

03: Learning Opportunities Catalogue

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1 Introduction

1.1 Background

The ECCOE project (European Credit Clearinghouse for Opening up Education)

The main aim of ECCOE is to facilitate the endorsement and appropriation of open, online and flexible higher education. In support of this overarching objective, the project aims to increase trust in technology-enabled credentials among students, higher education institutions (HEIs) and employers.

The project activities entailed:

- Developing quality descriptors for credentials relating to courses, modules, MOOCs and groups of competences (Output 1);
- Creating and validating a Model Credit Recognition Agreement available in 6 languages (Output 2);
- **Setting up an online catalogue of disciplinary and transversal modules which have passed the selection criteria for cross-institution recognition (Output 3);**
- Designing a system for technology-enabled credentials (Output 4);
- Laying the ground for wider take-up via the ECCOE-System, by producing and disseminating the supporting documentation that institutional stakeholders need (Output 5).

This report concerns **Output 3**, the online catalogue, hereafter referred to as the Learning Opportunities Catalogue or LOC for short.

1.2 Objectives

The main objective of Output 3, the LOC was to create an online catalogue of potential courses MOOCs or modules for cross-institution recognition.

This catalogue is intended to function as a showcase to demonstrate what high-quality descriptions of Learning Opportunities might look like, in order not only to facilitate the transposition of the description into a digital (micro-)credential but also to help learners identify such opportunities for upskilling, continuous professional development and lifelong learning.

To this end, the LOC contains quality-reviewed short courses, MOOCs and modules with a dual focus on transversal competences and selected disciplines.

2 Methodology

The main methodology was that of iterative development, drawing on internal and external expertise and constant alignment with the other related outputs. The identification and selection of Learning Opportunities for populating the LOC was conducted through the following stages.

2.1 Criteria for cross-institutional course/module recognition

Drawing on the quality criteria for describing credentials developed in Output 1, this activity entailed developing specific criteria for a course or module description. Partners mobilised key stakeholders within their institutions (in particular programme directors and student administration units) to contribute to the proposed criteria, to ensure that they were in line with institutional policies. The development of the criteria took place in two iterations, to enable testing and alignment with the requirements of Output 4 (Technology-enabled credentials).

2.2 Identification and analysis of Learning Opportunities

Based on input from the previous activity and from the partners' wide knowledge of existing available modules or courses, this activity entailed identifying and analysing over 250 modules/MOOCs/short learning programmes on transversal competences and in selected disciplinary fields related to those covered by the ECCOE partnership.

This activity also took place in two iterations in order to take into account refinements to the selection criteria.

All potential Learning Opportunities were collected in a spreadsheet and then analysed according to the criteria. A shortlist was drawn up containing those Learning Opportunities

meeting the criteria for inclusion in the catalogue. More details on the first iteration can be found in Arnold et al. (2020).

2.3 Online catalogue of potential Learning Opportunities for cross-institution recognition

This consisted of two main activities:

- Technical development of the LOC
- Populating the LOC with selected Learning Opportunities

2.3.1 Technical development of the LOC

The LOC was developed in Wordpress and integrated in the ECCOE website as part of the ECCOE-system. It was first developed as a functional prototype, which was tested with Learning Opportunity descriptions from the first iteration of selection. The functionalities of the LOC were refined based on the results of these tests, as well as the look and feel of the LOC homepage.

2.3.2 Populating the LOC with selected Learning Opportunities

Based on the shortlist of selected Learning Opportunities, each ECCOE partner input the data into the LOC. The quality of information was checked through peer-review and refinements made.

3 Results

A total of 253 Learning Opportunities were identified and analysed (109 in the first iteration, 138 in the second iteration). Of these, 100 were selected for integration in the catalogue.

The Learning Opportunities come from a variety of providers: partners' own institutional offerings (Polimi Open Knowledge, UNED Abierta, VMU Open studies), other Higher Education Institutions, selected European projects (e.g. eLene4Life, OpenVM), reputable MOOC providers (Futurelearn, FUN-MOOC, Openclassrooms) and national consortia such as FIED in France (Fédération Interuniversitaire pour l'Enseignement à Distance).

