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Handbook on Micro-credentials

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This **Handbook on Micro-Credentials** is elaborated in the context of the Implementation Plan of the project "Supporting Implementation of the African Continental Qualifications Framework" (ACQF-II). This Handbook is a response of the ACQF-II project to the findings of the first continental Micro-credentials survey conducted by the project, which highlighted the importance of a shared approach for all involved countries. The Handbook builds on Global research and practices related to micro-credentials and takes account of developments and debates on this theme taking place across African countries and institutions.

This final version incorporates the comments and suggestions gathered through the stakeholders' consultation process, which included an online survey (October-November 2024) and an in-depth structured review debate at the 4th ACQF Forum (13-14 November 2024, in Seychelles).

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List of Abbreviations

ACQF	African Continental Qualifications Framework
AU	African Union
CAT	Credit Accumulation and Transfer
CATS	Credit Accumulation and Transfer System
CESA	Continental Education Strategy for Africa
Cedefop	European Centre for the Development of Vocational Training
CPD	Continuing professional development
EC	European Commission
ECTS	European Credit Transfer and Accumulation System
EHEA	European Higher Education Area
ENQA	European Association for Quality Assurance in Higher Education
ETF	European Training Foundation
EU	European Union
HE	Higher education
HEI	Higher Education Institution
ICT	Information and Communication Technology
ILO	International Labour Organization
LLL	Lifelong learning
NQF	National Qualifications Framework
NQS	National Qualifications System
NZQCF	New Zealand Qualifications and Credentials Framework
OECD	Organisation for Economic Co-operation and Development
QA	Quality assurance
RPL	Recognition of Prior Learning
TVET	Technical and vocational education and training
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VET	Vocational Education and Training
VNFIL	Validation of non-formal and informal learning
WIL	Work-integrated learning

Executive Summary

The "Handbook on Micro-Credentials" is a resource developed under the project "Supporting Implementation of the African Continental Qualifications Framework (ACQF-II)". The Handbook addresses findings from the first continental survey on micro-credentials and synthesises global practices, offering a tailored approach for Africa.

Micro-credentials are transforming education and training systems worldwide by offering accessible, flexible, and skills-focused certifications. In Africa, their potential is particularly significant. These certifications bridge the gap between formal education and labour market demands, providing targeted pathways for upskilling and reskilling in emerging sectors such as digital technologies and the green economy. By validating non-formal and informal learning, micro-credentials create opportunities for underserved populations and contribute to fostering a culture of lifelong learning.

Central to the handbook is the integration of micro-credentials into national education and training systems. This approach ensures their alignment with existing structures, such as lifelong learning policies, Recognition of Prior Learning (RPL) systems, and credit accumulation frameworks. By embedding micro-credentials into these systems, countries can address pressing skill shortages, promote equity in access to education, and enable learners to navigate flexible pathways tailored to individual and market needs. The result is a dynamic education ecosystem that supports innovation, workforce readiness, and economic growth.

Despite their promise, the adoption of micro-credentials faces hurdles, including fragmented definitions, inconsistent quality assurance, and low stakeholder awareness. The handbook offers clear recommendations to overcome these challenges, emphasising the need for harmonised policies, robust quality frameworks, and collaborative efforts between governments, educational institutions, and employers.

Drawing on global case studies and African-specific insights, the handbook provides actionable strategies to realise the full potential of micro-credentials. It aligns with the African Union’s Agenda 2063 and the Continental Education Strategy for Africa 2016–2025, positioning micro-credentials as pivotal to achieving inclusive and sustainable development goals.

1 Introduction

1.1 Background

Micro-credentials are rapidly emerging as a flexible, skills-focused approach to education, gaining traction across formal, non-formal, and informal settings. Their capacity to certify specific skills and competencies has made them attractive to learners and employers alike, offering an alternative to traditional educational pathways. The apparition of these short learning experiences may indeed unlock large potentials, contributing to several strategic policy aims in Africa.

The **UNESCO 2030 Agenda for Sustainable Development** emphasises inclusive and equitable quality education, lifelong learning opportunities for all, and flexible learning pathways (UNESCO, n.d.). Micro-credentials may be playing a significant role in achieving these goals by offering flexible, accessible, and targeted learning opportunities to those learner groups hard to reach by formal education structures.

The **African Union's Continental Education Strategy for Africa** (CESA 2016-2025) aims to transform education and training systems in Africa to meet the demands of the 21st century. Micro-credentials are closely aligned with this strategy in several ways:

- Skills Development: CESA highlights the critical role of skills and qualifications in transforming the continent. Micro-credentials provide additional opportunities to develop and recognise skills and knowledge.
- Flexibility and Accessibility: micro-credentials provide flexible learning pathways that are often more accessible than traditional education, supporting CESA's mission to offer inclusive and equitable education opportunities for all.
- Recognition of Prior Learning: micro-credentials can recognise and validate prior learning, non-formal and informal education, aligning with CESA's emphasis on lifelong learning and the recognition of diverse learning experiences.

Further, micro-credentials, as certifications adaptable to various sectors, may also advance the **Plan of Action for the African Decade for Technical, Professional, Entrepreneurial Training and Youth Employment** (2019-2028)[1] by enhancing skills development and promoting employability among Africa's youth.

The **African Continental Qualifications Framework** (ACQF) is a vital policy instrument[2] supported by the African Union (AU) and the Member States and regions, designed to enhance the transparency, comparability, and portability of qualifications across the continent. It supports the AU's broader goals of educational and economic integration, as

[1] https://au.int/en/documents/20240212/plan-action-african-decade-technical-professional-entrepreneurial-training-and

[2] ACQF Policy document (2023). https://acqf.africa/resources/policy-guidelines/acqf-policy-document-upon-validation-by-au-member-states-en-fr-pt

outlined in key strategic documents of the Agenda 2063[3] and the Continental Education Strategy for Africa (CESA 2016-2025).

The ACQF aims to create a common African education space by harmonising qualifications from all sub-sectors, and levels of education and training. Support to implementation of the ACQF the main objective of the African Union-European Union project (ACQF-II), funded by the EU and implemented by the European Training Foundation (ETF) in partnership with the AU and the Member States and regions, in the period 2023-2026.

Micro-credentials play a significant role within the ACQF. The **ACQF Policy Document** highlights the importance of fostering innovation in skills, digital, and micro-credentials for lifelong learning. It aims to support a common understanding and recognition of these elements. This aligns with the general ACQF's objectives to promote quality, transparency, and recognition of qualifications, thereby supporting the mobility and professional growth of learners across Africa (ACQF, 2023).

Nonetheless, **micro-credentials are also a centre of policy discussions and debates**. One of the main concerns is their recognition of micro-credentials, which involves finding the right balance between flexibility and standardisation. While micro-credentials are valued for their adaptability to individual learning needs and labour market demands, there is a push for common standards to enhance their recognition, quality and portability. However, some stakeholders argue that overly rigid standardisation could undermine the very flexibility that makes micro-credentials appealing (Cedefop, 2023).

To maximise their impact, it is essential to establish robust frameworks for quality assurance and recognition of these credentials across different countries and sectors, ensuring that they gain the trust of stakeholders and contribute effectively to strategic initiatives in Africa. Furthermore, it is important to approach micro-credentials as part of the education and training ecosystem, specifically with relation to national qualification frameworks, and recognition and articulation policies such as recognition of prior learning and credit accumulation and transfer systems. When micro-credentials are integrated into these frameworks, learners can benefit from a more flexible and personalised learning experience. This approach not only enhances the value and portability of micro-credentials but also ensures that they are recognised and valued by employers and educational institutions alike. Ultimately, this integration supports lifelong learning and helps individuals to continuously upskill and reskill in response to evolving industry demands.

In the global space, micro-credentials are subject of research and regional policy initiatives to agree on shared views and concepts, maximise comparability and impact. One of such initiatives is the **Council Recommendation of 16 June 2022 on a European approach to micro-credentials for lifelong learning and employability[4]**, which calls on European Union (EU) Member States to adopt a common European approach to micro-credentials and seeks to support the development, implementation and recognition of micro-credentials across institutions, businesses, sectors and borders. This recommendation outlines ten key principles

[3] https://au.int/en/agenda2063/overview

[4] 2022/C 243/02. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022H0627(02)

for the design and issuance of micro-credentials, aiming to ensure their quality, transparency, and portability across borders and sectors.[5] By establishing a common definition and standards, the recommendation seeks to build trust in micro-credentials and enhance their recognition and use.

This regional (EU) approach can serve as a reference for African countries, particularly in the context of the African Continental Qualifications Framework (ACQF). By adopting a shared view and comparable standards, African countries can enhance harmonisation, and consequently ensure that micro-credentials are recognised and valued across different sectors and borders, promoting lifelong learning, employability and better opportunities.

1.2 Scope of the handbook

The primary objective of the handbook is to provide users at policy-making and implementation levels with a concise and practical guide on micro-credentials. The handbook provides broad guidelines and technical components for developing the capacity of practitioners who are engaged with micro-credentials in one way or another, providing an overview of micro-credentials place and role in the wider qualifications systems. However, it is crucial to underline that each country needs to configure their approach according to their needs, priorities and national education and training system.

The handbook also serves as a tool to generate momentum at the national level around micro-credentials, providing clear answers to the question, "Why are micro-credentials necessary?", and outlining how a micro-credential system can be effectively developed for different contexts and purposes.

To support this, the handbook **offers technical and methodological insights**, drawing on globally recognised literature from international institutions and scholars, along with practical examples.

As micro-credential should not be seen as standalone frameworks – instead, they should complement, enhance, and integrate with existing systems within the broader education framework – t**he current handbook should be used alongside other resources developed within the ACQF framework**, such as the 10 ACQF Guidelines[6] and Training Modules[7], the ACQF Thematic Briefs[8], the Handbook on Recognition of Prior Learning for Practitioners[9], the NQF inventory[10], and rich capacity development platform and materials[11] available on the ACQF website.

[5] https://www.consilium.europa.eu/en/press/press-releases/2022/06/16/council-recommends-european-approach-to-micro-credentials/
[6] ACQF Guidelines (2022). https://acqf.africa/resources/policy-guidelines/acqf-guidelines
[7] https://acqf.africa/capacity-development-programme/training-modules
[8] https://acqf.africa/capacity-development-programme/thematic-briefs
[9] https://acqf.africa/capacity-development-programme/training-modules/recognition-of-prior-learning-rpl-handbook-for-rpl-practitioners
[10] https://acqf.africa/resources/nqf-inventory
[11] https://acqf.africa/capacity-development-programme/webinars

The structure of the handbook is as follows:

- **Chapter 1**: Provides background on micro-credentials, introducing the concept and outlining their scope within the African continent. It also poses key questions to reflect on the importance and relevance of micro-credentials.
- **Chapter 2**: Explores the definition of micro-credentials, detailing their key qualities and characteristics.
- **Chapter 3**: Presents global examples of how micro-credentials have been integrated into education systems and offers an overview of the main stakeholders within the micro-credential ecosystem.
- **Chapter 4:** Outlines practical steps for developing and implementing micro-credentials within different education systems.
- **Chapter 5:** Includes policy pointers and recommendations for advancing the development of micro-credentials in African countries.

1.3 Why micro-credentials for Africa

The use of micro-credentials is rapidly growing and becoming a key topic of discussion across Africa. Micro-credentials offer a valuable way to recognise knowledge and skills, often gained through non-formal and informal learning. This can improve employability, enhance (basic) skills, and empower different subsets of the population from vulnerable groups, to youth people and to low- and high-skilled individuals. Furthermore, as societies face rapid technological advancements and a growing need for greener practices across all sectors, the demand for continuous training has increased. Micro-credentials offer the opportunity to train individuals in emerging industries and areas especially important for the continent, such as catalysing digital literacy, the green economy and green agriculture.

Given the broad benefits of micro-credentials for diverse groups, it is crucial to design them with a wide range of beneficiaries in mind. They should be inclusive, adaptable to varying needs and contexts, and integrated into education systems at different levels of NQFs.

However, while the value and benefits of micro-credentials might be clear in principle, confusion persists about how they may fit into existing frameworks. Most African countries have started an internal debate on the role that micro-credentials can have in their specific education systems. At the same time, **the 2024 ACQF survey on micro-credentials provides strong arguments for the need for a common approach in Africa**. The vast majority of respondents recognised the importance of such a common strategy, highlighting the potential benefits of a harmonised approach (ACQF, 2024a). According to the survey findings, such a common approach would:

- establish a common and transparent definition of micro-credentials.
- enhance the recognition of micro-credentials across borders.
- ensure quality and consistency of micro-credentials.
- ease the inclusion of micro-credentials in National Qualification Frameworks and databases.

This would directly address key challenges identified in the survey on the use of micro-credentials, such as:

- limitations as regards quality assurance standards.
- the novelty of micro-credentials, leading to limited awareness among stakeholders.
- the lack of inclusion of micro-credentials in national policies.
- uncertainty about how micro-credentials relate and compare to other forms of short-term training as well as to traditional qualifications.

An African approach to micro-credentials would also address the most important features of high-quality micro-credentials, as listed in the ACQF MC survey: recognition by relevant national authorities, education and training organisations, and trust by employers (ACQF, 2024a). The box below summarises the key findings of the ACQF micro-credential survey. Specific evidence collected from the survey is also used across the handbook.

Text box 1. Summary of the status of development of the micro-credentials in Africa

The following points summarise the key findings from a survey on the status and implementation of micro-credentials across African countries.

- Countries are at different stages of development and implementing micro-credentials. Most are developing definitions, while fewer have already established definitions.
- Many countries use micro-credentials at various levels, though only a few have well-established systems.
- Countries use alternative terms for micro-credentials (e.g. part qualification, short courses, skills certificate, modules).
- Micro-credentials are seen as beneficial, particularly in VET and higher education, despite varied responses. VET providers are the main providers.
- The primary recipients of micro-credentials are young adults (20-35 years old), reflecting Africa's high share of the young population. Most participants are outside formal education, with many being employed.

Many countries are developing NQFs, and those with established NQFs allow for some form of micro-credentials.

Source: ACQF, 2024a.

It is important to highlight that many of the challenges associated with micro-credentials globally—such as their recognition and acceptance within both the labour market and education systems (see section 5.8)—are also prevalent across Africa. A common approach to micro-credentials would help harmonise them, making them more transparent and easier to recognise across the continent. This would ultimately address shared challenges and facilitate the integration of micro-credentials into Africa’s educational and labour market ecosystems while supporting cross-country recognition of these qualifications.

At the same time, it is crucial to acknowledge the diversity among African countries. Therefore, this handbook is **designed as a flexible tool**, adaptable to various contexts and purposes, from meeting the basic needs of a broad population to addressing specific labour market requirements. To achieve this, the handbook offers a solid theoretical framework—explaining key concepts and providing examples—and practical guidance on implementing different aspects of micro-credentials.

Overall, the handbook addresses the needs expressed by respondents of the ACQF micro-credentials survey of **building capacity** to help stakeholders acquire information on policy-making and design, **disseminating standardised information** and best practices across Africa, and **providing concrete assistance in policy design**.

1.4 Before starting using the handbook

Before using this handbook, take a moment to reflect on the following questions. They will help you understand the relevance of micro-credentials to your work and guide you in using this resource effectively. Whether you are building foundational knowledge, seeking to extend existing frameworks in your country, or identifying key actors to create a solid ecosystem, this handbook provides tailored guidance to support your efforts.

While each section of this handbook is necessary to build a solid micro-credential system, it is important to first understand why micro-credentials are needed and have a clear idea of their potential role in your education system. You may also return to these questions after having read the information provided in the Handbook to re-evaluate your approach.

1. **What is your current knowledge of micro-credentials?**

Understanding where you stand in terms of familiarity with micro-credentials is critical. If you are new to the concept, this tool provides a pathway to explore what micro-credentials are and their benefits. If you are already familiar, it offers an opportunity to deepen your understanding and align your knowledge with regional and global trends, while also helping to build a shared vocabulary around micro-credentials for broader stakeholders, including policymakers, education leaders, and employers.

