemented by 'and/or innovation', and the phrase 'specialist research and problem-solving skills, including analysis and synthesis' was amended to 'specialised problem-solving skills required in research and/or innovation'. The comparison of the version of 25.4.2006 (Proposal of the Expert Group for the Technical Working Group) with the version of 5.9.2006 in Table 2 makes it clear that essentially only minor textual amendments were involved.

However, the discussions on the name of the third column led the whole debate on competences to flare up again. To ensure that the document fitted in with the existing Commission documentation and its general linguistic usage, and to embed the key concept of competence(s), it was agreed to replace the designation 'Autonomy and responsibility' with 'Competence' (in the singular). Until then, the most varied Commission documents had spoken of 'Knowledge, skills and competences' (in the plural) or used the abbreviation 'KSC', because apparently people had been unable to agree on an umbrella term, and hence had defined this sequence of words itself as a new term covering all forms of acquisition of knowledge and experience (see, for example, European Commission, 2005c). At the same time, however, the word 'competences' was still in the plural and intended to mean 'abilities'. Finally, in the EQF Recommendation, the term 'competence' (in the singular) was used to represent a dimension that is really only indirectly concerned with knowledge and ability and, in the narrower sense, means responsibility and autonomy.

In this way, the term 'competence' was invested with a particular meaning which is a long way from the concepts previously discussed, and which is not really compatible with the meaning expressed by 'KSC'. Thus the term 'competences' or 'competence' is used in different ways – the phrase 'knowledge, skills and competences' (KSC) refers to a comprehensive ability to apply knowledge, know-how and social abilities, whereas in the EQF, competence is described in the sense of assumption of responsibility and autonomy <sup>(12)</sup>.

Incidentally, this contradiction, which is as yet unresolved and continues to create misunderstandings, is even inherent in the chosen definition of the term 'competence': 'Competence means the proven ability to use knowledge, skills and personal social and/or methodology abilities, in work or study situations and in professional and/or personal development. In the European Qualifications Framework, competence is described in terms of responsibility and autonomy' (European Commission, 2006a, p. 17). In other words, in the first sentence, competence is defined as ability, and in the second sentence as responsibility and autonomy. One might almost say that this definition succeeds in squaring the circle by equating the two traditional meanings of competence, namely ability and responsibility <sup>(13)</sup>. The fact that this is not so simple is demonstrated by the ongoing misunderstandings evident in the use of singular and plural, and which arise even in the Proposal of the European Commission (2006a) for a Recommendation on the establishment of the EQF itself. For example, at several points in this text (European Commission, 2006, pp. 2, 3 and 11) mention is made of 'knowledge, skills and competences', and in subsequent pages 'competence' is used in the singular. Both variants can also be found in the German-language version – for example, the plural form (*Kompetenzen*) is used in the text when all three dimensions of learning outcomes are cited (e.g. p. 6), while the singular form (*Kompetenz*) is used in the definitions (p. 17).

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<sup>(12)</sup> For further discussion of the term 'competence(s)', see section 4.3.

<sup>(13)</sup> Even an etymological approach to the subject of competence shows that these two meanings cannot be unambiguously distinguished from one another. It must also be borne in mind that the meaning of the term has not evolved in the same way in the different European languages (see Ertl and Sloane, 2005, pp. 8 f.; see also Winterton et al., 2006, pp. 29 ff. and Mulder, 2007).

