Block.Ed

Validation framework for microcredentials

Author: DIE

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Abstract

The purpose of the present document is to offer a framework for the validation of Microcredentials (MCs) that is informed by international standards and best practices and that is adaptable to different contexts and domains, establishing a common ground for collaboration and quality assurance across diverse educational sectors and allowing for customization based on specific program objectives and audience needs.

To that end, the present framework will

- define criteria and standards for validating the quality and effectiveness of Microcredentials
- outline elements of a validation process that includes peer review, expert evaluation, and stakeholder feedback to assess the alignment of short learning programs with defined requirements.
- present exemplary tools and resources to support professionals in self-assessment and continuous improvement of their short learning programs.

Keywords

microcredentials, validation, quality

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Block.Ed Project

Block.Ed seeks to revolutionize e-learning by bridging the skills gap through dynamic micro-credentials for adult trainers, all powered by an innovative integrated blockchain platform.

Block.Ed addresses the skills gap in e-learning by implementing micro- credentials, creating flexible learning pathways for adult trainers. The project will enhance their skills through short programs focused on instructional design and technology, culminating in the awarding of these credentials. Additionally, the project aims to increase trust in micro-credentials by integrating a blockchain- enabled platform with modern LMS systems.

Specific objectives of Block.Ed include

- Develop a framework for designing and validating microcredentials.
- Create an e-course for adult trainers on integrating microcredentials into e-learning.
- Develop use cases (short e-learning courses leading to microcredentials) in green transition and inclusion.
- Integrate blockchain technology for secure and transparent microcredential provisioning.

Block.Ed is being implemented by a consortium with partners from Germany, Greece, Italy, Portugal, Slovakia, and Switzerland.

Project Homepage: https://blocked-project.eu/

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1. SCOPE OF THE GUIDE

1.1 Scope and Objective of the Framework

This document was created as part of the Block.Ed project, which promotes innovation in adult and lifelong learning. Using microcredentials and blockchain technology, the project aims to make learning more flexible, needs-based, and high-quality—for the benefit of learners, the labor market, and society.

This document provides a framework for validating microcredentials (MCs), based on international standards and best practices. It offers a common foundation for collaboration and quality assurance across educational sectors, while remaining adaptable to different contexts, goals, and target groups

To that end, the present framework will

- define criteria and standards for validating the quality and effectiveness of MCs
- outline elements of a validation process that includes peer review, expert evaluation, and stakeholder feedback to assess the alignment of short learning programs with defined requirements.

These elements can be adapted by different types of training providers—such as universities, NGOs, or other institutions—to fit their specific contexts and needs. To support this adaptation, the framework refers to practical examples and tools that illustrate how its core principles can be applied in various real-world settings.

1.2 Target groups

This document is primarily intended for education providers and similar institutions that offer (or wish to offer) microcredentials. This document provides practical guidance to help them ensure that their MCs are of high quality and recognized by other stakeholders. Secondarily, the document is intended for people from a wide range of backgrounds (learners, teachers, instructional designers, policymakers, etc.) who are interested in microcredentials and, in particular, aspects of their quality assurance, recognition, and validation.

1.3 Quick-Start Guide

Readers primarily interested in practical implementation can start directly with Chapter 4, which outlines how a comprehensive validation of microcredential quality can be carried out in practice, based on ten general principles. Those more focused on conceptual and theoretical issues are encouraged to also read Chapters 2 and 3.

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1.4 Links with other project documents

This document builds on and supplements **another** document from the Block.Ed project: the **Guide for designing microcredentials**. While the Guide deals with the process of designing and creating microcredentials step by step, this Validation Framework focuses on the aspects of quality assurance and recognition of microcredentials.

As a common reference document, please also refer to the **Block.Ed Glossary** (in the annex), which defines key terms used in the project.

2. Validation of Microcredentials – Approaching the Concepts

This document focuses on the validation of microcredentials. To ensure a common understanding, it is necessary to first clarify these two key terms.

2.1 What are Microcredentials?

For the purposes of this document, we use the term “microcredentials” as defined by the European Union in its 2022 Council Recommendation:

“Micro-credential" means the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes will have been assessed against transparent and clearly defined criteria. Learning experiences leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be stand- alone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity. [1]

As can be seen from the definition, microcredentials refer to a document (a certificate, attestation, or similar) that certifies that the holder has acquired certain learning outcomes.

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0627(02)

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It should be noted that the term “microcredentials” is often used in a broader sense[2]: in this case, the term encompasses not only the document, but also the learning experience (the course, training program, etc.) itself, the successful completion of which leads to the acquisition of the document. In the aforementioned partner document from the Block.Ed Project, the “Guide for designing microcredentials”, microcredentials are used in this broader sense. The present validation framework will in the first place focus on the narrower meaning of microcredentials in the sense of a certificate/document. However, where appropriate, it will also take into account aspects of the broader understanding of the term where appropriate. The reason why this broader understanding of the term makes sense in our context becomes clear when we look at the second central term, “validation”:

2.2 What is validation?

In **general terms**, validation refers to a process used to check whether a product, service, or system fulfills its intended purpose. Closely related to this is the term “verification,” which is sometimes used synonymously with validation. Both validation and verification are important components of quality management systems such as ISO 9000 in business. However, the focus of the two terms is different:

- **Verification** mainly refers to the internal quality and consistency of a product or process. It checks whether the product meets the specified specifications, requirements, and standards, i.e., whether it has been done correctly. Verification can be said to be more of a technical and internal control.
- **Validation**, on the other hand, focuses on the external benefits and relevance of the product from the perspective of the customer or user. It ensures that the product meets actual needs and expectations of users or customers and is suitable for its intended purpose. [3]

Validation of microcredentials

The validation of a microcredential (understood as a certificate) could then be simply understood as a process by which the relevance and usefulness of the document for users is checked and certified (where users can be both the holders of the microcredential and those to whom the microcredential is presented, e.g., potential employers or similar).

However, in order to determine this reliably, it will also be necessary to consider the **learning experience** on which the issued document is based. In particular, it will be

[2] For a discussion of definitions and characteristics of micro-credentials, see the UNESCO-Study from 2022: UNESCO: Towards a common definition of micro-credentials (2022) https://unesdoc.unesco.org/ark:/48223/pf0000381668

[3] https://www.softwaretestingclass.com/difference-between-verification-and-validation/

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necessary to check whether this learning experience was designed in such a way that it made it possible to reliably and fairly determine the certified learning outcomes and to document them in a comprehensible form that is largely immune to contradictory readings and interpretations by different recipients.

Validation of non-formal learning

Another EU definition clarifies which aspects of validation are relevant in the context of lifelong learning, which is of particular interest to us here. A 2012 EU Council recommendation on the validation of non-formal and informal learning defines this as:

> *[…] a process of confirmation by an authorised body that an individual has acquired learning outcomes measured against a relevant standard and consists of the following four distinct phases: 1. IDENTIFICATION through dialogue of particular experiences of an individual; 2. DOCUMENTATION to make visible the individual's experiences; 3. a formal ASSESSMENT of these experiences; and 4. CERTIFICATION of the results of the assessment which may lead to a partial or full qualification;*[4]

All four phases mentioned above are also directly relevant for the validation of Microcredentials, as these have many links to the field of non-formal learning[5].

Microcredentials and non-formal learning

Microcredentials can apply to a very broad spectrum. In fact they can be classified as formal, non- formal, or informal learning, depending on how they are designed and recognized.

Many microcredentials represent formal learning opportunities because they are often awarded by recognised educational institutions, universities, or organisations, and are associated with official certificates or credentials. Such microcredentials are part of the formal education system because they document specific skills or knowledge according to established standards.

At the same time, however, microcredentials also have characteristics of non-formal learning because they are often flexible, shorter, and less institutionalised than traditional qualifications. They can be acquired independently, often online or in informal learning settings, and are designed to quickly demonstrate specific skills. Many microcredentials also refer to standards that are not currently part of the formal education system, even if

[4] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32012H1222%2801%29
[5] https://www.cedefop.europa.eu/en/publications/6221#group-downloads;
https://www.cedefop.europa.eu/files/5603_en.pdf

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they are widespread in certain contexts, such as a specific industry, and are recognized as a reference there. Exmples of such standards on the European level include the competence frameworks DigComp (for digital competencies), EntreComp (for entrepreneurial competencies), or LifeComp for transversal, personal, social, and learning to learn key competencies. In that way microcredentials can also serve as a means to standardise learning outcomes and recognition for non-formal learning.

Based on the above considerations, this framework therefore sets out to

- define a number of general principles for microcredentials which will outline all relevant requirements that a microcredential should meet in order to best meet the needs and expectations of users and of the society at large (chapter 3)
- identify ways and means of ensuring and demonstrating that a micro-qualification complies with the general principles and meets the associated requirements (chapter 4).

3. The General Principles

There are various documents by different authors that summarize general principles to be observed when designing and awarding microcredentials. Here are some relevant examples:

- An essential document that is relevant to us here is the aforementioned **Council Recommendation** on Microcredentials[6] from 2022, which lists ten such principles in its annex.
- The **Common Microcredential Framework**[7] was developed specifically for higher education and is the result of a collaborative effort by leading European online education providers, including FutureLearn, FUN, MiríadaX, EduOpen, iMooX, and OpenupEd/EADTU. It proposes principles and criteria for Microcredentials and MOOCs and Short Learning Programmes.
- Another example is the "**Micro-credential Principles and Framework**" from **eCampusOntario**[8], which was developed by a working group including employers, colleges, universities and other public agencies with a view to building a harmonised micro-credential ecosystem in Ontario.
- The global nonprofit network **Digital Promise** has developed a "**Micro-credentials: A Guide for Educators**" which presents practical principles and frameworks for designing microcredentials in education.

[6] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2022.243.01.0010.01.ENG
[7] https://emc.eadtu.eu/cmf/common-microcredential-framework-cmf
[8] https://www.ecampusontario.ca/wp-content/uploads/2020/11/Micro-credentials-en1.pdf

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Unsurprisingly, these and other similar documents show a high degree of overlap in terms of the principles and criteria that are highlighted in these documents. In the following, we present our **own synthesis of general principles** for the validation of microcredentials, which we have derived by comparing and consolidating various sources, including, in particular, the above named documents.

First, this chapter (3) will briefly present in general terms the ten principles that have been identified in this way. In the following chapter (4), the practical implementation of these principles is then discussed in more detail.

Note: Validation issues should not only be considered once the microcredential has been designed. Questions regarding quality and how it can be ensured and demonstrated should be taken into account from the very start of the planning phase. The ***Block.ed Guide for Designing Microcredentials*** offers useful guidance in this regard.

