



Mapping competences to ESCO

EdDiCo Output 4

Report

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1 Mapping of Competences to ESCO

1.1 Introduction

ESCO (European Skills, Competences, Qualifications and Occupations) is the European multilingual classification of Skills, Competences and Occupations and works as a dictionary, describing, identifying and classifying professional occupations and skills relevant for the EU labour market and education and training. Those concepts and the relationships between them can be understood by electronic systems, which allow different online platforms to use ESCO for services like matching jobseekers to jobs on the basis of their skills, suggesting training to people who want to reskill or upskill, etc.¹

This document includes the results of the activity O4A1: Mapping of Competences to ESCO on which the partners created a set of additional descriptors which complement those defined in IO3 for all the learning opportunities' outcomes described using the List of Digital competences for Educators (IO1) and the Learning Maturity Model (IO2). Those additional descriptors include mapping these competences to the skills presented by ESCO. The next section includes all mappings between the competences dimensions and categories defined in the List of Digital competences for Educators (IO1) and the ESCO competences.

In addition, the EdDiCo team also created those mappings (Learning outcome type, Related skills with the ESCO concept name) at the software level linking them into the learning outcomes' descriptors from the Learning Maturity Model used by the Directory (IO3) as it is shown in the following figure. The availability of such mappings ensures the interoperability of the EdDiCo tools with any tool or service which uses ESCO to suggest jobs or training.

¹ What is ESCO? <https://esco.ec.europa.eu/en/about-esco/what-esco>

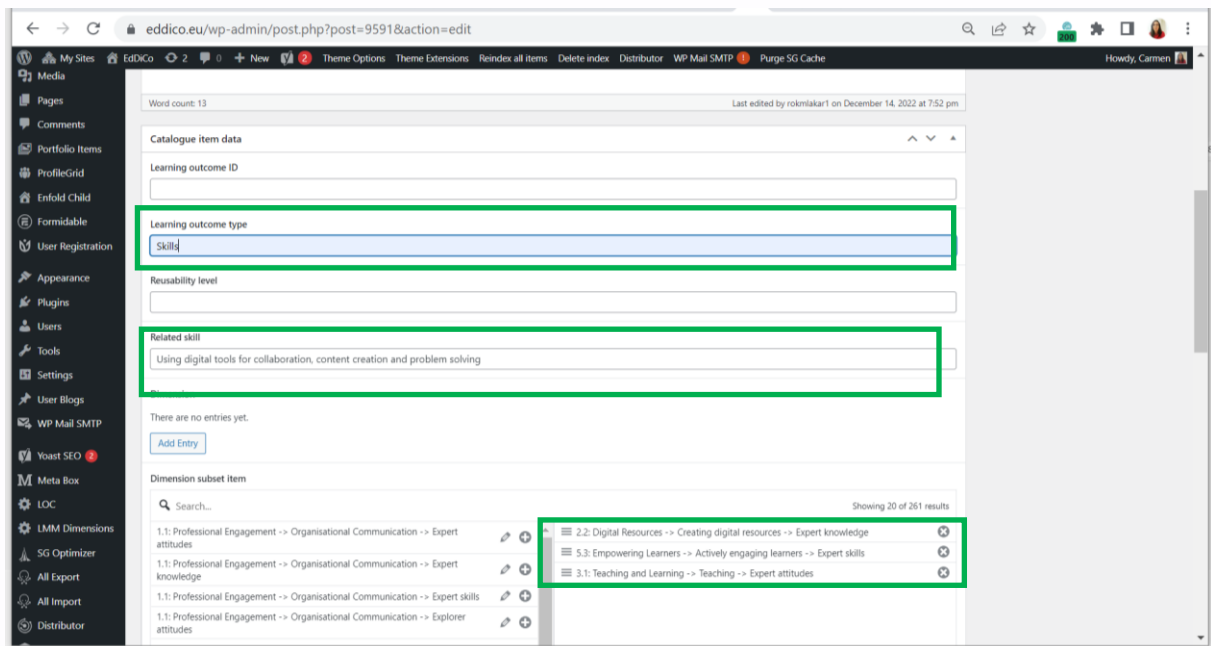


Figure 1 Learning outcomes definitions in the EdDiCo Directory of OERs backend

1.2 Mapping of Competences to ESCO specification

The next table presents the mapping of competences listed in the Digital competences for Educators (IO1) with the ESCO. For each EdDiCo competence, the column ESCO mapping includes the name of the ESCO concepts, the type of skill [Knowledge (K), Skill (S), and/or Transversal skill (T)], and the Concept URI. The latter allowed for establishing the links between the Learning outcomes descriptors in the Directory and the ESCO concepts.