**Table 2:** Overview of the three versions of the EQF descriptors for level 1

Level 1	<i>Version of 8 July 2005 (initial proposal) <sup>(1)</sup></i>	<i>Version of 4 April 2006 (proposal for the TWG) <sup>(2)</sup></i>	<i>Version of 5 September 2006 (final version) <sup>(3)</sup></i>
Knowledge	<i>Recall basic general knowledge</i>	<i>Basic general knowledge</i>	<i>Basic general knowledge</i>
Skills	<i>Use basic skills to carry out simple tasks</i>	<i>Basic skills to carry out simple tasks</i>	<i>Basic skills required to carry out simple tasks</i>
Personal and professional competence			
(i) Autonomy and responsibility	<i>Complete work or study tasks under direct supervision and demonstrate personal effectiveness in simple and stable contexts</i>	<i>Work and study under direct supervision in a familiar and managed context</i>	<i>Work or study under direct supervision in a structured context</i>
(ii) Learning competence	<i>Accept guidance on learning</i>		
(iii) Communication and social competence	<i>Respond to simple written and oral communication Demonstrate social role for self</i>		
(iv) Professional and vocational competence	<i>Demonstrate awareness of procedures for solving problems</i>		

Source: <sup>(1)</sup> European Commission, 2005a; <sup>(2)</sup> European Commission, 2006b; <sup>(3)</sup> European Commission, 2006a

#### 4. The dimensions of the EQF descriptors – synchronic perspective

If we consider the table of EQF descriptors not as it evolved, but as it is presented in its final version, at least three implicit hierarchies can be distinguished within it:

- a hierarchy of education programmes or provision;
- a hierarchy of occupational or organisational tasks and functions; and
- a hierarchy of individual skills acquisition or competence development.

These hierarchies have an ambivalent role: on the one hand, they have made their way into the evolving document here and there, and, on the other, for certain reasons people have kept explicitly distancing themselves from them. They

largely match the three dimensions of the EQF, 'knowledge, skills and competence', even if they cannot be exclusively allocated to these. For the first two hierarchies at least, internationally recognised and binding classifications also exist in the shape of ISCO and ISCED. We shall begin this section by discussing how these implicit hierarchies can be recognised, and shall go on to consider the link with the existing classifications.

#### 4.1. Educational hierarchy

The final version of the EQF Recommendation firmly excludes any reference to any form of hierarchy of education programmes. The original version of the document included a supplementary table to explain the descriptors (European Commission, 2005a), which made specific reference to correspondences with known levels and programmes of education. For example, level 2 is explained as follows: 'Learning at this level is formally acquired during compulsory education'; and level 6 thus: 'Learning for level 6 qualifications usually takes place in higher education institutions' (European Commission, 2005a, p. 22). In the course of the consultation process, a number of objections were raised to this table and this form of explanation, and ultimately they were eliminated without much discussion. Even without this supplementary table, however, this hierarchy is apparent, with reference to levels 5, 6, 7 and 8 and to the explicitly asserted correspondence of these levels to the Bologna cycles (short cycle, bachelor, master, PhD) (European Commission, 2006a, p. 20). Thus for these levels at least, an educational hierarchy is evident, which means that such a hierarchy can also be assumed for the other levels.

A correlation of this kind can also be identified in the descriptors themselves. For example, the first column refers to knowledge that is not formulated in the form of learning outcomes (e.g. no 'can do' statements), and moreover it is strongly reminiscent of the educational goals of various training programmes (training levels). One example is the reference to 'basic general knowledge' at level 1, which is so often seen in the educational goals of elementary schools or basic education. There is also the wording in level 7: 'highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study', which is often found, for example, as a legally defined requirement for an academic degree (*Diplom*) or Master's degree in the form of 'independent academic work'.

ISCED (International Standard Classification of Education) (UNESCO, 1997) constitutes an internationally accepted classification of programmes of education that distinguishes six levels, beginning with elementary school (level

1) and extending to a PhD and postgraduate programmes (level 6). Interestingly, the ISCED classification also seeks to cover learning in its entirety, and refers to 'knowledge', 'skills' and 'capabilities':

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'The notion of "levels" of education is taken to be broadly related to gradations of learning experiences and the competences which the contents of an educational programme require of participants if they are to have a reasonable expectation of acquiring the knowledge, skills and capabilities that the programme is designed to impart. Broadly speaking, the level is related to the degree of complexity of the content of the programme.' (UNESCO, 2006, p. 17)

'The notion of "levels" of education, therefore, is essentially a construct based on the assumption that educational programmes can be grouped, both nationally and cross-nationally, into an ordered series of categories broadly corresponding to the overall knowledge, skills and capabilities required of participants if they are to have a reasonable expectation of successfully completing the programmes in these categories. These categories represent broad steps of educational progression from very elementary to more complex experiences with the more complex the programme, the higher the level of education.' (ibid.)