Each Learning Opportunity description contains:

- general information: provider, type of provider, location (including online), language;
- information about the Learning Opportunity specification: workload, admission, assessment, type of credential;
- learning specification: disciplinary area, learning setting, learning outcomes expressed as skills and competences;
- contact details (where relevant or available).

As the catalogue remains open for new submissions, this collection showcasing descriptions of Learning Opportunities compatible with recognition via (ECCOE) digital credentials is expected to grow in the months following the closure of the project.

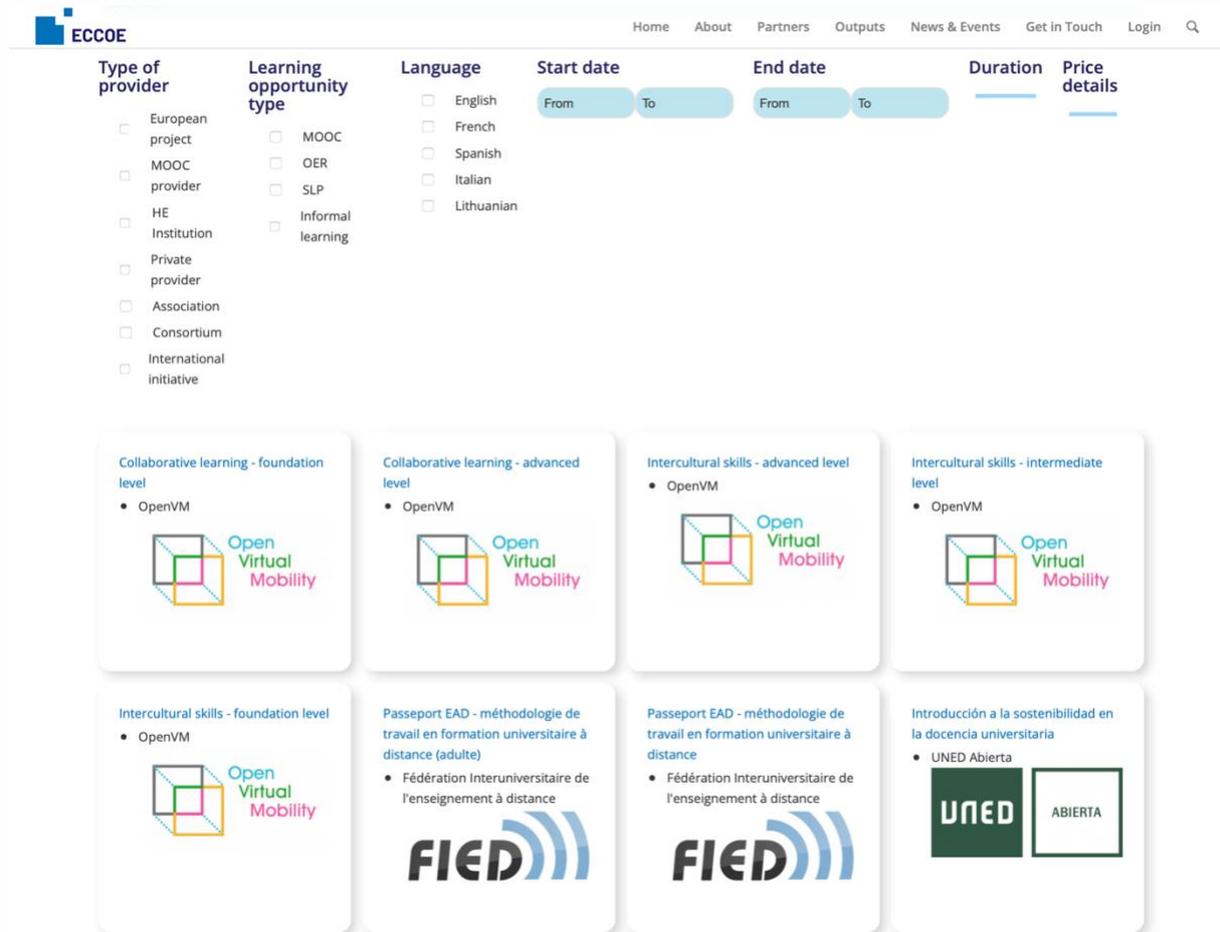


Figure 1: screenshot of the LOC homepage

Three **how-to guides** (see Section 8 References and further reading) together with an **Micro-credential module / Learning Opportunity description template** (Appendix A) were created to support partners and external stakeholders in preparing data for inclusion in the ECCOE LOC and for improving the presentation of Learning Opportunities on MOOC platforms and institutional websites.

4 Implications

4.1 For Higher Education Institutions and other providers

The institution has an offering of Learning Opportunities (Short Learning Programmes, MOOCs, SPOCs or similar), and wants to issue Digital Micro-Credentials to recognise the achievements of learners.

If applicable, the institution's guidelines for creating a module description, and for describing learning outcomes, are followed.

Where possible, institutions and other learning providers should publish standard Learning Opportunity specifications, in other words a stable description which is not dependent on a particular date-specific edition. This is particularly important in the case of MOOC platforms where the URL of a Learning Opportunity changes from edition to edition.

4.2 For Programme managers

Programme managers need to ensure that the description of the Learning Opportunity contains all relevant pedagogical and administrative information (learning outcomes, competences developed, learning activities, forms of assessment, fees, enrolment and admission procedures etc.).

In addition to this programme managers need to be aware of European and national competency frameworks which relate to the learning outcomes, as well as other controlled vocabularies, which can be found in the description template (Appendix A).

4.3 For Learners

High-quality descriptions support learners in identifying relevant Learning Opportunities to support their professional development. When these descriptions are linked to an identifiable Digital Micro-Credential, learners can see immediately what qualification or certification they will achieve by completing such a course, who it is offered by, which institution or other body issues the credential and by whom it is recognised. Such transparency is vital for ensuring learners get the best potential offering of Learning Opportunities.

