Equal class

Alumni Survey Results

Comparing graduates' labour market experience

Summary Report

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

This project has been funded with support from the European Commission and the Austrian Federal Ministry of Education and Women's Affairs (BMBF). The content of this publication reflects the views only of the author, and neither the Commission nor BMBF can be held responsible for any use which may be made of the information contained therein.

BMBF Bundesministerium für Bildung und Frauen

Lifelong Learning Programme

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Project Information:

Project title:	Engineers Qualified in Higher Non-University VET Institutions – Providing Arguments and Evidence for NQF/EQF Classification
Project acronym:	EQUAL-CLASS
Programme:	Lifelong Learning Programme, Leonardo da Vinci
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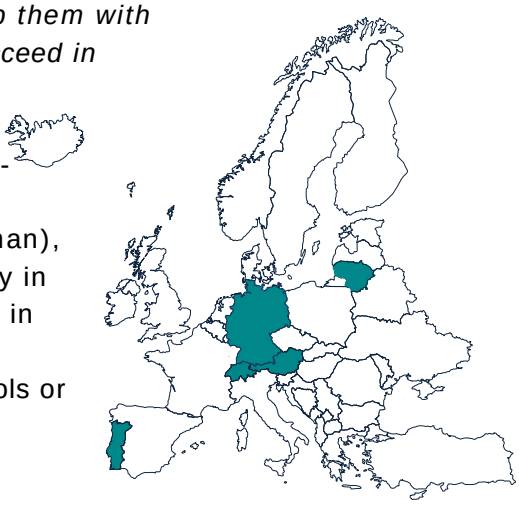
1. EQUAL-CLASS Alumni Survey

This report summarises the results from the alumni survey carried out within the EQUAL-CLASS project, in order to gain a deeper understanding of the occupations and positions of the graduates in mechatronics, electronics/ engineering. Data was collected and analysed on the tasks which graduates are required to undertake in their jobs and other relevant information about their qualifications and work life.

The alumni survey was carried out to **compare the occupations and positions of graduates** in the field of mechatronics, electronics and/or electrical engineering in the labour market, in order to gain insight into the following aspects:

- *What is the current job status of graduates?*
- *What job level & level of responsibility do they have?*
- *How effectively did their qualification equip them with the skills and competences required to succeed in the labour market?*



The alumni survey was carried out through a web-based questionnaire, developed in four different languages (English, Portuguese, Lithuanian, German), in order to allow graduates to complete the survey in their native language. The survey was carried out in Austria, Germany, Switzerland, Lithuania and Portugal, in collaboration with selected local schools or training institutions.

2. Methodology used

The survey was based on a questionnaire developed by the EQUAL-CLASS project. It mostly consisted of multiple-choice questions which aimed to learn more about respondents' professional pathway since graduation and the engineering qualification they had obtained. Several demographic questions were included as well.

The target group were graduates of the schools participating in the project who had graduated between two and five years ago. In order to be considered part of the target group, the graduates had to have received a qualification in mechatronics and/or electrical engineering at a level corresponding approximately to EQF 5-6.

Table 3: Alumni survey characteristics

Purpose	Comparing graduates' occupations and positions in the labour market, their job status and level of responsibility held.
Format	Online questionnaire
Languages	German, Lithuanian, Portuguese, English
Survey countries	Austria, Germany, Lithuania, Portugal, Switzerland
Sample size	Approx. 500 (graduates' in the field of mechatronics and electrical engineering/electronics who graduated between 2 and 5 years ago)
No. of respondents	102
Response rate	20.4 %
Average age of respondents	28 years

The survey was carried out in cooperation with selected local schools or training providers. There was one school per country, i.e. graduates of five different schools or institutions participated in the survey. In order to increase response rates, the alumni were directly contacted by their alma mater, by e-mail or post. More than 500 alumni were contacted across the four countries and 102 replied, which corresponds to a response rate of 20.4 percent.

Based on the results, a comparative analysis was developed, both on an aggregate level and by country/qualification. When reading these results, one should bear in mind that the aim of this survey was to analyse and compare qualifications, by taking a look at how well they equip their graduates for their future professional life, not to compare countries or national labour market situations. These conclusions are to be read in the context in which they are situated, in that they provide indications of possible tendencies of qualifications at EQF levels 5 and 6, and how these qualifications are viewed and used within Europe. The results thus are not intended to be used to draw a valid picture of the general labour market situation of engineering graduates at national level.

3. Survey results

This section presents selected findings from the survey. More detailed results are presented in the full survey report, which can be found at http://www.equal-class-eqf.eu/results/

Aggregate results

Relevance. Respondents were asked to rate the extent to which their study programme equipped them with the relevant competences for their professional activity, on a scale of 1 to 5. Respondents were questioned about

the **relevance of skills obtained** during their participation in the qualification programme. The results indicate that respondents felt that they were not taught all of the skills necessary to the performance of their jobs, but they were taught all of the necessary technical skills.

