Feasibility Study VET-LSA

A comparative analysis of occupational profiles and VET programmes in 8 European countries

- Executive summary -

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1. The concept and selected approach for comparative analysis

The aim of the Feasibility Study was to find out whether there is a common basis for comparison in four (pre)selected vocational areas: carmechatronic, electrician, business and administration, and social and health care in eight European countries. Austria, Denmark, Finland, Germany, Norway, Slovenia, Sweden, and Switzerland participated in the Feasibility Study[1]. The results of the Feasibility Study provide a basis for the development of test instruments in a subsequent VET-LSA.

The comparison is focused on a medium level of proficiency, i.e., initial VET at ISCED level 3 and corresponding occupations that need medium or considerable vocational preparation. Due to the different objectives for defining occupational tasks in the labour market and developing individual competences in educational contexts a continuing mismatch between labour market demands and VET outcomes can be observed in most European countries. Therefore, the comparative analysis was focused, on the one hand on learning outcomes in VET and on the other hand, on occupational tasks and qualification requirements in the labour market in two independent approaches

To identify common occupational tasks and qualification requirements and learning outcomes at the end of VET in participating countries a qualitative empirical approach on the basis of expert ratings was implemented. In total two expert workshops per occupation/occupational area were implemented in each participating country: 342 experts participated in the first national workshop, 349 in the second national workshop. Quantitative methods were selected in addition to support the results of the qualitative analysis. The selected qualitative approach comprises three facets:

- To ensure international comparability standardised sets of occupational tasks, qualification requirements, and evaluation tasks were identified and adapted to the European setting in agreement with experts from each country. The international sets were rated and discussed subsequently by a group of experts in national workshops per occupation in each country.
- To incorporate national specifics, expert discussions in national workshop were analysed and interpreted for the international analysis.
- The discussions in expert groups during three international workshops provided a

[1] Some countries did not participate in all four occupations.

forum for analysing domain-specific aspects of comparability and national specifics. This way, quantitative results of national ratings could be validated again. The combination of national expert ratings and international expert discussions follows procedures typically applied in large-scales assessments for the development of conceptual frameworks (e.g., PISA, PIAAC) to specify the domain for assessment.

2. Main results

The aim of the Feasibility Study was not to reach total agreement for all aspects but a *certain degree* of coverage in terms of occupational tasks, qualification requirements and assessment tasks, which is the precondition for a possible future VET-LSA.

The findings show that there is high coverage for nearly all selected indicators for occupational profiles and VET programmes compared on the basis of occupational tasks, qualification requirements and evaluation tasks corresponding to core areas of learning outcomes in all VET programmes.

As expected, the degree of coverage varies depending on the vocational area: for the two industrial occupations (carmechatronics, electricians) there is higher coverage due to the clear definition of the occupation, whereas for two service occupations (social and health care, business and administration) the coverage is lower as a consequence of the broadness of the field. However, taking into consideration that qualifications for service occupations in Europe are increasingly converging, the service occupations should be equally comparable as the industrial occupations. With regard to the subsequent steps of framework construction as a basis for test item development in a possible future VET-LSA, in particular these fields need to be specified further.

In terms of formal aspects of the selected national VET programmes there are no substantial differences in terms of duration, ISCED level and entry requirements. In all selected national VET programmes the duration varies between 3 and 4.5 years (most programmes have duration of 3 years). For accessing the selected programmes at least completed compulsory school is required; all programmes were classified at ISCED level 3. Learning agreement governance structures and financing of VET varies in participating countries. In a possible future VET-LSA, these and other differences must be analysed in detail and be included as background variables for explaining differences in competence measurement results.

The results of the comparative analysis for each occupational field are summarised in the following paragraphs. In addition to the selected sets of occupational tasks and qualification requirements, the core areas relevant for learning outcomes in VET should be taken into consideration as a basis for the development of a common framework and subsequent test development in each occupation/occupational field in a possible future VET-LSA.

Carmechatronics

Seven countries participated in the field of carmechatronics: Austria, Denmark, Finland, Germany, Norway, Slovenia and Sweden. From the selected four occupations the ratings for carmechatronics show the highest concordance. The different approaches applied in the Feasibility Study indicate high relevance, representativeness and feasibility with regards to a possible future VET-LSA in the field of carmechatronics; only few inferior restrictions became evident, which should be analysed more detailed in the next project phase. The following core areas were identified: engine management and pollutant emission, brake system, undercarriage, power transmission, and comfort and security systems.

