



ESCO (2014) SEC 005 FINAL

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## *Learning outcomes in ESCO*

*Main conclusions and recommendations from the workshops 19th and 24th of  
February 2014 (1)*

*(Note prepared by Cedefop)*

### **1. The background**

The ESCO Secretariat organised two workshops (on the 19<sup>th</sup> and 24<sup>th</sup> of February 2014) to investigate whether/how the learning outcomes terminology used by the education and training sector can benefit the ESCO project. The workshops responded to the discussions of the ESCO Board in November 2013 where agreement was reached on the following points:

- A strengthening and enriching of the skills and competences pillar with learning outcomes would be beneficial and in line with the core objectives of ESCO;
- Learning outcomes need to fit in one or more of these ESCO pillars;
- The three ESCO pillars needs to be interrelated in order to bridge the world of education and training and the labour market;
- The ESCO Secretariat will investigate how the existing Cedefop glossary and action verbs can be used to enrich the skills and competences pillar.

The Board identified three main follow-up actions:

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<sup>(1)</sup> See annex 1 for meeting agendas, lists of participants and a list of action verbs.



1. The EQF Advisory Group will be consulted on the approach for learning outcomes in ESCO, as described in the deliverable ESCO (2013) SEC 078 FINAL "Learning outcomes as part of the ESCO project".
2. The ESCO Secretariat will investigate how the existing Cedefop glossary and action verbs can be used to enrich the skills and competences pillar.
3. The ESCO Secretariat will work with preliminary work results from the "Agriculture, forestry and fishery"- and "Hospitality and tourism" sector.

The Secretariat will discuss the cases with at least two panels involving the following groups:

- experts from the Reference Groups "Agriculture, forestry and fishery"- and "Hospitality and tourism";
- experts from the labour market and world of education and training.

Based on the outcomes of the discussions in these panels, the ESCO Secretariat is invited to report back to the ESCO Board with:

- the underlying cases;
- proposals for dealing with learning outcomes in ESCO;
- an outline on possible solutions for linking the skills/competence and qualifications pillar;
- an analysis of the proposed approaches reflecting pro's and contra's, including their implications on time scale, Reference Groups and costs.

## 2. Methodology of the workshops

Participants of each workshop used material for three occupations: *brew-master*, *horse breeder* and *event manager*. In addition to relevant occupational profiles, participants received learning outcome descriptions of qualification profiles covering the three occupations (qualifications profiles from Belgium, England, Ireland, the Netherlands, Norway and Scotland were used). The participants were also able to consult the skills-competence prototypes developed by the sectoral reference groups for "Agriculture, forestry and fishery" and "Hospitality and tourism". In line with the decision of the board, Cedefop provided lists of 'action verbs' supporting the discussions. These lists were introduced at the beginning of each workshop, explaining how they can be used to articulate the growing complexity of terms, as exemplified in the distinction between knowledge, skills and competence.

A first workshop (19 February) was organised with members of various ESCO Reference Groups. After an introduction, participants were split into groups and used these sources to identify



terminology of knowledge, skills and competences. Each group focused either on the occupational profiles or on the learning outcome descriptions for one occupation. In a second stage, the groups working on one occupation were brought together in order to i) compare the concepts and terminology they found, and ii) to group or categorise them. In a final plenary session participants shared their reflections and conclusions.

The second workshop (24 February) brought together a wide range of stakeholders. It included members of the ESCO Board, ESCO Maintenance Committee, ESCO Cross-sector Reference Group, EQF advisory group and public employment services. The workshop started with a similar exercise as in the first workshop, but on a smaller scale. After a debriefing from the first workshop participants were invited to discuss the implications for job matching, for the methodology of ESCO and for the practical work of the Reference Groups.

### Main conclusions from the workshops

The following sections summarises the main outcomes of the workshops.

#### Differences in terminology of learning outcomes descriptions and occupational profiles

The work in separate groups in workshop 1 well illustrated differences in terminology and scope of learning outcome descriptions and occupational profiles:

- Participants agreed that there is usually no direct match between the scope of qualifications and of occupations. Most occupations can be accessed with various types of qualifications and most qualifications prepare the learner for different type of occupations. There was a general agreement that these differences can and should not be remedied by ESCO. However, they need to be taken into account when developing the vocabulary of knowledge, skills and competences.
- Since qualifications often provide access to different types of occupations the learning outcome descriptions are often broader in scope. They tend to contextualise knowledge, skills and competences in a more generic way than occupational profiles that are bound to a more specific context.
- The "jargon" used in occupational profiles and in learning outcome descriptions can differ. ESCO should therefore systematically use both types of sources in order to bridge this semantic gap.
- Learning outcomes descriptions can include knowledge, skills and competences, that can be applied in a further learning process but that are not yet directly applicable to the labour market. Occupational profiles are usually limited to knowledge, skills and competences that can be immediately applied in the occupation.
- It was highlighted that there are also major difference between sources of the same type due to varying levels of granularity and subjective interpretation by the authors.



