



TRansparent Competences in Europe

Overview of European Competency Frameworks

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1. Introduction

Competence is a term subject to such diverse use and interpretation that it is difficult to identify or impute a coherent theory or to arrive at a definition capable of accommodating and reconciling all the different ways the term is used. The concept of competence is widely used; it has become a concept of everyday language. Yet, there is confusion on the exact definition of the concept and the term is used in varying ways. The use depends also on the context: competence has different emphasis in business processes than in formal education organizations or in theoretical discussion.

The principal purpose of the work packages 1 and 2 in the field of TRACE was to provide an overview of the principal practices and approaches present in the 25 EU countries and at European level with regard to the development and assessment of individual competencies. As this is a rapidly evolving field, especially in the light of the current and future impact of such initiatives as the European Qualification Framework (EQF), this report should be regarded as an interim presentation. It will be sufficiently representative to allow analysis and work on a translator of competency frameworks, but it will be updated towards the end of the project to reflect the latest evolutions.

While the concept of competence or competency is not new, the last 30 years have been distinguished by a change of approach in human resource management and development practice in many countries internationally. Traditionally, work activities were attached to a job and person specification and performance was measured against description of tasks. There was also a great reliance on knowledge-based qualifications that were supposed to enable the owner to transform *knowing about* into *knowing how to*. It has to be said that this is still the case today in many sectors and countries. Other countries however have carried out a radical re-thinking about how to develop and assess competent performance and have contributed to the competence-based approach to learning, training and development. Briefly, this approach is characterised by a focus on the results or outcomes of core activities rather than tasks. Knowledge is a necessary but not sufficient guarantee of a competent performance over time.

A review of the practices of the European Union Member states and those in the greater European area reveals a great diversity of practice that might have remained the status quo for many more years but is more likely to be shaken up by European directives and suggested reforms. The EQF, for example, has come firmly down on the side of outcome-based rather than knowledge-based qualifications. While the framework is voluntary, member states are strongly recommended to put in place outcome-based national qualification systems (few countries have these).

We need to recognise, of course, that competency development and validation are not necessarily linked to qualifications. The primary purpose of the majority of competence frameworks has been to raise the skill level of the workforce. In some sectors, however, there is provision for recognition of competence on production of appropriate evidence that may lead to organisational, sectoral or even national qualifications.

This paper presents an overview of the variety of competency-based systems in Europe. It reveals a complete spectrum ranging from those countries who have adopted a national qualification framework and a comprehensive system of sectoral competence-based qualifications to those that no such qualification system and have yet to develop a competence-based approach to training and development. We can find systems that are activity based and task-based; those that are simple statements of the desired skill and those that are detailed statements of the knowledge, competence and performance measures required.

We need to point out too that the report is based on information that is publicly available. There is a great deal of practice that takes place at company level that is not in the public domain for reasons of commercial sensitivity.

Some countries may appear over-represented not only because information is more easily available but because they have more developed systems that have been in place for many years and the systems they have adopted have had a bigger impact both internally and externally.

An important conclusion is that taking Europe as a whole; there has been sufficient investment by certain Member States in competency frameworks to provide a robust infrastructure that could be exploited by all. We would argue for the development and implementation of competence-based development and assessment systems at a sufficient level of detail to allow accurate measures of performance and to be aligned with the EQF and other Europe-wide measures. The TRACE translator tool should help us advance towards this goal.

2. The European context

The challenge faced by Europe is that faced by many of the world's regions: shrinking populations, severe skill shortage, necessity to train and develop the workforce in the light of rapid changes in work practices and a global market.

A review of EU performance against its explicit goal expressed in Lisbon in 2005 – to make Europe the most competitive knowledge-based society in the world by 2010 – concluded that the first five years have not delivered the results hoped for. In key areas from productivity to research and education spending, early school leavers or poverty we have barely made an impression on closing the gaps that existed five years ago.

In contrast to the other major world economic blocs, Europe presents a diversity of cultures, languages and educational systems that are at the same time an inestimable treasure and an enormous challenge. The need to ensure transparency of vocational qualifications – both to improve national workforce development and enable cross-border mobility has led to calls for need for common European qualification standards and certificates. A number of EU-wide initiatives have been implemented or suggested as a result.