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Thus from the point of view of the requirement, namely to describe learning experiences and competence acquisition in a hierarchical structure, ISCED and the EQF are definitely comparable. Nor does the fact that ISCED serves to classify programmes of education and the EQF sets out to classify qualifications/qualifications systems make much difference at first glance. All the programmes classified by ISCED, without exception, also offer the relevant qualifications. Similarly, the fact that ISCED relates to learning within a framework of formal education programmes and the EQF also includes other forms of learning is not an argument against comparability for the two instruments. If we think, for example, of external examinations (such as the vocational school-leaving examination in Austria or obtaining of school-leaving qualifications later on, outside the traditional education system), the relevant learning outcomes are largely achieved in the non-formal sphere (e.g. in adult education institutions). However, when the qualifications involved correspond to a qualification in the formal system, they too can be classified under the ISCED system. The fundamental difference between ISCED and the EQF lies in the fact that the latter sets out to be broader, also aims to include the informal sphere, and uses only general descrip-

tors relating to learning outcomes, while ISCED uses descriptors such as minimum entrance requirement, minimum age, staff qualification and the like.

#### 4.2. Occupational hierarchy

The third column of the EQF table describes the extent of responsibility and autonomy at the various levels. This means that essentially it also addresses functional and organisational contexts as they can be identified in the world of work. For example, at the higher levels, responsibility for team leadership is mentioned, while at the lower levels, the degree of autonomy is restricted, insofar as it requires supervision of learning or work by others. Descriptors of this kind are often used in occupational classifications, and descriptions of wage groups in collective agreements are also based on them.

ISCO (International Standard Classification of Occupations) (ILO, 1988) also uses the idea of ascending levels of demands:

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‘The framework necessary for designing and constructing ISCO-88 has been based on two main concepts: the concept of the kind of work performed or job, and the concept of skill. [...] Skill – defined as the ability to carry out the tasks and duties of a given job – has, for the purposes of ISCO-88 the two following dimensions: (a) Skill level – which is a function of the complexity and range of the tasks and duties involved; and (b) Skill specialisation – defined by the field of knowledge required, the tools and machinery used, the materials worked on or with, as well as the kinds of goods and services produced.’

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Interestingly, however, ISCO does not fall back on an independent description of skill levels, but uses the ISCED descriptors, which are, almost without exception, based on input indicators (see Table 4). In other words, the skill levels in ISCO are ultimately defined by means of a vaguely attributed education programme. ‘Vaguely’ insofar as ISCO maintains that a person does not necessarily have to participate in this programme to acquire these skills – the skills must only be of equal value in terms of the requirements. In transferring the ISCED descriptors to the world of work, ISCO is also, as it were, opening up access for informally acquired skills and eliminating the correlation with education programmes, but without abandoning the requirement for comparability.

### 4.3. Hierarchy of skills acquisition or competence development

The preceding analysis of ISCED and ISCO has shown that although the EQF does not set out to classify either education programmes or occupations, nevertheless it has so many affinities with these classification systems that it could also be used for this – unintended – purpose. ISCED and ISCO are classification systems specifically designed to classify education programmes and occupations respectively. An educational hierarchy is inherent in the EQF only to some extent (for example, a qualification at a higher level of the EQF is extremely likely also to correspond to a higher level of ISCED), and the same applies to a hierarchy of occupations (for example, a qualification at a lower level of the EQF is extremely likely to lead to an occupational activity that corresponds to a lower ISCO skill level). However, the EQF focuses on learning outcomes in the form of knowledge, skills and competence, irrespective of education programmes or occupations. Thus the EQF constitutes a new tool that offers the possibility of combining educational and occupational taxonomies; to some extent, it therefore represents a bridge between ISCED and ISCO <sup>(14)</sup>.

