



EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR EMPLOYMENT, SOCIAL AFFAIRS AND INCLUSION

Labour Mobility and International Affairs
Labour Mobility, Public Employment Services, ELA

Brussels, 11 July 2023
EMPL.E.1

Member States Working Group on ESCO

Focus meeting

Brussels (online), 6 June 2023

Minutes

1. Approval of the agenda

The agenda of the meeting was approved with no further changes.

The minutes of the previous Member States Working Group (MSWG) meeting were approved without further changes.

2. Nature of the meeting

The third focus meeting of the Member States Working Group on ESCO (MSWG) was attended by:

- Representatives of 21 EU Member States' (MS) authorities on labour market and education and training (AT, BE, BG, CZ, DE, EE, EL, ES, FI, FR, HU, IT, LT, LU, LV, RO, PL, PT, SI, SK, SE)
- Representatives from one EEA country (IS)
- Commission, ELA, and CEDEFOP services
- Representatives from European social partners (ETUC, SME United)
- Observers to the MSWG (WCC, Visier, Monster, ALGEBRA university, SKILLLAB)
- Invited guest speakers: Martin Noack (Bertelsmann Stiftung) and Phil Baker (Credential engine), Claudia Plaimauer (3S)

COM chaired and opened the meeting by introducing the house keeping rules. The main goal of this meeting was to discuss on the opportunity of further defining skills contextualisation in ESCO, with a particular focus on the technical implementation. The meeting was held online and recorded for internal purposes.

3. List of points discussed

3.1 Defining Skills Contextualisation in ESCO

COM presented the state of play of the work on skills contextualisation (SC) in ESCO. SC is defined as “*a method to create knowledge or skill and competence concepts by analysing how transversal skills, competences or knowledge are applied in the specific context of a sector or an occupation* (¹)”.

COM gave an overview on the state of play of transversal skills (TSCs) in ESCO. The original thesaurus of TSCs was built in ESCO version 1.0 by a dedicated group of experts (the Cross-sector Reference Group). In 2020 another expert group was tasked of defining a standardised terminology for TSCs based on the existing literature and frameworks, which resulted in a new hierarchy and a list of single terms which were published with the release of ESCO 1.1.0.

COM provided an overview of the ESCO's four levels of skill reusability and the hierarchical relations between concepts, with identical or different degree of reusability. COM emphasized the need for a comprehensive methodology on SC that should take into consideration the following challenges: (1) mainstreaming contextualisation based on hierarchical links across whole classification; (2) expressing the meaning of a transversal skill in a particular sector/occupation; (3) addressing inconsistencies in skill reusability levels.

COM presented two complementary options for future work on SC in ESCO: contextualisation through hierarchical links and contextualisation through metadata.

Contextualising through hierarchical relations means establishing parent/child relations between a generic skill (broader) and a more granular concept (narrower); as an example, the ESCO skill *carry out calculations* is broader than the ESCO skill *perform asset depreciation*.

Contextualizing through metadata refers to the use of associative links to other concepts, i.e., by adding information on the relevance of an element for a particular skill. For example, the ESCO knowledge concept *furniture wood types* are an optional element for the skill *advise customers on wood materials*.

(¹) [Skill contextualisation | Esco \(europa.eu\)](#)

The following points were raised during the subsequent discussion:

- Members asked for more clarifications on the criteria used to establish and assign skills reusability levels in ESCO.
- Members recommended looking at the desired use cases of SC before starting the work, as the contextualization strategy should be based on the pursued goals.
- Members discussed about the distinction between transversal and technical skills, and why the two should not be mixed.
- Members suggested to limit contextualisation to complexity level and autonomy features of skills and focus on skill transferability rather than transversality.
- Members flagged that long contextualised skills terms are difficult to use in job matching/ labour market analysis.
- Members discussed about linking transversal skills and occupations, which are currently not related due to the existence of detailed contextualized skills.

COM clarified that reusability levels were predicted for each concept based on the assessment of each sectoral reference group, leading to risks of inconsistency across sectors. The concrete goals of the revised approach to SC would depend on the chosen use cases, with ensuring consistency across the classification being one of the primary use cases, followed by facilitating job-matching, providing guidance services, and analysing labour market data.

3.2 Best practices on skills contextualisation: presentation by Martin Noack, Bertelsmann Stiftung, DE

Martin Noack, senior expert from Bertelsmann Stiftung (DE) and a member of the TSCs expert group, presented the approach to structure transversal skills and competences in ESCO.