2. **Does your education system currently offer forms of flexible learning opportunities and/or partial qualifications?**

Importantly, micro-credentials are not a standalone instrument but should fit within the current education system. If the system allows for some forms of partial qualification, micro-credentials should build on this foundation to extend their scope. If not, micro-credentials provide an opportunity to introduce more flexible qualification structures. For example, you might consider how partial qualifications can address gaps in access, recognition, and progression within your education system, including recognition of prior learning (RPL). Identifying existing gaps is essential to understanding where micro-credentials could fit. For example, they could address unmet needs for specific workforce skills or provide more accessible learning options for underserved populations. Mapping these opportunities ensures that micro-credentials are integrated where they are most impactful.

3. **Who are the key stakeholders involved in developing and implementing micro-credentials in your context?**

Collaboration is key to successful micro-credential implementation. Understanding the roles of government agencies, quality assurance agencies, educational institutions, employers, and other stakeholders helps create an ecosystem that supports effective design, delivery, and uptake. This handbook provides an overview of the micro-credentials ecosystem, with key actors and beneficiaries. You can use this to map and identify these stakeholders in your

country and start engaging with them. Remember, ensuring buy-in from these stakeholders is essential for the successful implementation of the micro-credentials system.

4. **What specific purpose and feature would you prioritise when integrating micro-credentials into your education system?**

Micro-credentials offer a flexible way to increase skill levels across a wide population, including improving basic skills. They can support lifelong learning, workforce readiness, and access to education for diverse groups, including disadvantaged populations and young people with lower qualification levels. They also provide an important opportunity to formalise learning in informal settings. Reflecting on your system's needs will clarify the potential impact of micro-credentials. Whether your focus is on workforce development, promoting lifelong learning, or addressing specific skill gaps, this handbook guides you in designing micro-credentials that align with your goals and context.

5. **In which areas of your education, training, or employment systems—and in which industry sectors—should micro-credentials be introduced first?**

Identifying which parts of your education, training, or employment systems should incorporate micro-credentials ensures they address real gaps and priorities. Consider whether they are best suited for higher education, vocational training, the recognition of non-formal and informal learning or any other area in your case. Furthermore, you might also consider whether there are any priority industries (such as agriculture, healthcare or green sectors) where they can have the most impact. By focusing on strategic sectors, you can align micro-credentials with broader workforce and economic development goals, streamline the development process and ultimately, ensuring that learners and employers reap tangible benefits.

6. **What kind of providers should be able to offer micro-credentials?**

The success of a micro-credentials system depends on a set of credible providers. These may range from traditional educational institutions (such as universities and vocational training centres) to non-traditional entities, including professional associations, employers, industry bodies or online platforms. Consider the advantages and limitations of each type of provider, which are also discussed in this handbook to decide which mix of providers is most appropriate in your national context.

7. **Which learner groups should micro-credentials primarily serve?**

Alongside a presentation of potential providers, the handbook also discusses potential target groups for micro-credentials. Clarifying target groups helps ensure that micro-credentials meet learners' needs. They might cater to youth entering the job market, adults reskilling for new careers, bridging gender gaps or to underserved groups needing flexible, accessible pathways. By identifying your priority learners, you can design micro-credentials that effectively broaden participation and improve employability.

With this vision clarified, you can develop an action plan that lays out the pathway to implementation. This involves many steps, such as defining micro-credentials, mapping out responsibilities, securing necessary endorsement from governmental and other state entities, integrating micro-credentials into national and institutional policies, the involvement of stakeholders and deciding on the standards and procedures for micro-credentials. As

mentioned before, this handbook covers the most crucial elements for the policy design of micro-credentials.

2 What are micro-credentials?

2.1 Definitions across the world

Micro-credentials are defined in various ways across the globe, reflecting the diverse approaches governments and institutions have adopted to meet local educational and labour market needs.

While no universal definition exists, selected definitions included in Table 1 show common themes on providing flexible and targeted learning opportunities that address specific skills and competencies.

Table 1. Selected definition of 'micro-credentials'

Source	Definition
New Zealand Qualifications Authority[12]	Micro-credentials are small, stand-alone awards with set learning outcomes. They're part of Aotearoa's education and training system. Micro-credentials recognise learners' skills, experience or knowledge, while meeting demand from employers, industry and communities. Micro-credentials that were quality assured are: • listed on the New Zealand Qualifications and Credentials Framework (NZQCF). • 5 to 40 credits in size (although in exceptional circumstance may be less than 5 credits) • taught at all levels of the NZQCF. • delivered by accredited education providers. • developed because there's evidence they're needed.
Australian National Micro-credential Framework[13]	Micro-credentials are a certification of assessed learning or competency, with a minimum volume of learning of one hour and less than an AQF award qualification, that is additional, alternate, complementary to or a component part of an AQF award qualification.
Canada College and Institutes[14]	A micro-credential is a certification of assessed competencies that is additional, alternate, complementary to, or a component of a formal qualification.

[12] https://www2.nzqa.govt.nz/tertiary/approval-accreditation-and-registration/micro-credentials/
[13] https://www.education.gov.au/national-microcredentials-framework
[14] https://www.collegesinstitutes.ca/colleges-and-institutes-in-your-community/benefit-college-institute-credential/national-framework-for-microcredentials/

Source	Definition
Malaysian Qualification Agency [15]	Micro-credential is a certification of assessed learning of a single or a set of courses which are intended to provide learners with knowledge, skills, values and competencies in a narrow area of study and/or practice.

The **lack of agreement, along with the absence of a global taxonomy, creates confusion in navigating the micro-credential landscape**. Furthermore, the literature reveals that the term is often used interchangeably with 'digital badges', further blurring the line of what is a micro-credential (Kato et al., 2020; Pollard & Vincent, 2022). Other terms, such as 'short courses', 'training certificates', 'certificates of competence', 'professional certificates', 'skills programmes', 'part qualifications' or 'partial qualifications', and 'micro-qualifications' are often used across Africa (ACQF, 2024a) and other continents (Cedefop, 2022).

Over the years, many attempts were made to differentiate better the many forms of credentials available in the education systems. Brown et al. (2020) developed a chart to help map the new and emerging credential landscape (see Figure 1). The lack of clear understanding might indeed hinder the recognition of micro-credentials among different stakeholders within the ecosystem, including employers, education and training providers, learners, public authorities, employers, and social partners (see Section 3.3. for more details on the ecosystem).

Such fragmentation highlights the need for a clear standard to define micro-credentials. To this end, **international organisations and supranational bodies are working to establish an overarching definition, enabling consistent development, adoption, and recognition of such instruments** (see the text box below) The current handbook utilises the definitions developed by the European Commission (2022), UNESCO (2022), and OECD (2020). In this approach, the Handbook considers that micro-credentials include a wide variety of learning experiences and are common in their limited duration, emphasis on relevance to the labour market by delivering specific skills, knowledge or competences as well as being affordable, accessible and flexible learning opportunities (Resei et al., 2019). We operate with a wider definition to emphasise that various learning experiences may fall under the category of micro-credentials, regardless of naming conventions and whether they have previously existed, before the mainstreaming of the concept of micro-credentials.

Text box 2

The current handbook utilises the definitions developed by the European Commission (2022), UNESCO (2022), and OECD (2020). In this approach, the Handbook considers that micro-credentials include a wide variety of learning experiences and are common in their limited duration, emphasis on relevance to the labour market by delivering specific skills, knowledge or competences as well as being affordable, accessible and flexible learning opportunities

[15] https://storage.googleapis.com/wp-uploads.bucket.wp.uc3m.es/wp-content/uploads/sites/93/2023/10/09103041/GGP-Micro-credentials-July-2020.pdf

(Resei et al., 2019). We operate with a wider definition to emphasise that various learning experiences may fall under the category of micro-credentials, regardless of naming conventions and whether they have previously existed, before the mainstreaming of the concept of micro-credentials.

Text box 2. Micro-credentials definition used in the current handbook

European Commission (2022): 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 (2022/C 243/02, p.14).

UNESCO (2022): A micro-credential is a record of **focused learning** achievement verifying what the learner knows, understands or can do. It includes **assessment based** on clearly defined standards and is awarded by a trusted provider. It has standalone value and may also contribute to or complement other micro-credentials or macro-credentials, including through recognition of prior learning. It meets the standards required by relevant **quality assurance** (Oliver, 2022).

OECD (2020): Micro-credentials are 'academic certificates recognising completion of organised learning activity may be awarded by educational institutions. These may or may not confer academic credit applicable towards degree programmes. Professional/industrial certificates are awarded by professional bodies, industries or product vendors, typically following the completion of an examination. Digital badges are defined as digital pictograms or logos that can be shared across the web to show the accomplishment of certain skills and knowledge.' According to this definition, micro-credentials sit with a broader category of alternative credentials (Kato et al., 2020).

ACQF (2024): Micro-credential is a certification of assessed quality assured short period of learning, which is intended to provide learners with knowledge, skills, values and competencies in a targeted area and or practice (4th ACQF Forum, Seychelles, 13-14/11/2024).

2.2 Main qualities and characteristics

1.1.1. The main qualities of micro-credentials

The definitions considered in the handbook highlight **several overarching qualities that shape the concept of micro-credentials**. Micro-credentials:

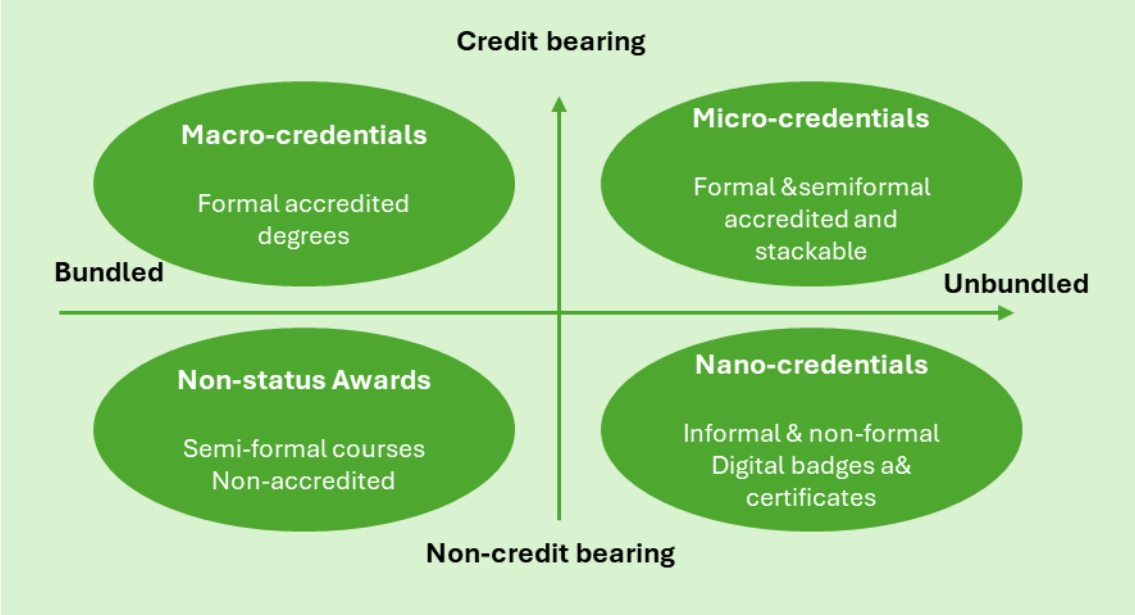
- are flexible as they refer to learning over a limited time and in a specific area;
- are based on assessed learning;
- are often quality assured.

The rise of micro-credentials has been made possible by the broader shift in education towards a learning outcomes-based approach. They are designed to **deliver specific skills or knowledge, ensuring that learners acquire measurable competencies that are immediately applicable in the labour market**. As such, micro-credentials are intrinsically tied to the (rapidly changing) needs of the workforce and are often cited as an instrument with great potential for up- and reskilling workers (Pouliou, 2024).

The definitions examined indicate that through micro-credentials learners achieve specific learning outcomes, assessed and measured against established criteria, thus they often bear credits for signalling the level of effort required to complete the learning. To differentiate between various types of qualifications, Brown et al. (2020) created a chart mapping the emerging credential landscape (the so-called credential ecology, shown in Figure 1). In Figure 1, at one end of the vertical axis are traditional macro-credentials and credit-bearing micro-credentials, usually earned through formal and semi-formal study. The horizontal axis shows how much the credentials, and their study units are organised by the awarding body or institution, compared to situations where learners have more freedom to choose and create their own learning paths.

While the figure helps navigate the many existing credentials, the distinction between the quadrants is not always clear-cut in practice. The characteristics of micro-credentials largely depend on the context in which they are awarded—whether in formal, non-formal, or informal settings—and on specific attributes, as discussed in the following section.

Figure 1. Credentials ecology



Note: **Bundled**: the aggregated unit of education provision (degree/qualification); **Unbundled**: education provision (degree/qualification) disaggregated into its component parts; **Credit-bearing:** credit awarded on completion of course, in relation to the course's contribution to a unit standard and/or (part) qualification; **Non-credit bearing:** no credit awarded on completion, these credentials are not applicable towards a larger accredited qualification or degree.

Source: Brown et al., 2020, as figure in (Brown et al., 2021, p. 232)

1.1.2. Characteristics of micro-credentials

The specific characteristics that distinguish each micro-credential are far from uniformly agreed upon and are tailored to the scope of the learning. In this section, we explore how micro-credentials can be tailored in terms of eight distinctive features:

1) learning outcomes and workload,
2) duration,
3) mode of delivery,
4) type of certification,
5) assessment methods and criteria,
6) quality assurance practices and standards,
7) stackability,
8) orientation.

1) Learning outcomes and workload

Micro-credentials can be offered at **any level of a qualification framework** and are delivered by a diverse range of providers, including higher education institutions, vocational training organisations, further education bodies, and employers' organisations. Micro-credentials are best understood as **complementary elements within the broader educational ecosystem**, rather than standalone alternatives to formal education. While they offer flexibility and specialisation, they are designed to enhance more traditional forms of education (ENQUA, 2023) or to open access to them.

Micro-credentials shall clearly define the **learning objectives and competencies** that learners will acquire upon completion, as well as the level of effort required. Indeed, one critical feature of micro-credentials is that their learning outcomes should be recognised through a **credit system** that illustrates the necessary workload. In many countries, micro-credentials are structured in terms of credits, facilitating the accumulation and transferability of learning across different institutions or settings (see point 7). For example, in New Zealand, micro-credentials can be worth between 5 and 40 credits, depending on the workload.

The European Commission also encourages the integration of micro-credentials into existing qualification programmes and mandates, where possible the reference to the European Qualification Framework (EQF) and the use of the European Credit Transfer and Accumulation System (ECTS) for micro-credentials in Higher Education (CIMEA, 2024). Cedefop (2023) found that most of the micro-credentials analysed could be reconducted to EQF levels 2 to 5 (Cedefop, 2023).

2) Duration

While micro-credentials are designed to be shorter than traditional qualifications, **their duration varies**, **depending on the workload, the type of provider, and the purpose of learning.** Activities offering specific and very narrow skills and competences are usually shorter in duration compared to programmes that lead towards more formal qualifications (i.e. partial qualifications).

Many online platforms allow learners to engage with courses at their own pace, meaning that the duration of many micro-credentials can be further tailored to the learner's schedule and

needs. **This increases the variability of the actual duration of micro-credentials courses,** i.e. how many hours it takes a learner to complete the course.

Pickard (2018) analysed more than 450 MOOC-based micro-credentials and found that completion times can range from 3 to 12 months, with the average weekly effort varying from 3 to 10 hours. Some micro-credentials follow a fixed schedule with set start and end dates, while others are self-paced, allowing learners to progress as quickly (or slowly) as they choose. In some cases, micro-credentials have a time limit for accessing course materials, after which learners must complete the program (Pickard, 2018). Cedefop (2023) mapped and analysed characteristics of European micro-credentials in the retail and manufacturing sectors. It found that micro-credentials range between 5 to 448 hours, with more specialised credentials having a higher workload. With few exceptions, micro-credentials focused on emerging technological needs and were not linked to the credit system and the hours to complete the training were the only indicator of the workload.

3) Mode of delivery

Micro-credentials are designed to be **flexible and adaptive, with no prescribed method or platform for their delivery**. Micro-credentials can be delivered:

- fully online,
- face-to-face,
- through blended learning.

