O1: Quality criteria for credential description

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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 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 1**, the quality criteria and descriptors for credentials, hereafter referred to as the Quality criteria for credential description.

1.2 Objectives

The main objective of Output 1, is to develop a detailed comprehensive set of quality criteria for credential documentation and finalise a comprehensive list of credential descriptors.

The focus of the Output 1 overall is to develop a detailed comprehensive set of quality criteria for credential documentation by improving them to be more user friendly and efficient by gathering/developing a series of richer and more comprehensive sets of metadata (i.e. classifications and typologies of properties such as the mode of study, methods of assessment, authentication means, grading schemes, etc.) describing the various properties of credentials in as many EU countries as possible.

Finally, the set of credential descriptors are translated into LT, FR, NL, DE, ES, IT, EN and available to use.

2 Methodology

The main methodology was data analysis and research, drawing on internal and external expertise during the internal piloting and public consultations and constant alignment with the other related outputs. The identification, analysis, comparison and selection of credential descriptors was conducted through the following stages.

2.1 Desk research on existing practices

This activity included a wide research, transcription and registration of various modules and credential properties, that lead to comprehensive credential descriptors set. The project team firstly collected and described the credential properties and descriptors from participating countries, EHEA regulations, regarding the credentials, encompassing HEI's and other institutions. Important aspect was the recognition of learning outcomes and the strive for an even more agile process. A comprehensive set of credential descriptors ensures a quicker recognition processes and credentials thus opening up education by opening up credentials for more stakeholders.

2.2 Development of quality criteria to describe credentials

Basing the development on the desk research and aligning with Output 3, regarding the substantial overlap of descriptors in course description and credential description, the set of quality criteria was developed, a typology dataset produced and piloted twice internally and also in public consultations, ensuring the inclusion of stakeholders and opinion from various institutions and perspectives. The dynamic typology could help opening up credentials and describe the properties demanded or desirable for external credential recognition.

2.3 Internal piloting and open public consultation of the proposal of credential descriptors

This consisted of two main activities:

- Internal piloting of quality criteria
- Open public consultation of the updated proposal

2.3.1 Internal piloting of quality criteria

The initial list of credential descriptors, developed during the desk research was tested inside the consortium with real courses and modules, the extensive feedback collected, and analysis conducted. This internal piloting process led to adjustment of the list of descriptors dataset. Additionally, a vocabulary of descriptors was developed for presentation and analysis in the internal piloting and open public consultation of the dataset.

2.3.2 Open public consultation of the updated proposal

Internally piloted dataset of descriptors was presented for open public consultation in order to collect the feedback from HEI representatives who were not involved with the development work and having to attempt understanding and using the criteria list without having any prior knowledge. Due to the extensiveness of the list of credential descriptors and the feedback and fine tuning the quality descriptors the vocabulary of the descriptors (vocabulary: https://bit.ly/3uMKkW1) and the Model of digital credential template were developed. They including all the well discussed and synchronized descriptors for a quality credential that is easy to get recognized (Model credential template). The Model Digital Credential template provides the most important data about the learning opportunity to be recognised by a given credential. The feedback from open public consultations led to adjustment of the final list of credential descriptors.

3 Results

As a result, a comprehensive list (dataset) of credential descriptors, reviewed in an extensive internal and external processes of feedback was developed. The list (annex. No 1) consists of 6 major subsets of descriptors were defined and classified:

1. Institutions (name, type of institution, recommended scope of recognition, level of education, type of QA)
2. Credential data (type of credential, stackability)
3. Learning outcomes
4. Curriculum characteristics (education field, mode, form of study, study language, workload, duration, volume of learning)

5. Assessment of learning (type of assessment, assessment object, method, procedural requirements for learner authentication and ID verification, format of assessment, grade, grading scheme, validation)
6. Legal/administrative/technical descriptors (unique number, name of the learner, etc.)

The results are also available in the form of a downloadable version of a credential that include all the tested and reviewed descriptors in a user friendly certificate.

4 Implications

4.1 For Higher Education Institutions and other providers

The selected descriptors of credentials can be useful for Higher Education Institutions as a guideline for descriptors, both obligatory for recognition for HEIs and for a wider range of stakeholders.

The ability to calibrate learning outcomes to ESCO skills and competencies and therefore indicate them in the certificate, makes it more relatable for the labour market needs and easier to recognise.

4.2 For Learners

A digital credential that shows what qualification the learner gained and what competencies are attained, what courses/modules/learning experiences were taken including comprehensive descriptors about the learning experience or experiences can become an irreplaceable asset to learners CV. Also, these in-depth credentials can become a leap to microcredentialing learning experiences into stackable credentials.

4.3 For the European Commission

The ECCOE credential descriptors, and the dataset of credential qualities, can complement the European Learning Model (ELM) database of descriptors and European controlled vocabularies. The dataset of descriptors should be further reviewed in practice, to see which descriptors are essential in recognition, what properties of a credential are the most important for different stakeholders. The constant feedback from the labour market, learners, HEIs and other providers should be taken into account to further develop the certificate descriptors as the demand for upskilling and mobility is always changing.

5 Added value

The ECCOE partnership not only researched, developed and presented in 6 languages the credential descriptors, but also provided a vocabulary of main descriptors, making it clearer for the issuers and learners. Also, concerning the extensive list of descriptors, a Model Digital

Credential in a more user-friendly format was presented, making the process of internal and external review more simplified and quicker. The credential descriptors were also calibrated with ELM controlled vocabularies and tested with various Learning Opportunity descriptions.