4.4 For the European Commission

The ECCOE LOC is intended to be complementary to the Europass database <https://europa.eu/europass/en/find-courses> by showcasing selected Learning Opportunities described according to the ECCOE criteria and demonstrating good practice in applying the relevant European controlled vocabularies.

At the time of writing, the Europass database relies on providers submitting their offering to Europass. As noted during the ECCOE processes of identifying and selecting Learning

Opportunities, the quality and type of information of MOOC platforms and institutional websites varies considerably. In order to support harmonisation, the European Commission might consider issuing guidelines based on the outcomes of the ECCOE project. Furthermore, the Commission should consider supporting further projects which explore issues of interoperability in order to facilitate the sourcing and sharing of Learning Opportunities at transnational level, in order to support mobility and upskilling.

5 Added value

Over and above the results promised in the project proposal, Output 3 also formulated a series of recommendations to selected providers in order to help them improve their descriptions of Learning Opportunities. These recommendations were presented to the providers, from within and beyond the project during one-to-one online meetings to enable discussion and address issues for uptake and integration of the recommendations.

Additional [Hands-on tips](#) drawn from experience were formulated to describe LOpps and credentials, In order to streamline the adoption of descriptors and make practitioners (instructors, learning technologists, instructional designers, ...) become familiar both with the ECCOE system and with the surrounding ecosystem.

Further work completed within Output 3 in addition to what was initially planned consisted of participating in the ESCO pilot linking learning outcomes to the ESCO directory of skills, competences and occupations.

ESCO Skills is an umbrella term which designates all the knowledge, skills and transversal skills classified by ESCO. The EQF Recommendation in 2010 required that individual qualifications should be described and defined in learning outcomes. The objective of the ESCO pilot is to test the effectiveness of the machine learning algorithm developed by ESCO to return ESCO Skills on the basis of the Intended Learning Outcomes (ILOs) entered for a learning opportunity; a subsidiary objective is to give the opportunity to users to suggest knowledge and skills which are not included in ESCO.