In this document, the principles will be presented in an order that logically reflects the development and implementation process of microcredentials: First, principles that are primarily relevant to the content and pedagogical basis (e.g. learning objectives, quality standards) will be discussed. These are followed by principles that deal with practical and structural aspects (e.g. validation, recognition, comparability) and principles that focus on fundamental technical and long-term aspects (e.g. technology standards, data protection, sustainability).

Of course, in practice it is not possible to work through the principles in a strictly linear or isolated manner. The development, implementation, and validation of microcredentials is an iterative, dynamic process in which many principles operate in parallel or interdependently. There are numerous overlaps and feedbacks, for example:

- **Learning objectives** and **Quality standards** influence each other: Without clear learning objectives, it is not possible to define meaningful quality criteria—and conversely, quality standards should guide the formulation of good learning objectives.
- **Transparency** is closely linked to **Comparability**, **Assessment**, and R**ecognition**, because only comprehensible information enables evaluation and classification.
- **Technological standards** also affect **Data protection**, **transparency**, and **sustainability**, because digital infrastructure technically secures or enables many of these principles.

Although the principles are often intertwined in practice, they are here presented in a

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fixed order to provide a clear, comprehensible structure and to prepare their implementation for developers and providers in a systematic and practical manner.

3.1 Principle Learning objectives and competencies

Microcredentials should define clear, measurable learning objectives and competencies that meet the needs of learners and the labor market.

The principle of learning objectives and competencies in the validation of microcredentials is central to ensuring that the certificates really offer added value. Learning objectives are clear statements about what learners should know, be able to do, and understand after completing the microcredentials. Competencies refer to the abilities and skills that learners acquire and can apply. By defining these learning objectives and competencies precisely, you ensure that microcredentials are targeted and meet the actual needs of learners and the labor market. This means that the certificates not only impart theoretical knowledge, but also practical skills that are in demand in the professional world. In short, clear, measurable learning objectives and competencies make microcredentials transparent and comprehensible. They help to recognize the value of the certificates and ensure that learners actually learn what they need for their further development or profession.

3.2 Principle Quality Standards

Clear quality criteria need to be established for the development, implementation, and assessment of microcredentials to ensure high educational quality.

Quality standards in the validation of microcredentials is very important to ensure that the certificates demonstrate high educational quality. Quality standards mean that there are clear and defined criteria that must be met in the development, implementation, and assessment of microcredentials. These criteria help to make the content, learning methods, exams, and assessment transparent and comprehensible. By setting such standards, it is ensured that microcredentials are not just superficial, but actually impart sound knowledge and skills. It also ensures that learners have a reliable and high-quality learning experience. In short, adherence to quality standards helps to ensure the credibility and value of microcredentials. They ensure that the certificates represent a genuine qualification that is recognized in the world of work and in the education sector.

3.3 Principle Transparency

When validating microcredentials, it is important to uphold the principle of transparency to ensure they are clear and easily understood by all stakeholders.

The principle of transparency means that all important information is communicated

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openly and clearly. This is particularly important for microcredentials because it enables learners, employers, and other interested parties to understand exactly what the microcredentials cover, how they are assessed, and what requirements must be met.

This transparency builds trust, makes it easier for learners and employers to make decisions, and ensures that microcredentials retain their intended significance and recognition. It is therefore an important cornerstone for ensuring the quality and credibility of such certificates.

Neglecting transparency, on the other hand, can lead to misunderstandings, reduce trust among users, hinder acceptance by employers or institutions, and ultimately weaken the perceived value and impact of the microcredential. Therefore, transparency is a fundamental pillar of quality assurance and legitimacy for microcredentials.

3.4 Principle Validation and Assessment

Clear procedures should be established for validating the skills acquired and assessing learning outcomes.

Validation refers to the demonstration and recognition of competencies, regardless of where, how, or when they were acquired (e.g., formal learning, professional practice, informal learning). Assessment refers to the process-oriented part in which it is examined whether and to what extent the desired learning outcomes have been achieved – e.g., through tests, project work, simulations, portfolios, or oral examinations.

Reliable and valid assessment systems are a central component in the design of reliable microcredentials. The aim is to ensure that not only the learning itself, but above all the learning outcomes—i.e., the competences actually acquired—are assessed and recognized in a credible and comprehensible manner.

Microcredentials should be meaningful proof of competence – not mere certificates of participation. In order for them to be recognized, comparable, and trustworthy, assessment systems will need clear assessment procedures that make it transparent what has been assessed, objective criteria for how good the performance was (e.g., rubrics, grading scales), and documented validation processes to also recognize informal learning. Without valid assessment systems, there is a risk that microcredentials will be perceived as superficial or arbitrary, which undermines their effectiveness

3.5 Principle Accreditation and Recognition

Standards must be defined to ensure that microcredentials are validated by recognized institutions or organizations in order to guarantee their credibility.

The principle of accreditation and recognition is very important in the validation of microcredentials because it ensures that these certificates are truly credible and valuable.

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Accreditation means that an awarding body—i.e. a recognized institution or organization—reviews the microcredentials of a given provider and confirms that they meet defined quality standards. Such awarding bodies can include, for example, national qualification agencies, universities, professional associations, or sector-specific certification bodies. Accreditation ensures that the content, learning objectives, and assessments of a microcredential are reliable, consistent, and aligned with the expectations of the relevant industry or educational field.

Recognition means that these microcredentials are recognized by other institutions, employers, or educational institutions. This is important so that the certificates actually offer added value, for example in job applications or further training.

Adherence to these principles ensure that microcredentials are not just a short-term proof of learning, but are also recognized as credible and valuable qualifications in the long term. This strengthens trust in this type of certificate and promotes its acceptance in the world of work and education.

DID YOU KNOW?

According to a recent Cedefop study, accreditation ranks highest in the list of features that are likely to inspire trust in microcredentials among (potentials) learners

Source: Cedefop, (2023). *Microcredentials for labour market education and training: the added value for end users*, p. 37.

3.6 Principle Flexibility and Accessibility

The framework should enable flexible learning formats and access routes in order to reach a broad target group.

The principle of flexibility and accessibility is crucial to enable as many people as possible to participate. Flexibility means that learning formats are designed to adapt to different needs, schedules, and learning styles. This may mean, for example, that microcredentials are offered online, asynchronously, or at different levels of difficulty so that learners can decide for themselves when and how they learn. Accessibility refers to the fact that the offerings are open to as many people as possible, regardless of their origin, educational background, or technical requirements. This can be achieved through barrier-free design, low-cost or free offerings, and diverse access routes. The goal of this

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principle is to reach a broad target group, i.e., people with different prerequisites, life situations, and needs. This increases the chance that more people will benefit from microcredentials and be able to expand their skills. In short, flexible learning formats and barrier- free access ensure that microcredentials are inclusive and open to as many people as possible. This strengthens equal opportunities and promotes lifelong learning.

3.7 Principle Professional Relevance and Transferability

The principle of “professional relevance and transferability” forms a central basis for the design and validation of microcredentials. It ensures that the skills taught are not only theoretically sound, but above all closely aligned with the current requirements of professional practice. It is crucial that the content is practical and oriented toward real-life activities, tasks, and challenges in the respective industries. This gives learners the opportunity to apply the knowledge they have acquired directly in their everyday working lives and to strengthen their employability in a targeted manner.

Another key aspect is the stackability and transferability of microcredentials, i.e., the possibility of crediting microcredentials towards formal qualifications or “stacking” multiple microcredentials to form more comprehensive qualifications

The principle of professional relevance and transferability ensures that microcredentials not only offer short-term benefits, but also contribute to individual career development and securing the supply of skilled workers in the long term. It lays the foundation for microcredentials to be recognized and successfully used as flexible, practical, and future-oriented instruments in the modern educational landscape.

3.8 Principle Technological Standards

Standards for technical implementation, security, and interoperability are important for digital microcredentials to ensure their trustworthiness, reliability and future viability.

Technological standards are particularly relevant for the validation of microcredentials, as these learning credentials are often issued, stored, shared, and verified digitally. This principle therefore applies to the technical infrastructure and its quality on which microcredentials are based. Technological standards define how digital microcredentials should be technically structured, stored, exchanged, and secured. This includes, among other things, data formats (e.g., Open Badges), security standards (e.g., protection against counterfeiting, data protection), interoperability (e.g., readability across platforms and systems), and long-term availability and accessibility.

Compliance with such established technological standards therefore ensures that microcredentials are not only trustworthy in terms of content, but also technically reliable and future-proof. It is the basis for a functioning digital ecosystem around lifelong learning, professional development, and international educational permeability.

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3.9 Principle Data Protection and Ethics

The protection of learners' personal data and ethical standards should be taken into account in the validation process.

Data protection and ethics are essential for the trustworthy use and recognition of microcredentials – precisely because they are often digital and personal. This concerns both legal requirements (such as the GDPR) and moral responsibility towards learners. On the one hand, personal data (e.g., name, learning outcomes, competence profiles) must be handled in a lawful, purpose-specific, and secure manner. Learners must retain control over their data. On the other hand, beyond the purely legal requirements, it is also important to ensure fair, transparent, and respectful practices when collecting, processing, and using this data. Microcredentials often contain sensitive information, e.g., about professional skills, educational gaps, or personal learning paths.

If this data is used or disclosed improperly, it can damage the trust of learners, lead to misinterpretations or even discrimination, and possibly even cause professional disadvantages. Especially in digital ecosystems, where credentials are machine-readable and easily shareable, responsible handling is therefore essential.

Conscientiously considering data protection principles and ethical aspects not only provides legal protection, but also safeguards trust in microcredentials in a humane and sustainable manner. It ensures the autonomy of learners, prevents misuse, and promotes a fair and inclusive education and work environment in which data is understood as a responsibility, not a mere commodity.

3.10 Principle Sustainability and Further Development

The framework should include mechanisms to regularly review and further develop the relevance and timeliness of microcredentials.

The principle of sustainability and further development focuses on the long-term nature, adaptability, and quality development of microcredentials. The idea is that they should not be seen as one-off measures, but as living, dynamic elements of a constantly changing education and labor market.

It is therefore not just about their current benefits, but also about ensuring that microcredentials remain compatible, up-to-date, and recognized in the future. This is essential because today's labor markets, technologies, and skill requirements are changing rapidly and profoundly. Without further development, microcredentials can become outdated, lose credibility, or no longer match real skill needs. A sustainable system ensures that microcredentials do not become a “stamp from the past,” but rather genuine bridges to the future of learning and working. The principle of “sustainability and further development” ensures that microcredentials remain future-proof, learner-

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centered, and relevant to the labor market. It combines quality assurance with a willingness to innovate and makes it clear that microcredentials are not static certificates, but dynamic building blocks in a learning system.