EdDiCo Competence	ESCO mapping
1. Professional engagement	Manage personal professional development http://data.europa.eu/esco/skill/a8d24a95-47b3-4f88-92e7-06600bcd3612
1.1 Organisational communication To use digital technologies to enhance organisational communication with learners, parents and third parties. To contribute to collaboratively developing and improving organisational communication strategies.	S5.6.1 - using digital tools for collaboration and productivity. URI http://data.europa.eu/esco/skill/S5.6.1 (Transversal skill)
1.2 Professional collaboration To use digital technologies to engage in collaboration with other educators, sharing and exchanging knowledge and experiences and collaboratively innovating pedagogic practices.	S1.2.3 developing professional relationships or networks URI http://data.europa.eu/esco/skill/S1.2.3 (Transversal skill)
1.3 Reflective practice To individually reflect on, critically assess and actively develop one's own digital pedagogical practice and that of one's educational community.	Exercise self-reflection URI http://data.europa.eu/esco/skill/409a0245-0e6c-4aac-ba16-0920ecb76a8d (Transversal skill)
1.4 Digital Continuous Professional Development (CPD) To use digital sources and resources for continuous professional development.	Manage personal professional development URI http://data.europa.eu/esco/skill/a8d24a95-47b3-4f88-92e7-06600bcd3612 (Transversal skill)
2. Digital Resources	N/A
2.1 Selecting digital resources To identify, assess and select digital resources for teaching and learning. To consider the specific learning objective, context, pedagogical approach, and learner group, when selecting digital resources	Information and communication technologies URI: http://data.europa.eu/esco/isced-f/06 (Knowledge)

EdDiCo Competence	ESCO mapping
and planning their use.	
<p>2.2 Creating and modifying digital resources To modify and build on existing openly-licensed resources and other resources where this is permitted. To create or co-create new digital educational resources. To consider the specific learning objective, context, pedagogical approach, and learner group, when designing digital resources and planning their use.</p>	<p>Teaching and training URI http://data.europa.eu/esco/skill/S1.3.0 (Skills) Using digital tools for collaboration, content creation and problem solving http://data.europa.eu/esco/skill/S5.6 (Skill) Develop digital content: URI http://data.europa.eu/esco/skill/5fd5c985-eaaa-47aa-8314-62359c54505a (Skill)</p> <p>Adapt teaching to target group URI http://data.europa.eu/esco/skill/b2a9587a-49a4-4384-b134-0d394be806e3 (Transversal skill) Adapt to type of media: URI http://data.europa.eu/esco/skill/7378b8c3-3b62-46de-9d67-1c9528954615</p>
<p>2.3 Managing, protecting and sharing digital resources To organise digital content and make it available to learners, parents and other educators. To effectively protect sensitive digital content. To respect privacy and copyright rules. To understand the use and creation of open licenses and open educational resources, including their proper attribution.</p>	<p>Adapt text culturally URI http://data.europa.eu/esco/skill/S2.3.0 http://data.europa.eu/esco/skill/839f05ab-c8e0-4893-8b41-9fcae53e71f3</p>
<p>3. Teaching and Learning</p>	<p>N/A</p>
<p>3.1 Teaching To plan for and implement digital devices and resources into the teaching process, so as to enhance the effectiveness of teaching interventions. To appropriately manage and orchestrate digital teaching interventions. To experiment with and develop new formats and pedagogical methods for instruction.</p>	<p>Teaching and Learning URI http://data.europa.eu/esco/skill/S1.3.0</p>