The rationale of this testing is that ESCO Skills are rather employment-driven and bottom-up; they are not the outcome of a systematic mapping of knowledge and skills for each field of education according to ISCED-F, hence this activity might help spot not only improvement margins of the algorithm, but also misalignments and gaps in the classification of ESCO Skills.

To this end Politecnico di Milano – METID selected a set of MOOCs in diverse subject areas and filled in an xls template with the corresponding ILOs; ESCO fed this information into an online linking tool so that the project managers in charge of the production of the MOOCs and, where possible, the respective content experts could test the effectiveness of machine learning algorithm on the basis of the ESCO skills it returned (1 to 3 ESCO skills for each ILO). The ESCO pilot is expected to be completed by the end of September 2022. As a further development, ESCO plans to add ISCED-F codes (fields of education) to the URIs of ESCO Skills, but ISCED-F codes won't be available as a skills search hierarchy option.

Politecnico di Milano – METID is also going to make the most of an external synergy to map competencies in the area of open education, which are not included in ESCO to date.

The Output lead (AUN) also developed a bespoke service to accompany its members in developing an offering of learning opportunities which lead to digital micro-credentials, from strategy to implementation. This service will be continued after the project lifetime and will be extended beyond the AUN membership for the benefit of other stakeholders in Europe and at international level.

6 Links to other ECCOE outputs

The ECCOE LOC (Output 3):

- builds on the criteria and descriptors developed for technology-enabled credentials (Output 1),
- is fully integrated in the ECCOE-system (Output 5),
- links selected Learning Opportunities to sample digital credentials (Output 4)
- is complementary to the Model Credit Recognition Agreements (Output 2) in providing the detailed description of the Learning Opportunity which, when completed by a learner, leads to the achievement (credential) recognised by the agreement.

7 Conclusion

The process of analysing Learning Opportunity descriptions in reference to criteria and descriptors for Digital Micro-Credentials and mobilising European controlled vocabularies contributed to achieving a high level of clarity regarding the relationship between these two vital components of the micro-credentialing landscape. Indeed, in the wider field, the term micro-credential may be used to refer to the course a learner follows (as in “Sign up for this micro-credential in Artificial Intelligence”) or to the digital certificate (the artefact) which attests to the learner’s achievement. The ECCOE partners chose to make the distinction, using Learning Opportunity for the Former and Micro-Credential for the latter. The resulting showcase catalogue demonstrates good practice in Learning Opportunity descriptions and paves the way for much-needed further work in harmonising such descriptions in order to facilitate the collation and presentation of European-wide Learning Opportunities to support mobility and upskilling.

8 References and further reading

ECCOE How-to guides (downloadable from <https://eccoe.eu/outputs/io5/>)

- How to link the learning outcomes of a course / MOOC to skills recognised at European level (ESCO)
- How to create a micro-credential module description a) and a catalogue entry in the ECCOE Learning Opportunities Catalogue
- How to create a micro-credential module description: b) General principles for describing Learning Opportunities

Arnold, D., Antonaci, A., Blaschke, L. M., Casanova, G., Giannatelli, A., Lukošienė, M., Mázár, I., Padrón-Nápoles, C. L., & Sedano Cuevas, B. (2020). The ECCOE Approach to Quality Reviewing Online Descriptions of Learning Opportunities. *Enhancing the Human Experience of Learning with Technology: New Challenges for Research into Digital, Open, Distance & Networked Education European Distance and E-Learning Network (EDEN) Proceedings*, 66–75. <https://doi.org/10.38069/edenconf-2020-rw0008>

Appendix A

Micro-Credential module / Learning Opportunity description template

This template provides you with a sample description of a Learning Opportunity which is compatible with the issuing of a related Digital Micro-Credential using European Digital Credentials for Learning.

You will also find links to the proposed standardised vocabularies.