### The overall relevance of learning outcomes terminology to ESCO

The general conclusion from the two workshops is that the learning outcomes terminology used in education and training can add value to ESCO. Taking the three concrete cases as their starting points, the working groups agreed that it is feasible to use both occupation and qualification sources when identifying and developing the terminology underpinning the skills/competence pillar. Some concern was expressed regarding the varying format and level of detail of existing learning outcomes descriptions. In general it was observed that learning outcomes descriptions are more detailed and cover a wider area than what is the case for occupational profiles. This higher level of granularity could, if not treated with care, overcomplicate and reduce the practical usefulness of the skills/competence pillar. WS2 concluded that the skills/competence terminology must start from the occupational profile and the tasks/functions identified by this - while the learning outcomes profile can add value to this it should not increase the level of detail and granularity indicated through the initial analysis of the occupation. WS1 underlined the importance of identifying and developing the terminology in a balanced way; using both occupational and learning outcomes sources.

### Action verbs

Most participants of the two workshops agreed that action verbs are important and will play a role in the further development of ESCO. The lists of action verbs provided for the workshops were considered as helpful tools for distinguishing between different categories of terms (for example knowledge, skills and competences) and for indicating the level of complexity inherent in a particular term. The two workshops came to different conclusions as regards the future development of action verbs in ESCO. WS1 recommended that a tailored list, building on the Cedefop terms, is developed and integrated into the ESCO project. WS2 recommended that this could be complemented by national lists of action verbs. WS1 furthermore raised the issue of how to integrate action verbs into the ESCO project. The current key-word approach limits the extent to which action verbs can be integrated into the basic terminology; the question is whether they should be considered as a (separate) toolbox which can support the development, application and contextualisation of the terminology.

### The distinction knowledge, skills and competence and the ability to express increasing terminological complexity

In the introduction to the workshops the lists of action verbs were presented as a tool to differentiate between knowledge, skills and competence. The participants in both workshops found the differentiation between KSC challenging. In particular, a clear distinction between skills and competences was considered difficult while it was easier for participants to identify knowledge concepts. Different opinions were expressed as regards the usefulness of such a differentiation. Several participants stated that it is possible to differentiate between the KSC terms and stressed that the action verbs are of critical importance for this purpose.

WS1 indicated that the best way to approach the distinction between KSC is to start with skills (for example 'build fences', which identifies a task and operates at an intermediary level of complexity). From this skill-



term it is possible to identify the relevant 'knowledge' components (for example 'knowledge of municipal regulations regarding fences', referring to an isolated set of theoretical or practical knowledge – in this case of relevant rules and regulations) and finally address the wider and more complex 'competence' domain (for example 'maintain fences in an area', a complex activity requiring not only theoretical knowledge and practical skills, but an overall understanding of the context and the challenges at hand).

In WS2 somewhat differing opinions were expressed, for example i) to go from competence (the most complex) via skill to knowledge or ii) to start from task descriptions. The two workshops both observed that knowledge is frequently assumed as an implicit part of skills and that identifying a particular skill (often closely related to an occupational task) makes it possible to identify the relevant knowledge elements. Some participants expressed doubt whether a rigid distinction between KSC is indeed necessary. Others saw 'knowledge' as of limited importance (only of limited 'academic' interest). It was discussed however, that some occupations are very knowledge-oriented, e.g. lawyers or researchers. In these cases it is in particular the knowledge that makes the difference in job matching.

Overall the work on the cases demonstrated that a too rigid application of the KSC distinctions is unnecessary and indeed not feasible. There is, however, a need to capture the different levels complexity inherent in the terms and also a need to indicate the context in which it is used. For this purpose the distinction between KSC – and the associated action verbs - may be seen as useful. The methodology indicated by WS1 (from skill to knowledge to competence) could point towards a working method which can help to increase the precision of the ESCO terminology and improve the overall quality and richness of the skills and competence pillar.

### The context

Both WS1 and 2 agreed on the importance of context distinguishing between different categories of terms and for using the same terms in a precise way. While it was agreed that context to some extent can be expressed by using action verbs, the current key-word approach used in ESCO may limit the extent to which context can be expressed. Given that no clear solution was outlined by any of the workshops, this issue will have to be further discussed within the project.

WS1 stressed the importance of level of detail when comparing the contextualised description of knowledge, skills and competences of different sources. They stressed that grouping concepts derived from different sources in broader domains is relatively easy and a good starting point for building a consistent vocabulary. Determining the right level of detail to develop a terminology that is concrete and applicable to both, labour market and education/training is however challenging.