The expert group looked at different use cases such as labour market analysis; job matching (writing CVs and Job postings); curriculum development; validation of non-formal and informal learning (e.g., tool development/practitioner training). Mr Noack presented the definition of transversal skills ⁽²⁾ and the framework that has been developed by this working group. Focusing on three broad domains of competence (“Cognitive”, “Intrapersonal” and “Interpersonal”), the experts identified a series of competencies clusters and suggested a terminological model consisting of six main transversal skills categories (Level 1). To allow users to drill down into the terminology, these six categories were disaggregated into a set of discrete clusters (Level 2), supporting the allocation of

⁽²⁾ “Transversal skills and competences (TSCs) are learned and proven abilities which are commonly seen as necessary or valuable for effective action in virtually any kind of work, learning or life activity. They are “transversal” because they are not exclusively related to any particular context (job, occupation, academic discipline, civic or community engagement, occupational sector, group of occupational sectors, etc.).”

single skills and competence concepts (Level 3) ⁽³⁾. The original categories of transversal skills developed for ESCO v1.0 ⁽⁴⁾ were considered and merged into the new dataset, together with the skill groups classifying Attitudes and Values in the ESCO skills hierarchy.

Mr Noack also presented how Bertelsmann Stiftung applied the ESCO TSCs in the *Job Monitor* project. Job Monitor aims at providing up-to-date regional data on skills trends to help orient regional stakeholders responsible for (adult) education policies and training. The project team developed an algorithm based on 16.176 search term that extracts the ESCO TSCs from online job vacancies (49 million JVs in four years), resulting in the identification of 95 transversal skills and 189 language skills.

When it comes to contextualisation, Bertelsmann Stiftung's team went back to the core concepts and synonyms to develop a word stem list used to search through an established professional skill dictionary (Verbis) to identify professional skills that are also contextualised transversal skills. The search was performed by using an algorithm trained using the ESCO thesaurus and the derived word stem list as a source, and the results were manually validated by three interdisciplinary experts.

Mr Noack shared the following recommendations and conclusions:

- It is recommended to develop guidelines for contextualization, e.g., via iterating systematically subject and context.
- Transversal skills in ESCO should be systematically linked to contextualized skills.
- Linking transversal skills to occupations will reduce the need and the consequently the number of contextualised skills.
- The ESCO classification should include terms and synonyms used on the national (and regional) labour market(s) to support the analysis of online job vacancies and of other labour market data.
- It is important to ensure consistency in the allocation of transversal and cross-sectoral skills within the different sub-classifications of the ESCO skills pillar.

⁽³⁾ Hart, J., Noack, M., Plaimauer, C. and Bjørnåvold, J. (2020). Towards a structured and consistent terminology on transversal skills and competences. *Report to ESCO Member States Working Group and EQF Advisory group*, page 5. Available at: https://esco.ec.europa.eu/system/files/2021-07/c76e9fb7-5dc3-4e8a-ae68-003fea83b0baMSWG_13-05_Report_on_the_transversal_skills_terminology.pdf

⁽⁴⁾ The ESCO cross-sectoral working group developed the terminology that forms part of the overall skills pillar in ESCO using ESCO v1.0 as the point of departure. Originally divided into five main categories (“social interaction”; “thinking”; “attitudes and values”; “application of knowledge”; and “languages”), they were deemed as relevant to a broad range of occupations and economic sectors, and they formed the top level of “skills reusability” in ESCO

3.3 Best practices on skills contextualisation presentation given by Phil Barker, Credential Engine, US

Phil Barker presented the work done by Credential Engine ⁽⁵⁾ to contextualize competencies in the Credential Transparency Description Language (CTDL).

Mr Barker presented in more detail the data model for describing credentials (CTDL), which covers also elements required to support transparency around credentials such as organisations offering credentials, learning opportunities, courses and programs that lead to credentials, jobs and occupations that require credentials, educational pathways, and competencies. Mr Barker described the characteristic of each resource and the relationship between individual resources.

CTDL covers three vocabularies: *CTDL*, *CTDL ASN* and *Quantitative Data*, which are designed to work together and with other similar vocabularies. Competencies in CTDL are part of the second group called CTDL-ASN. Mr Barker introduced the competency framework inside CTDL-ASN, which is based on hierarchical relations between competencies and on various degrees of alignment (or similarity) between the competency being described (the subject competency) and other competencies (from the same or a different framework). The model includes four types of alignment: broad, exact, major, and minor.

