

## A SECTOR-SPECIFIC IMPLEMENTATION OF THE EUROPEAN QUALIFICATION FRAMEWORK

László Kozma\*, Zoltán Illés, Zoltán Istenes, Viktória Heizlerné Bakonyi  
Eötvös Loránd University, Faculty of Informatics

### *Extended Abstract*

#### **Keywords**

Information and Communication Technology, European Qualifications Framework, European e-Competence Framework, unified description language of European ICT qualifications and competences

The fast development of Information and Communication Technology (ICT) and the general aims of the educational policy going on in Europe indicated a strong requirement to implement the European Qualifications Framework (EQF) in the area of ICT as well. For this reason European experts of ICT developed a sector-specific implementation of the EQF. According to this, ICT-LANE is started as a co-financed project with the European Union's Leonardo da Vinci program, together with other related initiatives. The direct objective of the ICT LANE project is to decide the specialties of the ICT area, to develop a transparent model of the ICT trainings that is comparable on an international level, to implement descriptors in the experimental software, and finally to test and validate the descriptors with it. A further aim of the ICT-LANE project – in connection with the results of other important European initiatives – is to develop a Europe-wide competence-based career-centre, a career constructor service, both for all employees, employers and institutions offering trainings (for example with the development of e-competences).

The international team made their sector-specific EQF implementation, the definition of the descriptors with the continuous fine-tuning of the initial model in several steps. The educational experts of the project members built the national sector-specific peculiarities in the model, where the potential, slight differences in the interpretation of the technical terms provided a constant feedback toward the methodological-technical leadership. In the description of the trainings – according to the new paradigm – the learning output of the project was the primary focus. The fundamental data of the trainings' description was created by the international team.

After negotiations a considerable part of the data could be standardized, for example the type of the accreditation body, which is some kind of a vocational institution, a higher educational institution, a private school, an independent organization, an official body or a company working on ICT area in the investigated countries. The educational methods of the trainings called the Learning Approach can also be mentioned as an example, from the traditional classroom training, through the training on job to the distant learning opportunities. To classify the trainings into EQF levels – adequately with the expected result-based concept – it was necessary to draw up the uniform system of learning outputs and competence descriptions. There was a need to standardize the learning outcomes' descriptors, considering the collected national trainings. An important step was to create a formal grammar of the output description. This grammar is structured as the following: Action Verb (AV) + Direct Object (DO) + Indirect Object (IO).

The result-oriented comparison of the trainings required the e-competence descriptions, in addition to the learning outcomes. The results of the ICT-specific standardization of competences – created by another project (European E-Competence Framework) – were also built in. By analyzing the IT activities of different areas, five competence groups came into existence: PLAN (planning), BUILD (development, testing), RUN (operating, support, documentation), ENABLE (safety, quality assurance, distribution) and MANAGE (the shaping of management, risk analysis, a strategy).

For the testing and the authentication of the model, a web application was created by the Italian partner; the application is operated by the Faculty of Informatics at the Eötvös Loránd University. The software was programmed in PHP, using Java library functions and MYSQL database. The server runs on a SUSE Enterprise Linux operating system. The hardware background is provided by an HP ML370G5 server, which fulfils the needs of future growing as well.

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\* Corresponding author

The unified description language of European trainings, the related web-application modelling a translator device, can be tested by everyone at <http://ict.lane.inf.elte.hu>. The program provides services to all employees, employers and educational institutions offering trainings.

The basic data of the trainings and descriptors can be created and modified through an administrative interface where a set of competences can be managed and the administrator's handbook is available. The basic data can be entered through standardized, bounded and free form-fields.

For a new training, one can add a learning outcome description either by selecting from the sorted out existing ones or they are granted to create a new one. To avoid the multiple records of similar descriptions, it is not possible to create a new description without checking that there is no equivalent found among the existing ones. The system forces the check, and the registration of new data is not allowed without offering a list of learning outcome descriptions implying the suitable keywords. If there is a real need for creating a new description, it is necessary to apply the recommended grammar (AV + DO + IO). After selecting or creating the proper learning outcome descriptions, it is necessary to grant the related e-competences, the ICT area (system administration, software development, project management, etc.) and the reference level to be reached (EQF level).

As a result of the project the implementation of an IT-specific EQF was created, the model and the methodology was worked out and tested with the help of a web-application. Now the database contains the test data of typical trainings in the participating countries, like some of the new vocational trainings in Hungary and the BSc courses of the Faculty of Informatics at the Eötvös Loránd University, the learning output descriptions of the trainings and the related e-competences. Considering the vocational trainings (EQF level 4-5) the applied workflow, the AV dictionary and the set of e-competences were suitable; though BSc caused some problems. The content of higher educational trainings is more abstract than in the case of vocational trainings. For this reason it is more difficult to create the description of these trainings' learning outputs with the help of a standardized vocabulary and e-competences.

Nevertheless, as Hungary joined to the European Union and the Bologna process the Faculty of Informatics in the Eötvös Loránd University worked out a new type of education offering the possibility for the students to choose the subjects freely from not only the Hungarian universities but also the European universities.

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Address: Assoc. prof. habil. László Kozma  
H-1117 Budapest, Pázmány Péter sétány 1/C.  
e-mail: [kozma@ludens.elte.hu](mailto:kozma@ludens.elte.hu)