Level of autonomy. With regard to the level of autonomy in their first job after graduation, this seems to vary depending on the area. For instance, the overall findings suggest that the level of autonomy is high in that graduate jobs entail many responsibilities. However, when the results are analysed in detail, it becomes clear that in terms of individual responsibilities, for example budget or management skills, the respondents believe that they had a relatively low level of autonomy.

The effect of a job change. Significant differences can be observed between respondents who still work in their first job since graduation and those who have since switched jobs. Respondents who have switched jobs (40 percent of respondents) seem to perform significantly better in the labour market. They have a significantly higher job level and are more likely to hold senior jobs (e.g. team leader, project manager). Furthermore, their job tasks have a significantly higher level of complexity: 88 percent of those who have switched jobs consider their tasks complex or very complex, compared to 46 percent of those still in their first job since graduation. They also have a higher level of responsibility for budgets and financial accountability in their current jobs.

Work placements and job offers. When asked whether their qualification programme included a mandatory work placement, the slight majority of respondents (52 percent) stated that their qualification programme did not include a mandatory work placement, with the remaining respondents (48 percent) indicating that theirs did. Those respondents whose qualification programme did include a mandatory work placement were asked whether they received a job offer from the placement company. 65 percent of respondents stated that they did receive an offer of employment from the placement company, suggesting that more than half of the respondents were invited to continue working with the company in question.

Little transnational mobility. In terms of mobility across borders, almost all respondents are employed in the same country in which they received their qualification. This suggests, therefore, that these qualifications have a very low mobility factor.

Gender imbalance. The survey sample appears to reflect the gender balance in this area of education. It comes to no surprise that there continues to be a significant gender imbalance among engineering graduates. The size of this imbalance still is surprisingly high, with 96% of respondents (i.e. 98 participants) being male.

Evidence for NQF/EQF classification: complexity of tasks
EQF level descriptors have been written to reflect distinct progress in dimensions of change, such as the complexity of learning and the demands made to learners or workers. One could thus assume that individuals who hold a qualification at a higher level will also have more complex job tasks.

Given the limitations of the data (see below for more details), one has to be cautious when analysing the data for possible evidence for the NQF/EQF classification of a qualification. That being said, results from the survey clearly indicate that graduates of EQF level 6 qualifications seem to consider their level of complexity of their job tasks higher than graduates of EQF level 5 qualifications do. For some other dimensions studied, such as the level of accountability/responsibility, results point into a similar direction, although less pronounced.

4. Challenges encountered

The results from this survey can provide a valuable contribution to the transnational comparison of different engineering qualifications, and to help better understand foreign qualifications. It is however important to consider the limitations to the comparability of the data, which to a large part are also a result of the highly diverse landscape of VET qualifications across Europe: the qualifications studied are located at similar yet different levels; some qualifications are considered initial vocational education and training and whereas others are considered continuing VET. They also differ in the average age of learners, which will have an effect on the average age of graduates and their average number of years of professional experience. And finally, graduates' career prospects are highly influenced by the economic situation (e.g. rate of unemployment) in the respective country.

Low response rate. One of the challenges was to achieve a sufficiently high number of responses, although the total number of achieved responses exceeded expectations in the end. Due to issues of data protection, some schools were not allowed to contact their graduates by e-mail, but had send out written letters to invite alumni to participate in the survey.

Different response rates across countries. There is significant variation in the number of responses received across countries. This has to be considered when analysing the data.

Missing EQF levels. The methodology proposed for the EQUAL-CLASS project was very much based on the assumption that the relevant engineering qualifications would already be linked to EQF levels when implementing the project. In fact however only part of the qualifications studied here have already been linked to an EQF level. This makes it difficult to draw significant conclusions that would be able to provide evidence for the classification of qualifications within frameworks.

5. About the EQUAL-CLASS project

The EQUAL-CLASS project studies qualifications in the field of **mechatronics** and **electrical engineering / electronics** that can be obtained in higher non-university VET[1] institutions or comparable institutions in Austria, Germany, Lithuania, Portugal, and Switzerland.

The qualifications are examined from three different perspectives – learning outcomes, learners, and graduates – with particular focus on their **NQF / EQF classification**, e.g. through

- the implementation of "Remote Laboratories", i.e. online laboratories used to remotely conduct real experiments in order to learn more about learners' knowledge, skills and competence;
- an online survey among graduates to learn more about their occupations and positions in the labour market.

6. Further information

This summary report summarises the results of the alumni survey carried out within the EQUAL-CLASS project in a condensed form. Further documentation is available from the project website.

For more information about the EQUAL-CLASS project, visit http://www.equal-class-eqf.eu/.
Project reports and other results are available in the 'Results' section of the website: http://www.equal-class-eqf.eu/results/

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1 Vocational Education and Training

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

Further information: www.equal-class-eqf.eu
Duration of the project: 10/2012 – 09/2014
Partners from: Austria, Germany, Lithuania, The Netherlands, Norway, Portugal and Switzerland

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Lifelong Learning Programme

GRUNDIGAKADEMIE

ABB Technikerschule

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HTL ST. PÖLTEN

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CONSULTUR studies&analyses

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