While all three modalities are valid, the growing number of online learning platforms have played a crucial role in the expansion of micro-credentials, allowing institutions and providers to reach broader audiences. **Asynchronous learning** is a common feature of these platforms, and it enables learners to access and complete coursework at their own pace (see point 2). These platforms also provide learners with the opportunity to compare the offer from multiple providers, increasing transparency and easing the choice of training (OECD, 2021b). Text box 3 provides an insight into the diffusion of Massive Open Online Courses (MOOC) in Africa.

Text box 3. Use of MOOC in Africa

MOOCs have been gaining traction in African countries, but their overall growth and diffusion are slower than in other continents. While MOOCs offer a way to democratise access to higher education, providing learning opportunities to those who might not have access to traditional educational institutions, numerous barriers limit their diffusion in Africa. The main barriers include limited internet access, the lack of necessary technological infrastructure, and insufficient digital literacy. Additionally, many MOOCs are designed with a global audience in mind, which can sometimes make them less relevant to local contexts.

The adoption and utilisation of MOOCs vary widely across the continent. For example, South Africa has been a leader in MOOC adoption on the continent. Many universities have developed their own MOOCs and partnered with international platforms like Coursera and edX1 to deliver them. In Nigeria, MOOCs are increasingly being used to supplement

traditional education. Initiatives like the National Open University of Nigeria (NOUN) are working to integrate MOOCs into their curriculum to enhance learning opportunities.[16]

According to the ACQF survey on micro-credentials, **MOOC certificates, although less prevalent than other types of certificates, are already being utilised in the surveyed countries and are more commonly used than vendor-specific certificates** (ACQF, 2024a).

Source: (Maphosa & Maphosa, 2023; Puleng Modise, 2022)

The **mode of delivery of micro-credentials often varies by sector and the type of training**. For example, in Europe, VET providers predominantly offer in-person micro-credentials, reflecting the hands-on nature of many vocational skills. Conversely, online and blended modalities are more widespread in employee and employer organisations, where flexibility is prioritised for professional upskilling (Cedefop, 2022).

4) Type of certification

The **type of certification awarded through micro-credentials largely depends on the provider and the delivery modality** used. Certifications can be issued in physical form or digitally.

Digital certifications are growing in popularity because they are easy to use and share. One example are the ones accessible through online platforms and can easily showcase skills to a broader audience (MICROBOL, 2020). Higher education institutions frequently offer micro-credentials as part of their continuing education programmes and a certification can be awarded upon completion. Students often receive digital badges or digital certificates for completing extracurricular units that focus on specialised competencies or skill sets. An example is described in Text box 4.

Text box 4. Northeastern University digital badges

Northeastern University's College of Professional Studies issues micro-credentials in the form of digital badges to showcase that a student has engaged in skill development at different levels. There are four levels, each featuring a distinctive set of skills acquired through the micro-credential. The badge can be uploaded on the digital resume and website or LinkedIn profile.

Source: https://cps.northeastern.edu/academics/accelerated-programs/digital-badges/

Digital badges are also widely awarded by private sector organisations, and are often part of internal training programmes, and may not be visible or recognised by other companies (Usher et al., 2023). Big organisations such as Google, IBM, and Apple have all integrated micro-credentials into their hiring and training practices, viewing them as valid indicators of skill proficiency (see Text box 5).

However, according to the ACQF survey on micro-credentials, digital certificates (including digital credentials and badges, and open badges) are only a small part of certification currently offered in responding African countries. Indeed, the most common types of certificates

[16] https://nou.edu.ng/noun-launches-innovative-mooc-on-student-counselling/

offered are more labour market-oriented and include professional certificates, skills programmes, and vocational certificates (ACQF, 2024a).

Text box 5. Example of digital certification awarded by the private sector

IBM offers a comprehensive array of over 1 000 digital badges through its Training Division[17], designed to recognise and document skills in various fields. In addition, IBM provides over 150 formal certifications to validate deeper expertise. The **digital badges** are typically free of charge and learners can earn them by simply logging in and completing a competency-based assessment, making them accessible and skill-focused. **Certifications**, on the other hand, are more extensive and can be completed through IBM's own learning platform, Coursera, or through certified IBM training partners worldwide.

Apple has also embraced micro-credentials with its **Swift Developer Programme**[18], which awards badges for proficiency in Swift, Apple's proprietary programming language. The programme features a progression of badges, ranging from beginner to expert levels. According to Apple, these badges have become a significant hiring criterion for software developers, demonstrating a candidate's capability to develop applications within the Apple ecosystem.

Source: (Coetzee, 2024; Usher et al., 2023)

5) Assessment methods and criteria

Learners usually demonstrate they acquired the learning outcomes (see point 1) upon completion of the learning through an assessment process that leads to the awarding of the certification.

Figure 2 shows **four paths to the awarding of the certification**. Micro-credentials might be awarded through (Kato et al., 2020):

- the recognition of attendance,
- the completion of an assignment/project,
- an (external) examination (including RPL).

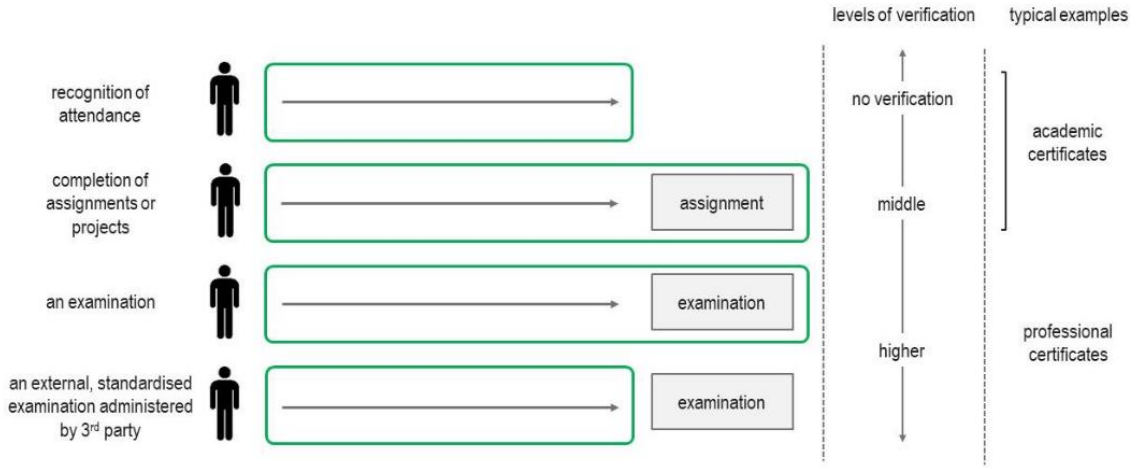
The assessment method is influenced by the policy framework of a specific country. For example, the EU and UNESCO definitions require micro-credentials to be assessed against transparent criteria, meaning that credentials that only recognise attendance do not qualify as micro-credentials under these definitions.

Cedefop (2022) confirms that **attendance alone is usually not enough to award the micro-credentials,** but this is sometimes a practice in the labour market. However, research shows that when micro-credential is awarded solely upon completion, the benefits for learners are limited. Most common assessment practices are based on assignments or examinations (Cedefop, 2022). When assignments or exams are required, the assessment criteria should align with the micro-credentials' learning outcomes. Assessments can vary in tasks, methods,

[17] https://www.ibm.com/training/
[18] https://education.apple.com/learning-center/T007440A-en_US

and whether they are delivered online or in person. In some cases, micro-credentials can be earned without attending a formal course (CIMEA, 2024; ETF & Knowledge Innovation Centre, 2023). This creates opportunities to use micro-credentials as a tool for recognising prior learning, including validating knowledge and skills acquired through non-formal and informal learning (see Section 4.2).

Figure 2. Different assessment methods



Source: (Kato et al., 2020, p. 13)

6) Quality assurance practices and standards

Quality is essential for ensuring that micro-credentials are recognised by employers, public bodies, and higher education institutions. **Quality assurance (QA) practices support the credibility and trustworthiness of micro-credentials**, making them more likely to be accepted for professional recognition or further studies. QA procedures should ensure that micro-credentials are 'fit for purpose', i.e., they meet the specific skill and knowledge needs of the learners and the labour market (Wang, 2022).

Quality assurance, indeed, enjoys a joint emphasis on various definitions and recommendations on micro-credentials. Per the UNESCO definition, micro-credentials need to meet “standards required by relevant quality assurance” (Oliver, 2022), as with any other credential, they must be accepted and trusted and “seen to bear the hallmarks of a quality credential” (Oliver, 2022). In a similar vein, quality assurance is the first of the 10 listed principles in the EU Recommendation for a common approach. It established that micro-credentials should be subjected to internal and external quality assurance, be clearly documented and accessible and meet the needs and expectations of learners and stakeholders (European Commission 2022). Unsurprisingly, the QA of micro-credentials has been high on the agenda of quality assurance agencies as well (e.g. European Association for Quality Assurance in Higher Education, 2023).

QA practices usually assess multiple dimensions of the micro-credential, e.g., the course content, delivery modalities, and the accreditation requirements for course providers. Just as with traditional educational programmes. However, as micro-credentials have mostly evolved

outside of formal education systems, they **often exhibit lower levels of formalised QA procedures** compared to traditional educational programmes. At the same time, as micro-credentials are increasingly being included in national qualification frameworks (NQFs) their quality and credibility increase (Cedefop, 2022).

Ultimately, QA practices vary widely across different countries. **Striking the right balance between formal QA standards and the flexibility to adapt to diverse learning needs and industry demands is key.** Overly rigid QA procedures could hinder the agility and responsiveness that make micro-credentials so valuable in upskilling and reskilling contexts (ENQUA, 2023; MICROBOL, 2020). Section 4.7 offers an overview of different pathways to assess the quality of micro-credentials.

7) Stackability

Stackable micro-credentials can be combined and assembled with other traditional and nontraditional qualifications to build up a larger credential or even a full qualification (Cedefop, 2023). This concept aligns with a broader trend towards modular education, where learning is divided into smaller units that can be completed individually or combined with other units to form a more extensive learning experience (Pickard, 2018). In several EU Member States, this concept is becoming more prevalent, as traditional vocational education and training (VET) programmes are being deconstructed and modularised. The 2022 Cedefop study found that **at least some micro-credentials in Europe can be combined with other qualifications or credentials offered by their institutions** among 88% of VET providers surveyed. Per the ACQF micro-credentials survey, four African countries which have micro-credentials integrated into their policy framework or just started to use them provide a possibility for micro-credentials to be stacked up or combined with other qualifications and credentials (ACQF, 2024a).

It is important to highlight **that not all stackable micro-credentials can be combined. A clear path for stackability should be developed and made clear to end users**. Indeed, micro-credentials shall align with the learning outcomes of a larger qualification, such as a degree or certification programme (see Chapter 5.3 for more details). Sometimes, stackable micro-credentials are part of a formal qualification that has been split into different, independent micro-qualifications (see text box below). This makes it clear how this requires the cooperation and recognition of higher education institutions.

Furthermore, to facilitate the accumulation of credentials, it is important to use standardised credit systems and refer to NQFs to ensure transparency across different institutions and sectors (see point 1). Nonetheless, Cedefop (2024) points out that the accumulation of micro-credentials may be problematic outside formal education systems due to variations in assessment and quality assurance practices (Cedefop, 2024).

Text box 6. Examples of stackable micro-credentials

Example from Malaysia

The Methodist College Kuala Lumpur (MCKL) in Malaysia offers Micro-credentials courses in Computer Science. The university offers 26 courses, shorter and modular, that can fit personal up- reskilling needs. Upon successful completion of this programme, candidates will receive a Digital Certificate and/or Digital Badge awarded by Methodist College Kuala

Lumpur. When accumulated such micro-credentials can award the MCKL's full-fledged Diploma in Computer Science.

Example from Spain

Spain offers a clear example, where learners in vocational training can select specific modules to enrol in, based on their preferences. In November 2021, the Spanish government published a new law that regulates and updates the Spanish VET system. The law includes micro-credentials as a part of the formal VET system meaning that training can be organised from micro-credentials to full VET qualification. All training shall be accreditable, accumulable and capitalizable.

Source: https://mckl.edu.my/programme/micro-credentials-in-computer-science/ ; https://www.earlall.eu/wp-content/uploads/2022/05/Cristina-Marfil_Micro-credentials.pdf

8) Orientation: companies' needs; employees' needs; others

As micro-credentials are linked with the labour market, they are more effective when aligned to the specific needs of companies and employees. For example, using skills forecasts or labour market analysis to orient learning outcomes is a way to ensure that micro-credentials are relevant and meet the current industry demands.

Many companies have established internal training centres to address their specific needs and provide a flexible approach to their workforce skills development. This ensures that training aligns directly with their requirements and job roles.

At the same time, policy makers shall ensure that the increasing number of micro-credentials is integrated into broader economic and skills strategies, whether sectoral, regional, or or national. This helps to prevent the fragmentation of education and training options and ensures that micro-credentials contribute effectively to the overall skills landscape (Mwaba et al., 2022).

Text box 7 provides examples of how employers are engaged in the micro-credential offer.

Text box 7. Example of employers' orientation

In Singapore, SkillsFuture produces 'Skills Frameworks'[19] which include key sectoral information developed by working groups in 33 key industries. Each framework analyses typical occupational career ladders common to that industry and comes up with a list of desirable skills at each level of that occupation. Skills frameworks are used by employees to identify which skills they. At the same time, the Skills Frameworks is used by training providers to design labour market-relevant courses. Such courses – though they are not called 'micro-credentials' – serve the same purpose as they are short and modular, but they usually cannot be stacked to a full qualification.

Source: (Mwaba et al., 2022; Usher et al., 2023)

[19] https://www.skillsfuture.gov.sg/skills-framework

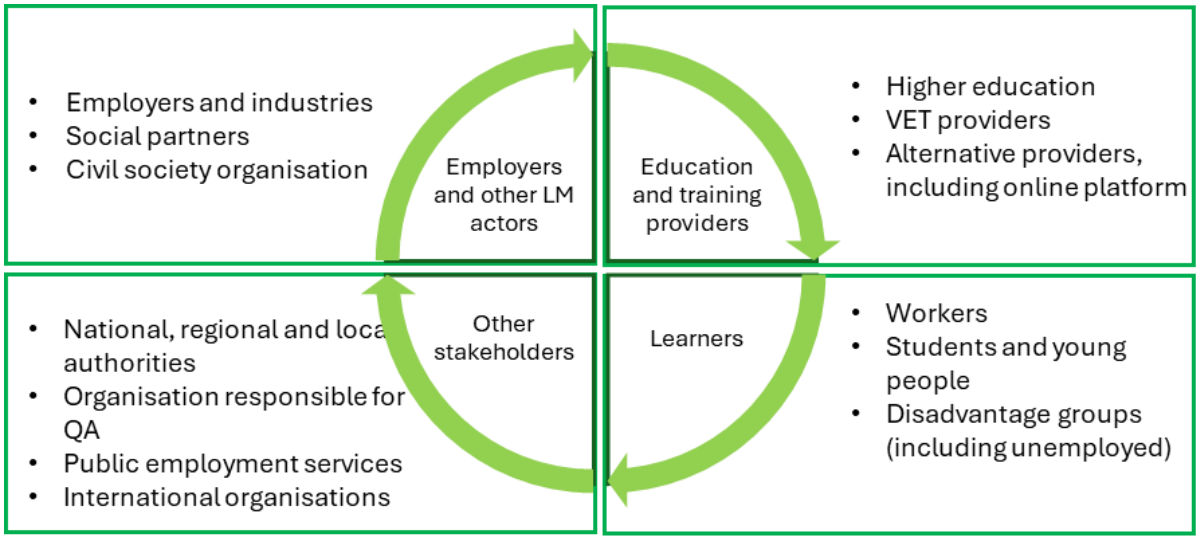
2.3 Micro-credentials ecosystem

Micro-credentials should not be viewed as standalone tools but rather as integral components within a broader ecosystem involving numerous stakeholders. For micro-credentials to be truly valuable, it is crucial that all actors in this ecosystem recognise their value. For example, without the endorsement of employers, micro-credentials may not serve their purpose and cannot be spent on the labour market to signalling the acquisition of specific knowledge to e.g. be hired or promoted (more detail on the scope and usage of micro-credentials in Section 4.2). Further, education and training providers are crucial in RPL, particularly in higher education, to allow micro-credentials to be stacked towards a full qualifications (see section 0).