The European Qualifications Framework (EQF)

One of the most far-ranging European initiatives is the production of the European Qualification Framework and the associated consultation exercise.

The inspiration behind the EQF is that lifelong learning has become a necessity in a Europe characterised by rapid social, technological and economic change. An ageing population accentuates these challenges –underlining the need for a continuous updating and renewal of knowledge, skills and wider competences. The realisation of lifelong learning is however complicated by the lack of communication and co-operation between education and training providers and authorities at different levels. Barriers between institutions and countries not only prevent access to education and training but also prevent an efficient use of knowledge and competences already acquired. This problem is primarily caused by a lack of transparency of qualifications, by a reluctance to recognise 'foreign' qualifications, and by the lack of arrangements that allow citizens to transfer qualifications from one setting to another. It is also caused by the tendency to regard learning acquired in non-formal and informal settings (for example at work) as inferior to learning for formal qualifications delivered in initial education and training.

The set of knowledge, skills and/or competences an individual has acquired and/or is able to demonstrate after completion of a learning process. Learning outcomes are statements of what a learner is expected to know, understand and/or be able to do at the end of a period of learning. Learning outcomes can be formulated for a number of purposes; in relation to individual courses, units, modules and programmes. They may furthermore be used by national authorities to define entire qualifications – sometimes structured within or linked to qualifications frameworks and systems. International bodies may, finally, use learning outcomes for the purposes of transparency, comparability, credit transfer and recognition.

The EQF is envisaged as a meta-framework increasing transparency and supporting mutual trust that will enable qualifications frameworks and systems at national and sectoral level to be able to be compared, thus facilitating the transfer and recognition of the qualifications of individual citizens. What is interesting for the TRACE project is that the EQF is seen as a translation device – a converter or reading grid – making it possible to position and compare learning outcomes. This is important at European level but increasingly so at national, regional and sectoral levels.

An EQF would provide a reference for the development of sectoral qualifications. The relevance of the EQF to individual citizens will be ensured by the development and implementation of common instruments and tools like a credit transfer and accumulation system, the Europass instrument and the Ploteus data base on learning opportunities.

The intention is that following the adoption of the EQF, individual qualifications awarded at national or sectoral level should contain a clear reference to the EQF.

An EQF could also prove important for the assessment and recognition of the qualifications from outside the EU.

The core of the EQF would be a set of common reference points – referring to learning outcomes located in a structure of 8 levels. Qualifications at each level are described in terms of three types of learning outcomes:

- knowledge;
- skills; and
- wider competences described as personal and professional outcomes.

The Bologna Process

The Bologna Declaration of 19 June 1999 involves six actions relating to a system of academic grades which are easy to read and compare, including the introduction of the diploma supplement (designed to improve international "transparency" and facilitate academic and professional recognition of qualifications). The aim of the process is thus to make the higher education systems in Europe converge towards a more transparent system which whereby the different national systems would use a common framework based on three cycles - Degree/Bachelor, Master and Doctorate. It also encompasses a system of accumulation and transfer of credits; mobility of students, teachers and researchers; cooperation with regard to quality assurance; the European dimension of higher education.

The Maastricht Communiqué on the Future Priorities of Enhanced European Cooperation in Vocational Education and Training (VET)

In December 2004, in Maastricht, the Ministers responsible for Vocational Education and Training of 32 European countries, the European Social Partners and the European Commission agreed to strengthen their cooperation with a view to modernising their vocational education and training systems in order for Europe to become the most competitive economy, and offering all Europeans, whether they are young people, older workers, unemployed or disadvantaged, the qualifications and competences they need to be fully integrated into the emerging knowledge based society, contributing to more and better jobs.

The Interim Report calls for the development of European common references and principles as a matter of priority, and their implementation at national level, taking account of national situations and respecting national competences. In reviewing the focus of the Copenhagen process for 2005-6, emphasis was laid on the development and implementation of open learning approaches, enabling people to define individual pathways, supported by appropriate guidance and counselling. This should be complemented by the establishment of flexible and open frameworks for VET in order to reduce barriers between VET and general education, and increase progression between initial and continuing training and higher education.