Field	Example of content	Links to controlled vocabularies for standardised items
General information		
Banner image	[provide a logo or other image to illustrate your micro-credential module]	
Title	Intercultural skills: advanced level	
Description	The MOOC - Intercultural skills is specifically targeted for university students interested to improve their Intercultural skills both in learning and learning contexts. However, teachers could also find useful sources for themselves and for their educational practices.	
Provided by	OpenVM MOOC project	
Type of provider	European project	
Provided at	online	
Learning Opportunity Type	MOOC	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/learning-opportunity/25831c2
Language(s) of Instruction	EN	
EQF Level	N/A	
NQF Level	N/A	
Information about the Module / Learning Opportunity		
Description	This course is aimed to support the development of these intercultural skills: 1. Gaining cultural knowledge; 2. Understanding cultural perspectives; 3. Being able to deal with intercultural issues (in workplaces, at the university, in informal contexts and so on). Furthermore, you will exchange knowledge with peers from different cultural settings. At the end of the course, you will acquire the ability to avoid cultural misunderstandings, by becoming more aware of the cultural prejudices.	
More Information	In the Advanced MOOC "Intercultural skills" you will: - deeply understand how culture drives behaviours; - learn to reserve judgement on the people you work with, to avoid cultural misunderstandings; - become self-aware of the cultural prejudices; - be able to assess intercultural skills through an evaluation rubric.	
Homepage	https://hub.openvirtualmobility.eu/course/index.php?categoryid=12	
Mode of Learning	online	
ECTS Credit Points	N/A	
Start Date	March 16th 2020	
End Date	April 25th 2020	

Field	Example of content	Links to controlled vocabularies for standardised items
Duration (in months)	2	
Learning Schedule	Part-time light 2-4 hours per week	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/learning-schedule/25831c2
Workload in Hours	20	
Admissions Procedure	Open to all	
Entry Requirements	NONE	
Fees	Free	
Activities	Before starting the MOOC, you are required to take a quiz, that you consider as a way to pre-assess your skills. According to the score obtained, you will be suggested to start from the foundation level, intermediate level or advanced level. In each level, you will read texts, e-books or PDFs, watch videos and forums. Once all the tasks are completed, you will complete an e-assessment in order to obtain a badge that certifies your skills. You will receive your badge by email in approximately 24 hours.	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/learning-activity/25831c2
Assessments	Quiz, peer assessment of e-portfolio	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/assessment/25831c2
Type of credential	Open badge	
Thematic Area	0417: Work skills (04.5 - 347)	http://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-fields-of-education-and-training-2013-detailed-field-descriptions-2015-en.pdf
Learning Setting	non-formal	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/learning-setting/25831c2
Target Group	Adult learners, teachers	https://op.europa.eu/en/web/eu-vocabularies/concept-scheme/-/resource?uri=http://data.europa.eu/snb/target-group/25831c2
Learning Outcome Type	Skills	https://esco.ec.europa.eu/en/classification/skill_main
Related ESCO Skill(s)	Demonstrate intercultural competence http://data.europa.eu/esco/skill/c10d5d87-36cf-42f5-8a12-e560fb5f4af8	https://esco.ec.europa.eu/en/classification/skill_main
Contact information		
Homepage	https://www.openvirtualmobility.eu/	
Context	For all enquiries about this Learning Opportunity, please contact	
Contact Details	Professor XX	
Postal Address	BEUTH UNIVERSITY OF APPLIED SCIENCE Beuth Hochschule für Technik Berlin Luxemburger Str. 10, 13353 Berlin, Germany	
Phone Number	0049/30/4504-0	
E-Mail Address	name@institution.eu	
Contact Form	N/A	

About the ECCOE Project

The increasing unbundling of higher education and the availability of short learning programmes and online MOOCs have undeniable advantages to today's lifelong learners. These more agile means of education are more suitable to address quickly emerging new skills and competencies demanded by the labour market. However, some issues – such as concerns about data protection and privacy or the lack of validation and recognition mechanisms of digital credentials – cause a serious bottleneck to progress. The ECCOE project aims to present a solution to many of these problems with the perspectives of learners, Higher Education Institutions (HEIs) and employers in mind in equal measure.

For more information please visit <https://eccoe.eu/>



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