Figure 3 offers an overview of the micro-credential ecosystem composed of four main categories of stakeholders:

- education and training providers,
- learners,
- public authorities, including QA bodies,
- employers and other bodies, including social partners.

Figure 3. Key stakeholders of the micro-credential ecosystem



Source: Own elaboration based on (OECD (2023), p. 9)

Different stakeholders have varying priorities and expectations. To build a strong and cohesive ecosystem, collaboration and alignment among all parties are crucial. This will ensure that micro-credentials are effectively integrated and widely recognised. **A successful micro-credential ecosystem would be defined by transparency, relevance to societal needs, well-designed learning pathways, efficient quality assurance processes, and inclusive funding mechanisms**. In such a system, micro-credentials would be clearly understood, enabling both learners and employers to navigate the wide range of programmes offered by diverse providers (OECD, 2023c).

Stakeholders in the ecosystem play various roles. Employers and education and training institutions, for instance, are key end users of micro-credentials, recognising their value by

accepting them for employment or access to training courses. However, these stakeholders often also serve as providers of micro-credentials. Indeed, providers encompass a wide range of actors that can support more traditional providers in developing micro-credentials, making it more relevant to e.g. specific sectors or target groups. Chapter 4 explores different roles within the ecosystem further.

3 Trends and the global status of micro-credentials

3.1 Policies and strategies across the world

The rise of micro-credentials represents a significant shift in how qualifications and skills are acquired and recognised across the globe. As the demand for flexible, skills-based learning grows, **national and international policies and strategies are emerging to integrate micro-credentials into established educational frameworks**. Policies play an important role in shaping the micro-credential ecosystem and their provision. Governments can incentivise both the demand for and supply of these credentials. Various funding sources—whether from national government budgets or external sources, such as EU funding in Member States—can be allocated to increase the availability and uptake of micro-credentials, particularly in targeted sectors (see Section 4.4. for further information).

Micro-credentials are increasingly being incorporated into NQFs, reflecting a growing recognition of their value in the educational and employment landscapes. This is pivotal for their formal recognition and use as part of a structured qualifications system.

This section provides a detailed analysis of key policies and strategies, focusing on international approaches and examples in selected countries.

1.1.3. The European perspective

At the European level, significant efforts have been made to standardise and promote the use of micro-credentials across Member States. The **Recommendation on a European Approach to Micro-credentials for Lifelong Learning and Employability**[20] aims to create a common framework for defining, designing, and issuing micro-credentials. The initiative seeks to ensure cross-border comparability, recognition, and portability of micro-credentials within the EU.

The Recommendation emphasises the need for a unified approach to defining micro-credentials and it includes standard elements for their description and criteria for their issuance. This is intended to facilitate their recognition and integration into NQFs, thus addressing challenges related to the consistent application and value of micro-credentials across Member States.

The Recommendation highlights that the EQF is open to all types and levels of qualifications […] including micro-credentials if and where they are first included in national qualifications frameworks' (Council of the European Union, 2022, p. 9). Member States are thus encouraged to align micro-credentials with NQF levels, ensuring that they meet established criteria for knowledge, skills, and competencies.

The Recommendation proposes a pragmatic approach to deliver on the potential for micro-credentials, invites the EU Member States to integrate micro-credentials in the education and skills policies, in qualifications registers and catalogues; use micro-credentials to improve access to education and training programmes at all levels, enhance mobility, complement

[20] https://data.consilium.europa.eu/doc/document/ST-9237-2022-INIT/en/pdf

degree programmes and to support the green transition and sustainable development. Moreover, the Recommendation emphasises the need to integrate micro-credentials into employment policies to address skills mismatches, reskill and upskill workers and address gender discrimination.

To support actual implementation, the Recommendation contains annexes outlining: a) Annex I: Standard elements (data fields) to describe micro-credentials; b) Annex II: 10 Principles for the design and issuance of micro-credentials.

These 10 Principles are:

- quality,
- transparency,
- relevance,
- valid assessment,
- learning pathways,
- recognition,
- portability,
- learner-centred,
- authentic,
- information and guidance.

1.1.4. National approach: Ireland

Ireland has a longstanding tradition of incorporating short courses and certifications in education and training programmes that serve the labour market. Such offerings existed well before the term "micro-credentials" was formally explored nationally by the Irish qualification agency (QQI). Such credentials are accessible across a range of education and training sectors, particularly to adults but also within certain Initial Vocational Education and Training (IVET) programmes. However, significant diversity exists in the size, structure, and quality standards governing these credentials.

The Irish qualifications system, which is inherently modular, has long provided pathways for short, flexible learning opportunities. This modularity allowed for the recognition of "non-major awards"[21], such as minor, special-purpose, and supplemental awards, at various NFQ levels without explicitly using the term "micro-credentials". Ireland registers over 1,500 FET[22] 'component awards', which function effectively as vocational micro-credentials. Since 2020, however, with government funding directed at higher education micro-credential

[21] The Irish National Framework of Qualifications consists of 10 levels which can lead to three main award types: 'Major Award', i.e., the main class of award made at each level, often consist of eight minor awards or modules; 'Minor Awards', i.e., commonly referred to as component certificates, usually are single modules that can be completed and certificated individually; 'Special Purpose Awards', i.e., an award type developed for specific areas of learning that have a narrow scope; 'Supplement Awards', i.e., award that recognises learning concerned with updating, upskilling or continuing education and training. More information can be found at: https://www.qqi.ie/what-we-do/qqi-awards/qqi-awards-standards/types-of-qqi-awards

[22] In Ireland, the term 'VET' is not used but Further Education and Training (FET).

development, QQI has started to formally explore and standardise micro-credentials as a distinct category.

A significant development in Ireland is the MicroCreds project[23], launched in 2020 with five-year government funding support. Led by the Irish Universities Association (IUA), this initiative brings together seven universities to create a structured framework for quality-assured, accredited micro-credentials at NFQ Levels 6–9 (equivalent to ISCED Levels 5–7), awarding between 1–30 ECTS credits. Through this project, Ireland is among the first European countries to implement a cohesive national framework specifically for micro-credentials in higher education. Ireland launched the Irish Register of Qualifications (IRQ) in 2020, which lists all FET and HE qualifications included in the NFQ. The registry also includes micro-credentials offered at Level 6 to 9 of the NFQ credentials (i.e., courses with 30 ECTS credits or less). In 2021, it already included over 1,300 micro-credential courses.[24] In August 2023, 292 courses were offered most at NFQ 9 (76% of the total). [25]

1.1.5. National approach: Spain

Spain has developed two complementary micro-credential systems, one for vocational education and another for higher education, with a third system under development by employment authorities to support non-formal training for employment.

In higher education, regulatory adjustments have facilitated the integration of micro-credentials. In 2021, the Ministry of Universities enacted Royal Decree 822/2021, which authorises universities to deliver short, focused learning experiences of under 15 ECTS. These micro-credentials or "micro-modules" may require prior university qualifications and are designed to enhance specialised skills in targeted areas.

For vocational education, the Organic Law on VET[26], introduced in March 2022, defines micro-credentials as credentials that evidence specific competencies acquired in shorter learning experiences than traditional qualifications. Initially, micro-credentials in the VET sector will yield a non-formal vocational certificate, and learners can then aggregate these to eventually obtain a full VET diploma. Thus, in Spain, micro-credentials are conceptualised as integral components within formal vocational education pathways.

1.1.6. National approach: New Zealand

New Zealand has been a pioneer in regulating micro-credentials. In 2018, the New Zealand Qualifications Authority (NZQA) introduced micro-credentials through updates to the Training Scheme Rules. Further, the 2022 Qualification and Micro-credential Listing and Operational Rules established a clear framework for the approval, accreditation, and listing of micro-credentials. These guidelines emphasise alignment with the New Zealand Qualifications Framework (NZQF) and ensure that micro-credentials reflect appropriate levels of learning

[23] https://microcreds.ie/
[24] https://irelandseducationyearbook.ie/downloads/IEYB2021/YB2021-FET-13.pdf
[25] https://www.qqi.ie/what-we-do/engagement-insights-and-knowledge-sharing/our-data/data-on-he-microcreds
[26] See more information: https://eurydice.eacea.ec.europa.eu/national-education-systems/spain/developments-and-current-policy-priorities

outcomes and credits. Each micro-credential must be referenced to the NZQF. To assess the level of learning outcomes, the micro-credential shall be assessed holistically as each course could contain the level of a lower/higher of the level assigned to (NZQA, n.d.).

New Zealand also maintains a national online register for accredited micro-credentials, enhancing transparency and accessibility for learners and employers alike.[27]

As per the European Commission, also the NZQA details the key elements that should be included in each micro-credential.

1.1.7. National approach: Australia

Following a 2019 review of the Australian Qualifications Framework (AQF), **Australia** began exploring how micro-credentials could fit into its national qualifications system. The review highlighted the need for the AQF to accommodate shorter forms of credentials. The revision, however, did not include micro-credentials in the AQF due to a lack of stakeholder support.

In response, the Australian Government adopted the National Micro-credentials Framework[28] in 2021, with the aim to increase coherence in the ecosystem by setting:

- a national definition for micro-credentials,
- standardised principles for micro-credentials,
- critical information requirements,
- minimum standard for micro-credentials that will sit on the national repository developed to include all micro-credential courses (i.e., the Micro-credentials Marketplace[29]).

The Australian framework places a strong emphasis on the labour market relevance of the micro-credentials. Indeed, numerous (recommended) elements that micro-credentials should include are aimed to make it visible that the industry needs micro-credentials try to fulfil. Indeed, the Australian approach is twofold; on one hand, it is learner-centric and on the other, it meets industry gaps. Australia is currently implementing a pilot project focusing on micro-credentials in higher education.[30]

Table 2 presents a comparison between the micro-credentials, compulsory and recommended elements in New Zealand, Europe, and Australia.

Table 2. Compulsory elements of micro-credentials in New Zealand and in the EU

New Zealand	Europe	Australia
• Title • Level • Credit • Purpose and outcome statement • Developer	• Identification of the learner • Title of the micro-credential • Country(ies)/Region(s) of the issuer • Awarding body(ies) • Date of issuing	• Title • Provider • Content/Description • Learning outcome • Language • Delivery mode

[27] https://www.nzqa.govt.nz/nzqf/search/microcredentials.do
[28] https://www.education.gov.au/national-microcredentials-framework
[29] https://www.education.gov.au/microcred-seeker
[30] Microcredentials Pilot in Higher Education - Department of Education, Australian Government

New Zealand	Europe	Australia
• Review period • Learning outcomes (should align with the purpose and outcome statement) • Need and acceptability to stakeholders • Review process Recommended elements: • Requirements for admission, credit recognition and transfer, recognition of prior learning, length and structure, and completion • Delivery approach (may include learning materials / resources / activities) • Assessment methods • Unit or Skill standard(s)	• Learning outcomes • Notional workload needed to achieve the learning outcomes (in ECTS credits, where possible) • Level (and cycle, if applicable) of the learning experience leading to the micro-credential (EQF, QFEHEA), if applicable • Type of assessment • Form of participation in the learning activity • Type of quality assurance used to underpin the micro-credential **Recommended elements**: Prerequisites needed to enrol in the learning activity; Supervision and identity verification during assessment; Grade achieved; Integration/stackability options; Further information	• Date of delivery • Learn effort • Inherent requirements • Price and financial assistance • Assessment • Certification • Credit/other recognition • QA • Prerequisite **Recommended elements**: Expiration of the micro-credential; Depth of learning; Jurisdiction; Industry support; Recommended prior; Stackability; Industry/occupation; Industry alignment.

Source: Council of the European Union (2022); NZQA, (2024); NZQA Letter from Chief Executive providing comments on the draft 1 of ACQF Micro-Credentials Handbook (11/Dec/2024); Australia, MicroCred Seeker: https://www.education.gov.au/microcred-seeker

1.1.8. National approach: Canada (Ontario)

In Ontario, significant attention has been directed towards understanding the policy and regulatory framework surrounding micro-certifications through various research initiatives. The province is investigating how micro-certifications can be effectively integrated into the educational system and their role in recognising non-formal and informal learning. This effort aligns with a broader initiative to address the challenges of acknowledging diverse learning pathways and skill acquisition beyond traditional education settings.

With the support of the Ontario Government, the non-profit organisation eCampusOntario[31] leads a consortium of the province's publicly funded colleges, universities and Indigenous Institutes. The consortium aims to advance the use of educational technology and digital learning environments by developing and testing online learning tools. Since its inception in 2017, eCampusOntario has been actively advocating for micro-credentials within its member

[31] https://micro.ecampusontario.ca/

institutions. The development of micro-credentials accelerated notably during the COVID-19 pandemic, providing a practical, efficient solution to meet urgent skill requirements and address gaps.

Over the past years, eCampusOntario has been instrumental in supporting the Ontario post-secondary sector in exploring, experimenting with, and developing micro-credential programmes. In 2019, it established a framework specifically for micro-credentials in the region.[32] This framework laid the groundwork for creating a toolkit designed to standardise the development of micro-credentials across Ontario.

The framework stipulates the following key principles (eCampusOntario, n.d.):

- **Issuing body**: Micro-credentials should be issued by recognised agencies, organisations, institutions, or employers.
- **Competency/Skills targeted**: Micro-credentials must adhere to standardised competency language and align with common frameworks such as ESCO.
- **Outcomes**: They should recognise competencies that are explicitly linked to underlying knowledge, attitudes, and skills.
- **Summative assessment**: Micro-credentials will require demonstrable evidence of achieved outcomes, with this evidence being accessible to employers.
- **Integration with academic records**: Where feasible, micro-credentials should be compatible with traditional academic transcripts.
- **Partner endorsement**: Ideally, micro-credentials will be endorsed by industry partners or external bodies, verifying that the competencies are in demand and that the assessments reflect job performance standards in the industry.

1.1.9. The African perspective

Research and data on micro-credentials in Africa remain limited as this handbook is being written, despite the growing interest in the topic. The **ACQF survey on micro-credentials** (2024) found that in most of the countries responding there is no formal definition of such instrument, nor that micro-credentials are mentioned in official policy documents. Despite the lack of formal recognition at the policy level in most countries, the term is widely discussed, often to a large extent, in their country. Furthermore, when countries already have an NQF in place, this often includes micro-credentials. In Eswatini, micro-credentials are offered at all levels of qualifications, while in Kenya only to levels 3 and 4 of its NQF (ACQF, 2024a).

Micro-credentials are present in a wide range of sectors. Respondents from Burkina Faso, Guinea-Bissau, and Zambia confirm micro-credentials are offered in every sector; while in Angola, Democratic Republic of Congo, Ghana, Malawi, Nigeria and Rwanda they are confined to technical and vocational education and training. Namibia only offers micro-credentials in adult education (ACQF, 2024a). However, it is important to highlight that **the concepts of segmented learning, the use of learning outcomes, and the broad interpretations of skills and experience are not new to Africa**. Some countries already recognise partial qualifications

[32] https://micro.ecampusontario.ca/wp-content/uploads/2020/12/Micro-credentials-en_v2.pdf

and non-credit-bearing qualifications within their educational systems. For example, Angola, the Democratic Republic of Congo, Zambia, and Zimbabwe have institutional frameworks in place for their recognition, while Mozambique has incorporated regulations for non-credit-bearing or partial qualifications within its NQF (ACQF, 2021). The box below includes an example illustrating how, despite micro-credentials not being officially included in the NQF in the Seychelles, the use of part qualifications is already a standard practice in the country. These practices should be built upon and standardised, when developing a micro-credential system in the country.

Text box 8. Micro-credentials in the Seychelles

The Seychelles Qualifications Authority (SQA) conducted the first survey on micro-credentials in Seychelles, to map the offer of MC in the country. According to the responses, the credentials are often referred to by various names, most commonly as "short courses", highlighting a lack of unified definition of this instrument in the country. The SNQF has 19 registered "part qualifications" which are considered micro-credentials. The Seychelles Qualifications Authority (SQA) recognise and evaluate part qualifications.

According to the courses identified in the survey, the **workload** for the majority of these credentials ranges from 20-50 hours, which is shorter than traditional certifications. **Flexibility** is a key feature, with predominantly onsite learning and some online options. Regarding **credit-bearing** status, 71% are not credit-bearing and 65% are not registered on the Seychelles National Qualifications Framework (SNQF). Credits for registered part qualifications range from 3 to 14, with an average of 8. There is a wide variety of skills offered, from basic to technical and digital, although green skills and accounting are less commonly offered.