4. Implementing and Validating the Principles

This section takes a closer look at how the general principles can be implemented and verified and validated in practice. To this end, for each principle a) the general requirements and criteria that must be met are specified for each principle. Furthermore, b) sample measures that can contribute to meeting the criteria are provided. Finally, c) measures are outlined for how compliance with the criteria can be reviewed and validated at different levels (within the institution; with the involvement of peers; with the involvement of other external actors). Each section ends with a list of links for further readings or leading to useful resources.

One note in advance**:** Since this framework is also intended for smaller adult learning providers, it is important to acknowledge the particular challenges they may face in implementing validation processes—such as limited staff, time, or technical capacity. To manage these constraints strategically, such providers can adopt pragmatic approaches: for example, by prioritizing key principles, starting with streamlined procedures, or collaborating with partner organizations to share resources and expertise.

4.1 Principle Learning objectives and competencies

The principle of “learning objectives and competencies” is central to the educational quality and labor market orientation of microcredentials. Clearly defined, comprehensively formulated learning objectives make it clear what specific skills, knowledge, and attitudes learners acquire. They form the basis for curriculum development, instructional design, assessment methods, and third-party recognition.

Without clearly defined learning objectives and competency profiles, microcredentials are difficult to assess for employers or educational institutions, not validatable, as it is unclear how learning success is to be measured, and of little help to learners in orienting themselves on their educational path.

On the other hand, clear learning objectives and competencies enable: targeted learning (learners know what they are working towards), objective assessment (exams are aligned with learning objectives), better recognition (through clear connectivity to educational programs or jobs), and greater relevance to the labor market.

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a) How to recognize when the principle is properly addressed: Requirements and criteria

A microcredential should clearly define:

- What learners will know, understand, and be able to apply after completion (learning objectives),
- and which competencies (skills, abilities, attitudes) they will acquire—e.g., technical, methodological, or social competencies.

These objectives should be:

- concrete and measurable (e.g., using Bloom's taxonomy),
- be oriented toward real-world requirements (e.g., job profiles, qualification frameworks),
- and be aligned with the level of competence, according to established competence frameworks (e.g., EQF level 4 or 6).

b) How to implement the principle in practice– Sample measures

- The microcredential provider creates a “learning outcome mapping” for each microcredential, which links the desired learning objectives to the teaching methods, examination forms, and underlying competencies. A downloadable template is provided in Annex C
- Standardized formulations based on recognized taxonomies are used to describe the competencies, such as: “Upon completion, learners will be able to critically evaluate...” or “...apply theoretical knowledge to solve complex problems.”
- The learning objectives and competencies are classified within internationally compatible frameworks, for example by referring to the European Qualifications Framework (EQF) or industry-specific competency profiles (e.g., ESCO, SFIA, DigComp).
- External resources and reference documents are regularly used for quality development, such as the Common Microcredential Framework (EMC), the UNESCO Guidelines for Designing Microcredentials, or the FutureLearn Learning Design Toolkit, which offers didactic structuring aids specifically for digital learning formats.

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c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The institution uses an internal curriculum template that prescribes learning objective-oriented formulations (e.g., according to Bloom) and is linked to the EQF. A curriculum board reviews all new offerings for consistency, competence orientation, and relevance.
Peer Review[9]	• Before final approval, the learning objectives are reviewed by peers and adjusted if necessary (e.g., in a standardized peer feedback format). Comparisons with similar qualifications are also used to ensure compatibility and suitability.
External	• Professional chambers, employer associations, or awarding bodies provide feedback on the labor market relevance of the defined competencies. In the case of formal accreditation, the relevance of the competencies is systematically assessed by external experts, e.g., as part of quality audits or standardized evaluation procedures.

[9] Peers may come both from your own institution or from another institution, ideally one that is similar in type to your own institution (e.g., in terms of size, status, subject areas offered, etc.)

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CASE STUDY: IBM's Digital Badge Program -
Clear Outcome orientation enhances credibility and recognition.

IBM launched a digital badge program which focused on the outcome learners would gain. The aim was to provide a credential that would be industry recognised globally.

Success factors

• Determination to ensure global **Industry recognition and credibility**.

• Decision to **validate one specific skill**, focusing delivery of the micro-credential on the learner being able to provide clear evidence of expertise to an employer.

• Integration with online profiles, delivered via **badges** that are designed to be easily shareable on professional platforms like LinkedIn.

• Emphasis on continuous learning and upskilling by ensuring a **link to ongoing learning** and skill development. Learners can earn additional badges to advance their levels of expertise.

Result

The program is applauded for its focus on providing a visual representation of skills via digital badges, allowing professionals to stand out in a competitive job market. The clear alignment with industry needs and application of a well-known brand provides credibility to the digital credential(s).

Source: APEC (2024). Online micro-credentials toolkit, p. 54

Further Relevant Resources and Documents

- **Blooms's Taxonomy**

  https://tips.uark.edu/using-blooms-taxonomy/#gsc.tab=0

  Practical guidance from the University of Arkansas on Using Bloom's Taxonomy

- **Writing and Using Learning Outcomes: a Practical Guide**

  https://ehea.info/media.ehea.info/file/Qualifications_frameworks/05/0/Kennedy_Writing_an d_Using_Learning_Outcomes_597050.pdf

  A guide from the EHEA initiative, aimed at higher

- University College Cork: Writing and using learning outcomes: a practical guide

  https://cora.ucc.ie/server/api/core/bitstreams/88bdd1f3-4e1c-4cf8-baf4-df28d4f094c5/content

  Another useful, very hands-on guide

- Mapping of Student Learning Outcomes: https://offices.depaul.edu/center-teaching-learning/assessment/learning- outcomes/Pages/mapping-student-learning-outcomes.aspx

  Template and Guidance of DePaul University's Center for Teaching and Learning

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- **QAA UK: Subject Benchmark Statements**

  UK document: describes the nature of study and the academic standards expected of graduates in specific subject areas. Nützlich für die Definition von Learning Outcomes.

- **European Digital Competence Framework for Citizens (DigComp)**

  → https://ec.europa.eu/jrc/en/digcomp

  Ein Beispiel für einen Kompetenzrahmen (zum Thema digitale Kompetenzen), der Anregungen für die Formulierung von kompetenzbasierten Lernzielen bietet

- **ESCO Framework**

  https://esco.ec.europa.eu/en

  Useful for defining skills-based learning outcomes

4.2 Principle Quality Standards

The principle of "quality standards" refers to binding criteria that apply throughout the entire life cycle of a microcredential—from conception and implementation to assessment and issuance. It aims to ensure a consistently high level of educational quality, comparability, and credibility. Standards cover areas such as curriculum design, teaching methods, assessment procedures, the qualifications of teaching staff, and technical and evaluative aspects.

a) How to recognize when the principle is properly addressed: requirements and criteria

The development and implementation of microcredentials should be consistently guided by standards that are established within the institution and that are in turn guided by higher-level quality frameworks (at the sectoral, regional, national, or international level). These standards cover aspects such as:

- curriculum design (e.g., learning outcome orientation, competence reference),
- teaching/learning methods,
- assessment procedures (e.g., valid, reliable, fair),
- teaching staff (e.g., qualifications, pedagogical competence),
- technical implementation and user-friendliness (for digital microcredentials),
- feedback and continuous improvement

b) How to implement the principle in practice – sample measures

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- The institution establishes a central quality team that coordinates and further develops quality assurance based on national and international standards such as the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG)
- A “quality by design” approach is followed in curriculum development, which systematically takes quality-related aspects (e.g., learning outcome orientation, exam validity, studyability) into account as early as the planning phase.
- Regular “Quality Review Days” are held, at which subject representatives, stakeholders, and teaching staff jointly evaluate programs and develop suggestions for improvement.
- Digital microcredentials undergo their own technical quality assurance process, including usability tests, accessibility checks, and integrity checks of the badging systems used.

Examples of questions for quality assessment:

- Are the learning objectives clearly defined and relevant to practice?
- Is knowledge imparted in a competence-oriented and interactive manner?
- Are the exams appropriate for the level of competence?
- Is there evaluation and continuous improvement?

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The institution defines internal quality guidelines for the design, implementation, and evaluation of microcredentials—e.g., by introducing a quality manual or guidelines for designing competency-based learning units. Regular internal audits and feedback rounds ensure continuous compliance with the standards.
Peer Review	• Other educational institutions are specifically involved in quality assessment, for example through mutual evaluation of new courses based on common quality criteria or through participation in certification commissions. Comparable formats, such as peer observation of teaching, promote the exchange of best practices.

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External	• Recognized external agencies (e.g., national quality assurance bodies or industry-specific accreditors) conduct standardized audits. In addition, stakeholders such as employers, alumni, or professional associations are systematically surveyed to incorporate feedback into quality development. The results are documented and made publicly available.

TIP: DEQAR Database can also be used for Microcredentials

The Database of External Quality Assurance Results (DEQAR) is a database that collects and makes available the results of external quality assurance measures in higher education. It contains reports and decisions from EQAR-registered quality assurance agencies. It can be used by various stakeholders such as recognition officers, higher education institutions, students, quality agencies, and national authorities.

Recently, EQAR expanded the data model to accommodate information on microcredentials and alternative/other providers, i.e. entities that provide learning opportunities at higher education level but do not have full recognised degree awarding powers.

By having their institutions and offers listed in DEQAR, providers can provide transparent, verifiable evidence that they have undergone external quality assurance in line with the *Standards and Guidelines for Quality Assurance in the EHEA (ESG)*. This strengthens their reputation and accountability.

Source: Cimea (2025). Mapping digital tools for recognition, p. 13

Further Relevant Resources and Documents

- **ENQA Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) (2015)**

  https://www.enqa.eu/esg-standards-and-guidelines-for-quality-assurance-in-the-european- higher-education-area/

  Basis for quality assurance in higher education in the European Higher Education Area; useful as an overarching reference model for microcredential programmes.

- **European MOOC Consortium: Common Microcredential Framework (CMF)**

  https://emc.eadtu.eu/cmf/common-microcredential-framework-cmf

  Defines quality requirements and structural features for microcredentials in the European context, including ECTS reference, learning outcomes, and minimum standards.