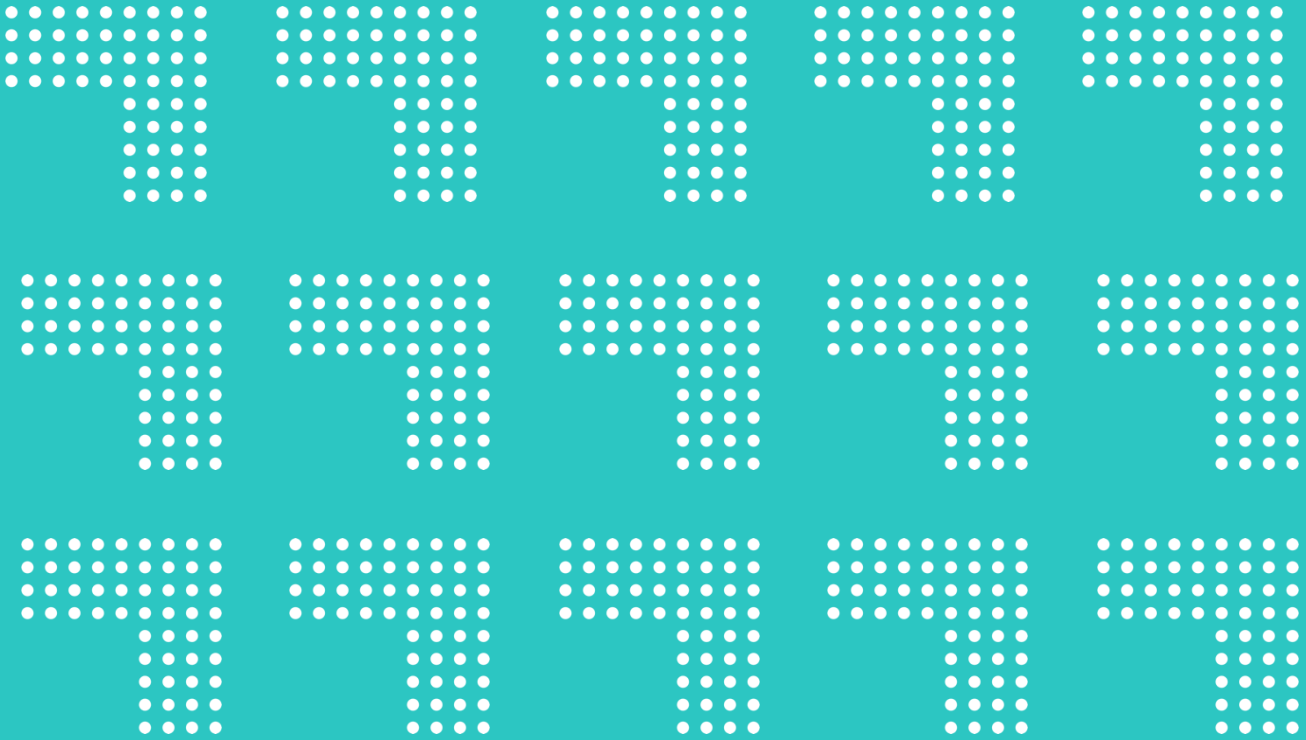
EdDiCo Competence	ESCO mapping
<p>3.2 Guidance To use digital technologies and services to enhance the interaction with learners, individually and collectively, within and outside the learning session. To use digital technologies to offer timely and targeted guidance and assistance. To experiment with and develop new forms and formats for offering guidance and support.</p>	<p>Coaching and mentoring URI http://data.europa.eu/esco/skill/S1.3.5</p>
<p>3.3 Collaborative learning To use digital technologies to foster and enhance learner collaboration. To enable learners to use digital technologies as part of collaborative assignments, as means for enhancing communication and collaboration and for collaborative knowledge creation.</p>	<p>Collaborate through digital technologies URI http://data.europa.eu/esco/skill/2b34a99f-9813-4c91-9509-b6b9b8c3132e (Skill)</p>
<p>3.4 Self-regulated learning To use digital technologies to support self-regulated learning processes, i.e. to enable learners to plan, monitor and reflect on their own learning, provide evidence of progress, share insights and come up with creative solutions.</p>	<p>Support the autonomy of young people URI http://data.europa.eu/esco/skill/7e14f8f7-8907-4501-bb96-3685d399a188 (Skill)</p>
<p>3.5 Gamification To use gamification elements such as challenges, competitions, points, badges, and leaderboards to make the learning experience more enjoyable and the learning outcome more sustainable.</p>	<p>No exact matching competence was found in ESCO. But the combination of S1.3.0 Teaching and training and the following concept: Collaborate through digital technologies URI https://esco.ec.europa.eu/en/classification/skill?uri=http%3A%2F%2Fdata.europa.eu%2Fesco%2Fskill%2F2b34a99f-9813-4c91-9509-b6b9b8c3132e#overlayspin (Skill)</p>
<p>4. Assessment</p>	<p>Assess students URI http://data.europa.eu/esco/skill/6fe019dd-027f-45f3-b19c-d27f7ae00980 (Skill)</p>
<p>4.1 Assessment strategies To use digital technologies for formative and summative assessment. To enhance the diversity and suitability of assessment formats and approaches.</p>	<p>Assessment processes URI http://data.europa.eu/esco/skill/31b67516-af16-4b97-8430-a8a8e0f84190 (Knowledge)</p>
<p>4.2 Analysing evidence</p>	<p>Accessing and analysing digital data</p>