Respondents identified numerous benefit of MC, including accessibility, and the alignment of MC **with labour market needs**. Furthermore, the **flexibility** of micro-credentials makes them ideal for rapid skill acquisition. C**ost-effective**ness was also mentioned, although not as main benefit. Finally, micro-credentials offer a **quick response to skills gaps**, as they can be developed and delivered faster than traditional qualifications.

However, the current system shows numerous challenges. First, the **integration into SNQF**, as most MC mapped lack of formal integration as a significant obstacle. There are also **policy and legislative gaps**. **Awareness and recognition issues** from employers and educational institutions are prevalent. **Financial and structural challenges** include limited financial support and a lack of external quality assurance. There is also a need for better **collaboration and data** on outcomes, with insufficient cross-sector collaboration and a need for more data on the impact of micro-credentials.

To address these challenges, it is recommended to **integrate micro-credentials into SNQF** by encouraging formal recognition and stackability. **Raising public awareness** through campaigns and highlighting success stories is also crucial. **Strengthening industry partnerships** by collaborating with industry for relevance and recognition, especially from employers, is essential. Developing **quality assurance standards** is important, as current QA practices include monitoring learning outcomes and performance, aligning with industry standards, and monitoring the quality of the learning

experience, teaching, and infrastructure/equipment. Securing **funding and incentives** by advocating for government support and incentives for providers is also recommended.

To further support the development of micro-credentials, it is important to **encourage dialogue** by hosting forums with industry leaders to identify skills gaps. **Supporting digital transformation** by transitioning to digital formats and improving digital literacy is also key. Finally, **expanding access and portability** by collaborating internationally to facilitate the acceptance and portability of micro-credentials is crucial.

Source: Survey of Micro-credentials in Seychelles. https://acqf.africa/resources/surveys-acqf-ii-nqf-rpl-micro-credentials/seychelles-micro-credentials-survey-report-analytical-repprt

Furthermore, **the value of recognising learning beyond traditional formal qualifications is widely acknowledged**, as evidenced by the recognition of RPL systems present in various countries (Keevy, 2022). To this end, ACQF is notably working to develop and strengthen RPL systems across the continent, as outlined in the ACQF Policy Document (2022).

The recent **ACQF RPL survey** (2024) indicates that many countries do not yet have fully functioning RPL systems, with many still in development. When in place, the **ACQF Guideline 4 on RPL (2022)** highlights the diversity in scope and design of these systems, stressing the importance of RPL in recognising non-formal and informal learning and streamlining RPL processes (ACQF, 2022b, 2024b).

The **promotion of micro-credentials in Africa is also a priority for ACQF**, as stated in its Policy Document. Many African countries are only beginning to explore and formalise their approaches to micro-credentials.

The broader **shift towards outcome-based education in Africa** opens the door to alternative forms of learning, including micro-credentials. Several promising frameworks and systems that could support the integration of micro-credentials are in place and national frameworks for micro-credentials are being developed (see the example from Mauritius below).

Text box 9: Mauritius' approach to micro-credentials

In Mauritius, micro-credentials and flexible learning pathways are seen to offer tailored, **bite-sized educational achievements** that can be stacked and accumulated to meet specific career or academic goals, promoting lifelong learning and skill adaptability.

The Higher Education Commission (HEC), established in 2020 as the apex regulatory body for higher education in Mauritius, included micro-credentials in its strategic plan for 2022-2025.[33] In order to bring about uniformity in the design, development, approval, delivery, quality assurance and recognition of micro-credentials in the education and training landscape, the country is developing a National Micro-credentials Framework, in collaboration with UNESCO.

Currently, the key document, developed in collaboration with UNESCO, has been submitted to the cabinet for consideration and approval. Stakeholders have been consulted to ensure

[33] See the plan here: https://www.hec.mu/pdf_downloads/StrategicPlan/HEC_SP2022_2025.pdf

buy-in. The framework will focus on VET and Higher Education and is underpinned by five guidelines:

- Guideline 1: Objectives for MC framework, coverage, principles, actors;
- Guideline 2: Definition of MC – information requirements for increased transparency;
- Guideline 3: Credit award and stackability (including approaches to aligning or mapping to NQF)
- Guideline 4: Inclusion and levelling of MC against NQF, quality assurance; and
- Guideline 5: National Register, credit bank and open badge options.

Furthermore, in collaboration with the Ministry of Education, HEC is leading a project to provide 400 scholarships, facilitating access to 1400 micro-credential courses.

The HEC in Mauritius recognises operational implications for the introduction of micro-credentials:

- Develop quality assurance standards, including identifying the roles of accreditation bodies and QA agencies.
- Develop guidelines to determine credit value and recognition.
- Engage stakeholders (also to ensure buy-in).
- Align micro-credentials with the Mauritius NQF (this includes ensuring alignment of credits obtained, learning outcomes, minimum entry requirements, and volume of learning with MNQF level descriptors).
- Propose a policy to recognise and transfer micro-credentials across programmes.
- Implement strategy for monitoring and evaluation of micro-credentials.

Source: (HEC, 2024)

Firstly, **credit systems are widely used across Africa, and in many countries, NQF levels are associated with defined credit values**. However, it is important to note that qualifications frameworks are at different stages of development and implementation across African countries (ACQF, 2021). The 2024 ACQF survey on NQF in Africa highlights that Credit Accumulation and Transfer Systems (CATS) are not applied in most of the countries represented in the survey.[34] Where in place, CATS usually are applied in higher education more frequently than in TVET or general education (ACQF, 2024c).

Secondly, **many countries have qualification databases that already include partial and non-credit-bearing qualifications**. For instance, Cabo Verde has developed a National Qualifications Catalogue that incorporates outcome-based qualifications. Similarly, Mozambique, Botswana, Mauritius, Kenya and South Africa have registers of qualifications (including part qualifications) accessible online. These registers vary significantly across countries in terms of procedures, data content, document formats, functionalities, and digital features. The ACQF Qualifications and Credentials Platform (QCP) was launched on

[34] The survey covered 29 countries (via 51 responses) out of the possible 55 African Union Member States.

20/12/2024 to ease and improve information management and sharing on qualifications and micro-credentials.

Text box 10: Kenya's National Qualifications Information Management System

In Kenya, the National Qualifications Information Management System (NAQIMS) automates the registration of Quality Assurance (QAI) Institutions and the accreditation of their qualifications. This system serves as a comprehensive database, which also includes part qualifications and short courses. Kenya has already begun to embrace micro-credentials through these part qualifications and short courses, which are mapped within the Kenya National Qualifications Framework. However, these efforts are just the beginning of a potentially transformative journey towards the development of a fully-fledged micro-credential system.

Source: good practices collected by ACQF and KNQA website.

Thirdly, **policy frameworks, guidelines, and quality assurance procedures for partial qualifications, non-credit-bearing courses, and short courses are already established in some African countries**.

Text box 11: Example of guidelines for micro-credentials in Botswana and South Africa

In Botswana, the **Botswana Qualifications Authority (BQA)** has issued criteria and guidelines for the approval of non-credit-bearing short courses, including quality assurance standards and accreditation procedures for non-NQF programmes. While these programmes do not fall under the NCQF, they provide a strong foundation for the integration and use of micro-credentials (HRDC, 2021).

Similarly, in South Africa, the **South African Qualifications Authority (SAQA)** has issued policies and criteria for registering partial qualifications within its NQF (2022). These guidelines outline the minimum features required for the development and registration of (partial) qualifications in the online database, providing a solid foundation for the potential introduction of micro-credentials in the country (SAQA, 2022).

The findings of **ACQF survey on micro-credentials (2024)** mention the absence of an agreed definition of micro-credentials. However, as noted, many of the existing infrastructures for short courses and partial qualifications offer a good starting point to scale up to include micro-credentials in a systematic and standardised way.

Similarly, positive developments for micro-credentials were highlighted by respondents to the ACQF survey. The offering of micro-credentials across Africa is expected to increase significantly (ACQF, 2024a). However, challenges remain in promoting their uptake (see Section 4.7).

3.2 Purpose and usage of micro-credentials

Micro-credentials are part of a **global shift towards more flexible, accessible, and personalised education and training systems**. They are designed to provide focused learning opportunities, and to support lifelong learning, enabling individuals to acquire new skills while choosing personalised learning pathways. Their flexible structure allows learners to acquire

specific skills in a shorter timeframe, aligning with contemporary needs for swift responses to rapidly changing labour markets.

The ACQF survey on micro-credentials found that micro-credentials are usually offered to respond to the changing needs of the labour market, provide reskilling and upskilling opportunities, support lifelong learning, and allow the acquisition of specialised skills. Finally, micro-credentials are offered to increase the flexibility of learning opportunities. These results align with the literature on micro-credentials, and examples of micro-credentials worldwide and explored above.

The purpose and usage of micro-credentials can be broadly grouped into three groups.

1) **Enabling skills development and career mobility**

Given their flexibility, micro-credentials have been recognised as an essential tool **for quickly upskilling and reskilling the workforce**. By addressing the immediate needs of industries experiencing technological or regulatory shifts, micro-credentials offer an agile response to emerging skill gaps. Unlike traditional qualifications, which may take years to complete, micro-credentials can be achieved in a significantly shorter period, offering learners timely and targeted skillsets. This adaptability makes them particularly attractive in fields such as information technology, healthcare, and green technologies.

Micro-credentials play a key role in **supporting career mobility**. For individuals looking to change careers or explore new professional fields, they provide an efficient way to gain the necessary knowledge or skills for a new role. In addition to supporting horizontal mobility, micro-credentials enable workers to advance vertically within their careers by acquiring skills that are necessary for promotion or for taking on more advanced responsibilities. For example, an employee in a technical position could earn micro-credentials in leadership or project management, positioning them for managerial roles or higher-earning opportunities. This adaptability makes micro-credentials essential for promoting **lifelong learning**, enabling individuals to continuously upgrade their skills throughout their working lives.

Finally, micro-credentials are well suited to address **specific, emerging labour market needs**. By offering focused learning on topics such as new technologies or regulatory changes, they provide a quick response to skill gaps that may not yet be covered by traditional education systems or were only part of a full qualification. This ability to respond swiftly to market demands ensures that workers are prepared for the jobs of today and tomorrow. As such, micro-credentials are not only valuable for lifelong learning but also instrumental in fostering workforce adaptability and resilience across various industries.

Text box 12: Example of micro-credentials to upskilling and reskilling

Micro-credential to promote lifelong learning

In August 2019, NZQA approved The Mind Lab to offer a Level 7, 15-credit micro-credential to support workers across a range of industries to be able to confidently use digital tools relevant to their work, i.e., the *Digital Skills for the Workplace*[35].

[35] https://academyex.com/courses/micro-credential/digital-skills-for-the-workplace-micro-credential

To ensure the learning offered is aligned with the real needs of the industry, a survey was conducted to gauge the needs in a wide range of industries, including agriculture, education, technology, financial, logistics, telecommunications, architecture, online retail, professional services, and recruitment industries and list the top five topics to cover – finding and using data, adapting to digital change, security and privacy.

Anticipated benefits for learners included greater productivity, improved well-being, and an ongoing ability to adapt to the use of evolving digital technologies. **Anticipated benefits for employers** included filling a skills gap to support innovation and economic growth.

Micro-credentials to meet urgent labour market needs

During the COVID-19 pandemic, the New Zealand Ministry of Health faced an urgent need to expand the pool of vaccinators. To address this, the Ministry aimed to upskill unregistered workers in the health sector, such as healthcare assistants, enabling them to administer vaccinations under the supervision of a health practitioner. Additionally, there was a goal to enhance the diversity of the vaccinator workforce, with a particular emphasis on increasing Māori and Pacific representation.

To meet this challenge, the Ministry of Health tasked Careerforce with developing an educational programme specifically for COVID-19 vaccinators working under supervision. Careerforce discovered that there were no existing qualifications, micro-credentials, or unit standards on the New Zealand Qualifications Framework (NZQF) tailored for vaccination training. Vaccination had previously been restricted to regulated professionals, including pharmacists, doctors, and nurses.

In response, Careerforce collaborated closely with representatives from the Ministry of Health, product developers, and the Immunisation Advisory Centre. Together, they developed two new vaccination unit standards and created a Level 3 micro-credential, worth nine credits, designed to complement these standards.

Anticipated benefits for the economy as a whole: Micro-credentials have the potential to motivate learners to pursue further studies, thereby fostering long-term, intergenerational benefits for the health sector. Additionally, they could help mitigate shortages in certain critical occupations.

Source: (New Zealand Qualifications Authority, 2022)

2) Providing Flexible Learning Pathways

Micro-credentials offer **personalised and flexible learning journeys**. Learners can choose from a wide range of short, targeted courses, enabling them to tailor their education to meet personal and professional goals. Unlike traditional degrees, which follow a more rigid structure, micro-credentials allow individuals to stack credentials progressively, building towards broader qualifications or simply acquiring the specific skills they need at that moment.

Furthermore, micro-credentials play a key role in **enhancing employability** by equipping individuals with relevant, job-specific skills. For those seeking to enter the labour marker, micro-credentials provide a streamlined pathway to gain initial qualifications that are aligned

with employer needs. This can be especially beneficial for young people, career returners, or individuals from non-traditional education backgrounds, as micro-credentials enable them to demonstrate proficiency in specific areas without the need for full-length qualifications. By offering targeted skills training, micro-credentials can effectively bridge the gap between education and employment, making it easier for individuals to enter the workforce.

Another crucial purpose of micro-credentials is enhancing **access to education**, especially for disadvantaged or marginalised groups. Micro-credentials are typically shorter and more affordable than full degree programmes, providing a more accessible entry point for learners who may not have the time or resources to commit to traditional courses. This flexibility also benefits those looking to re-enter education later in life, such as second-chance learners, or individuals balancing work, family, or other commitments.

Text box 13. Example of micro-credentials as a pathway to full qualification

MITO supports on-job learning for people working in the automotive, commercial road transport, extractives, gas and logistics industries. In 2007, MITO launched a programme called StartUp, designed to create a pipeline of talent from secondary schools to employers in the automotive industries. In the programme, learners earn credits towards NCEA Level 2 by completing unit standards while gaining practical experience in the workplace. When micro-credentials were introduced into the formal education and training system in 2018, MITO applied to NZQA to make StartUp into three micro-credentials. The advantage of this change was that learners would now be able to gain a discrete credential for their Record of Achievement, instead of just a collection of unit standards. This made the training easier for both learners and prospective employers to engage with and understand. Automotive industry associations signalled strong support for the micro-credentials.

At the same time, the same company developed a smaller course (StartUp Ignition, (Level 2, 20 credits) that enables learners to acquire the foundation skills and knowledge required for further training in the motor industry. If interested, learners can choose to further progress into learning.

Anticipated benefits:

Learners can understand whether they like their educational path while gaining valuable experience that can be included on their CV. They also build relationships with a potential employer as the apprenticeship includes some practical experience.

Employers appreciate the opportunity to meet potential candidates for an apprenticeship, develop positive relationships with local schools and give back to the community through mentoring young people.

Providers: The course has gained popularity so that similar micro-credentials are currently being offered to explore education in other sectors.

Source: (New Zealand Qualifications Authority, 2022)

3) Recognition of Prior Learning

Many individuals acquire valuable skills through non-formal and informal contexts, yet these are often not formally recognised by traditional educational systems. Micro-credentials can serve as a powerful tool for the **RPL**, including work-based learning, thereby enhancing an

individual's employability and professional standing. However, RPL systems often introduce an additional administrative burden, which can discourage learners from pursuing this pathway. Therefore, the integration of RPL into the broader education system is crucial to its effectiveness (ETF & Knowledge Innovation Centre, 2023).

Micro-credentials hold significant potential in bridging the gap between formal education outcomes and the practical skills required by industry. Frequently, there is a disconnect between the skills gained through formal education and the competencies needed in the workforce. While work-related placements are sometimes used to address this issue, they tend to focus on inputs (such as prescribed hours) rather than outcomes. Micro-credentials, being outcome-oriented, offer a more effective solution for signalling specific, job-ready skills acquired by learners. Unlike traditional 'seat time,' which does not guarantee competency, micro-credentials validate precise skills and competencies directly relevant to the labour market. This is particularly valuable for differentiating students, as many graduates with similar qualifications often struggle to stand out (Martinez-Marroquin & Male, 2021).