- **QAA (UK) – Characteristics Statement: Microcredentials**

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https://www.qaa.ac.uk/the-quality-code/characteristics-statements/micro-credentials
Detailed document from the UK Quality Assurance Agency on the structure, quality criteria, and institutional requirements for microcredentials.

- **DigCompEdu Framework**

  https://joint-research-centre.ec.europa.eu/digcompedu_en

  Competence framework for digital teaching, relevant for teaching staff qualifications and the quality of digital learning opportunities, among other things.

- **OECD Papers on Micro-Credentials (2021)**

  Quality and value of micro-credentials in higher education: Preparing for the future (2021).

  https://www.oecd.org/en/publications/quality-and-value-of-micro-credentials-in-higher-education_9c4ad26d-en.html

  Micro-credential innovations in higher education. Who, What and Why? https://www.oecd.org/en/publications/micro-credential-innovations-in-higher-education_f14ef041-en.html

  Overview studies with practical examples and policy recommendations for quality assurance in microcredentials.

- **ENQA. Quality Assurance of Micro-Credentials. Expectations within the Context of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (2023)**

  https://www.enqa.eu/wp-content/uploads/ENQA-micro-credentials-report.pdf

  Overview study with recommendations for internal and external quality assurance (esp. ch. 4)

- **eCampusOntario Micro-credential Toolkit** (2022).

  https://ecampusontario.pressbooks.pub/microcredentialtoolkit/

  contains Quality Checklist (ch. 13)

4.3 Principle Transparency

Transparency is a key principle for the credibility and classification of microcredentials. It applies to all phases—from development to implementation to issuance—and ensures that all relevant information is clear, understandable, and accessible to learners, employers, educational institutions, and accreditation bodies. Transparency makes it possible to clearly understand the content, value, and significance of a microcredential.

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a) How to recognize when the principle is properly addressed: requirements and criteria

Transparency means that all relevant information is openly accessible and presented in an understandable way. In particular, the following needs to be disclosed:

- What skills are taught through the microcredentials: For example, whether they are technical skills, soft skills, or specialized knowledge.
- What learning outcomes can be expected: Clear description of the skills, knowledge, and competencies acquired.
- How assessment is carried out. How and by whom is the learner's performance assessed? What exams, projects, or other evidence are required to obtain the microcredentials.
- What requirements must be met: For example, what prerequisites are necessary in order to participate;
- Technical information: e.g., format of the credential, storage media, access.
- Workload and scope: indication of how much time should be invested, e.g., in ECTS, hours, or learning weeks.
- Learners' rights: e.g., access to results, possibility of repetition.
- Positioning of the microcredential in the education system: Classification according to EQF/NQR or in curricula.

b) How to implement the principle in practice – sample measures

- The institution uses a standardized metadata model (e.g., Europass or Open Badges) that ensures that all essential information about the credential is stored digitally and accessible in a machine-readable format.
- A publicly accessible "Credential Description Sheet" is published for each microcredential, describing the content, competency profile, assessment methods, EQF level, and continuing education options in clear language.
- All microcredentials issued contain a unique ID or URL that allows verifiers (e.g., employers) to directly access the full description and validation methodology.
- Transparency guidelines are regularly reviewed as part of institutional quality assurance and further developed as necessary in collaboration with stakeholders (e.g., employers, alumni).

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c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The institution ensures that a standardized data sheet or fact sheet is created for each microcredential, listing, among other things, the learning objectives, the level of competence (e.g., EQF), the types of assessment, the workload (e.g., in ECTS), as well as the admission requirements and rights of learners. This information is presented in a consistent and understandable manner in all course materials, on the website, and in the certificate description.
Peer Review	• During the development phase of new microcredentials, other institutions or subject matter experts are involved to check whether the information provided is complete, comprehensible, and understandable. A transparency-oriented peer review process ensures that terms, competency descriptions, and framework classifications are used in accordance with standard.
External	• Accreditation bodies, professional associations, or stakeholder committees check whether all relevant information is openly accessible and formally documented correctly. In addition, technical transparency can be ensured by integrating open metadata formats (e.g., Open Badges 2.0) so that third parties can view and verify the content digitally.

Example: atingi Transparency Tools

atingi.org is an international development initiative out of Germany focused on providing locally relevant learning opportunities that address critical employment and educational skill gaps in emerging markets. It delivers mostly nonformal learning but is interested in at least some formal recognition.

To create transparency and make learning offers easy understandably they developed a common format for describing key features of a Microcredentials. Including visuals for denoting different types of microcredentials (assessed-formal/non-formal / informal badge) and templates for clearly describing key features and characteristics of
microcredentials in a structured manner (Critical Information Summary).

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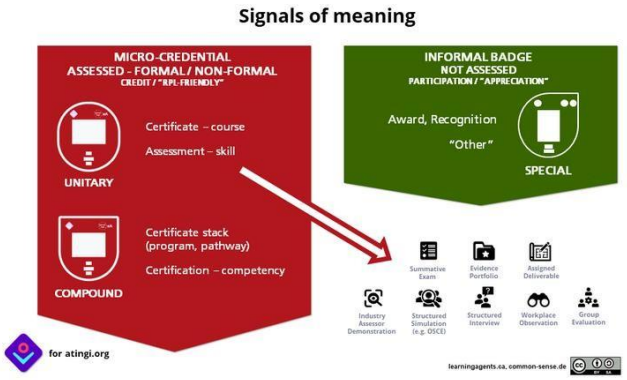
Visual Example:



Source: atingi CIS version 2021-09-26 , CC BY SA 4.0:

Template: Critical Information Summary

Critical Information Summary - Self Report [Optional section at the end of the Criteria that can improve the portable recognition value of the credential.] [KEEP ALL LIST ITEMS, DELETE OPTIONS THAT DON'T APPLY.]	
Type of credential: Certificate - summative assessment | Certificate - formative assessment/participation | Certificate stack or pathway | Certification - independent | Certification - programme | Special Award, Informal | Other (describe)	
Title:	
Issuer:	
Country/region of the issuer: Country/region or NA, not for academic credit	
Date of issue:	
Description:	
Learning outcomes:	
Effort including assessment: XX hours	
Duration: XX (days, weeks or months)	
Prerequisites: If any or None	
Relevant learning resources: If any or None	

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Type of assessment: Examination/quiz | Demonstration | Observation | Interview | Assignment | Evidence package | Other (describe) | NA	
Participation: Online | On-site | Both	
Supervision: Yes | No	
Identity verification: 2 factor | 1 factor | None	
Estimated ISCED 2011 level: [e.g. 5 or 55 or 551] (unverified unless otherwise stated) | Not declared	
Quality assurance: External | Internal (describe both if present)	
Endorsement: No | Yes (describe if present)	
Learner impact: Degree programme admission | Academic credit(s) | Nonformal/Professional Certificate | Nonformal/Professional Certification / Advanced standing/progression	
Credits: XX (units/system, eg 3 ECTS) if any or None	
Stackability: Standalone | Designed to stack | Stack	
Further information: if any or None	

Source: *atingi CIS version 2021-09-26* , CC BY SA 4.0:

Further Relevant Resources and Documents

- **Europass Digital Credentials Infrastructure (EDCI)**

  https://europass.europa.eu/en/stakeholders/european-digital-credentials Offizieller europäischer Rahmen für digitale Lernnachweise mit hohem

  Transparenzstandard; enthält ein strukturierbares Metadatenformat für die Beschreibung von Kompetenzen, Bewertung und Rahmenzuordnung.

- **Common Microcredential Framework (EMC)**

  https://emc.eadtu.eu/cmf/common-microcredential-framework-cmf

  Contains clear minimum requirements for the transparency of microcredentials (e.g., learning objectives, ECTS, EQF level, assessment) that are used by leading European MOOC platforms.

- **QAA Micro-credentials Characteristics Statement**

  https://www.qaa.ac.uk/the-quality-code/characteristics-statements/micro-credentials Contains specific transparency requirements for providers in the UK – for example, regarding the description of content, scope, assessment, and

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positioning within the education system.

- **Credential Transparency Description Language (CTDL)**

  https://credentialengine.org/credential-transparency/ctdl/

  Open vocabulary and data model for describing learning achievements and qualifications, developed by the Credential Engine Project (USA); promotes comparability and interoperability.

- **MicroHE: Credit / Module Supplement** (2018)

  https://microhe.knowledgeinnovation.eu/wp-content/uploads/sites/20/2021/01/D3.2_Credit-Supplement.pdf

  Useful template from the MicroHE project. Standard documentation format for describing ECTS and/or modules, using elements from the EQF, diploma supplement, and ECTS Guide

4.4 Principle Validation and Assessment

The principle of validation and assessment forms the backbone of microcredentials' validity and credibility. It ensures that the skills actually acquired are not only recorded but also documented in a comprehensible and reliable manner. Careful design of assessment procedures and transparent validation processes are essential for establishing microcredentials as competence-based evidence, regardless of where or how the learning took place.

a) How to recognize when the principle is properly addressed: requirements and criteria

Microcredentials should be meaningful proof of competence – not mere certificates of participation. To ensure that they are recognized, comparable, and trustworthy, the following are required:

- learning outcome orientation of the microcredential: The focus is not on the learning process, but on demonstrated ability.
- assessment methods must be clear and transparent, appropriate, reliable and comprehensible to third parties (make it transparent what has been tested
- objective criteria for how well the performance was (e.g., rubrics, grading scales),
- ideally, integration of external standards: Orientation of the assessment toward frameworks such as the EQF, national qualification frameworks, or industry-specific competency models.
- documentation of the validation processes: evidence of the process (e.g., type of assessment, assessment criteria, assessor qualifications) increases traceability and

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recognition

Without valid assessment systems, there is a risk that microcredentials will be perceived as superficial or arbitrary, which undermines their effectiveness.

b) How to implement the principle in practice – sample measures

- The institution uses digital portfolios as an integral part of the assessment process, in which learners demonstrate the skills they have acquired in a practical manner. These are assessed and archived using standardized assessment criteria.
- Structured procedures are used to validate informal or non-formal learning, e.g., a combination of self-assessment, interviews, and third-party assessment, based on the "recognition of prior learning" approach.
- To ensure the objectivity of examinations, at least two independent assessors are involved (e.g., for final projects), whose judgments can be cross-checked through a review process.
- All assessment criteria and procedures are documented in a publicly available Assessment Manual and regularly updated, taking into account stakeholder feedback.