Europass

The Europass is a single portfolio enabling citizens to provide proof of their qualifications and skills clearly and easily anywhere in Europe. It comprises five documents designed at European level to improve the transparency of qualifications. Its aim is to facilitate mobility for all those wishing to work or receive training anywhere in Europe.

The Europass is one of the EU's three main instruments to support mobility. A portfolio of five documents, it enables citizens to provide proof of their qualifications and skills clearly and easily in the Member States of the EU, the candidate countries (Bulgaria, Croatia, Romania and Turkey) and Iceland, Liechtenstein, Norway and Switzerland. It thus complements the Ploteus site, launched in 2002, which contains information on education and vocational training opportunities throughout Europe, as well as the European vocational training framework which is currently being implemented.

It comprises the following elements:

1. Europass - Curriculum vitae (Europass-CV). This is an improved version of the European CV created by the Commission in 2002.
2. Europass – Mobility. Using a common European format, the Europass - Mobility records all periods of transnational mobility for learning purposes, at whatever level: company placement, semester studying at a university or any other training experience.
3. Europass - Diploma supplement. The diploma supplement contains information on the holder's higher education pathway. It describes the nature, level, context, content and status of any courses successfully completed. Developed jointly with the Council of Europe and UNESCO, it is completed by the issuing body and presented at the same time as the diploma.
4. Europass - Certificate supplement. The certificate supplement describes the vocational qualifications of any person holding the vocational training or education certificate to which it refers. To this end, it provides, inter alia, information on the skills acquired, the range of vocational activities available, the certifying bodies, the level of the certificate, the entry qualifications required and opportunities for gaining access to the next level of training. It is issued by the competent national authorities.
5. Europass - Language portfolio. The language portfolio enables citizens to present their linguistic and cultural skills. It provides specific information on the holder's language abilities, in accordance with Europe-wide standards, his or her experience in each language and a file of personal work to illustrate the level reached.

3. Competency Frameworks across Europe

While there is apparently great diversity in the approach to competence development and assessment in greater Europe, in the end the number of *different* approaches is limited and what may appear to be unique to a culture or sector is for the most part a variation on a theme. Thus we find

- Development
 - Based on the acquisition of knowledge
 - Based on task analysis
 - Based on competence analysis
 - A combination of the above
- Assessment
 - Knowledge-based tests or examinations
 - Practical tests (that may be based on a task or competence-based indicators)

- Production of evidence of competence against standards or indicators (for example by building a paper-based or electronic portfolio).
- A combination of the above

Recognition of this fact, together with the clear orientation of the EQF towards outcome based competency statements and the influence of the other EU initiatives that are going in a similar direction, should help to focus the TRACE translator.

4. What is meant by competence (or competency)

Competence and competences are job related descriptions of an action, behaviour or outcome that should be demonstrated in individual's performance. Competency and competencies are person-orientated referring to person's underlying characteristics and qualities that lead to an effective/superior performance. Furthermore Woodruffe (1993, in McMullan) describes competency something that underpins competence. Thus, without competency there is no competence. Quite often these two concepts are used interchangeably. Interesting question is how the environment can stimulate competency so that the individual or a team of individuals can achieve higher goals. However, it must be noted that competency can be more than the observed performance; the potential can be higher than the actual performance. Competency can come up differently in different type of contexts and the visible performance is the concrete expression of competency, i.e. being competence.

While the paragraph above introduces one definition for competence and competency, we could find as many definitions as there competency frameworks and they naturally reflect the approach taken. (See Annex 3 for sample definitions) In Europe alone we can not only find hundreds of definitions of competence or competency (and the apparently interchangeable nature of these words in itself illustrates the problem!) but also a great variety of usages of the vocabulary associated with competency frameworks such as knowledge, skill, ability, aptitude, capacity, behaviour etc. Increasingly, however we are seeing the emergence of a consensus around the key elements, even if there remains a difference in emphasis, weighting, detail and purpose.

The following definition is that produced by the authors of the EQF.