Research indicates that **work-integrated learning (WIL)** programmes offer promising opportunities for gathering evidence of student competencies. Initial findings suggest that micro-credentials can effectively certify these competencies, helping students transition into the workforce more smoothly, hence increasing their employability (Ashcroft et al., 2021).

Text box 14. Example of micro-credentials used as RPL

Many learning opportunities in Ireland could be considered as micro-credentials. In some cases, they incorporate or can be used for RPL.

Example 1 – formal education: MicroCreds[36] is a project that (among other goals) aims to establish a National Framework for quality assured and accredited micro-credentials in higher education, and develop and deliver a suite of micro-credentials across partner universities. MicroCeds wants to enhance consistency across the numerous small learning opportunities already available. **RPL is usually offered as a means of entry to these courses.** HEIs in the country already use RPL to support students from non-traditional backgrounds to access their courses, including micro-credential (and other short) courses. One university has additionally included a requirement for an RPL alternative to standard entry requirements in its approval process for micro-credentials.

Example 2 – informal learning: Global Hospitality Badges[37] were introduced in Ireland as a means to lower barriers to entering the job and to recognise experiential learning for people working in hospitality. They do not align with the NFQ but have a high recognition in the sector they are used in.

Examples from Ireland highlight that there is no automatic correlation between the use of micro-credentials and their integration with RPL practices; it depends on the scope of the micro-credentials. Generally, small units of learning and micro-credentials that closely align with the workplace offer better potential for RPL. Where micro-credentials provide a

[36] https://microcreds.ie/
[37] https://kwetbtrainingservices.ie/your-future-your-skills/

pathway back into education, serving as evidence to support an application for higher-level learning, a mix of both RPL and taught provision appears to be effective. However, micro-credentials aligned with the NFQ seem less suited for award through RPL due to high administrative costs.

Source: (Hawley Woodall, 2024)

3.3 Typical end-user groups

The successful rollout and uptake of micro-credentials require the involvement of various actors within the ecosystem that should recognise the value of micro-credentials.

Learners are the most direct beneficiaries of micro-credentials, comprising several distinct groups:

- **Students**, particularly those in higher education, can use micro-credentials to supplement their degrees by acquiring specific skills that enhance their employability. These credentials provide opportunities to demonstrate competencies in niche areas not typically covered in their primary curriculum. Additionally, micro-credentials can formalise prior learning experiences, allowing students to signal the knowledge, skills, and competences they have acquired through non-formal and informal settings, as well as from formal education obtained at other institutions. Micro-credentials also help students entering the labour market, signalling key competencies in line with labour market needs.
- **Workers** represent another significant group of end users. Many workers pursue micro-credentials to upskill or reskill in response to shifting job requirements. These credentials offer a flexible way to acquire new competencies without the need for lengthy degree programmes, making them particularly appealing in rapidly evolving fields such as technology and healthcare. For employees in small and medium-sized enterprises (SMEs), self-employed, and those in non-traditional employment, micro-credentials present a valuable training option, often overlooked due to financial and time constraints.
- **Disadvantage groups** (including NEETs – individuals not in education, employment, or training – and unemployed) can also benefit greatly from micro-credentials, as these provide a pathway to gain market-relevant skills that improve their employability. By focusing on specific competencies that align with industry needs, micro-credentials offer immediate and practical skills for the labour market. This, combined with the flexible learning options and lower costs, can incentivise individuals who are disengaged from the labour market to pursue further learning. For disadvantaged groups, such as migrants, micro-credentials also provide a means to showcase their skills and knowledge gained in other contexts, facilitating their entry into formal employment.

A report on eCampus Ontario micro-credentials offer confirms that users primarily engage with micro-credentials to meet their specific training needs. However, the rapid growth of micro-credentials has led to increasing confusion among end users regarding the value and recognition of such courses. The findings suggest that users would benefit from clearer signals

about how micro-credentials can be applied in the labour market. Providing detailed information on the courses and the learning outcomes they offer would help learners make more informed decisions. The study also highlights the importance of defining outreach strategies to promote micro-credentials databases (Goss Gilroy Inc, 2023).

Employers are another key group of end users, as they play a significant role in the acceptance and value of micro-credentials:

- Talent acquisition: Employers increasingly recognise micro-credentials as a signal of a candidate's commitment to professional development and their ability to acquire new skills. This recognition can influence hiring decisions, particularly in industries where specific skills are important.
- Workforce development: Organisations may use micro-credentials to facilitate internal training and development programmes, to ensure that their workforce remains competitive and skilled in relevant areas.
- Skills verification: Micro-credentials provide employers with a way to verify the skills and competencies of potential hires. This verification can streamline the hiring process and reduce the risk of hiring mismatches.

A wide range of employers can benefit from and use micro-credentials, particularly those in industries where skills needs are rapidly evolving or where specific competencies are essential for job performance. **Tech companies** are one example where micro-credentials could offer employers a flexible way to upskill or reskill their workforce in areas like software development, data science, cybersecurity, and artificial intelligence. Start-ups and established tech firms alike can benefit from micro-credentials to ensure their employees stay current with industry trends (OECD, 2024a). More broadly, **SMEs** could widely benefit from micro-credentials as they often lack the resources to provide extensive in-house training or send employees to lengthy degree programmes. Micro-credentials offer a cost-effective and time-efficient way to upskill employees in areas such as digital marketing, project management, or finance, enabling them to stay competitive and address skill gaps quickly.

Finally, **education and training providers** are another end user group as they recognise the value of micro-credentials by accepting them to allow further learning, and they allow the recognition of prior learning.

3.4 Typical providers

Micro-credentials can be offered by a wide range of providers:

1. **Education and training providers** – public and private – at different levels of the education system, from VET providers to higher education institutions.

Over the years, micro-credentials have been growing outside formal education and training. Hence, several organisations have developed micro-credentials, which we denote as **non-traditional education and training providers**:

2. **Labour market actors**, most notably private companies, employers' and employees organisations (e.g. trade unions).
3. **Alternative providers,** including online providers (e.g. platforms and specialised micro-credential providers), other public organisations, and NGOs.

1. Education and training providers

Despite much of the literature focusing on micro-credentials related to higher education, a significant proportion of micro-credentials have been created outside national education systems (Pouliou, 2024). Among the potential providers, a key distinction lies between the **public and private sectors**, with micro-credentials either forming part of the formal qualification system[38] (e.g. modular degrees) or existing separately. The OECD highlights that public providers generally find it easier to access funding for developing micro-credential courses, though private providers can also receive funding. State incentives are a common mechanism used to steer the provision of micro-credentials, often tying funding to their relevance to the labour market. In many cases, these funding criteria are strict and encourage collaboration between micro-credential providers and industry (OECD, 2023c; Pouliou, 2024).

In Australia, to develop micro-credentials courses, higher education institutes need to demonstrate they are supported by industry in the sector. To do this, collaboration between higher institutions and employers is recommended.[39]

2. Labour market actors as providers

The main labour market providers of micro-credentials include **large companies, industry associations, employees' organisation, and start-ups.** Medium- to large-sized, as well as multinational companies, are particularly active in this respect.

As discussed, employers stand to benefit significantly from micro-credentials, particularly in terms of upskilling and reskilling their workforce. One challenge, however, relates to their perception of the value of micro-credentials. These credentials must demonstrate the completion and mastery of project-based education, leading to demonstrable competency in a specific field or subject to avoid inconsistencies in their perceived value (Varadarajan et al., 2023). When employers directly provide micro-credentials to meet their own training needs, this challenge is largely avoided. Still, according to a survey conducted by Cedefop (2022), most employers do not currently offer micro-credentials and there is still considerable confusion surrounding the term. Companies often prefer to outsource this type of training to other providers. At the same time, companies and employer organisations are open to cooperating with other actors in their development (Cedefop, 2022).

Trade unions and employees' organisations also play an important role in this space. Besides providing micro-credentials -often in collaboration with other actors – they advocate for worker rights and ensuring training aligns with fair labour practices. These organisations often collaborate with employers and educational providers to ensure that micro-credentials address workers' skill gaps, promote career progression, and uphold professional standards.

[38] It should be noted that some private providers (e.g. private universities) can still be part of the formal qualification system.

[39] See for example: https://skillscommission.sa.gov.au/careers-and-pathways/micro-credentials/register-of-endorsed-micro-credentials

Their involvement is crucial for designing micro-credentials that facilitate career advancement, improve workplace adaptability, and support worker retention.

Co-designing micro-credentials is a way to ensure alignment with labour market needs and to build recognition and trust among employers. Collaborations are often realised through the **co-design and provision of micro-credentials as part of continuing professional development (CPD) schemes**.

Employer representatives have indicated that they seek training content developed with significant input from the labour market, which can respond to emerging needs in a more agile manner than traditional education often allows. An interview with a respondent from the European Consortium of Innovative Universities highlighted a growing interest from the industry in collaborating with education and training providers to create programmes that meet their specific needs for knowledge, skills, and competencies (Cedefop, 2022).

Partnerships between universities and companies, like those between IBM and Northeastern University in Ontario, are becoming increasingly common. By 2017, over half of IBM's badges had been aligned with programmes in Northeastern University's academic portfolio. This collaboration demonstrates IBM's leadership in integrating workplace learning and highlights how partnerships with the university sector can expand learning pathways (Northeastern Global News, 2017).

3. Alternative providers

Several alternative actors are emerging as providers of micro-credentials, either as a stand along providers or in cooperation with other providers (e.g. more traditional education institutes).

Online learning platforms are also emerging as key providers of micro-credentials, often in collaboration with other actors. These platforms may partner with:

- **Industry and individual companies**, delivering in-demand skills with strong backing from the relevant sector.
- **Higher education institutions**, such as eCampusOntario, a Canadian non-profit that develops micro-credentials in collaboration with university and industry partners.
- **VET providers**, to ensure that their offerings are aligned with the needs of learners and the labour market.

Despite the growing utilisation of online platforms, they are not always the first choice for employers and employees when selecting micro-credential programmes. Accredited learning programmes tend to enjoy greater trust, with employers often outsourcing training to recognised education and training providers (Cedefop, 2022).

Public organisations and NGOs can also have a role in the provision of micro-credentials, particularly in contexts where the formal education system is still underdeveloped or lacks the capacity to address evolving labour market needs. These organisations can bridge gaps left by the formal education sector, offering micro-credentials that equip individuals with practical, job-specific skills. They may collaborate with employers, community organisations, and international partners to develop programmes that address local economic needs. For example, NGOs may focus on delivering micro-credentials in green skills or digital literacy,

responding to global trends while addressing specific local challenges. Additionally, international organisations and development agencies often provide support for these initiatives through funding, resources, and expertise, facilitating access to micro-credentials in regions that may not have robust vocational or tertiary education systems in place.

3.5 Other stakeholders

Public authorities, international organisation, and policy-makers are increasingly recognised as key stakeholders in the development and recognition of micro-credentials, given their role in fostering supportive policy infrastructure to establish a robust ecosystem.

As part of broader strategies to enhance (national) educational system and workforce development, **public authorities and policy-makers** at various levels are promoting micro-credential frameworks to address skills gaps, particularly in industries with acute labour shortages. In addition, they leverage micro-credentials to enhance inclusiveness in education and training systems, creating opportunities for diverse group to gain skills and improve their employability.

N the global effort to establish and scale micro-credentials. These organisations contribute by shaping policy, providing common frameworks, and supporting implementation efforts. Their contribution drive innovation, ensure quality assurance, and facilitate cross-border recognition of micro-credentials – which are crucial for ensuring their success, and increasing recognition across Africa.

However, legislative measures and guidelines alone cannot guarantee that providers will offer micro-credentials aligned with specific market needs, nor can they singlehandedly create a sustainable ecosystem. Funding availability is therefore crucial to support the growth of micro-credentials. The Global Micro-Credential Schema Mapping Project[40], started by Credential Engine, aims to provide a tool to compare micro-credentials in different regions and, therefore, to boost their portability. Dublin City University established a Micro-Credential Observatory which contributes to expert groups and various events on micro-credentials and prepares reports on the recent and future trends.[41]

International organisations also play a critical role in raising awareness to the opportunities of micro-credentials, as well as in facilitating policy development and providing a good knowledge base. Below, we provide an overview of the key organisations and their activity in the field.. Naturally, this list is not exhaustive, as there are several other European and global-level initiatives regarding micro-credentials.

3.5.1.1 United Nations Educational, Scientific and Cultural Organisation (UNESCO)

UNESCO is a central player in the global education landscape and has been instrumental in shaping policies related to micro-credentials. Through its focus on lifelong learning and

[40] Available at: https://credentialengine.org/2024/02/26/navigating-the-micro-credential-landscape-a-global-mapping-initiative/.
[41] Available at: https://www.dcu.ie/nidl/micro-credential-observatory.

equitable access to education, UNESCO provides guidance and frameworks that encourage the development of micro-credentials as a flexible and inclusive tool for skills development.

As its area of expertise, UNESCO is entitled to lead all matters regarding education under the authority of the United Nations. The organisation is entrusted with coordinating the Global Education 2030 Agenda, which, as its primary goal, aims to "ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" (Sustainable Development Goal 4).

In 2022, UNESCO released a publication analysing the dominant concepts of micro-credentials and addressing some problems related to specific terms (Oliver, 2022). The document "Towards a common definition of micro-credentials" aimed to create an international reference point rather than a replacement for smaller-scale, national or regional definitions. UNESCO gathered more than 45 experts representing different regions and educational levels to contribute to the globally acknowledged micro-credentials concept.

UNESCO not only brings together stakeholders through analytical activities but also organises thematic events with partners. The most recent event was held in 2023 as a part of a Skills Bridge Masterclass Series. UNESCO, in cooperation with the **World Bank** and the **International Labour Organisation** (**ILO**), organised a virtual seminar, "Small Steps, Big Gains: Micro-Credentials for Lifelong Learning." The event emerged from a joint report of 2023 on TVET development opportunities in low- and middle-income countries (The World Bank et al., 2023).

3.5.1.2 Organisation for Economic Co-operation and Development (OECD)

The OECD plays a pivotal role in providing evidence-based analysis of the labour market relevance and educational outcomes of micro-credentials. It has been actively involved in conducting research on the impact of micro-credentials globally and offers policy recommendations for countries looking to integrate them into their education systems. The OECD's expertise is particularly useful for aligning micro-credentials with labour market needs, ensuring that they provide value both to employers and learners.

OECD also developed a self-assessment tool aiming to support policy-makers when adoption and implementation of policies that underpin the offer of micro-credentials in national education and training systems (OECD, 2023c). Target users are all those sharing responsibility for the development and implementation of policy, including ministries and departments of higher education, higher education agencies, quality assurance bodies, and their partners in government with responsibility for vocational education programmes and employment training.

With 25 policy dimensions in five distinct policy categories, the self-assessment tool aims to be comprehensive in scope and generally applicable to any education and training system. The five policy categories listed below are seen as building blocks of micro-credential ecosystems:

A. Micro-credential providers
B. Micro-credential learners
C. Credential recognition, portability, and transparency
D. Quality assurance and relevance
E. Policy coordination

Countries are invited to take stock of where they stand in the implementation of micro-credential policies, using the five implementation levels, defined as follows:

1. Formal consultation among public authorities and higher education stakeholders has begun
2. Policies are under development
3. Implementation of policies is in progress
4. This policy has been implemented
5. Not applicable: this policy is not applicable to our education and training system.

The first four comprise a scale of implementation from consultation to completed implementation. The last category, "not applicable to our education and training system", recognises not all measures may be relevant or appropriate for each government.

3.5.1.3 African Union (AU)

The African Union is a key organisation for fostering collaboration across the continent, particularly in areas of education and skills development. The AU's *Continental Education Strategy for Africa 2016-2025 (CESA 16-25)* highlights the need for innovative approaches to education, including the introduction of flexible learning pathways such as micro-credentials. The AU's role in coordinating educational policy across its member states positions it as a crucial player in the harmonisation of micro-credentials across Africa, facilitating recognition and mobility for learners across borders.