### The sources

The two workshops observed that the qualifications cases used learning outcomes in somewhat different ways, some applying more detail than others. This raises the question of which sources to use. This was in particular discussed by WS2 where it was emphasised that different sources should be consulted and that



(for example) the Europass certificate supplements<sup>2</sup> (used in more than 20 countries) could prove useful. It was also agreed that it is the responsibility of the SREFs themselves to make the final choice as regards the selection of learning outcomes sources. The choice of sources must reflect the level of detail in the occupational profiles developed by the group. It was furthermore emphasised that the sources must be used in a transparent (explicit) way; making it clear what is the basis for the terminology developed.

### Implications for the ESCO working method

Based on the above the following main conclusions can be drawn

- All participants of the meeting found that the learning outcomes terminology should be included into the ESCO taxonomy.
- Action verbs are useful to define level of complexity of KSC. A set of action verbs tailored to the needs of ESCO could be considered, building on the work of Cedefop and/or national sources in this area.
- The context of occupations and knowledge, skills and competence terms is very important for many industries and ESCO should address it. There is a need to further discuss how context can be captured by ESCO and whether this will require adjustments to the current key-word approach.
- The distinction between skills, competences and knowledge should not be applied in a too rigid way; the SREFs must however be aware of the differences in complexity expressed through these terms.
- SREFs should focus first on crucial and unique task and skills of any given occupation, those that make it really distinct from others.
- SREFs must choose qualification cases that are relevant to the OCC profiles but that do not necessarily match the OCC profile fully; SREFs must document the qualifications sources used and explain how they have been used.

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<sup>2</sup> The certificate supplements provide a standardised and simplified description of learning outcomes in VET qualifications.



## Annex

### *Participants - Wednesday, 19 February 2014*

<b>Name</b>	<b>Position</b>
Margaret Eleftheriou	SREF Agriculture/Fisheries/Aquaculture
Fred van Koet	SREF Agriculture/Fisheries/Aquaculture
Santa Graikste	SREF Tourism/Hospitality
Sonja Mileva-Bojanova	SREF Tourism/Hospitality
Alexandrina Sirbu	SREF Food/Beverages/Tobacco
Annick Haesearts	SREF Food/Beverages/Tobacco
Georg Sharkov	SREF ICT
Stephanie Mayer	Cross sectorial group
Rob van Wesel	SREF Retail
Suzanne Weiss	SREF Health
Jeremy Cox	SREF Arts
Johan De Smedt	Tenforce
Agis Papantoniou	Tenforce
Jan Förster	Tenforce
Karin Luomi-Messerer	3S
Jens Bjornavold	Cedefop
Martin Le Vrang	DG EMPL
Massimiliano Molinari	ESCO Secretariat
Ginta Niedra	ESCO Secretariat
Cristina Perera	ESCO Secretariat
Vito Spinelli	ESCO Secretariat
Katrien Vander Kuylen	ESCO Secretariat
Karin Van Der Sanden	DG EAC



**Participants - Monday, 24 February 2014**

Name	Position
Tormod Skjeve	ESCO Board
Wilfried Boomgaert	ESCO Board
Rita Bergenhill	ESCO Maintenance Committee
Gerd Goetschalckx	ESCO Maintenance Committee
Galia Bozhanova	NAVET
Nicolae Postavaru	National Qualifications Authority
Karin Küßner	National Contact Point for ECVET
Fernando M Galán	European Students' Union (ESU)
Mag. Karin Hackensöllner-Ali	Austrian PES
Marie-Odile Antonini	Pôle emploi
Nicolas Sander	Arbeitsagentur
Diane Motmans	Actiris
Johan De Smedt	Tenforce
Agis Papantoniou	Tenforce
Jan Förster	Tenforce
Karin Luomi-Messerer	3S
Jens Bjornavold	Cedefop
Martin Le Vrang	DG EMPL
Massimiliano Molinari	ESCO Secretariat
Ginta Niedra	ESCO Secretariat
Cristina Perera	ESCO Secretariat
Vito Spinelli	ESCO Secretariat
Katrien Vander Kuylen	ESCO Secretariat
Karin Van Der Sanden	DG EAC





## Glossary

Abbreviation	Meaning
S	Skill
C	Competency
K	Knowledge
OCC	Occupation
Q	Qualification
SREF	Sectorial reference group
ESCO	European classification of Skills, Competences, Qualifications and Occupations
LO	Learning outcome
EQF	European qualification framework
eCF	European e-Competence Framework