Based on the examination of published literature from France, the United Kingdom, Germany and the United States of America, the following composite definition of competence is offered.

Competence includes: i) cognitive competence involving the use of theory and concepts, as well as informal tacit knowledge gained experientially; ii) functional competence (skills or know-how), those things that a person should be able to do when they are functioning in a given area of work, learning or social activity; iii) personal competence involving knowing how to conduct oneself in a specific situation; and iv) ethical competence involving the possession of certain personal and professional values.

The concept is thus used in an integrative manner; as an expression of the ability of individuals to combine – in a self-directed way, tacitly or explicitly and in a particular context – the different elements of knowledge and skills they possess. The aspect of self-direction is critical to the concept as this provides a basis for distinguishing between different levels of competence. Acquiring a certain level of competence can be seen as the ability of an individual to use and combine his or her knowledge, skills and wider competences according to the varying requirements posed by a particular context, a situation or a problem. Put another way, the ability of an individual to deal with complexity, unpredictability and change defines/determines his or her level of competence

While the EQF, as has been noted, is a meta-framework with which national frameworks are intended to be aligned, it is clear that it is promoting a comprehensive view of competence going beyond a mere statement of knowledge and skills but reflecting the complexity of the world of work and the range of competencies and personal qualities required to deal with it.

5. Origins of the competency systems

A number of European countries have put in place **national** systems driven by Government departments – these include the UK, Ireland, Denmark, the Netherlands Norway and Portugal. Ministries include Education, Employment, Science, Technology and Innovation and Economic and Business Affairs. Most of the frameworks at this level tend to be based on analysis of activities or functions rather than tasks. Not all are linked to national qualifications.

For those countries operating a **federal** system of governance, we naturally see a state or regional approach to competency development and management. Germany, Italy and Belgium present examples of this approach.

Other countries, such as France operate on a more **sectoral** basis with the responsibility for production of indicators of competence held by the vocational training organisations, sectoral collectors of the training levy or professional bodies.

In all countries there is a further important source of competency frameworks, namely at organisational level. It is often the case that the public sector aligns itself with national or regional initiatives whereas for the private sector, competence development and management is a source of competitive advantage. While these systems may well be inspired by publicly available models, they are usually tailor-made to the culture and needs of the organisation, do not lead to external recognition and are rarely made public. These systems may be found at a national or multi-national level.

We can also find a competency-management service offered by some of the large human resource management specialists like SRH or CUBIKs.

TRACE partners are working with Skillsnet on the O*Net framework, developed in the United States and have carried out a feasibility analysis on its potential contribution to the Trace translator tool.

It should be noted that in some countries, such as Ireland or the UK we find a variety of frameworks, with those of professional bodies and organisations sitting alongside national and sectoral frameworks.

There are also Europe-wide initiatives, some of which are the products of EU-financed transnational projects, for example:

- European ICT-skills meta framework
- NOVALOG (Leonardo da Vinci) project is to develop a common European competence framework for logistics, reflecting practices and experiences in 19 countries.
- The European Marketing Confederation: certification of competences and qualifications for the marketing profession in Europe: a sectoral approach to a family of professions
- eTTNet/eTTCampus – eCompetencies for European teachers and trainers
- eLearning Framework

6. Methodological approach

The sample competency frameworks collected reveal a spectrum in term of format, content, level of detail and use. However, as mentioned earlier, most of the frameworks that may be described as elaborated fall into the two categories of task analysis or functional analysis.

Task-based analysis

This was the traditional approach to skill development and has a long history in vocational education and training, focuses on the activity itself and not the result or outcome of the activity. The process involves identifying in detail the components of work activity – usually in order to time and monitor performance, and also to structure training programmes. This approach is still widely used and serves a purpose as long as its limitations are recognised. Task analysis fails to capture the essential and broader aspects of competence. For example, while task analysis can readily describe practical activities it does not take into account the essential planning, problem solving and communication skills that are components of a competent performance.