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The institution develops an assessment concept for each microcredential offering that follows the principles of learning outcomes orientation and includes appropriate assessment methods (e.g., performance-based assessment, portfolios, simulations). All assessment procedures are supported by binding rubrics or criteria grids and are carried out by qualified assessors whose pedagogical and subject-specific competence is documented.
Peer Review	• Before implementing new assessment formats or validation procedures, the institution seeks feedback from subject matter experts from other institutions to ensure the appropriateness, validity, and comparability of the assessment approaches. Peer reviews also serve to calibrate assessment scales and further develop existing formats.

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External	• External entities and stakeholders – e.g., accreditation bodies, professional associations, or employer representatives – are involved in the review of assessment criteria and validation procedures. When recognizing informal learning, the institution is guided by national or international standards (e.g., NQF, EQF, SCQF). The complete documentation of all procedures enables a transparent external evaluation and facilitates recognition by third parties.

CASE STUDY: Thompson Rivers University - How to create trust in Prior Learning Recognition and Accreditation (PLAR)

At Thompson Rivers University (TRU), Prior Learning Assessment and Recognition (PLAR) plays a central role in its open learning mandate. Originating from the concept of a "credit bank" developed by the British Columbia Open University, TRU inherited and redefined this model in 2005 to focus on recognizing non-formal and experiential learning. Initially met with skepticism, PLAR had to overcome doubts about its academic credibility. TRU addressed this by embedding three essential pillars into its PLAR system:

Transparency means clearly documenting what is being assessed, how, by whom, and according to which standards. This demystifies the process and makes it auditable.

Consistency ensures that assessments are replicable and not influenced by subjective factors. Clear, standardized procedures ensure fair and predictable outcomes.

Rigour involves collecting defensible evidence of learning and applying academically sound evaluation practices. A dedicated PLAR director oversees this quality assurance process, ensuring that assessments are robust and credible.

To benchmark quality, TRU modeled its processes after the American Council on Education (ACE), widely respected for its century-long track record in evaluating non-credit training.

Result

By adopting transparent, consistent, and rigorous practices, TRU has positioned its PLAR system—and by extension its microcredentials—as trustworthy, academically valid, and aligned with recognized standards.

Source: BCcampus Micro-credential Toolkit for B.C., 2023, p. 365 ss.

Further Relevant Resources and Documents

- **OECD: Recognising Non-Formal and Informal Learning. Outcomes, Policies and Practices. (2010)**

  https://www.oecd.org/en/publications/recognising-non-formal-and-informal-learning_9789264063853-en.html

  Overview and guidelines for validating informal learning processes with international comparison. Useful for developing your own validation procedures

- **CEDEFOP: European Guidelines for Validating Non-formal and Informal**

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Learning Third Edition (2023)

https://www.cedefop.europa.eu/en/publications/3093

Comprehensive guide to recognizing learning outcomes outside formal education; includes practical tools and policy recommendations.

- **QAA UK: Guide on Assessment**

  https://www.qaa.ac.uk/the-quality-code/2018/advice-and-guidance-18/assessment
  Guidelines and good practice for designing learning outcome-based assessments in higher education.

- **Scottish Credit and Qualifications Framework (SCQF) – Free Toolkit and Resources for Recognition of Prior Learning**

  https://scqf.org.uk/rpl-hub/

  Practical toolset for validating prior learning experiences in the workplace, also applicable to microcredentials. Includes assessment examples and documentation aids.

- **DigCompEdu Guide – European Framework for Digital Competence of Educators**

  https://joint-research-centre.ec.europa.eu/digcompedu_en

  Provides approaches to digital assessment and the role of assessors in technology-supported learning settings. Useful for e-assessment.

- **DigiProf: Guidelines for Transparent Assessment (2023)**

  https://eden-europe.eu/wp-content/uploads/2023/10/The-MC-guidelines-for-HE.-Version- for-comments-from-HE-policy-makers-.pdf

  Document from the Digi-Prof project; aimed at higher education institutions; provides useful guidance and tips on designing assessment in micro-credentials;

4.5 Principle Accreditation and Recognition

The principle of accreditation and recognition ensures that microcredentials are trustworthy, comparable, and usable across institutional, regional, and national boundaries. The aim is to ensure that both the issuing institutions and the credentials themselves meet verifiable quality requirements and can therefore be recognized by third parties (e.g., universities, employers, government agencies). This principle combines quality assurance with system integration, making it central to the interoperability of microcredentials.

a) How to recognize when the principle is properly addressed: requirements and

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criteria

In order to ensure the widest possible recognition and impact of a microcredential, it is necessary to:

- obtain formal approval (accreditation) of the microcredential by competent or authorized entities (e.g., accreditation agencies, government authorities) and/or
- obtain documented recognition of the microcredential by other important non-governmental players (e.g., recognition labels from professional associations or similar).

Without clearly defined accreditation and recognition procedures, there is a risk that each provider will set its own standards, leading to differences in quality. Microcredentials will then tend to be perceived as unverifiable or unreliable evidence. This means that they will not be recognized in the education system or on the labor market.

Accreditation or recognition within a binding framework, on the other hand, creates reliability, comparability, and supra-regional or international connectivity.

b) How to implement the principle in practice – sample measures

- Microcredentials should be issued by universities, vocational training institutions, chambers or certified continuing education providers; other education providers can seek cooperation with such institutions in order to have their own microcredentials recognized by them.
- The provider institution works with state-recognized accreditation agencies to have microcredential programs reviewed and certified as part of regular quality assurance procedures.
- The microcredential is classified in applicable sectoral or national qualifications frameworks (e.g., NQFs).
- To enhance cross-border recognition microcredentials are also referenced to existing European or international standards, such as ECTS or the EQF.
- A standardized metadata sheet is provided for all microcredentials issued, containing information on the qualifications of the issuing institution, its classification in the qualifications framework, and its accreditation.
- The institution uses digital credentials (e.g., open badges) with embedded evidence of assessment methods, competence frameworks, evaluation, and validation authority. These are issued via secure platforms (e.g., Europass Digital Credentials Infrastructure) and are interoperable with national registers.
- The institution maintains cooperation with employers and higher education institutions to promote automated or simplified recognition procedures, for example through prior agreements on the recognition of microcredentials as part of a module

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or study program.

- Formalizing agreements with key stakeholders (such as industry associations or government ministries) or obtaining quality labels (e.g., from accreditation or quality assurance agencies) enhances the external credibility of the microcredential and helps build its reputation.

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The issuing institution transparently documents the internal standards (e.g., quality guidelines, examination regulations, staff qualifications) on which its microcredentials are based. It ensures that all programs are systematically evaluated and uses institutional bodies (e.g., curriculum boards, examination commissions) to ensure formal quality.
Peer Review	• Before publishing new microcredentials, the institution has its offerings reviewed by subject matter experts or quality assurance teams from other institutions. External reference frameworks (e.g., EQF, national qualification frameworks) and accreditation requirements are also taken into account to ensure compatibility.
External	• The issuing institution strives for formal accreditation of its microcredential formats by external agencies or authorities, e.g., within the framework of existing national accreditation systems or through cooperation with European initiatives (e.g., European Approach to Microcredentials). For individual credentials, classification in national or European qualifications frameworks is explicitly documented to facilitate their recognition in educational and work contexts.

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Case Study: Baltimore County Public Schools (BCPS): Microcredentials as part of a broader system of Teacher Professional Development

A large public school district in Maryland implemented the S.T.A.T. (Students and Teachers Accessing Tomorrow) initiative to foster personalized, technology-rich instruction. Micro- credentials were introduced to support and validate instructional shifts.

Critical success factors

Micro-credentials were introduced through a **structured pilot** involving S.T.A.T. coaches and **Professional Learning Communities (PLCs)**.

Teachers underwent an orientation and selected two vetted micro-credentials aligned with district priorities.

Submissions included **evidence of classroom implementation** and were reviewed for alignment with S.T.A.T. goals.

Successful completion awarded **state-recognized CPD credits**, which contribute to certification, salary advancement, and leadership opportunities.

Result

BCPS integrated micro-credentials into a broader system of teacher development and career progression, using them to ensure measurable, validated growth in instructional competencies aligned with district transformation efforts.

***Source**: Digital Promise (2016). Micro-credentials. Igniting Impact in the Ecosystem, p. 8*

Tool: The **Micro-Evaluator**, an online-tool from the EU, helps you to check how your microcredential is doing with regard to potential recognition in line with the principles of the *Lisbon Convention*.

Access the Tool here.

Further Relevant Resources and Documents

- **Council Recommendation: A European Approach to Microcredentials (2022)**

  https://education.ec.europa.eu/education-levels/higher-education/micro-credentials

  EU Recommendation on Microcredentials with recommendations for institutionalizing and recognizing microcredentials. Useful as a strategic orientation framework.

- **ENQA Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) (2015)**

  https://www.enqa.eu/esg-standards-and-guidelines-for-quality-assurance-in-the-european- higher-education-area/

  Detailed paper with QA principles and recommendations for recognition procedures for microcredentials in Europe.

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- **Europass Digital Credentials Infrastructure (EDCI)**

  https://europass.europa.eu/en/stakeholders/european-digital-credentials

  Description of the Europe-wide standardized framework for the digital issuance and verification of educational qualifications.

- **EQF Portal – European Qualifications Framework**

  Information page on the EQF with assistance on the classification and recognition of qualifications at European level.

- **MicroHE – Recognition of Microcredentials in Higher Education**

  https://microhe.microcredentials.eu/about-2/

  EU project that analyzed the situation of microcredentials in Europe and developed useful guidelines with practical examples. Contains practical tools and policy briefs, e.g.

- **MicroHe: The Micro-Credential Users' Guide (2018)**

  https://microhe.knowledgeinnovation.eu/wp-content/uploads/sites/20/2021/05/D3_3_MicroHE-Users-Guide-1.pdf

  Contains recommendations and examples on academic recognition and portability, accreditation, and quality assurance.

- **MIcroBol: Common European Framework for Micro-credentials in the EHEA (2022).**

  https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials_Framework_final-1.pdf

  Document from the MicroBol project, which examined microcredentials in the context of the Bologna Process; contains considerations on learning outcomes and their assessment, as well as on recognition.