Similarly, the EQF could also be used to describe individual skills acquisition or competence development, although it is constantly emphasised that this is not its purpose. The very fact that this has to be constantly pointed out makes it clear how close the EQF comes to being a ladder of skills acquisition or a classification of skills/competences.

At this point, we need to come back to the keywords used here. While so far we have essentially used the words knowledge, skills and competence(s) in accordance with the contexts in which they are used (EQF Recommendations and discussion, ISCED, ISCO, etc.), in what follows we cannot avoid establishing our own interpretation. At the same time, we do not wish to go to the trouble of distinguishing between competences and skills, since in practice such a distinction has no effect. The question of whether we speak here of competences, skills or abilities is a matter of taste. In each case it is their individual development that is involved, and the words are often (and rightly!) used synonymously. For this reason, to avoid misunderstandings as far as we can, we speak even in the heading of this section of 'skills or competences'. To aid understanding, however, we should mention that this usage comes closer to the interpretation in 'knowledge, skills and competences' than to the specific meaning of 'competence' in the EQF.

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<sup>(14)</sup> See also EQF Explanatory Note, 2007.

Similarly to an occupational classification (see above), a classification of skills/competences, or skills classification, also comprises two main dimensions, the level of skills/competences and specification of the specialised nature or content of competences. To determine the former, a hierarchy such as that proposed by Dreyfus and Dreyfus (1986), from novice to expert, is conceivable. Owing to the breadth of the world of work, more comprehensive systems are needed to specify the specialised nature or content.

A system of this kind is currently under development for Europe, namely DISCO [Dictionary of skills and competencies, DISCO (n.d.)]. This is a comprehensive collection of terms (totalling some 7000) for competences and skills, as used in CVs, job advertisements, job profiles and the like, which will be available in structured form in seven languages. With the aid of this thesaurus, not only can parts of CVs be automatically translated, but CVs, etc., can also be produced. Although DISCO focuses on (occupation-specific) skills and competences in particular, it also includes terms that cannot be precisely attributed to specific areas, such as values and attitudes or physical characteristics.

O\*NET goes even further in this direction. O\*NET (n.d.) has been in use in the USA for several years, and is an occupational information system that makes use of, among other things, fully developed taxonomies and scales of general competences and key competences. Unlike DISCO, it also offers levels of requirements for the individual abilities and skills. In addition to skills, which are divided into basic skills and cross-functional skills, the O\*NET model also includes knowledge and education as work requirements. In addition to these, and essentially recognised as of equal value, there are work characteristics, divided into values, work style, occupational interests and capabilities, and other characteristics such as occupational requirements and occupation-specific information. The concept of competences does not appear anywhere in the model, and fits in somewhere between skills, capabilities, occupational requirements and occupation-specific information, which are described as tasks and activities (!). O\*NET demonstrates impressively that a precise description of occupations and jobs requires more dimensions than knowledge, skills and competence, and makes the EQF's reductionist approach to qualifications clear.

The VQTS model is an example of occupational specification in describing qualifications (see Luomi-Messerer and Markowitsch, 2006; Markowitsch et al., 2006; Markowitsch et al., 2007). In this model, which was developed in the Austrian Leonardo da Vinci project 'Vocational qualification transfer sys-

tem' or VQTS <sup>(15)</sup>, which won several awards, competences and their development are determined on the basis of empirically investigated occupational activities. These competences and the stages of their development are formulated with reference to the work process. A 'matrix of competences' presents these competences with reference to core work tasks (areas of competence) in a specific occupational field, and the progress of competence development (stages of competence development) in structured form in a table. With the aid of this matrix of competences, the stages of competence development to be achieved in the context of training or the stages already achieved by a person at a particular time can be depicted as profiles of competences. One of the uses that can be made of this tool is to compare qualifications with one another, and another is to facilitate allocation to qualifications frameworks.