Functional analysis (FA)

By contrast, the FA approach is activity rather than task or job-based. While it is concerned with sectoral competencies, these are never explicitly linked to specific jobs on the grounds that job titles change and that the way job titles are used may vary among organisations. While the origins of the most developed form of FA are to be found in the UK in the 1980s, it is the basis of competency frameworks devised by other countries such as the Netherlands, Ireland, Australia New Zealand, Mexico and several other South American countries. The approach has been endorsed by the International Labour Organisation.

While the original inspiration for the production of these types of competency frameworks was primarily to improve organisational performance by increasing the competency level of individual employees, over the last 20 years many frameworks have also been converted into 'standards' as the basis for sectoral or national qualification-based systems. A competency framework becomes a standard when it states the outcomes that people in particular work roles are expected to achieve and indicates how these are to be measured (formal assessment). Standards are quality specifications that describe what should happen. They combine specifications of best current practice with realistic future expectations. For that reason current jobs are only one of the sources of data when developing standards. There is a clear implication here for any attempt to 'translate' one system into another. The standard contains a high level of detail and, as been observed by other colleagues, the higher the level of granularity the greater the challenge to render systems comparable.

Carrying out a functional analysis

Briefly, functional analysis is a descending analytical approach to the description of competencies, which, at the level of each sector of commerce, industry or public service, begins with a definition of the key purpose of the sector.

The result of this process in turn is the establishment of key domains (areas of competence). Several factors are taken into account in their definition, for example, technical, strategic, creative and managerial aspects, as well as underlying values such as professional ethics and respect for diversity and equal opportunities.

Functional analysis is based on the description of outcomes - the results of activity rather than specific tasks. The description of purpose - focusing on the why rather than the how allows apparently different activities to be linked by their common purpose. It also allows the production of competency frameworks that are independent of specific work environments or cultures. The process of functional analysis also deliberately identifies and makes explicit underlying values and ethics in occupational sectors and actively seeks opinion on best practice and future trends and developments. The most useful competency frameworks are thus future facing. They should be concerned not simply with describing what is happening today, but with anticipating the competencies required in the future. This means, of course, that a competency framework should naturally be updated on a regular basis.

The focus on activities rather than on job roles means that a competency framework can provide a dynamic and flexible representation of evolving professional responsibilities.

The result of the process of functional analysis is a functional map - a representation of a professional sector, describing the outcomes of activities from organisational to individual level.

Key Purpose ■ Key Role ■ Area of Competence

Having established the principal elements of the functional map, the process continues with the construction of a detailed competency framework or set of performance standards.

The area or Unit of competence is the basic component of the standard in this framework. It describes a complete activity, capable of being carried out by an individual and of being assessed. Each unit of competence can then be divided into a number of elements of competence containing performance criteria and the underpinning knowledge and understanding required for a competent performance. Individual units or elements may also contain information about the professional context in which the performance must be demonstrated and personal competencies and values if these are not incorporated in the performance criteria. Some competency frameworks also provide examples of the kinds of evidence that may be produced by individuals using the standards for assessment and accreditation purposes.

Many competency frameworks also contain levels, which vary according to the degree of complexity of the task and such factors as responsibility for the work of others. This approach has been followed in the EQF, although a high level of detail is absent from the EQF.

It is important to bear in mind that while such competencies can serve as the basis for assessment schemes, they do not have to. Thus they have been widely used simply as a reference, for self-evaluation, for recruitment or to inform training programmes etc. It is also important to note that as the emphasis is on actual competencies, it does not matter how these were acquired – through formal accredited programmes or through non-formal/informal learning routes. No entry 'qualifications' are ever specified, although it is evident that a candidate for Level 4 in Management would be expected to have mastered the requirements of Level 3

One of the advantages of an activity-based orientation is that it is also possible to combine sector-specific with 'transversal' competencies. For example, in the UK the competency framework for trainers includes parts of the competency suite from management. Generic competency frameworks cover such domains as key skills, customer service and administration. The transversal competencies known as Key Skills or Competencies have taken on a high profile role in the European education and training scene. In the spirit of the European Qualification Framework (presented in the Reading feasibility report) the EU has produced a framework for key competencies comprising eight domains of key competences that are considered necessary for all in the knowledge society, that is the first European-level attempt to provide a comprehensive and well-balanced list of the key competences that are needed for personal fulfilment, social inclusion and employment in a knowledge society.