- **NESET Study: Towards a European approach to micro-credentials: a study of practices and commonalities in offering micro-credentials in European higher education (2020)**

  https://nesetweb.eu/en/resources/library/towards-a-european-approach-to-micro-credentials-a-study-of-practices-and-commonalities-in-offering-micro-credentials-in-european-higher-education/

  EU overview study on microcredentials, with a chapter on design and recognition (ch. 3)

- **UNICEF Paper on Microcredentials**

  https://www.unicef.org/esa/reports/innovation-of-micro-credentials

  Based on the example of Africa, the study analyzes the possibilities of

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microcredentials for the recognition of informal learning

- **UNESCO: Short courses, micro-credentials, and flexible learning pathways: a blueprint for policy development and action: policy paper (2023)**

  → https://unesdoc.unesco.org/ark:/48223/pf0000384326

  Study with numerous practical examples on accreditation, quality assurance, and recognition

4.6 Principle Flexibility and Accessibility

The principle of flexibility and accessibility is one of the key strengths of microcredentials, as it allows for different life circumstances, educational backgrounds, and individual learning needs to be taken into account. It ensures that learners are able to adapt their learning processes to their own circumstances and acquire education without having to rely on traditional, often rigid educational pathways. By taking flexibility and accessibility into account, microcredentials offer a response to the growing need to make educational opportunities available throughout life, inclusive, and independent of formal educational pathways. They thus make a decisive contribution to promoting equal opportunities and the integration of different target groups into the education system.

a) How to recognize when the principle is properly addressed: requirements and criteria

Many people are looking for continuing education and practical learning opportunities that they can fit into their everyday lives in terms of time, location, and content. Without flexibility and accessibility, microcredentials run the risk of reproducing the same barriers as traditional educational offerings. A flexible and accessible microcredential offering, on the other hand, enables lifelong learning – regardless of age, place of residence, or employment status, equal opportunities – including for educationally disadvantaged groups, and adaptation to dynamic labor markets and new skill requirements.

- Microcredentials should be flexible and adaptable in terms of
  - learning formats (online, hybrid, self-directed, module-based),
  - time models (asynchronous, part-time, on demand),
  - examination options (e.g., formative or summative assessments).
- To ensure accessibility
  - barriers to access (e.g., no mandatory prerequisites) should be removed,
  - open participation options for different target groups—including those outside formal education, should be allowed,
  - a barrier-free design should be implemented (e.g., for people with disabilities).

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b) How to implement the principle in practice – sample measures

- Modularization and partial qualifications: Microcredentials offer short learning units that can be completed individually and combined later.
- Online and asynchronous learning formats: Microcredentials can be designed to be offered entirely online and asynchronously, giving learners the flexibility to choose their own learning times and locations.
- Open participation options: No formal admission requirements and recognition of prior experience to enable participation for people with different educational and professional backgrounds.
- Barrier-free accessibility and multilingualism: Creation of accessible learning materials that are compatible with screen readers, for example, or offer subtitles and simple language to appeal to a broad target group.

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• Flexibility and accessibility are reviewed as part of the institution's internal quality assurance measures. They are part of the quality criteria and standards applied by the institution.
Peer Review	• Evaluation of accessibility through peer reviews to analyze whether the microcredentials offered meet accessibility and flexibility requirements, especially with regard to different target groups.
External	• Involvement of external organizations: Collaboration with external organizations that focus on accessibility and equal opportunities to ensure that microcredentials also meet the needs of people with different backgrounds. • Cooperation with cross-sectoral actors: Involvement of employers, associations, and other stakeholders to ensure that the flexibility and accessibility of microcredentials meet the real requirements of the labor market.

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Checklist: How flexible and accessible is your microcredential?
❑ Does the microcredential offer flexible learning formats (e.g., online, hybrid, modular, or self-directed)?
❑ Can learners study at their own pace and choose when and where to engage with the content (e.g., asynchronous or on-demand access)?
❑ Are there multiple options for assessments (e.g., formative, summative, or portfolio-based) to accommodate diverse learner needs?
❑ Is the course modularized, allowing for partial completion and stackability with other credentials?
❑ Are there minimal or no formal entry requirements, and is prior learning or professional experience recognized?
❑ Is the learning offer accessible to learners from outside traditional educational systems (e.g., adult learners, career changers, unemployed)?
❑ Are learning materials and platforms designed to be accessible to people with disabilities (e.g., screen reader compatibility, captions, simple language)?
❑ Is the content inclusive and multilingual or culturally adaptable to reach a broad and diverse audience?
❑ Does the microcredential actively promote equal opportunities for educationally disadvantaged groups?
❑ Can the credential be realistically completed alongside work, family, or other life commitments (e.g., part-time or flexible duration)?

Further Relevant Resources and Documents

- Digital Promise: **5 Tips to Design More Accessible Micro-credentials**

  https://digitalpromise.org/2023/11/30/5-tips-to-design-more-accessible-micro-credentials/ website with practical tips

- **ETF Guidelines for Micro-Credentials**

  https://knowledgeinnovation.eu/kic-publication/guide-to-design-issue-and-recognise- micro-credentials/

  Contains recommendations for designing accessible microcredentials (ch. 10)

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- **Scottish Tertiary Education Network for Micro-credentials: Good Practice Guide for Micro-credentials and Small Qualifications in Scotland**

  https://www.enhancementthemes.ac.uk/docs/ethemes/resilient-learning-communities/good-practice-guide-for-micro-credentials-and-small-qualifications-in-scotland.pdf?sfvrsn=5ea5af81_2

  Contains guidance and recommendations for accessible microcredentials modes of delivery (ch. 3)

4.7 Principle Professional Relevance and Transferability

Microcredentials should not only be academically sound, but also geared toward the job market. The principle of "professional relevance and transferability" ensures that the skills acquired are tailored to real-world requirements in professional practice and can be reused in existing educational or career paths. Central elements of this principle are connectivity and stackability of the microcredential, which enables acquired skills to be seamlessly integrated into existing education and career paths.

a) How to recognize when the principle is properly addressed: requirements and criteria

This requires

- close cooperation with industry association, employers
- close alignment of the microcredential with current professional standards, industry needs, and competency models,
- transparent opportunities for further study, for example by providing clear references to additional qualifications, certificates, or degree programs, including opportunities for combining ("stacking") several microcredentials towards a more comprehensive qualification

b) How to implement the principle in practice – sample measures

- The institution develops microcredentials based on competency profiles from industry- specific frameworks such as ESCO (European Skills, Competences and Occupations) or SFIA (Skills Framework for the Information Age).
- In collaboration with industry partners, practical case studies, projects, or tasks are developed that simulate real-life professional challenges.
- Microcredentials are designed in a modular way so that they can be embedded in or counted toward larger qualifications—e.g., as part of a part-time study program.
- The acceptance of microcredentials by employers is regularly evaluated, for

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example through surveys, feedback in application processes, or pilot projects with partner companies.

- The microcredentials issued contain references to professional application contexts and possible educational pathways (e.g., continuing education programs, vocational training levels).

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• The provider institution conducts systematic needs analyses, for example through employer surveys or industry databases, to ensure that the microcredentials offered respond to real skills gaps. Curricula refer to recognized occupational profiles or competence frameworks (e.g., ESCO, O*NET).
Peer Review	• Subject matter experts from other educational institutions or continuing vocational training providers provide feedback on the relevance of the content to current developments in the occupational field. In addition, the possibility of linking to formal programs or certification models is examined.
External	• Professional associations, employers, or chambers are involved in development and evaluation, e.g., through participation in steering groups or in the assessment of workplace-relevant competencies. Integration into national and international qualification frameworks promotes connectivity within the education system.

TIP: Try the AIHR Tools for Training Needs Analyses
The Academy to Innovate HR (AIHR) AIHR offers a rich inventory of templates and guidance for conducting training needs analyses. Check it out here.

Further Relevant Resources and Documents

- **ESCO – European Skills, Competences, Qualifications and Occupations**

  https://esco.ec.europa.eu/en

  EU-wide framework that systematically links skills to job profiles – helpful for the labor market-oriented development of microcredentials.

- **World Economic Forum – Jobs and the Future of Work**

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https://www.weforum.org/stories/jobs-and-the-future-of-work/

Reports on the development of labor market-relevant skills in various industries – useful as a basis for aligning learning content.

- **World Economic Forum: Future of Jobs Report 2025**

  https://www.weforum.org/stories/2025/01/future-of-jobs-report-2025-jobs-of-the-future- and-the-skills-you-need-to-get-them/

  Analysis of current skills and job needs

- **OECD – Education and Skills Today**

  https://oecdedutoday.com/

  Platform providing analyses and data on the relevance of education for the labor market, including studies on the effectiveness of modular qualifications.

- **OECD: Skills for Jobs database**

  https://www.oecdskillsforjobsdatabase.org/#FR/_

  Research tool for identifying skills needs in OECD countries.

- **OECD: Future of Education and Skills 2030/2040 Initiative:**

  https://www.oecd.org/en/about/projects/future-of-education-and-skills-2030.html

  The initiative aims to support countries in adapting their education systems by considering the types of 21st century competencies (knowledge, skills, attitudes, and values) that students and teachers need to thrive in the future. Can provide suggestions for incorporating future-oriented skills into microcredentials.

- **Digital Credentials Consortium**

  https://digitalcredentials.mit.edu/

  Platform with documents and good practices for the structural integration of microcredentials into vocational and academic education pathways.

- Digital Credentials Consortium: Report on Credentials for Employment (2022).

  https://digitalcredentials.mit.edu/docs/Credentials-to-Employment-The-Last-Mile.pdf

  includes. employer use cases for digital credentials

- **Cedefop – Microcredentials for Labour Market education and Training And Skills Matching**

  https://www.cedefop.europa.eu/en/projects/microcredentials-labour-market-education- and-training

  Studies on strategies for better aligning microcredentials with skills matching and labor market requirements.

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- **Open UToronto Microcredentials Toolkit**

  https://ocw.utoronto.ca/microcredentials-toolkit/#lifecycle

  Contains a section with “Tools to support employer-educator partnerships”

4.8 Principle Technological Standards

The principle of “technological standards” is crucial for the trustworthiness and long-term usability of microcredentials. These learning credentials are often issued, stored, shared, and verified digitally, which requires a solid technical foundation. Technological standards govern how microcredentials are structured and processed so that they not only serve as trustworthy evidence of learning achievements but can also be seamlessly and securely integrated into digital systems. They ensure that microcredentials are compatible across platforms, protected from fraud, and remain accessible in the long term. Clear technological standards enable microcredentials to be reliably and efficiently validated and recognized in various contexts (e.g., in the labor market, in educational institutions). They support transparency (who acquired what, when, and where?), authenticity (is the credential genuine?), mobility (can it be used across national and platform boundaries?), and accessibility (can the holder access and use it in the long term?).

a) How to recognize when the principle is properly addressed: requirements and criteria

Microcredentials should not only have valid content, but also be technically trustworthy, usable, and durable. Without technical standards, problems arise such as incompatibility between platforms and countries, uncertainty in authenticity verification, or a lack of control options for learners, employers, or educational institutions. Only when the technical framework is right can microcredentials be used efficiently, shared securely, and processed in a machine-readable format—for example, in application processes or digital education passports.