To date, none of these approaches has resulted in an internationally binding classification. However, in view of the ever-increasing importance of informal learning and of general orientation towards competences on the one hand and, on the other, the inadequacy of existing classifications of occupations and education that has been revealed by the EQF, the question arises whether we do not now have an extremely urgent need for a similar international standard classification of skills (ISCS), which at least takes account of these two dimensions.

#### 4.4. The EQF as a whole

The synchronic analysis has shown that the EQF contains three implicit hierarchies, namely an educational hierarchy, an occupational hierarchy and a hierarchy of skills/competences, which means that, even though it was not intended for this purpose, it could definitely provide a practical service in terms of classifying education programmes, occupations and skills (or competences). With the aid of Figure 2, which shows these relationships and their attributes, we can now go on to interpret certain criticisms of the EQF and to show why most of them do not hit the target.

If we examine the interrelationships between the individual hierarchies implicit in the EQF, we inevitably find contradictions. This is also the starting point for the criticism that was expressed prior to and during the consultation process in particular. For example, it is often argued that people with different qualifications (having obtained them by different routes) can practise one and the same occupation and, looked at the other way around, one qualification does

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<sup>(15)</sup> For more information on the project and the VQTS model, see the project website: [www.occupationalqualification.net](http://www.occupationalqualification.net).

not necessarily qualify people for one and the same occupation. In other words, there is no point of precise correspondence on the education-system/occupation axis. Naturally it is also conceivable (and this criticism too is accordingly justified) that one and the same training level (e.g. apprenticeship/equivalent training and a secondary school providing general education, which are both classified as ISCED 3) can lead to completely different skills/competences, and these can on no account be regarded as equivalents. In other words, there is also no direct correspondence between the hierarchy of the education system and the hierarchy of skills/competence development. Lastly (although presumably much more rarely), there is no direct correspondence between the level of skills/competences and occupation and/or responsibility/autonomy. Even people without well-developed skills/competences in a particular area may possibly be entrusted with executive-level responsibilities (for example, a management function).

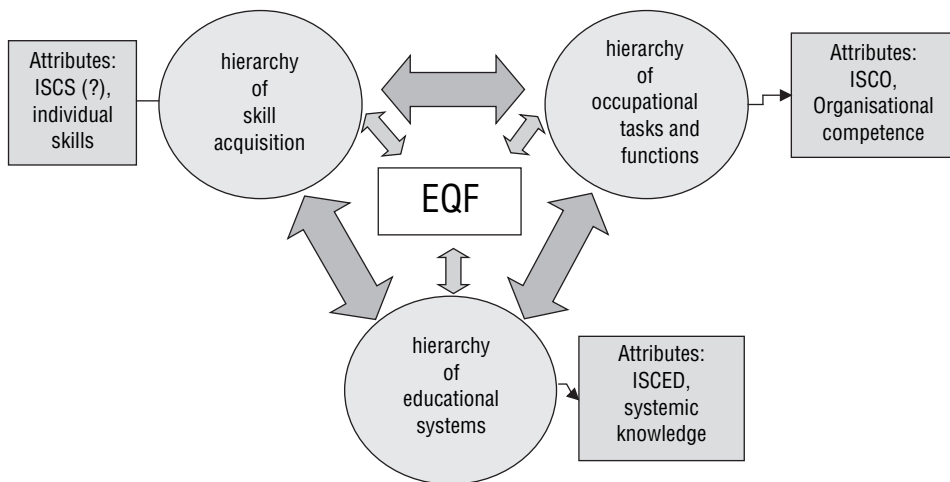
We shall examine one specific example of criticism of this kind, namely the argumentation and examples put forward by Rauner (2006). Rauner (2006, p. 47) rightly comments that those completing 'purely' academic training courses must first acquire a series of vocational competences through practical work. In other words, in our model these qualifications have a high ranking in the educational hierarchy, but ought to have a low ranking in the hierarchy of skills development. On the other hand, if we look at dual vocational training, especially 'in relation to the activities to be taken on in the work process', this should really have a higher ranking than it would be given on the basis of the hierarchy of education systems. This addresses the lack of correspondence between the educational hierarchy and the hierarchy of skills development. In another example, Rauner (*ibid.*) points out that a master craftsman who has passed his master craftsman's examination possesses substantial vocational experience and can, for example, take over the management of a modern car dealership without much on-the-job training, while somebody like the holder of a bachelor's degree would need at least a two- to three-year training phase before doing this. This example addresses the lack of correspondence between educational qualification (educational hierarchy) and the hierarchy of occupational tasks and functions (e.g. management).