7. Scope and use of competency frameworks

As we have observed, comparison of existing competency frameworks to be found in Europe – and this is evident even from the small sample included in the annexes to this report – reveal diversity in scope, detail and usage. This will have implications for a translator tool. Examination of the use of frameworks today shows that the more comprehensive the framework, the greater the number of purposes it can serve, especially when it attains the status of a 'standard'.

Analysis of the use of existing competency systems based on functional analysis reveals that they serve as the basis for:

- Recruitment and selection
- Job descriptions
- Training needs analysis
- Assessment of competencies
- Annual appraisal interviews
- Performance-linked promotion and salary increases
- Design of learning programmes
- Purchase of training services and consultancy
- Internal and external programmes of accreditation

It is clear, then that it would not be difficult to make a direct comparison between UK, Irish and Dutch systems that are activity-based, outcome-oriented and that include explicit measures of performance. We might want to argue that all countries will be obliged to go in this direction given current EU initiatives. However, while the response to the consultation exercise on the EQF revealed a consensus in favour of the approach, it was seen very much as in its role as a meta-framework that should not replace (or have too much impact on?) existing national systems. We cannot expect rapid evolution towards transparently outcome-based qualifications or competency-based systems across Europe, therefore.

The translator will need to provide a template that enables a comparison of like with like and the matching of elements in competency frameworks: for example, common ground can be found between task-based frameworks and FA-based ones in answering 'what must be done'?

An obvious challenge to be faced is a comparison of frameworks that are a surface description and those that a fully detailed presentation of competencies. Others include:

- An analysis of what is meant by knowledge requirements
- The role of context in a competency framework (e.g. the ability to demonstrate competence in a variety of situations)
- The place of such concepts as 'aptitude' or 'capability' as opposed to demonstrated competency through results
- The role of personal qualities and characteristics
- The role of ethics
- The role of cultural factors that could have an impact on the assessment of competence
- The implications of 'levels' of competence

Based on the various uses of competency frameworks and aspects of comparison discussed above, we are able to identify a set of 8 variables or continuums that may be used to profile or compare the various ways of describing competencies. The variables indicating the rationale or initial starting point of the framework are briefly introduced below.

Skills Supply ■ Skills Requirement

Both the skills supply and the requirement oriented ways of defining the competencies are commonly used in the context of specific industry sectors of the labour market when describing either skills shortage or supply, while the skills requirement oriented competency descriptions are also applied in job-descriptions related to recruitment.

Job/occupation based ■ Learning results based

Occupation based frameworks are used in the context of job-descriptions to aid the recruitment and selection; they may also be used to describe professional qualifications in the cases certification and authorization. Learning results oriented frameworks are used in the context of characterising various capability enhancement activities, such as courses and training programmes, when describing the intended learning outcomes.

Sectoral ■ Universal

Industry or occupation specific frameworks may include detailed job/position dependent information, while universal systems are generic frameworks often with a complex hierarchical structure that may be used to describe competencies virtually in any context. The application of such a framework for any particular task is often a lengthy and resource involving process.

Normative ■ Descriptive

Descriptive systems leave room for including the qualitative characteristics describing performance and context, while normative systems provide generic frameworks and a standardised set of levels.

Frame ■ Performance

Performance oriented systems are used for instance to support annual appraisal interviews, as well as performance-linked promotion and salary increases, while some other systems do not pay attention or leave room for including performance specific descriptions.

Organisational ■ International

Systems tailored for one organisation may take into consideration the specific demands arising from the core business processes, the organisation and the context, while international (or national or sectoral) frameworks having to be able to serve a wide variety of purposes and users are more generic.

Conformance ■ Innovation

Systems with emphasis on the integration capabilities with other systems in the areas of resources management most often offer little flexibility. The rigidity of such frameworks can be limiting innovations that would change the work-processes or organisation.

Qualification ■ Competency

Frameworks that are oriented to describe the skills, knowledge and competencies related to a specific qualification may differ from those that take the competency as a starting point.