The technological standards used should define how digital microcredentials are to be technically structured, stored, exchanged, and secured. The following aspects should be covered by the standards:

- Data formats (e.g., Open Badges),
- Security standards (e.g., protection against forgery, data protection),
- Interoperability (e.g., readability across platforms and systems),
- and Long-term availability and accessibility.

b) How to implement the principle in practice – sample measures

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- Open Badges: Use of Open Badges as a standardized digital format for microcredentials, enabling learning achievements to be accompanied by verifiable data about issuers, content, and performance.
- Blockchain technology: Use of blockchain to store microcredentials, making them tamper- proof and providing a transparent, traceable history of the qualifications acquired.
- API interfaces: Implementation of interfaces (APIs) that enable microcredentials to be integrated into e-portfolios, digital application systems, or other platforms so that they can be used and read across platforms.

c) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	Regular monitoring of • use of standardized data formats: Institutions should ensure that all outgoing microcredentials are issued in widely recognized, open data formats such as Open Badges (according to the IMS Global Standard) to ensure interoperability and long-term usability. • data security and protection: Implementation of security standards such as tamper-proof certificates and encryption technologies to ensure the integrity and authenticity of microcredentials. • long-term storage and access: Ensuring the long-term availability of microcredentials through digital platforms that are maintained over many years so that learners can access their credentials at any time
Peer Review	• Evaluation and testing: Conducting regular tests and peer reviews of the technologies and formats used to ensure that technical standards meet current security and interoperability requirements
External	• Collaboration with technology partners: Involving technology providers and data protection and security experts to ensure that the platforms used meet the highest standards and are GDPR-compliant.

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Checklist: Minimum Technical Standards for System Integration and Interoperability

To ensure **system integration** and **interoperability** when developing and offering microcredentials using blockchain technology, at least the following technical standards and requirements should be considered.

Adherence to Open Standards and Protocols
❑ Use established interoperability frameworks such as the **IEEE 3205 Standard for Blockchain Interoperability** and/or the **ISO Interoperability Framework** to provide a solid foundation and reference architecture for standardized integration
❑ Implement **W3C standards** for Verifiable Credentials (VCs) and Decentralized Identifiers (DIDs) to ensure credentials can be issued, managed, and verified across different platforms and ecosystems
API-First and Modular Architecture
❑ Design your system with **RESTful APIs** or similar interfaces to enable seamless integration with existing educational platforms, HR systems, and other digital infrastructure
❑ Ensure modularity so that components (e.g., credential issuance, verification, revocation) can be independently updated or replaced.
Data Format and Semantic Interoperability
❑ Use **standardized data formats** (e.g., JSON-LD for VCs) to facilitate consistent data exchange and interpretation between systems
❑ Align credential metadata with frameworks such as the **European Credit Transfer and Accumulation System (ECTS)** for compatibility with international recognition systems
Security and Privacy
❑ Employ robust **encryption** for data at rest and in transit.
❑ Ensure compliance with **GDPR** and other relevant data protection regulations, especially for handling personal information in credential records
❑ Implement mechanisms for **credential revocation, expiration, and auditability** to maintain trust and compliance
Blockchain Interoperability Mechanisms
❑ Consider protocols like the **Interledger Protocol (ILP)** for value and data transfer across different blockchain networks

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❑ Support for **cross-chain communication** or bridges if credentials need to be recognized on multiple blockchain platforms.
Scalability and Performance
❑ Ensure the infrastructure can handle the anticipated volume of credential issuance and verification without compromising speed or reliability
Governance and Lifecycle Management
❑ Define clear governance policies for credential issuance, management, and revocation.
❑ Support for **lifecycle management** of credentials, including updates, expiration, and user consent management

CASE STUDY: Project BCdiploma to date techology makes your credentials trustworthy

The French project BCdiploma was launched by an Initial Coin Offering (ICO) technology in early 2018. It was initiated by EdTech experts who recognised that there was a multi-billion-dollar market when it came to applicants inflating their experience or lying about their diplomas. This in turn causes a significant strain on human resources. The BCdiploma team decided to address this challenge by facilitating and automating the verification of the authenticity of diplomas using Ethereum technology.

Success factors

• Addressed a challenge which provides **quantifiable benefits** to its users (i.e., time savings from not needing to conduct research).

• Utilised **advanced technology (blockchain) to store diplomas** ensuring that they can no longer be lost or destroyed.

• Designed an **encryption solution** that is carried out with three keys, one for the institution, one for the network, and the last one belonging to the student and so the data even if readable on the blockchain, is not actually accessible without the three different keys of the system's actors. This provides an additional layer of security to further protect the information from tampering.

• **Protected the value** of the learners' diplomas.

Result

BCdiploma uses its technology expertise to provide a safe and secure environment and assure the credibility of the credentials in an environment where data privacy and security is a significant concern. As of 2024, BCdiploma has partnered with over 170 institutions from 22 economies, demonstrating the value that can be created in addressing a market gap

Source: APEC (2024). Online micro-credentials toolkit, p. 4

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Further Relevant Resources and Documents

- **IMS Global Learning Consortium – Open Badges**

  https://www.imsglobal.org/home

  The IMS Global Learning Consortium develops and promotes Open Badges, a globally recognized digital certificate based on open standards that ensures microcredentials are interoperable and verifiable.

- **Open Badges 3.0 Standard**

  https://www.imsglobal.org/spec/ob/v3p0/

  Technical standard for digital credentials; enables the transparent presentation of learning outcomes, assessment methods, issuers, and verification information.

- **Mozilla Open Badges 2.0 Standard**

  https://openbadges.org/

  The previous version of Open Badges 3.0; an established and widely used specification that is well supported and used by many platforms; useful if you are looking for a simple and easy-to-implement solution and do not need the advanced features offered by Open Badges 3.0.

- **Blockcerts - Blockchain-based Credentials**

  → https://www.blockcerts.org/

  Blockcerts offers a blockchain-based solution for issuing tamper-proof, verifiable microcredentials that can be stored and shared securely and transparently.

- **EU Blockchain Observatory and Forum**

  → https://www.eublockchainforum.eu/

  The EU Blockchain Observatory and Forum provides insights and best practices on the use of blockchain for the tamper-proof storage of certificates and microcredentials.

- **MIcroHE: Micro-Credential Meta-data Standard**

  https://github.com/MicroCredentials/MicroHE/blob/master/meta_data_standard_draft.md

  Example of a European Credential Meta-Data Standard

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4.9 Principle Data Protection and Ethics

The principle of “data protection and ethics” plays a central role in the trustworthy use and recognition of microcredentials, as they often contain sensitive personal data. Since microcredentials are frequently issued, stored, and shared digitally, all associated data must be processed in accordance with applicable data protection laws, in particular the GDPR. Beyond legal requirements, it is also important to ensure responsible, transparent, and respectful practices when handling learners' personal data. This principle helps to maintain learners' trust, prevent discrimination, and ensure the ethical handling of sensitive information.

A) How to recognize when the principle is properly addressed: requirements and criteria Key requirements and protective measures include

- Transparency and information: Educational institutions must provide clear, understandable information about data collection, use, and storage. Learners must know what data is being processed, how it is protected, and who has access to it.
- Consent and data minimization: Learners must actively consent to the processing of their personal data. In addition, only the data that is necessary for the issuance and validation of the microcredential should be collected and processed.
- Security measures: Institutions must implement technical security measures such as encryption, access controls, and secure platform architectures to protect learners' data.

B) How to implement the principle in practice – sample measures

- Implementation of ethical risk analysis procedures to identify and minimize potential discrimination, bias, or abuse in the use of automation and AI in the evaluation of microcredentials.
- Appointment of a data protection officer within the institution
- Development of institution-specific data protection guidelines
- Obtaining informed consent from learners regarding the use of their data

C) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• Regular monitoring of all processes by a designated person to ensure compliance with legal and ethical data protection requirements

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Peer Review	• Feedback on data security: There should be a systematic exchange of information on data protection practices and ethical issues between institutions and partners in order to develop and implement best practices.
External	• External audits and certifications: Compliance with data protection and ethical standards should be verified and certified by external audits. Independent review bodies, such as data protection officers or ethics committees, may also be involved. • Cooperation with regulatory authorities: Close cooperation with data protection authorities and other regulatory bodies is necessary to ensure that all legal requirements are met and that the rights of learners are protected.

TIP: Use the EU's **GDPR Compliance Guide** and **Compliance Checklist** to make sure your data protection policy and practice is in accordance with EU regulations Access the Guide here:

Further Relevant Resources and Documents

- **OECD: Data Protection and Privacy Guidelines**

  https://www.oecd.org/en/topics/privacy-and-data-protection.html

  The OECD provides international guidelines on data protection that promote the secure handling of digital data and support companies and educational institutions in protecting the rights of individuals.

- **The International Association of Privacy Professionals (IAPP)**

  → https://iapp.org/

  A leading global organization for data privacy and data security, providing standards and resources to ensure the ethical processing of personal data

- **ea Education Authority Northern Ireland Data Protection Policies and Privacy Notices**

  https://www.eani.org.uk/school-management/data-protection-school-resource-hub/template-data-protection-policies-and-privacy

  Collection of Templates for Schools, may be adapted

- Termly **Privacy Policy for Educational Websites**

  https://termly.io/resources/articles/privacy-policy-for-educational-websites/

  Guidance on creating a privacy policy for a website

- **Ethics & Compliance Initiative: Risk assessment**

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https://www.ethics.org/wp-content/uploads/2020-ECI-Risk-Assessment-Basic-Compliance-Risks.pdf

Guidance on conducting a risk assessment, may be adapted to microcredential contexts

4.10 Principle Sustainability and Further Development

The principle of "sustainability and further development" focuses on the long-term relevance and continuous adaptability of microcredentials. In a fast-paced and constantly changing world of work, it is crucial that microcredentials not only meet current requirements but also remain future-proof. Microcredentials need to be regularly reviewed and further developed to ensure that they continue to meet actual competency needs from the perspective of both learners and employers. The sustainable design of microcredentials ensures that they will continue to be recognized and used as valuable qualifications in the future.

A) How to recognize when the principle is properly addressed: requirements and criteria

This principle requires that microcredentials and the systems for their validation are regularly reviewed and adapted, and are embedded in a continuous quality and innovation management system which provides for the following:

Regular updating:

- Content and learning outcomes should be evaluated regularly and adapted to new requirements.
- Validation and assessment procedures must also be reviewed (e.g., new technologies, changed standards).