EdDiCo Competence	ESCO mapping
To generate, select, critically analyse and interpret digital evidence on learner activity, performance and progress, in order to inform teaching and learning.	URI http://data.europa.eu/esco/skill/S5.5.0 (Skill)
4.3 Feedback and Planning To use digital technologies to provide targeted and timely feedback to learners. To adapt teaching strategies accordingly and to provide targeted support, based on the evidence generated by the digital technologies used. To enable learners and parents to understand the evidence provided by digital technologies and use it for decision-making.	Use communication and collaboration software URI http://data.europa.eu/esco/skill/b080a008-a35d-4bd0-92e9-edf3773bb2b7 (Skill)
4.4 (Micro-)Credentialisation To design badges/credentials that contain all the available information to facilitate recognition (of intermediate achievements).	Types of digital badges URI http://data.europa.eu/esco/skill/d6b31d8d-2f47-425a-a2b2-a6dddb3d2b19 (Knowledge)
4.5 Recognition To judge information provided in learning credential and additional information to recognize skills and competences towards a larger credential.	Not exact match in ESCO but the following is the closed to the purposes defined on Recognition. Validation of learning acquired through volunteering URI: http://data.europa.eu/esco/skill/a4fe0844-8544-4a0a-a796-c1d3071598e2 (Knowledge)
5. Empowering Learners	-
5.1 Accessibility and inclusion To ensure accessibility to learning resources and activities, for all learners, including those with special needs. To consider and respond to learners' (digital) expectations, abilities, uses and misconceptions, as well as contextual, physical or cognitive constraints to their use of digital technologies.	S.1.3.3 Guide learners in using assistive technologies - training on operational procedures: URI http://data.europa.eu/esco/skill/c0502e2a-1e12-422e-994e-cf9bf814e3b2 . (Skill) Test system accessibility for users with special needs URI http://data.europa.eu/esco/skill/be64bb4c-84ac-4c83-8cc7-fc8593e15136 ; (Skill) IT Accessibility standard URI http://data.europa.eu/esco/skill/3e23db60-0c3d-498a-a6ac-ffbed0ecb033 (Knowledge)
5.2 Differentiation and personalization To use digital technologies to address learners' diverse learning needs, by allowing learners to advance at different levels and speeds, follow individual learning pathways and goals.	Adapt teaching to student capabilities: URI http://data.europa.eu/esco/skill/573d3f91-c81c-407e-a56d-0f3a63272b43

EdDiCo Competence	ESCO mapping
<p>5.3 Actively engaging learners To use digital technologies to foster learners' active and creative engagement with a subject matter. To use digital technologies within pedagogic strategies that foster learners' transversal skills, open learning to new, real-world contexts, involve learners themselves in hands-on activities, scientific investigation and complex problem solving, or in other ways that increase learners' active engagement and creative expression.</p>	<p>Actively engaging learners URI http://data.europa.eu/esco/skill/T</p>
<p>5.4 Agile Working To empower learners in an interdisciplinary team to collaboratively develop a rapid prototype that creates value for the user using agile and iterative methods.</p>	<p>No exact matching competence found in ESCO; but the following concept combined with Teaching could be used Agile project management URI http://data.europa.eu/esco/skill/0a9acb6b-1139-4be9-b431-3a80a959f2f4 (Knowledge)</p> <p>Digital communication and collaboration URI http://data.europa.eu/esco/skill/574257ea-7b64-4100-b7b6-e27c233fe143 (Skill)</p>
<p>6. Facilitating Learners' Digital Competence</p>	<p>No exact matching competence found in ESCO but the following concept can be used Teach digital literacy URI http://data.europa.eu/esco/skill/c8fa4313-80b0-4f37-8b1b-1739707bc362 (Skill)</p>
<p>6.1 Information and media literacy To incorporate learning activities, assignments and assessments which require learners to articulate information needs; to find information and resources in digital environments; to organise, process, analyse and interpret information; and to compare and critically evaluate the credibility and reliability of information and their sources.</p>	<p>Using digital tools for collaboration, content creation and problem solving http://data.europa.eu/esco/skill/S5.6 (Skill)</p>
<p>6.2 Digital communication & collaboration To incorporate learning activities, assignments and assessments which require learners to effectively and responsibly use digital technologies for</p>	<p>Using digital tools for collaboration, content creation and problem solving http://data.europa.eu/esco/skill/S5.6 (Skill)</p>