We could quote many more such examples. The interesting thing about the EQF is that these examples and the associated criticisms always go along these axes, so that they almost always involve only two dimensions. They do not, as it were, involve the EQF as a whole. It is correct to say that qualifications ensuing from dual vocational training are ranked lower than qualifications obtained in academic training in the existing educational hierarchy (e.g.

ISCED), and that they are ranked higher in terms of skills acquisition, owing to the various periods of practical experience involved in their acquisition. However, if we add in the third dimension, namely a comparable occupational task or function, this example suddenly looks different. The contradictions dwindle in the light of the new dimension or, to put it another way, the likelihood of contradictory classification is reduced when the relevant third dimension is included.

These criticisms and the fact that they do not see the EQF as a whole mean that they do not get to the core of the EQF. For the EQF is not based on one or even two of these hierarchies, but includes all three. Against the background of our analysis, the EQF could also be interpreted as a classification of occupations and programmes of education that is supplemented by a skills dimension, and hence as an extension or combination of ISCED and ISCO.

**Figure 1:** The three dimensions of the EQF and possible attributes



Source: Authors

## 5. Conclusions and unanswered questions

As we have shown, a detailed ahistorical consideration of the descriptors can reveal the hierarchies implicit in the EQF, which have also formed part of its development, and the relationship of these with classification systems that are already in existence, under development, or yet to be developed. If we can see something in the hypothesis of implicit hierarchies argued here, and if we consider the EQF in terms of its main purpose, namely to classify qualifications, the question obviously arises of whether it actually succeeds in addressing the main components of qualifications. Is it sufficient to describe qualifications in terms of knowledge, skills and competence in the sense of autonomy and responsibility? Or, to put it another way, can qualifications best be described in terms of classifications of occupations, education and competences? If we think this through further, this naturally gives rise to another question, namely whether the theory behind the structuring of the descriptors that could be said to control the EQF is correct.

In fact, such a view would tend to do more justice to a multi-perspective approach to qualifications than the common one- or at most two-dimensional perspective. At the same time, however, it would become apparent that the concept of qualifications would not go on to be replaced by the concept of competences or to be subsumed by the latter, but that competence(s) merely supplement existing dimensions of descriptions of qualifications. If this proves to be the case, in the long term the concept of qualifications will again be at the centre of the debate.

The historical analysis has shown where the struggle to clarify the concept of competences can lead, and has made it clear that the EQF is very much a political/pragmatic tool and not a scientific/empirical tool. Actual use in practice will soon answer the question of how far the fact that the EQF does not have a scientific or at least systematic basis but, on the contrary, bears the marks of many small political compromises makes it less useful. Practice will also show whether the descriptors, with their generality and following their successful simplification, are actually capable of providing reference points linking the various national systems of qualifications.

For the moment, at least, it also remains unclear how the EQF, as a general tool for describing qualifications, fits in with other more specific tools for describing qualifications, such as the DISCO and O\*NET systems mentioned earlier or the systems developed in the context of ECVET, such as the VQTS model. Can the EQF be seen as representing zero, as the top level of the sys-

tem, in a new system for classifying qualifications? If so, what will future levels look like and how many will be needed?

There is a need for future projects to address these issues in particular. For example, they could test the possibilities of using DISCO, O\*NET or VQTS to describe qualifications, and identify possibilities for linking them to the EQF. If we end up with an international standard classification of skills and competences, not only would the world of science and academe and the political world have learned something, but the EQF itself would also have become much more powerful and would represent a coherent explanatory model.

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