Feedback and monitoring mechanisms:

- Involvement of learners, employers, and educational institutions in evaluating effectiveness and relevance.
- Systematic evaluation of the use, recognition, and impact of microcredentials.

Quality development:

- Integration into national and international quality assurance processes.
- Development of guidelines, best practices, and benchmarking tools.

Openness to innovation:

- Willingness to test and adopt new formats, technologies, or validation

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procedures.

B) How to implement the principle in practice – sample measures

- Regular curriculum review: Establishment of a process whereby content, learning objectives, and assessment criteria are regularly updated to reflect the latest professional practices and technological developments.
- Feedback loops and monitoring: Implementation of mechanisms to continuously collect feedback from learners and employers to ensure that microcredentials remain relevant and meet market needs.
- Integration of innovation: Introduction of innovation labs or pilot projects to test and evaluate new technologies such as AI-supported assessments, adaptive learning platforms, or digital simulations.
- Exchange and best practices: Organisation of workshops or exchange formats to share experiences and best practices for implementing flexible and accessible learning models between educational institutions.
- Inter-institutional exchange: Systematically maintain exchanges with other educational institutions or platforms in order to develop best practices in the field of technology integration and compliance with security and data protection guidelines.
- Promotion of pilot projects to test new formats or innovative approaches and, if appropriate, integrate them into the established framework.

C) How to validate and ensure proper implementation – suggested actions

Level	Suggested validation measures on different levels
Internal	• Regular internal review of the quality and relevance of microcredentials in terms of content (e.g., adaptation to new technologies or labor market requirements) and the appropriateness and validity of validation and assessment procedures • Integration into quality assurance and continuing improvement (CI) processes: The integration of microcredentials into national and international quality assurance processes (e.g., accreditation, benchmarking) ensures continuous development and adaptation to standards and best practices.
Peer Review	• Impact monitoring with partners: Educational institutions and microcredential providers may join forces to mutually evaluate the impact of their offerings on learners and the labor market.

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External	• Establishment of feedback mechanisms for different groups, systematic collection of feedback from learners, employers, and other stakeholders to ensure that microcredentials remain relevant and effective. Online surveys, focus groups, or workshop formats can be used for this purpose • Cooperation with labor market actors: Employers, associations, and organizations should be involved in the continuous development of microcredentials. Their feedback on the relevance and effectiveness of microcredentials is crucial for aligning them with the real needs of the labor market. • International networking: By participating in international networks and initiatives (e.g. ENQA), educational institutions can ensure that their microcredentials are recognized in other countries and meet global requirements.

TIP: Demonstrate your institutional accountability

To enhance the perceived value and credibility of your microcredentials, it is essential to clearly communicate how your institution ensures quality and accountability. This not only facilitates external validation and recognition but also strengthens your institution's reputation and stakeholder trust. In your **public-facing materials**—such as quality assurance statements or strategic documents—make sure to:

Demonstrate a clear policy and procedure for the approval of new programs.

Show that your quality assurance guidelines are adaptable to the diversity of your offerings and responsive to different contexts and learner needs.

Provide consistent, measurable criteria and processes for conducting quality reviews.

Ensure that all policies and procedures align with your institution's mission, vision, mandate, and strategic goals.

Explain how you apply structured rubrics to assess the design, development, and content quality of your microcredentials.

Practice Examples: Micro-Credential Policies

Consider developing a dedicated Microcredential Policy for your institution: Here are some examples of how other institutions have approached this:

Oneonta University, New York: Check it out here.

Dundal Institute of Technology, Ireland: Check it out here**. MacQuarie University, Australia:** Check it out here**.**

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Checklist: Questions for your Continuing Improvement Plan

A CI Plan provides the basis for ensuring sustainability and continued high quality of your Microcredential. Here is a list of questions, taken from the APEC Toolkit, to which your CI Plan should provide answers.

Learner Impact:
❑ How will you monitor the impact of the micro-credential?
❑ How often will you do this?
❑ What metrics will you track?
❑ How will you capture learner and instructor experiences?
❑ What feedback mechanisms will you use?
❑ How will you apply the learnings?
❑ Will you regularly review the micro-credentials goals and objectives? How will you do this and how often?
Content upkeep
❑ How will you incorporate advancements, emerging concepts / technology and updated information into your content?
❑ How will you ensure the micro-credential remains relevant and responsive to industry needs?
❑ How will you incorporate faculty development and support instructors in adapting to changes and improvements?
Operations maintenance
❑ What is required to maintain the micro-credential?
❑ How will you maintain and update the assessment? How often will you do this?
❑ How will you test improvements (e.g. pilots)?
❑ How will you ensure the technology is up to date?
❑ How will you deal with user issues?

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❑ How will you maintain the certificate / badge / credit?
❑ How will the learner access their achievement / record?
Ensuring quality throughout
❑ How will you ensure improvements align with quality frameworks to guarantee consistency?
❑ How will you use data to make decisions?

APEC (2024). Online micro-credentials toolkit, p. 66

Further Relevant Resources and Documents

- **OECD: Future of Education and Skills 2030**

  → https://www.oecd.org/education/2030-project/

  This initiative promotes the development of flexible, future-oriented education systems and microcredentials that are continuously adapted to developments in the world of work, may provide inspiration also for microcredentials

- **Digital Promise - Engage in Continuous Improvement for Digital Learning**

  https://microcredentials.digitalpromise.org/explore/5-engage-in-continuous-improvement- for-digital-lea

  website with various useful links and resources from a microcredential on digital learning,

- **Smartsheet Continuous Improvement:**

  https://www.smartsheet.com/content/continuous-improvement?srsltid=AfmBOop9xe39Ej8Ta4SHLVXTTNNHIBdY1h7Cgwm_MggaGuP6xz wMVgf_

  Website with introduction to continuous improvement and collection of resources; may be adapted for microcredentials

- **Continuous Improvement Toolkit**

  https://citoolkit.com/libraries/templates/

  A collection of generic templates for continuous improvement processes; may be adapted to microcredentials

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5. Conclusion

As the landscape of adult and lifelong learning continues to evolve, the successful adoption of this validation framework will depend on ongoing collaboration, flexibility, and commitment from all stakeholders involved. Embracing innovation—such as blockchain technology and microcredentials—offers great potential, but also requires careful alignment with quality assurance and transparency to ensure trust and widespread acceptance.

Looking ahead, continuous dialogue between providers, learners, employers, and policymakers will be crucial to refine validation practices and address emerging challenges. Moreover, fostering inclusive approaches that accommodate diverse learner profiles and educational contexts will help maximize the impact of microcredentials in supporting lifelong learning pathways.

Ultimately, this framework is intended to serve not only as a guide for current validation efforts but also as a foundation for future developments that strengthen the recognition and value of microcredentials worldwide. By doing so, it hopes to contribute to creating a more responsive, equitable, and connected learning ecosystem that benefits individuals and societies alike.

6. Annexes

Annex A: Further Resources/Links

- **MIcroBol: Common European Framework for Micro-credentials in the EHEA** (2022).

  https://microcredentials.eu/wp-content/uploads/sites/20/2022/03/Micro-credentials_Framework_final-1.pdf

  document from the MicroBol project, which examined microcredentials in the context of the Bologna Process.

- **European MOOC Consortium: Common Microcredential Framework (CMF)**

  https://emc.eadtu.eu/cmf/common-microcredential-framework-cmf

  Enthält konkrete Anforderungen an Lernergebnisorientierung und Kompetenzniveaus.

- **MicroCredX: Micro-Credentials Implementation Framework** (2023).

  comprehensive guideline from the MicroCredX-Projekt;

- **eCampusOntario Micro-credential Toolkit** (2022).

  https://ecampusontario.pressbooks.pub/microcredentialtoolkit/

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contains useful information and suggestions on numerous aspects of microcredentials.

- **Open UToronto Microcredentials Toolkit.**

  https://ocw.utoronto.ca/microcredentials-toolkit/

  Website with resources on various aspects of microcredentials

- **Commonwealth of Learning. Designing and Implementing Micro-Credentials: A Guide for Practitioners (2019)**

  https://oasis.col.org/entities/publication/e2d0be25-cbbb-441f-b431-42f74f715532
  Concise introduction to the design of microcredentials

- **Cardiff Metropolitan University Micro-credential Planning Framework**

  https://www.qaa.ac.uk/docs/qaa/about-us/micro-credential-planning-framework-technical- summary.pdf?sfvrsn=3844b181_13

  comprehensive framework on all aspects of microcredentials.

- **MicroCredX: Opportunity Scoping Tool**

  https://microcredx.microcredentials.eu/wp-content/uploads/sites/56/2023/11/MicroCredX-_Opportunity-Scoping-Tool-for-Micro-Credential-Strategies.pdf

  A tool from the MicroCredX project, useful for comprehensive planning of microcredentials, taking into account both content and institutional aspects.

- **EU Ethical Guidelines on the use of AI in teaching and learning for educators (2022)**

  https://hub.teachingandlearning.ie/wp-content/uploads/2024/03/ethical-guidelines-on-the- use-of-artificial-intelligence-NC0722649ENN.pdf

  contains examples and suggestions that may also be useful for designing microcredentials

- **UNESCO Recommendations on the Ethics of AI (2021)**

  https://unesdoc.unesco.org/ark:/48223/pf0000381137; and

  https://www.unesco.org/en/artificial-intelligence/recommendation-ethics may also be relevant for microcredentials;

Annex B: Glossary

[= the Block.ed project glossary; provided as separate file]

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Annex C: Learning Outcome Mapping - Template

Learning Outcome (Description of what the learner should know, understand, or be able to do)	**Bloom's Taxonomy Level** (e.g.,Remember, Understand, Apply, Analyze, Evaluate, Create)	**Teaching Methods** (e.g., lectures, case studies, group work, simulations)	**Assessment Methods** (e.g., quiz, project, presentation, practical exam)	**Underlying Competencies** (Skills, knowledge, attitudes addressed)

- Fill in each learning outcome clearly and concisely.
- Assign the appropriate Bloom's Taxonomy level to specify cognitive demand.
- Specify which teaching methods will best support achieving the learning outcome.
- Indicate how the learning outcome will be assessed.
- List the key competencies (knowledge, skills, attitudes) that the outcome targets.

Here you can find a useful compilation of suitable verbs for describing learning outcomes, for formulating assessment questions, and for selecting appropriate assessment methods.

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