6 Links to other ECCOE outputs

The ECCOE Quality Criteria for Credential description (Output 1):

- Relates tightly with the Model Credit Recognition agreement, the process of academic recognition (Output 2),
- is fully integrated in the ECCOE-system (Output 5),
- defines the technology-enabled credentials (Output 4)
- deeply relates and overlaps properties with the Learning Opportunities Catalogue (Output 3), which includes the descriptors in the detailed description of each Learning Opportunity. When completed by a learner, this leads to the achievement (credential) which is recognised by the agreement and represented in the digital credential.

7 Conclusion

The comprehensive dataset of credential descriptors, tested, reviewed and implemented in ECCOE provides a sound basis for digital credentials, making the academic recognition process as agile as possible in different situations and institutions. It can also be adapted and used in the micro-credential development. The calibration with ELM controlled vocabularies also supports the list of credential descriptors, proposed in the result of the Output 1 of the ECCOE project.

8 References and further reading

ECCOE How-to guides (downloadable from https://eccoe.eu/eccoe-system/)

- 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.

Credential quality descriptors		
Institutions involved		
	Name of the issuing institution	
	Type of issuing institution	
		Higher education institution
		Continuing education institution
		Education service provider
		Employer organization
		Professional organization / chamber
		Industry
		Public authority
		Civil society organization
		NGO
	Scope of recognition	
		Institutional
		National
		European
		Worldwide
		Other
	The level of education	
		Level in EQF
		Level in NQF
		Level indicated both in EQF and NQF
		Other
	Type of institution responsible for quality assurance	
		Regulated HE accreditation (ENQA)
		Regulated professional accreditation
		Other
		None

Credential data		
	Type of credential	
	Degree	
		Doctoral degree
		Master's degree
		Bachelor's degree
	Micro-credential (Certificate)	
		Short learning programme certificate
		Formal module certificate
		Non formal course certificate
		Apprenticeship or internship certificate
		Informal learning activity documentation
		Academic certificate
		Transcript of records
		Other certificate
	Other	
	Form of credential	
	Digital certificate	
		Digital-public key infrastructure
		Digital-blockchain
		Digital-pdf/A or encrypted PDF
	Paper certificate	
	Digital badge	
		Open digital badge
		Other digital badge
	Other	
	Stackability	
	stackable: can be combined with other micro credentials as a part of larger unit of learning	
	stacked	
Learning outcomes		
	Information on learning outcomes	
	Learning outcomes indicated	

		Learning outcomes indicated and aligned to EQF framework
		Learning outcomes described as competences, aligned to ESCO taxonomy
		Learning outcomes not indicated
		Other
Curriculum characteristics		
	Education field	
		ISCED
		Other
	Mode of study	
		Online
		Face to face
		Blended
		Placement
		Other
	Form of study	
		Full-time
		Part-time
	Study language	
		Monolingual
		dropdown list of single languages
		Multilingual
		dropdown list of language selection
	Estimated workload	
		Contact hours indicated
		Contact hours not indicated
	Learning duration	
		in months
	Volume of learning	
		Number of ECTS indicated
		Not indicated
		Number of hours indicated
Assessment of learning		
	Type of assessment	
		Formative (accumulative)

	Summative (at a conclusion of a defined instructional period)	
	Both	
	No assessment	
	Assessment object	
	Knowledge	
	Skills	
	Autonomy / responsibility	
	Assessment method	
	Testing	
	Assessment of completed (practical) tasks	
	Assessment of solved problems	
	Assessment of abstracts, essays, case analysis, reports, projects	
	Observation of presentations on abstracts, essays, case analysis, reports, projects	
	Observation of discussions and debates	
	Observation of practical tasks in action	
	Project work	
	Publicly visible proof of work	
	Portfolio	
	Level of attendance	
	Numerical exercise (testing analytical skills)	
	Learning diaries (testing reflection skills)	
	Open book written exam	
	Written exam without accessing course material (testing knowledge and its application to theoretical scenarios)	
	Other	
	Procedural requirements for learner authentication and ID verification	
	No verification of a learner	
	Online assessment without ID verification of a learner with secure login into LMS	
	Online assessment with ID verification (proctoring) of a learner	
		ID verification plus secure login+password in LMS
		ID verification with third party tool
		ID verification against national databases
		Biometric ID verification
		Online proctoring

		Big data analysis
		On-site assessment with ID verification
		Signature track
		Plagiarism identification tools
		Ethics code
		Supervised exams
		Other
	Assessed by	
		Peers
		Self-assessment
		Teacher
		Independent assessor (third party)
		Artificial intelligence
		Other
	Format of assessment	
		Automatic grading
		Manual grading
		Both
		No grading
	Grade	
		Indicated
		Not applicable
	Grading scheme	
		Pass of fail
		100% to 0%
		A+ (excellent) to F-(fail)
		5 (excellent) to 0 (fail)
		10 (excellent) to 0 (fail)
		1 (excellent) to 5 (fail)
		20 (highest) to 0 (lowest) France
		30 (highest) to 18 (lowest) Italy
		ECTS grading scale
		None
		Other
	Validation (Recognition)	

		Transfer of ECTS from formal learning
		Assessment and recognition of non-formal learning
		Assessment and recognition of informal learning
		Other
Legal /Administrative+ Technical		
Issue date		
Valid till		
Seal		
Title		
Unique number for the credential		
Name of the learner		
Signature of the responsible issuer		
Name of the person that prepares the certificate and contact phone		
Access requirements		
Programme requirements		
Grade distribution within qualification		
Overall classification of the qualification		
Access ti further studies		
Professional status		
Further information sources (Ministry Centre for quality assessment in HE)		
Diploma supplement code		
Information on the national higher education system		
Course unit in the supplement title		
Course unit in the supplement workload by credits		

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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/