Illustrative Case Study (F)

European e-Competence Framework (e-CF)

for qualification providers

ABOUT THE e-CF. The European e-Competence Framework (e-CF) provides a reference of 36 competences as required and applied at the Information and Communication Technology (ICT) workplace, using a common language for competences, skills and capability levels that can be understood across Europe. As the first sector-specific implementation of the European Qualifications Framework (EQF), the e-CF was designed and developed for application by ICT service, user and supply companies, for managers and human resource (HR) departments, and for education institutions and training bodies, and other organizations in public and private sectors.

The framework was developed under the umbrella of the CEN ICT Skills Workshop through a process of close cooperation between ICT business and human resource (HR) experts, stakeholders and policy institutions from many different countries and at the EU level. Published by CEN for the first time in 2008 and followed by a further enhanced version 2.0 in 2010, the framework brings benefits to a growing community of users throughout Europe and overseas.

To support e-CF application within multiple environments, a series of illustrative case studies provide examples, benefits and hints of how to make best use of the e-CF.

The following case study illuminates the e-CF application from the perspective of qualification providers.

Key perspectives

- Matching education supply to market needs
- The difference between competence development and traditional learning
- Student motivation from a competence approach
- EQF and e-CF compliance

Summary

Some qualification providers, like vocational education trainers or professional development providers, universities and others, offer programs for the development of competences or for professional roles. The e-CF and the European ICT Professional Profiles serve as guidelines for sustainable competence development in line with the requirements of the market and European standards. Qualification providers may use the e-CF or the European ICT Professional Profiles in different ways. For example an advanced thinking IT training provider completely changed their curriculum and qualification methodology to offer competence and work-process-orientated training. Other providers have improved their programs to match the program outcomes with the e-CF and to achieve corresponding certification requirements. Universities usually create degree programs to comply with higher education accreditation rules and frameworks. Lately more and more have matched their programs to the e-CF, particularly the outcomes, to enhance communication with industry and to meet labour market needs.

e-CF Value

The e-CF describes competences for the ICT sector in a very comprehendible and consistent way. Furthermore, the e-CF and its inherent principles allow qualification providers to follow an outcome and competence orientated approach. Key benefits of such an approach are:

1. Promotion of employability: The use of the e-CF supports the learning outcome approach prevalent in the EQF. It is therefore easier to implement programs, which not only develop skills or procure knowledge, but offers the possibility for continuous professional development in the workplaces.

2. Quality enhancement: The e-CF facilitates the communication and comparability of learning outcomes as it provides a common language for communication about competence in the ICT sector. Consequently, it is easier for qualification providers to match the requirements of employers and the labour market. Vice versa it's also easier for organizations to articulate their needs.

Furthermore the e-CF makes it easier to identify levels of experience and competence in ICT. Due to the relationship between the e-CF and the EQF, it's easy to align the identified levels of competence to qualification levels of the EQF, or national or higher education frameworks.

The e-CF also makes it easier for qualification providers to achieve external certification requirements, whether from a learning outcomes and examination perspective or from a capability level viewpoint.

3. Better promotion and marketing for the qualification providers: qualification providers show by using the e-CF, that they are in line with European guidelines, ICT standards and market needs. Furthermore, that they support sustainable competence development and enhance their market position.

Challenges encountered

The biggest challenge for qualification providers, especially for traditional educational institutions, is the competence-based, outcome-orientated approach of the e-CF:

- In the e-CF competences are described as abilities, "to apply knowledge, skills and attitudes to achieving observable results." As an example: B.1 "Design and Development": Designs and engineers software and/or hardware components to meet required specifications. […]". Of course, this competence needs knowledge (e.g. about technology) and skills (e.g. performing tests), but it is also crucial to be able to demonstrate and verify ability to design and develop in real projects and workplace environments.

- Competences are closely associated with learning outcomes: to be able to "design and develop", for example, requires a previous competence development process. Instead of an input-orientated curriculum, ability is a crucial aim of the learning process. This requires redesign of programs and curricula to focus on competence outcomes.

Accordingly instead of traditional education some qualification providers offer competence development. The challenge here is that competence is a holistic concept and cannot easily be divided into discreet subject matter. To overcome this some teachers are being converted to become competence development coaches.

Benefits highlighted

In some countries, Germany is a good example; there is a growing awareness of the advantages of approaching education and training from a competence viewpoint. In these circumstances, the e-CF is an invaluable tool, supporting the identification, articulation and definition requirements of program developers.

Mr Volker Falch, the head of the it Akademie Bayem, stated that one of the key benefits of a competence based approach is the ability provided for students to reflect and grow self confidence by understanding that they already possess competences gained in the workplace and that they can grow more in a similar environment. Many students have enhanced their career opportunities by engaging in work process related experiential learning.

The method adopted

The IT Akademie Bayern offer support so that ICT employees are able to become certified ICT professionals. This support is called "work-process-oriented training". The first step before training is a discussion about personnel development aims. Here, the individual's and the company's objectives are coordinated and documented in a qualification agreement. The appropriate ICT Professional Profile and/or the most important competencies are identified.

For a competence development process the following key elements are necessary:

- The appropriate ICT Professional Profile, with the competencies, levels and the main tasks as reference.

- One or more qualification projects, which are current and sufficiently complex real work assignments that corresponds in size and depth to the Professional Profile.

- A systematic accompaniment by learning advisors: a coach for the support and reflection of the general learning process and at least one technical expert as a "sparring partner".

- An infrastructure, which facilitate knowledge, special courses and training etc. In order to achieve lasting results, a basis of workable knowledge over longer periods is necessary; i.e. not only application-related knowledge must be acquired, but also knowledge of basic

theory and technology. In order to support these processes, a coach, technical experts, other participants and a media infrastructure must continually support the participant.

- A structured documentation of the qualification project(s) and the learning steps involved in its completion.

The advanced training process begins with the description of the qualification projects and of the problems to be solved or the products and services to be developed. This includes a description of the associated content and personnel requirements. This representation is evaluated against the ICT Professional Profile to determine whether it has the necessary complexity and professional depth required.

The required individual, technical, personal and social learning requirements must be identified and agreed in an objective agreement between the employee and the coach for the competence development process. Coaching is a support to those who wish to develop increased capability leading to extra responsibility and self-management.

The coach plays an important role in:

- Helping to gain knowledge and insights into the technical, personal and social challenges.

- Helping the employee to organize and reflect the qualification process.

- Giving support for personal development.

- Enabling the trainee to learn from mistakes.

Meetings are scheduled to evaluate the work and learning experiences corresponding to milestones in the project are agreed in order to ensure meaningful reflection.

The participant works out the processes of the qualification project, obtains the necessary background information and knowledge, contacts experts, and documents work. Working and learning are equally important and linked to each other. The technical and procedural steps of the project, the communication processes and challenging situations, e.g. decisions, conflicting aims, and difficult customer conversations etc. are described in the documentation.

The duration of the advanced training depends on the ICT Professional Profile, and on the work routine in the organization and is not fixed, from a few month up to one or two years is typical.

Expansion to other examples

The above case illustrates how a qualification provider may use the e-CF for developing ICT competences. It can also support curricula development and building relationships between the educational and the market perspective, see illustrative case study I.

References

- A family of 23 Typical European ICT Professional Profiles has been established and details are available on the e-CF website, follow this link,
  http://www.ecompetences.eu/2165,ICT+Professional+Profiles.html
- Also see CEN Workshop Agreement (CWA) 16367: „e-CF into SME's"
  http://www.cen.eu/cen/Sectors/Sectors/ISSS/CWAdownload/Pages/ICT-Skills.aspx