The African Union can drive the adoption of micro-credentials by advocating for their inclusion in national education strategies and ensuring alignment with regional development goals. Together with ETF, AU is coordinating the effort to increase awareness around micro-credentials and promote a common understanding and harmonised usage of such instruments.

ACQF, a key policy initiative of the African Union, through a partnership with the European Union, contributes to a number of AU policies and strategies, such as the development and implementation of National and Regional qualifications, supporting lifelong learning, quality and transparency of qualifications, promoting cooperation and innovative solutions in education. The project has developed numerous resources connected to micro-credentials and as evidenced in the ACQF Policy Document, it is dedicated to the promotion micro-credentials.

3.5.1.4 African Development Bank

The African Development Bank is a key player in supporting economic and educational development across Africa. The AfDB has a strong focus on human capital development, particularly through its various education and training initiatives aimed at improving employability and fostering economic growth. Micro-credentials, with their emphasis on targeted, job-relevant skills, align closely with AfDB's goals.

3.5.1.5 European Union (EU)

The European Union has been at the forefront of micro-credentials development, particularly through its *European Skills Agenda* and its emphasis on upskilling and reskilling for the digital

and green transitions. The EU's work on standardising micro-credentials, especially through initiatives like the EQF, provides a model that can be adapted in different regions.

The European Commission is also funding projects in different countries, focusing on micro-credentials that have the potential to engage African countries. For example, Erasmus+ funded projects MicroHE, MICROBOL and MicroCredX support micro-credentials' applicability in higher education.[42] For African countries, collaboration with the EU could offer insights into structuring national micro-credential frameworks, ensuring that they are aligned with industry needs and international standards.

3.5.1.6 EU agencies

The European Training Foundation (ETF) supports countries surrounding the EU in developing their education and training systems, with a focus on aligning them with labour market demands. The ETF has conducted extensive research on micro-credentials and provides technical guidance on implementing them as part of lifelong learning strategies. ETF developed a guide to design, issue and recognise micro-credentials (2023) that can be used as a reference this respect.

The guide Is directly targeted at ETF partner countries In Europe, Asia, and Africa. The document offers recommendations for defining and recognising micro-credentials in education and employment and establishing quality evaluation standards. It also emphasises the importance of ensuring transparency, portability, and relevance of micro-credentials, illustrated through case studies from various European countries.

Furthermore, the European Centre for the Development of Vocational Training (**Cedefop**) has been an important actor in research on micro-credentials landscape in the EU. Cedefop has published a range research reports that include mapping micro-credentials in EU labour-market-related education and training, their role in evolving qualifications systems and added value for end-users.

3.5.1.7 ENQA

The European Association for Quality Assurance in Higher Education (**ENQA**) contribute to ensuring the quality standards for micro-credentials in the context of higher education. ENQA led a working group on the quality assurance of micro-credentials in the European Higher Education Area (EHEA) and prepared a report containing best practices and recommendations.

3.6 Benefits of micro-credentials for different stakeholder groups

Examining the various scopes of micro-credentials reveals that **all stakeholders in the broader learning ecosystem have an interest in their use**. However, a survey conducted by the Higher Education Quality Council of Ontario (HEQCO) indicates varying levels of awareness and differing perspectives among stakeholders regarding micro-credentials. HEQCO identifies the primary roles of micro-credentials as addressing rapidly changing social and economic needs

[42] Available at: https://microcredentials.eu/

– such as those arising from the pandemic or technological advancements – and serving underserved learner populations. (Pichette et al., 2021).

While the benefits are clear for individuals seeking targeted upskilling, organisations also stand to gain significantly. For organisations, understanding the current expertise and skills within their workforce helps in identifying skill gaps, seizing new opportunities, and conducting more focused recruitment. Similarly, higher education providers can use this information to tailor their programs to better align with industry needs. Micro-credentials hold the potential to enhance these processes (Martinez-Marroquin & Male, 2021).

Table 3 below provides a breakdown of benefits for each actor of the micro-credential ecosystem.

Table 3. Values for each stakeholder in the ecosystem

Benefits for learners
Flexibility and accessibility: Micro-credentials offer flexible learning options that can be completed at the learner's own pace and often online. This makes education more accessible to individuals with varying schedules, including working professionals and those with family commitments. Additionally, micro-credentials can serve as a cost-effective way to progress to further educational opportunities. **Possible cost-effectiveness:** Micro-credentials can lower the financial barriers to education by allowing learners to invest in their education incrementally. This flexibility enables learners to spread out the training period over time, potentially making it a more affordable option compared to traditional long-term programs. Additionally, financial incentives may arise from the fact that learners only purchase training specific to the skills and knowledge they need. However, it is important to note that cost effectiveness vary depending on learners and type of training[43]. **Targeted skills development:** Learners can quickly acquire the specific skills needed for jobs or career advancements without committing to long-term programmes. Many of these skills have immediate applications in the labour market. **Increased employability**: Micro-credentials can provide proof of specific competencies that are valued by employers, thereby increasing the chances of securing relevant job opportunities.
Benefits for education and training providers
Increased reach and enrolment: Micro-credentials can expand an institution's reach and enrolment rates, potentially leading to higher revenue. **Curriculum innovation:** Micro-credentials enable institutions to innovate their curricula, keeping them up-to-date with the most relevant and sought-after skills and knowledge.

[43] To this end, see for example (Cedefop, 2023)

Partnership opportunities: Micro-credentials open opportunities for collaboration with other institutions and industry partners, fostering valuable partnerships. **Respond to recommendations and align to policy development:** The latest policy developments often focus on micro-credential. Offering this type of learning might also secure additional funding.
Benefits for employers
Workforce development: Micro-credentials ensure that employees acquire the latest skills required to meet evolving industry demands and technological advancements. This has the potential to close skills gaps due to the changing needs of the industry, but also to boost productivity. **Increased workforce retention:** By facilitating continuous upskilling, micro-credentials can lead to higher employee satisfaction and improved retention rates. **Better talent match:** Micro-credentials help employers identify and recruit individuals with the specific skills needed for their roles, improving the alignment between job requirements and candidate qualifications. **Economic advantages:** For SMEs that often lack resources for extensive employee training, micro-credentials offer a cost-effective way to provide targeted training and development opportunities.
Benefit for national authorities
Meet labour market needs: Micro-credentials help address skills mismatches and alleviate labour market shortages, which can negatively impact economic growth. **Foster a culture of lifelong learning:** Micro-credentials support the development of a lifelong learning culture and enhance the lifelong learning system within a country.

Source: Authors' own elaboration

The 2023 Coursera survey provides notable examples of how both learners and employers benefit from micro-credentials. The survey highlights that micro-credentials significantly enhance the employability of entry-level professionals. Many companies seek new hires who are already equipped with job-relevant skills and practical experience. Consequently, Coursera reports that universities and colleges globally are incorporating entry-level professional certificates, also known as industry micro-credentials, and career-focused skills training into their degree programs. This integration aims to boost student recruitment and improve graduate employability.

According to the survey, 90% of students and recent graduates indicated that including industry micro-credentials in an academic programme would increase their likelihood of enrolling. The advantages extend to employers as well, who benefit from improved alignment between job requirements and candidate skills, thereby reducing the information asymmetry regarding actual competencies when hiring (Coursera, 2023).

In 2021, eCampus Ontario conducted an evaluation of the project *"Micro-Credentials: Getting People into Programs and into Jobs"*. The findings highlighted the strong relevance of micro-credentials in meeting the growing demand for upskilling and reskilling within the working-age population. While micro-credentials are seen as a valuable tool for addressing employer needs, it is essential to establish and validate a clear link between micro-credential programmes and the occupational skills required by industries. Industry endorsement and a lack of awareness among employers have been identified as key barriers preventing users from fully benefiting from micro-credentials. The evaluation found that, to maximise the benefits of micro-credentials, collaboration among stakeholders is critical. Engaging employers, education providers, and other actors in the design and delivery of micro-credentials will ensure they are aligned with market demands. Additionally, the micro-credentials portal plays a crucial role in providing essential information to end users. It should be designed to reach a broad audience and offer accessible, transparent information about available micro-credentials. Particular attention should be given to ensuring that disadvantaged groups have access to these opportunities, promoting inclusivity in the micro-credential landscape. The survey among end-users also revealed high levels of learner satisfaction, underscoring the effectiveness of micro-credentials in delivering targeted, flexible learning experiences that align with personal and professional development goals (Goss Gilroy Inc, 2023).

4 Developing and implementing micro-credential policies

Micro-credentials often lack standardised taxonomies and terminologies, leading to significant variability in factors such as length, workload, and level of difficulty. This inconsistency presents a key challenge: the recognition of micro-credentials (Resei et al., 2019). As a result, there is a **growing movement towards integrating these credentials into national education systems to enhance their credibility and acceptance**.

Public authorities can adopt a range of policy instruments to support this integration, including regulations, quality assurance frameworks, public funding initiatives, and incorporation into various educational sub-systems. Additionally, the development of these policies must consider the full spectrum of stakeholders, from educational institutions to employers and learners (see 4.4 and 4.5).

This subchapter explores the legislative and policy frameworks that support micro-credentials, highlights governance models, and addresses the key challenges involved in embedding them within national education systems. By doing so, it aims to offer insights into the mechanisms needed to ensure the effective recognition and sustainability of micro-credentials on a broader scale.

4.1 Integration into national systems of education and training and lifelong learning

National governments focus on micro-credentials as a way to bridge the gap between formal education and the evolving needs of the labour market, addressing skill shortages and promoting employability.

It is, therefore, **crucial that public institutions create a supportive policy framework, that enables providers to offer transparent, high-quality micro-credentials**. Furthermore, public bodies may develop supportive policies that further incentivise innovation in the field and contribute more directly to uptake and awareness as well.

To this end, **micro-credentials need to be implemented into a complex ecosystem of education and training, where they need to work in harmony with existing structures while attempting to address certain deficiencies of the existing framework** (OECD, 2023d). Among these, national qualifications frameworks (NQFs), quality assurance, credit systems, lifelong learning, information systems (e.g. guidance networks, monitoring systems, digital platforms), funding mechanisms are crucial policy instruments and structures to consider. Depending on the extent and the selection of systems within which micro-credentials are integrated, three larger models could be identified (based on European Commission, 2020):

Figure 4. Models of integrating micro-credentials into various national systems

- **Recognition within the education system**: this could include integration into common systems of credit exchange (such as ECTS, and other credit accumulation and transfer

systems), recognition of prior learning and lifelong learning systems. Quality assurance systems (internal and external quality assurance) are called to support the credibility and coherence of micro-credentials.

- **Recognition within the education system and the labour market**: which could include integration into common standards and taxonomies, (e.g. ESCO, ISCO) in order to formulate a space where individual achievements, gained skills and knowledge in a common framework are aligned. Furthermore, it can include the extension of policies to various providers.
- **Recognition in a complex ecosystem**, integrating various facets of life, where individuals are moving across the labour market, learning, and civic duties seamlessly, implies that micro-credentials can travel across various facets of life. Initiatives such as learner wallets or Europass providing a basis for accumulating, stacking and carrying credentials are working towards removing such barriers.

As discussed, micro-credentials need to respond well to societal and labour market needs and function seamlessly with existing systems while bolstering efficient pathways of learning (OECD, 2023a). To fulfil this, the process of developing a policy framework to underpin and foster the provision of micro-credentials should include a strong stakeholder consultation and needs analysis. Subsequently, it may take the following steps below (partly based on OECD, 2023a).

1. Strengthening evidence base (taking stock of current policies, assessing needs, gathering relevant monitoring and reporting data)
2. Developing a preliminary version of micro-credential criteria
    a. Defining the purpose and target group of micro-credentials
    b. Defining criteria for the concept of micro-credentials
3. Ongoing collaboration with a wide range of relevant stakeholders
4. Exploring compatibilities, synergies and challenges in providing micro-credentials over various contexts
5. Establishment of pilot programmes
6. Establishing funding support mechanisms
7. Integration into quality assurance and recognition systems

Just as the development of micro-credentials occurs in a mixture of top-down and bottom-up strategies, whereby collaborative partners can ensure that providers fully understand social demands ((European Commission, 2020), a similar logic should prevail when developing regulative frameworks as well. As such, policy-makers should ensure that the development and design of the framework for micro-credentials allows for sufficient bottom-up input, in order to prevent over-regulation and facilitate the development and provision of socially relevant micro-credentials.

Text box 15. A consultative approach to conceptualising the integration of micro-credentials

While policy oversight on micro-credentials has existed before in South Africa, the qualifications agency (SAQA) has established a Micro-credentials Task Team (MCTT) to form a SAQA position on the micro-credentials and to explore how their adoption could contribute to the educational and professional development of learners in South Africa. The MCTT comprises of several members from five SAQA units (i.e, Research Unit, Recognition

and Registration Unit, Research Projects Unit, Authentication Services Unit, and Statistical Unit). An external member from the University of Cape Town, a professor with vast experience in the field of micro-credentials is also included in the task team. Furthermore, the MCTT has already consulted with two South African universities currently developing internal policies on micro-credentials. In the future, SAQA is planning on holding consultative meetings with Quality Councils and other NQF Partners in January 2025.

Source: ACQF-II Survey November-December 2024 – Collection of good practices on micro-credentials

Depending on the **extent of the policy intervention**, public authorities may take various approaches to shape and regulate the provision of micro-credentials (Cirlan, 2023):

1. **Introduce legislative changes** (e.g. through governmental decrees, amendments to relevant education laws or write a new piece of legislation).). For example, in the case of Spain or Hungary, the legislator has 58uropa585858z micro-credentials and set rules on its inclusion in formal systems
2. **Develop non-mandatory guidelines** (e.g. to showcase good practices, focus efforts on key sectors, providing a framework etc). For example, in the case of Malaysia or British Columbia – Canada and Australia, frameworks were developed to provide coherence in the development and provision of micro-credentials. More information on the example of Malaysia is presented in section 4.7.
3. **Support stakeholders to collaborate, self-regulate and standardise designs**. For example, in the case of Austria, Netherlands or Ireland initiatives served to develop 58harmonisation and coherence with the support of public authorities. More information on the Irish case is presented in section 1.1.4

Regardless of the approach taken, policy interventions should address certain key, content-related questions of micro-credentials, that may be called in short, the definitional aspect (discussed in chapter 0). In this chapter, we review other contextual elements of policy interventions instead of the definitional question of micro-credentials.

Furthermore, the **intervention may be of various scope**, differing with regards to coverage of the education and training sectors (e.g. exclusively on HE, TVET or the entire education and training system), the type of providers (e.g. solely public providers, private providers), the extent to which public funding is allocated (e.g. applicable universally, targeting specific skills, economic sectors or certain learner groups).

4.2 Pathways of recognition

Given the current **variability of micro-credentials, it is recommended that different routes to recognition of these credentials are developed**, be it for accessing education or training or recognition for employment purposes.

In the case of the **education and training field**, such an example has been developed by the e-VALUATE project (e-VALUATE | Nuffic, n.d.), which established multiple routes for credential recognition for higher education. However, we consider that these pathways could be mostly extrapolated to the wider education and training ecosystem of micro-credentials as well.

The project 'Evaluating e-learning for academic recognition' – e-Valuate24 led by Nuffic demonstrated how stand-alone e-learning (including micro-credentials) can be recognised for access to Higher Education. The project suggested seven criteria for the evaluation of a micro-credential, based on recognition procedures of foreign qualifications:

- Quality – internal or external quality assurance procedures applied to the micro-credential or accreditation of the micro-credential provider.
- Online verification – the authenticity of a credential may be determined by checking the provider's website for the programme or by checking the digital signature on a verifiable credential.
- Level – should be indicated with reference to established (national or regional) qualification frameworks, rather than to a platform-specific classification.
- Learning outcomes – should be listed in as much detail as possible, preferably with reference to a skill or competence framework.
- Workload – should be indicated in terms of theoretical workload, as well as actual workload undertaken by the learner.
- Testing – the existence of standardised testing rubrics against which to assess learner performance.
- Online identification – the processes for ensuring that the credential-holder is the same person who followed the learning experience and participated in the assessment.

Nuffic has developed a freely available online tool to aid credential evaluators in assessing micro-credentials against these criteria.