Members discussed the following points:

- Members asked whether CE has referenced to DigComp or other competency frameworks related to digital skills. Mr Barker replied that CE is connected to different kind of frameworks (i.e., ONET), and it is open to connect with others.
- Members asked if the elaborate networks presented have used machine support, and Mr. Barker clarified that this depends on the individual publisher.
- Members asked about the number of unique skills in the levels of CTDL and if CE collects data on how users have used their model. Mr Barker answered that it is too early to have this analysis, but they will start looking into that in the future.

3.4. Moderated discussion (COM)

COM invited members to provide their input on the need for contextualised skills in ESCO and on the proposed way forward. COM submitted written questions prior to the meeting to steer the discussion. France and SME United provided written comments ahead of the meeting.

The moderated discussion included an online poll addressing the questions below.

⁽⁵⁾ Credential Engine is a not-for-profit organization that works in the domain of linked open data for transparency of credentials, competencies, and educational-occupational career pathways. Credential Engine has four open technologies: Credential Transparency Description Language (CTDL), Credential Registry, CTDL Publishing Tools and CTDL Linked Open Data & Consuming Tools

1. Which Member States or organisations have expertise in skills contextualisation methodologies in the context of ontology management?
2. Are there national classifications that could provide valuable information in relation to skills contextualisation (methodology, scientific papers, peer learning, etc)?
3. What type of contextualisation (e.g., working environment, object of action, method/process) is recommended for ESCO?
4. Is the use of reference classifications (such as NACE) recommended when contextualising skills through structured metadata?
5. Are there other suggestions you would recommend us to use as metadata for skills contextualisation?
6. Is the current approach of linking transversal skills to cross-sectoral, sector specific or occupation specific skills sufficient to provide contextualisation information? Are the links between ESCO skills and occupations sufficient to provide contextual metadata for skills?
7. What is your interest and availability to co-create guidelines for defining hierarchical relations that capture the contextualisation of a transversal skill in another skill?

The subsequent discussion highlighted the following elements:

- Different contextualisation approaches are being tested at national level. BE is working on an approach combining skills with knowledge and behavioural indicators to introduce a context for competencies (the individual skills and knowledge do not provide context, only the competencies do so). AT is developing a new skills taxonomy, and relevant expertise on contextualising competences is available in FR.
- 72% of the respondents to the poll indicated the working environment as the most relevant element to focus on for SC in ESCO. However, it was underlined that using the working environment as a contextualisation approach can also lead to unclarity in the meaning of a skill (e.g., manage decisions in emergency care could also refer to working under pressure). An alternative approach consists of combining transversal skills with technical skills using method/process approach (e.g., apply evidence-based decision making) and object of action (e.g., decide on type of genetic testing).
- 48% of the respondents to the poll considered the use of reference classifications (such as NACE) useful in the context of skills contextualisation. However, some members expressed concerns over an excessive level of granularity created by the link between skills concepts and sectors of economic activities. Members also underlined that allocating skills to economic sectors will result in some skills being matched to multiple NACE classes. This in turn might help with solving inconsistencies in the reusability levels of the skills but might not serve additional purposes for ESCO's users.
- Members suggested that the position of single skill terms in the ESCO skills hierarchy could serve as an additional metadata for contextualisation.
- In some cases, it might be more useful to replace contextualised skills with the transversal skills directly in the occupational profiles.
- 22% of the respondents to the pool confirmed their availability and interest to support COM in this effort, while 40% of the group declared no expertise on the topic of SC and another 40% has limited availability. COM will investigate the

possibility to compensate experts for this work and will contact those who expressed their interest.

4. Next steps

COM closed the meeting and thanked the participants for their active participation and interesting discussion. COM invited the participants to send written comments and replies to the guiding questions as a follow up to the discussion, and underlined the next steps:

- 1) Reflection on use cases of contextualisation, taking into consideration the input from in this meeting.
- 2) Creation of draft guidelines and rules for skills contextualisation in ESCO.
- 3) Collaboration with the various members of this group who expressed interest in testing the proposed approach.

The work on SC is tentatively set for the second half of 2024, given that implementing this approach will require the release of a new major version of ESCO.

COM informed that the next focus meeting is tentatively scheduled for September 2023 and will be held online. All participants will be notified in advance of the subjects and supporting materials.