Equal class

Analysis and comparison of qualifications

Based on the 'ZOOM' approach

EQUAL-CLASS Project, Work Package 4

Engineers Qualified in Higher Non-University VET Institutions – Providing Arguments and Evidence for NQF/EQF Classification

BM BF Bundesministerium für Bildung und Frauen

Lifelong Learning Programme

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Project Information:

Executive Summary

EQUAL-CLASS is a European Commission-funded project which aims to analyse and compare qualifications in the field of **mechatronics, electronics/electrical engineering** across different countries, with particular focus on their **classification within National Qualifications Frameworks** (NQFs) and the **European Qualifications Framework** (EQF).

This report describes how the 'ZOOM' methodology was used within the EQUAL-CLASS project to compare qualifications from the field of mechatronics, electronics/electrical engineering between five partner countries: Austria, Germany, Switzerland, Lithuania and Portugal.

The description of qualifications was undertaken on the basis of a template originally developed in the ZOOM project (http://www.zoom-eqf.eu). This template was revised for the EQUAL CLASS project due to differing requirements. Alteration was necessary as EQUAL-CLASS pursues different objectives to the ZOOM project.

The ZOOM project
The methodology used for comparing qualifications in EQUAL-CLASS is based on the outcomes of the ZOOM project. ZOOM developed a methodology to support the objective and unambiguous classification of the master craftsperson qualification to National Qualifications Framework levels.

More information: http://www.zoom-eqf.eu

Moreover, EQUAL CLASS faces a different starting position with regard to the development of the European Qualifications Framework (EQF) and the implementation of National Qualifications Frameworks (NQFs), as many NQFs have now been established or are currently in an early development stage. Many of the qualifications on which EQUAL-CLASS focuses have already been allocated to respective national NQFs.

The engineering qualifications from AT, DE, CH, LT and PT have been described using the new template, with each description consisting of three main sections - information on qualifications, qualification profiles, and evaluation process - and two optional sections - statistical indications and annexes. All qualifications studied in this report have been analysed and compared according to the three main sections of the template.

The comparison between qualifications was first undertaken on the basis of available information on the qualifications (input criteria). This demonstrated the primary differences between the qualifications, e.g. in terms of the age of graduates and the length of training. Nevertheless, comparison has shown that the majority of VET qualifications include elements of learning both at educational/training institutions and in the workplace (e.g. in enterprises). All analysed qualifications require compulsory attendance of the respective training programme.

The analysis and comparison of the qualification profiles shows quite different approaches towards the description of learning outcomes. In Switzerland, Austria and Lithuania work process orientation can be found, whereas in Germany learning process descriptors are the focus (learning fields approach).

This made it difficult to map the different descriptions of each qualification within the two VQTS matrices, which consist of competence areas and steps of competence development[1]. Nevertheless, it was possible to develop qualification profiles, e.g. for the selected qualifications in AT, CH and PT, which highlight the differences between the qualifications in terms of competence areas and steps of competence development.

With regard to evaluation processes, the comparison shows that in all of the qualifications examined in this study the assessment of competences is legally regulated and is executed by public bodies ('awarding bodies'). These 'awarding bodies' are responsible for (amongst other tasks): monitoring of how student competences are assessed; the quality assurance of the assessment of competencies and awarding of qualifications; and the organisation of assessment and awarding processes. In all countries, assessment of competences includes theoretical (written, standardised tests, written and/or oral examinations) and practical (workplace, workshops etc.) assessment stages. Appeal and resit of exams is possible in all analysed countries.

To summarise, the 'ZOOM template' was a useful tool for describing qualifications in a standardised manner although it was necessary to revise the original template due to the differing requirements and qualification context of the EQUAL CLASS project (particularly the advanced stage of NQF development).

Throughout the EQUAL-CLASS project, the project team used and tested **several different approaches to comparing qualifications**, focussing on non-academic higher qualifications in the field of mechatronics and electrical engineering/electronics, located between EQF levels 5 and 6. One of these was the theoretical-descriptive approach presented in this report, comparing qualifications from the perspective of learning outcomes.

Learning outcomes are considered a valuable tool in the comparison of different qualifications and in providing a 'common language' that is often referred to at European level. The work of EQUAL-CLASS has also demonstrated that in order to understand a foreign qualification, it is advisable to not only examine learning outcomes (descriptions), but also to consider other dimensions. EQUAL-CLASS attempted to do this by examining several different perspectives – see http://www.equal-class-eqf.eu/results/.

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[1] The VQTS matrices - mechatronics and electrical engineering/electronics - were developed during two previous projects: VQTS I and VQTS II. More information on the NQTS model can be found at: http://www.vocationalqualification.net/.

Equal class
PROJECT

ENGINEERS QUALIFIED IN HIGHER NON-UNIVERSITY VET INSTITUTIONS – PROVIDING ARGUMENTS AND EVIDENCE FOR NQF/EQF CLASSIFICATION

Comparing qualifications in mechatronics & electrical engineering/electronics

European Qualifications Framework (EQF) levels 5-6
in Austria, Germany, Lithuania, Portugal and Switzerland

3 perspectives

LEARNING OUTCOMES
(THEORETICAL – DESCRIPTIVE)

Structured description and comparison of qualifications based on learning outcomes
- Using adapted methodology from the ‚ZOOM' project
- Comparing qualification profiles
- Comparing the assessment of knowledge, skills and competence

LEARNERS
(PRACTICAL – PERFORMANCE TESTING)

'Remote Laboratories'
- Online laboratories to remotely conduct real experiments
- Testing learners' PLC* knowledge, skills and competence
- Learners in the participating countries have to solve the same programming exercises online.

* PLC = Programmable Logic Controller

GRADUATES
(LABOUR MARKET)

Alumni survey
- Comparing graduates' occupations and positions in the labour market
- Web-based questionnaire in four different languages
  – Job level and status
  – Degree of responsibility
  – Career prospects
  – Type of tasks executed

How can learning outcomes acquired in the workplace be taken into account?
Desk research & interviews
- Validation and recognition of non-formal/informal learning
- Higher NQF/EQF level?

Can the results provide additional evidence for the classification of qualifications in the National/European Qualifications Framework?

Aims: Providing and testing a set of methodological tools
- for transnational comparison
- for the creation of transparency and
- for raising the understanding of a qualification

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