Electricians craft & industry

In the field of electricians two sectors were compared in the Feasibility Study: electricians in the craft sector and electricians in the industrial sector. Seven countries participated in the craft sector (Austria, Denmark, Finland, Germany, Norway, Sweden, and Switzerland), six in the industrial sector (Finland, Germany, Norway, Slovenia, Sweden, and Switzerland). The coverage of expert ratings in all participating countries was mostly high, in particular for ratings in the craft sector. For electricians industry, national specifics play a major role and must be taken into consideration in the next project phase. In a possible future VET-LSA it is recommended to include both occupations. This would also give additional possibilities for statements about different educational levels within the same occupational field since the students that choose one or the other are expected to have clearly different cognitive preconditions. The inclusion of both occupations would also allow all countries to participate in the Feasibility Study. The following core areas were agreed: for the craft sector classic installation technology, intelligent building automation, illumination, drive technology, measurement technology, building control equipment, and service and maintenance; for the industrial sector: building control equipment, drive technology measurement technology, and troubleshooting and maintenance.

Business and administration

Finding a common ground for comparison proved to be a more challenging task than for the industrial occupations since the field is broader and much more diverse in participating countries. Six countries participated in this field: Austria, Denmark, Finland, Germany, Slovenia and Switzerland participated in the field of business and administration. Some of the national programmes are rather broad covering a number of aspects, whereas other are rather specialised. Broad VET programmes were selected in Slovenia, Germany, Switzerland and Austria, whereas more specialised programmes can be found in Finland and Switzerland (focus sales/marketing/customer service) and Denmark (focus:organisational activities).

Despite these challenges, the coverage of expert ratings is better than expected with respect to general aspects of VET programmes, occupational tasks, and qualification requirements. The ratings for educational outcomes are more divergent: whereas the ratings of task

relevance were relatively low the results for task complexity were surprisingly high. This indicated that the selected VET programmes correspond to similar educational levels but comprising more core areas than covered with the selected evaluation tasks for the rating. For future steps the experts agreed on six core areas relating to *general aspects* of learning outcomes relevant for all national VET programmes to broaden the common basis: purchasing, sales/marketing, stock keeping, financials/accounting, customer service, and organisational activities. For the development of a common framework in business and administration and subsequent test construction it is recommended to focus on these core areas in VET-LSA. For VET-LSA it might be reasonable to add two modules: one with a focus on sales/marketing a second centred on organisational activities to cover the more specialised programmes.

Social and health care

The selected area of comparison, health care is a broad field, covering a number of different occupational profiles and VET programmes, which reflects recent developments in the field of personal services during the past decade. Seven countries participated in the field: Denmark, Finland, Germany, Norway, Slovenia, Sweden and Switzerland. VET programmes in Norway, Sweden and Slovenia tend to be rather health-related, whereas the Swiss programme tends towards the social area, and the Finnish, German and Danish programmes are placed at the intersection of both areas.

Despite the broadness of the field, social and healthcare can be recommended for an international large-scale assessment of VET. There are suitable VET programmes corresponding closely in the occupational field of social and health care at comparable levels and with considerable coverage regarding educational objectives in all participating countries. Different approaches used in the Feasibility Study indicate the feasibility of design and execution of a VET-LSA in the field of social and health care. The following core areas were identified: client care, service and assistance within the care process, communication and building relationships, (multi)professional cooperation, health and safety, and administration and legal framework. Moreover it is recommended to concentrate on student subgroups dealing with groups of the elderly and disabled at the interface of social care and health care.

3. Final recommendations:

For VET-LSA it is recommended to include the two industrial occupations (carmechatronics, electricians craft / industry) and the two service occupations (social and health care, business and administration). For each occupation/occupational common sets of occupational tasks and qualification requirements for the labour market as well as core areas in VET were identified and provide the basis for subsequent steps in the next project phase. Comparable to PISA or TIMSS a framework for item construction should be developed for each occupation/occupational field (e.g., include all high rated items) that requires further specification of the identified common ground (occupational tasks, qualification requirements,

core areas). This should in particular be considered for business and administration and social and health care.

The results confirm that there is plenty enough ground for the countries involved to continue their pioneering work with the design of assessment tasks in the four occupations and to submit them to a representative survey.