EdDiCo Competence	ESCO mapping
communication, collaboration and civic participation.	
<p>6.3 Digital content creation To incorporate assignments and learning activities which require learners to express themselves through digital means, and to modify and create digital content in different formats. To teach learners how copyright and licenses apply to digital content, how to reference sources and attribute licenses.</p>	<p>Develop digital content: URI http://data.europa.eu/esco/skill/5fd5c985-eaaa-47aa-8314-62359c54505a (Skill)</p> <p>Adapt to type of media: URI http://data.europa.eu/esco/skill/7378b8c3-3b62-46de-9d67-1c9528954615 (Skill)</p>
<p>6.4 Responsible use To take measures to ensure learners' physical, psychological and social wellbeing while using digital technologies. To empower learners to manage risks and use digital technologies safely and responsibly.</p>	<p>Maintain psychological well-being: URI http://data.europa.eu/esco/skill/4c772721-9280-49cb-9988-b6ea3d36b06d (Transversal skill)</p> <p>Green computing: URI http://data.europa.eu/esco/skill/0e78d9c9-7c3c-4c5c-82cb-205c16edbc8 (Skill)</p>
<p>6.5 Digital problem solving To incorporate learning and assessment activities which require learners to identify and solve technical problems or to transfer technological knowledge creatively to new situations.</p>	<p>Solve technical problems: URI http://data.europa.eu/esco/skill/14832d87-2f2f-4895-b290-e4760ebae42a (Skill)</p>
<p>7. Health To be prepared to prevent negative health impact (body, mind, soul) of Digital Technologies on learners and educators likewise, as well as provide adequate support and improvements</p>	<p>Maintain psychological well-being: URI http://data.europa.eu/esco/skill/4c772721-9280-49cb-9988-b6ea3d36b06d (Transversal skill)</p>
<p>7.1 Dealing with Health Information and Health Conditions related to the use of Digital Technologies To be aware of the health impact of digital technologies and able to explore up to date health-related information. To monitor own and learners' situation and apply evaluated information for framing meaningful use of digital technologies in learning processes.</p>	<p>Health and welfare URI http://data.europa.eu/esco/isced-f/09 (Knowledge)</p>

EdDiCo Competence	ESCO mapping
<p>7.2 Interaction and Intervention To support the healthy use of digital technology, and maintain a positive interaction with learners or peers regarding health issues. To offer or seek support if evidence requires.</p>	<p>Protect health and well-being while using digital technologies URI http://data.europa.eu/esco/skill/d1ed5b3a-cab5-4c5d-baf8-0214998b58fb (Skill)</p>
<p>7.3 Improvement of conditions and prevention To explore, discuss and implement measures and improvements regarding learners' and own health. To foster own and learner's ability to employ digital technologies for the sake of health.</p>	<p>Protect health and well-being while using digital technologies URI http://data.europa.eu/esco/skill/d1ed5b3a-cab5-4c5d-baf8-0214998b58fb (Skill) ICT safety http://data.europa.eu/esco/skill/426ceaba-6867-481c-bb6b-ae3933da7d2 (Skill)</p>



About the EdDico Project

With the advent of each new technology come predictions of fundamental changes in education. Yet few of these changes have been realized. Digital learning may indeed be the technology that breaks that pattern, but this will only come to pass if educators are empowered to take advantage of the technologies and methodologies available to them. The EdDiCo project aims at empowering individual educators to (a) identify the potential technology holds to transform and improve the education they offer, (b) identify the digital competences they would need to acquire to take advantage of those technologies and associated methodologies; (c) find the educational resources necessary to acquire those competences.



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