

Using ESCO

- Cedefop study comparing 10 VET qualifications using ESCO - Cedefop pilot using ESCO for big data analysis of job vacancies

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Cedefop study 1: The role of learning outcomes in supporting dialogue between education and training and the labour market (2015-17)

Key objectives

- to better understand how vocational qualifications are being defined, reviewed and renewed
- to develop a methodology for the comparison of vocational qualifications (content, scope and intentions)



Bricklayer/mason

Healthcare assistant

Hotel assistant/receptionist

ICT service technician

Dental assistant

Farm management professional

Logistics technician

Machine operator

Plumber (cooling and heating)

Sales assistant

10 EU countries: Austria, Bulgaria, Denmark, Finland, France, Ireland, Lithuania, the Netherlands, Spain, UK-EN

3 Candidate countries to the EU (in cooperation with ETF): Albania, FYROM and Serbia

13 countries outside Europe (in cooperation with UNESCO): Philippines, Korea, Samoa, New Zealand, United Arab Emirates, South Africa, Zambia, Namibia, Botswana, Barbados, Costa Rica, Mauritius, Tunisia



Methodology

An analysis of the learning outcomes based documents underpinning qualifications in the 26 countries (standards, curricula and programme descriptions)

With a reference to

- ESCO terminology on job and occupational specific skills and competences
- ESCO terminology on transversal skills and competences

Aware of the limitations of ESCO v0; the study can be seen as a pilot testing the overall usefulness of the terminology for comparative purposes



ICT service technician – job/occupation specific KSC

KSC	AT	BG	DK	ES	FI	FR	IE	LT	NL	UK-EN
administer ICT system										
configure ICT system										
devise solutions to problems										
ICT network cable limitations										
maintain ICT system										
perform ICT troubleshooting										
use repair manuals										
distributed directory information services										
ICT communications protocols										
ICT network routing										
ICT networking hardware										
ICT system user requirements										
maintain ICT server										
perform backups										
provide technical documentation										
repair ICT devices										
use access control software										
use different communication channels										
use precision tools										
computer programming										
define firewall rules										
ICT debugging tools										
ICT encryption										
ICT market										
ICT system programming										
keep up to date on product knowledge										
manage email hosting service										
manage schedule of tasks										
systems thinking										
implement ICT recovery system										
procurement of ICT network equipment										
manage ICT legacy implication										
service-oriented modelling										
operate private branch exchange										



ICT service technician- transversal KSC

KSC	AT	BG	DK	ES	FI	FR	IE	LT	NL	UK-EN
follow safety precautions in work practices										
support company plan										
interact with others										
report facts										
work in teams										
develop strategy to solve problems										
evaluate information										
make decisions										
carry out work-related calculations										
communicate mathematical information										
handle quantitative data										
apply quality standards										
manage time										
think creatively										
carry out work-related measurements										
use mathematical tools and equipment										
work with shape and space										
mother tongue										
process qualitative information										
follow environmentally-sustainable work practices										
foreign language										
accept constructive criticism										
address an audience										
give advice to others										
instruct others										
support colleagues										
memorise information										
use learning strategies										
lead others										
persuade others										
recognise opportunities										
follow hygienic work practices										
motivate others										
negotiate compromise	1									
use body language	1									
use questioning techniques	1									
support cultural diversity	1									
support gender equality										
demonstrate intercultural competence										



Positive experiences

Similar comparisons have been done previously (VET-LSA study 2009) using O*Net.

ESCO adds value by offering

- Higher level of granularity
- A multilingual terminology

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Remaining challenges

The role of the transversal skills and competence terminology needs to be clarified and further developed

- Lacking clarity as regards the relationship between the job/occupation specific and transversal skills and competence terminology
- The limited contextualisation of these terms
- The ICT-component added to the list creates a bias

Cedefop study 2: Real-time labour market information on skill requirements: feasibility study and working prototype (2015-16)

Key objectives

- To test the feasibility of real-time data collection from webportals in 5 countries (Ireland, UK, Italy, Germany and the Czech Republic)
- To explore technical (and ethical) challenges involved in "webcrawling/web-scraping"
- To use the ESCO terminology as a reference point for extracting and classifying skills requested through the jobvacancies
- > To develop a working prototype for upscaling



Outcomes

- A total of 4.228.488 job vacancies were 'scraped' between June and September 2015
- Following duplicate removal, 2.980.546 remained
- Data have been delivered on
 - Occupation (ISCO)
 - Geographical unit
 - Sector (NACE)
 - Type of contract
 - Working hours
 - Skills required according to ESCO
 - Skills required not listed by ESCO

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Experiences

- ESCO proved very useful for both the extraction and the classification of skills requested by the job vacancies
- Gives an insight into dominating and emerging skills needs in occupations and sectors
- Skills not identified by ESCO have been registered by the prototype and add value by
 - Pointing to new and emerging skills
 - Allowing for updates of ESCO
- (Not surprisingly) ESCO v0 proved somewhat problematic as regards translations of terms

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Cedefop's use of ESCO - general conclusions

Both Cedefop-projects demonstrate the added value of ESCO

- For analysis and comparison of learning outcomes based qualifications
- For analysis of skills requirements by the labour market

Both Cedefop-projects will be taken forward and further developed, providing important feed back on the improvement and strengthening of ESCO. The <u>relationship between the two projects</u> will also be axplored

Both Cedefop-projects point to challenges

- > As regards the contextualisation and use of the transversal KSC.
- The quality of translations and their impact on applications.