**Agenda - Wednesday, 19<sup>th</sup> February 2014**

**08.30 Arrival of the delegates**

**Welcome Coffee**

**09.00 Welcome and expected outputs**

*Karin van der Sanden DG EAC*

**09.15 Knowledge, Skills, Competences, Action verbs**

*Jens Bjornavold, Cedefop*

**09.30 Introduction to the workshops**

*Agis Papantoniou, Ten Force*

**09.45 First round of three parallel workshops**

**11.00 Coffee break**

**11.15 Continued: First round of three parallel workshops**

**12.15 Lunch break**

**13.15 Second round of three parallel workshops**

**15.15 Coffee break**

**15.30 Joint discussion**

**17.00 End of the Meeting**



**Agenda - Monday, 24<sup>th</sup> February 2014**

**08.45 Arrival of the delegates**

**Welcome Coffee**

**09.15 Welcome and expected outputs**

*Martin Le Vrang      DG EMPL*

**09.30 Knowledge, Skills, Competences, Action verbs**

*Jens Bjornavold, Cedefop*

**09.45 Introduction to the workshops**

*Agis Papantoniou, Ten Force*

**10.00 Round of four parallel workshops**

**11.00 Coffee break**

**11.30 Results of the workshop and comments**

**12.30 Lunch break**

**13.30 Open questions**

**15.15 Coffee break**

**15.30 Final joint discussion**

**17.00 End of the Meeting**



### ***List of action verbs***

The following table lists a sample of action verbs used to express the (growing) complexity of knowledge, skills and competences. An effort has been made to link these verbs to the distinctions introduced in Bloom's taxonomy as well as the distinctions between knowledge, skills and competence used in the EQF. These relationships are not absolute – and can be debated – but give a rough indication on how the action verbs can be used to express the growing complexity of learning outcomes and learning achievements.



## ESCO - European Skills/Competences, qualifications and Occupations

### a) Cognitive domain

Definitions	Knowledge	Comprehension	Application	Analysis	Evaluation	Creating (synthesis)
<b>Bloom's Definition</b>	Recall previously learned information.	Demonstrate an understanding of the facts.	Apply knowledge to new situations.	Break down objects or ideas into simpler parts so that its organisational structure may be understood. Distinguish between facts and interferences Find evidence to support generalizations.	Make and defend judgments based on internal evidence or external criteria.	Compile component ideas into a new whole or propose alternative solutions.
<b>Main learning outcomes categories as used by EQF/NQFs</b>	Knowledge – theoretical and/or factual	Skills – cognitive (logical, creative and intuitive thinking) and/or practical (manual dexterity and the use of methods, materials, tools and instruments)		Competence – the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development. Level of competence can be expressed through autonomy and responsibility.		
<b>Verbs</b>	Arrange Define Describe Duplicate Identify Know Label List Match	Classify  Comprehend Convert Defend Describe Discuss Distinguish Estimate	Apply Change Construct Choose Compute Demonstrate Discover Dramatize Employ	Analyze Appraise Breakdown Calculate Categorize Compare Contrast Criticize Diagram	Arrange Assemble Categorize Collect Combine Comply Compose Construct Create	Appraise Argue Assess Attach Choose Compare Conclude Contrast Defend



## ESCO - European Skills/Competences, qualifications and Occupations

	Memorize Name Order Outline Recognize Relate Recall Repeat Reproduce Select State	Explain Express Extend Generalized Give example(s) Identify Indicate Infer Locate Paraphrase Predict Recognize Rewrite Review Select Summarize Translate	Illustrate Interpret Manipulate Modify Operate Practice Predict Prepare Produce Relate Schedule Show Sketch Solve Use Write	Differentiate Discriminate Distinguish Examine Experiment Identify Illustrate Infer Model Outline Point out Question Relate Select Separate Subdivide Test	Design Develop Devise Explain Formulate Generate Plan Prepare Rearrange Reconstruct Relate Reorganize Revise Rewrite Set up Summarize Synthesize Tell      Write	Describe Discriminate Estimate Evaluate Explain Judge Justify Interpret Relate Predict Rate Select Summarize Support Value
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## b) Psychomotor domain

This table has been developed to better capture the skills dimension of learning outcomes and can thus be seen as adding to the overview presented above (a). Some overlap can be observed.

Skills – cognitive (logical, creative and intuitive thinking) and/or practical (manual dexterity and the use of methods, materials, tools and instruments)						
Perception (awareness) To use sensory tips to guide motor activity	Readiness to act including mental, physical and emotional sets	Guided response (as demonstrated or following instructions)	Basic proficiency in executing a complex skill	Complex overt response	Adaptation (well developed skill can be modified to specific requirements)	Creating new patterns to solve a specific problem (creativity is emphasised)
Choose Describe Detect Differentiate Distinguish Identify Isolate Relate select	Begin Display, Explain, move, proceed React Show State	Copy Trace Follow React Repeat Produce Respond	Assemble Construct Displays Fix Grind Heat Manipulate Measure Mend Mix organise	The same verbs as in basic + adverb which demonstrates that performance is quicker, better, more accurate	Adapt Alter Change Rearrange Reorganise Revise Varies	Arrange Build Combine Compose Construct Design Initiate originate