Certain pathways provide for **(semi-)automatic recognition,** such as in the case of using an established credit exchange system or other recognition networks between providers, such as NQFs. These agreements may take the form of automatic recognition if providers mutually recognise and treat their learning programmes as equivalent. A more administrative-heavy solution can be reaching ad-hoc agreements between the credential holder, the provider of the credential and any other third party. Lastly, particularly within HE, micro-credentials can be facilitated with free electives. This solution requires less substantial intervention and provides learners to freedom to pursue micro-credentials, with usually minimal requirements that the learning experiences is provided by an accredited institution (Recognition of Micro-Credentials for Education and Training | Open Space, n.d.).

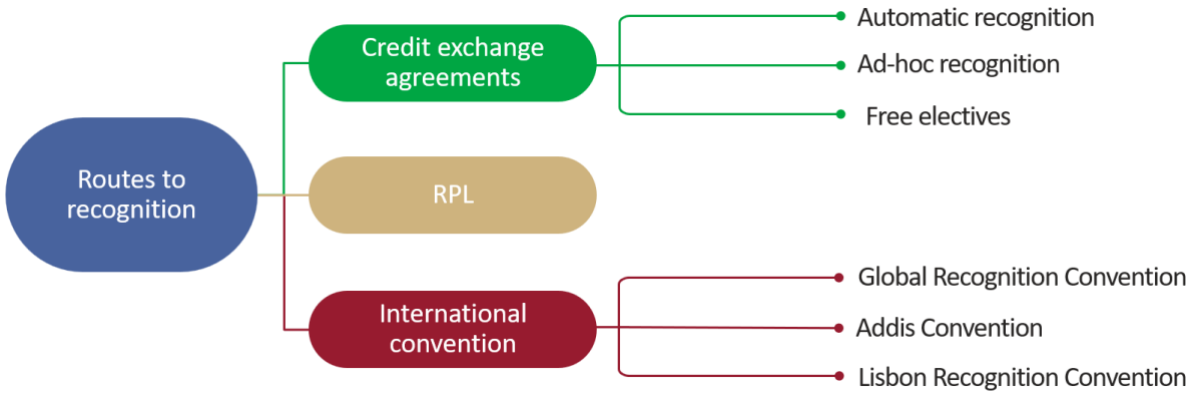
In the absence of exchange agreements, **RPL** provides a way for assessing individuals' learning experiences, especially from non-formal and informal learning contexts. Limited evidence suggests that accessing formal education opportunities via RPL may be the default method for recognising micro-credentials. Nonetheless, this is a resource-intensive process. Prior learning experiences, alternatively, may also be recognised via the recognition of credits from a previous study towards the achievement of a qualification. Similarly to other ad-hoc recognition methods, this implies the involvement of an expert to assess the extent to which previous learning experiences could be transferred (*Recognition of Micro-Credentials for Education and Training | Open Space*, n.d.).

Further, the recognition of micro-credentials is facilitated by **various international conventions**. The Microbol project established that micro-credentials awarded by HE fall

under the remit of the Lisbon Recognition Convention, thus allowing for the assessment of the outlined principles and procedures (Microbol, 2022). The Global Recognition Convention focuses explicitly on qualifications based on part studies, as well as RPL, thus creating an imperative to utilize these for the recognition of micro-credentials (*Recognition of Micro-Credentials for Education and Training | Open Space*, n.d.).

In comparison, **employers** are much more focused on the existence of skills and competences, or, more widely, on the employee's willingness to engage in CPD, for which micro-credentials are often used as proxies (Camilleri et al., 2022). The strengthening of recruitment pipelines and talent pools, and filling specific skills and knowledge gaps are other use cases whereby employers de facto recognise these credentials (Camilleri et al., 2022). Because of the listed use cases and the discussed recognition issue of micro-credentials, the employer recognition of micro-credentials is often dependent on the utility of the credential, as well as the perceived credibility and trust of the providers and lastly the nature of agreements between the employer and employee.

Figure 5. Recognition routes to micro-credentials for education and training purposes



Source: European Training Foundation. (2022). Pp 40.

4.3 Integration into NQFs

Defining the relation to the NQF is one of the central questions of any intervention on micro-credentials and is instrumental in ensuring the success of these credentials in the labour market. National qualifications frameworks (NQFs) are designed to provide a coherent structure for all types of qualifications, ranging from formal academic degrees to vocational training and professional development certifications. Their primary purpose is to ensure that qualifications are consistent, transparent, and understandable by all stakeholders, both nationally and internationally (*UNESCO, n.d.)*

The **inclusion of micro-credentials in NQFs can open the door for a variety of further benefits, enhancing transparency but also clarifying their value in comparison to full qualifications**, supporting lifelong learning and career development. However, the formalisation of micro-credentials in legal frameworks can result in over-regulation, which might act against the particular benefits these credentials can provide (Ana Tecilazić, et al., 2023). Furthermore, the process may prove too resource-intensive to regulatory bodies and educational institutions, while some worry that micro-credentials may dilute the standards of NQFs if not handled carefully.

ETF outlines **two approaches to map micro-credentials to existing NQF** (ETF & Knowledge Innovation Centre, 2023):

1. Establish micro-credential as a new qualification under the NQF.
2. Micro-credential is included as a sub-unit of existing qualification.

Despite the method used to include micro-credentials in the NQF, micro-credentials shall be mapped to appropriate NQF levels based on their complexity, learning outcomes, and workload. Furthermore, the credits given to micro-credentials should also align with the NQF to ensure consistency and recognition. When NQFs are revised to accommodate micro-credentials, the involvement of key stakeholders, including educational institutions, employers, and industry bodies, is key to ensuring buy-in. Micro-credentials should be included at all levels of the NQF.

In countries, such as New Zealand, Ireland, France and Malta do include micro-credentials, or, short learning programmes, the text box below summarises some of their approaches.

Text box 16. Countries including micro-credentials in their NQFs

In **Ireland**, micro-credentials are included in the NQF as "minor, supplemental or special purpose awards". These are credentials that provide recognition to learners who achieve learning outcomes but not a specific combination that is required for a major earning award or that are made for specific, narrow purposes or that represent additional learning to a previous award, such as updating or refreshing knowledge or skills (National Framework of Qualifications | Quality and Qualifications Ireland, n.d.).

In **Malta**, micro-credentials are called as "awards" in the NQF and represent learning programmes that do not fulfil the entire requirements of a qualification, in terms of the credits required. Awards are linked to learning outcomes of the specific NQF level and the number of credits acquired is also specified and is subject to the same quality assurance as qualifications (Referencing Report, 2024).

New Zealand has also included micro-credentials in its NQF. The National Qualifications Authority manages a register, where micro-credentials are reviewed annually to ensure their relevance.

Portugal has included micro-credentials in the National Qualifications Catalogue, although the term "micro-credential" is not yet common in the legal framework. The National Agency of Qualifications and Professional Training (ANQEP) defines two types of micro-credentials. Portugal has 2 types of micro-credentials: 1) short-term training units; 2) pathways of short and medium duration (PMCD). Currently, there are around 8,673 short-term training units (unidades de formação de curta duração – UFCD) with volumes of learning ranging from 25 hours to 350 hours (2.25 to 31.5 credits) in the National Qualifications Catalogue[44]. Micro-credentials can be obtained via RPL. The National Qualifications System awards digital certificates upon completion of micro-credentials. Important to note that stand-alone

[44] *Portugal's National Qualifications Catalogue: https://catalogo.anqep.gov.pt/.*

micro-credentials no not bear NQF level (they do not attribute a qualification), but they are stackable and users are encouraged to use them to gradually build their full qualifications.

Similarly, in Africa, several countries' NQFs include less than full qualifications, such as part-qualifications, or qualifications that are unbundled and may be obtained step-by-step. Such countries are Angola, Eswatini, Kenya, Mauritius and Seychelles or South Africa, for instance. In Kenya, the NQF has a provision for the accumulation of credit towards qualifications. Credits earned during a learning programme towards a qualification may be recognised as meeting part of the requirements of different qualifications. Further, part-qualifications are registered in the KNQF on levels 3 and 4 (ACQF, 2024a; Kenya National Qualifications Framework Act 22 of 2014. Rev. 2018, 2018). Likewise, Angola provides short courses and training activities that are proxies for micro-credentials. (ACQF, 2024a). Seychelles (at levels 3-5) and South Africa (under occupational qualifications at varying levels) register so-called part qualifications as well.

There are **international projects** aimed to support the systemic inclusion and coherence of micro-credentials. The project "Potential of Micro-credentials in Southern Africa" (PoMiSa) aims to contribute to the advancement of higher education and workforce development in Southern Africa by unlocking the potential of micro-credentials. Through collaborative efforts and strategic initiatives, the project seeks to establish a robust framework for the recognition, quality assurance, and regulation of micro-credentials, ultimately fostering innovation, mobility, and economic growth in the region.[45] The project will develop principles and guidelines to support the introduction of micro-credentials and show a growing number of policy initiatives across the Globe supporting micro-credentials.

Text box 17. New developments – integration of micro-credentials in the design of inclusive and comprehensive NQFs in Africa

In 2024 several **African countries** progressed with development of their comprehensive NQFs, in which **micro-credentials are included in the qualifications maps**: Ghana, Guinea Bissau, Senegal, and Somalia. These countries have different education and training systems and belong to very distinct regions, but all share a common view and language regarding the need to embrace micro-credentials in the scope of their NQF. ACQF-II is supporting these countries developing their comprehensive NQFs and related policies (RPL, CATS).

Another similar example is Sierra Leone. The NQF developed in 2024 (TVET strand) explicitly comprises micro-credentials in its scope and in the qualifications map.

Seychelles has integrated micro-credentials in the revised NQF Regulations approved in 2024 and launched during the 4th ACQF Forum of 13-14 December 2024.

The Revised Seychelles National Qualifications Framework (SNQF) was officially launched by the Minister for Education, Dr. Justin Valentin during the 4th NQF Forum, which took place from 13th to 14th November 2024. The international event which was co-organised by the African Continental Qualifications Framework (ACQF-II) and the SQA was attended

[45] pomisa.hec.mu

by numerous delegates from various African countries and international organisations, such as SADC, OECD among others.

The Revised SNQF has been modernised with the modification of certain existing components and addition of others, such as micro-credentials, which was not present before, this is also the case of a section on credit accumulation and transfer.

Nonetheless, some countries decide to not include micro-credentials in NQFs. In these cases, micro-credentials may still refer to qualification framework levels, for example, if they are credit-bearing (see Text box below). As follows, the exclusion does not imply that micro-credentials cannot be used as a component part of full qualifications in the NQF or as alternates and complementary credentials.

Text box 18. Reasons for excluding micro-credentials from NQFs

In **Australia**, it was reported that stakeholders prefer to keep micro-credentials out of the qualification framework because:

- They vary widely in scope and level of complexity, preventing a clear allocation to a qualification type and NQF levels.
- They can potentially increase the administrative burden and associated costs.
- Meeting the requirements of the NQF may negate the flexibility, speed benefits and halt innovation in the field.
- The proliferation of short credentials in the qualification framework may undermine its perceived trustworthiness and standards.
- Might cause potential confusion as to which micro-credentials are included in the qualification framework and which are not, should inclusion be voluntary.

In **Zambia**, the NQF allows for the inclusion of qualifications with at least 120 credits. Conscious of the importance of a coherent and systemic approach to micro-credentials, Zambia Qualifications Authority (ZAQA) by end 2024 gave a new impulse to the review of the NQF, aiming amongst to others, to define the place and links of micro-credentials with the NQF and related policies. Thus, some countries might first need to review their existing policy frameworks and modify their NQFs in case might not be an opportunity for including micro-credentials without first modifying the NQF.

Source: Australian Government (2019) as cited in (OECD, 2023d); Zambia Qualifications Authority (2022).

4.4 Stackability

This chapter explores how different educational institutions and countries, such as New Zealand, Spain, and Ireland, incorporate stackable micro-credentials into their qualification frameworks. It highlights that **stackability enhances the flexibility of education and supports lifelong learning**. The chapter also addresses challenges, such as aligning micro-credentials with national frameworks and ensuring they are recognised as meaningful components of larger qualifications.

The concept of stackability in micro-credentials refers to the possibility of combining certified learning units to form a larger credential or degree (Kazin & Clerkin, 2018). As outlined in a document by the New Zealand Qualifications Authority, stacking involves incorporating one or more approved standalone micro-credentials into a programme recognised by the qualification framework.

Cedefop's research paper (2022) distinguishes three ways to stack micro-credentials, as detailed in Table 4.

Table 4. Stackability options

Method for stackability	Benefits	Drawbacks
1. Adding micro-credentials to an individual account and/or recognising them as a prior learning	The process of recognition of prior learning is simplified. Can serve to fulfil entry requirements into programmes. Often used for horizontal accumulation, to broaden expertise in a specific subject.	
2. Combining into a full qualification	Helps maintain a holistic approach and sustain the meaning of learning. With this method, micro-credentials can find an easier "way in" to NQFs.	Different companies and organisations recognise learning based on different standards, which, in the case of them being portable and stacked, would have to be approved by a quality assurance institution. Not a lot of NQFs are adjusted to recognise private sector qualifications.
3. Regarding as a part of the education programme	Helps keep education and training programmes relevant. Improves collaboration between higher education institutions (HEI) and the labour market. Modular learning structure.	Identifies the type of standards employers should depend on when hiring. Training institutions have to choose between what kind of certifications to include in their programmes.

Source: Cedefop (2022).

A distinction exists between private VET providers, who often integrate micro-credentials into full qualifications, and public providers, who tend to treat partial qualifications or module certificates as micro-credentials. Trade unions have raised concerns about micro-credentials focusing on specific knowledge or skills that do not lead to full qualifications, suggesting that these micro-credentials should represent a standard amount of training, clearly indicating they are not full qualifications but contribute towards one (ETUCE, 2020).

The text boxes below provide different examples of how stackability can be developed in practice.

Text box 19. Stacking framework in New Zealand

The **New Zealand** Qualifications Authority (NZQA) (2024) outlines a comprehensive scheme for stacking micro-credentials. NZQA clearly states that micro-credentials cannot be stacked in a qualification but rather are components in a programme. The micro-credential should fit into the programme as a mandatory or optional component only when:

- the micro-credential aligns with and contributes to the qualification's outcomes and strategic purpose, and
- the overall design of the programme is coherent.

Some programmes (at levels 1-6 of NZQF) can be entirely composed of micro-credentials. However, for higher levels in the NZQF, micro-credentials cannot be stacked at the end of the programme because learning components of micro-credentials do not possess analytical depth and mastery.

According to the NZQA, six areas shall guide the development of stackable micro-credentials, each having guiding question:

1. Rationale: What is the rationale for stacking a micro-credential in a programme?
2. Structure: How will the micro-credential function as a programme component? Can the programme consist entirely of stacked micro-credentials?
3. Enrolment: Do students have to enrol in both micro-credential(s) and the programme?
4. Alignment to the programme: What is the impact of stacking micro-credentials in a programme? What more must be considered when stacking micro-credentials in a degree level 7 or above programme?
5. Credit recognition transfer: What if the student has already completed the micro-credential before enrolling in the programme?
6. After the stacking is approved: ongoing review: How is ongoing alignment between the micro-credentials and the programme ensured?

Source : https ://www2.nzqa.govt.nz/assets/Tertiary/Resources-for-tertiary-providers/Stacking-micro-credentials.pdf

Over the last few years, NZQA made considerable progress in improving the micro-credentials stackability. Initially, micro-credentials were regarded as stand-alone learning, but recently, the approach was altered to allow them to contribute more directly to qualifications. However, as highlighted by Richard M. Fisher and Harry Leder (2022), considering micro-credentials as 'components of learning' and dissociating them from qualifications poses a risk of disaggregating existing programmes of study.

Text box 20. Example of stackability from Spain

Spain offers a clear example, where learners in vocational training can select specific modules to enrol in, based on their preferences.

Micro-credentials offered within the VET system will necessarily be part of the VET curricula and will be part of a continuing education pathway leading to the VET diploma. In the higher education system micro-credentials are short-duration courses offered by the universities for less than 15 credits but not forming a part of the diploma. Therefore, students might

take only parts of a wider training programme. In terms of adult learning, learners without a qualification can start getting stackable credentials, and in this way, they might be encouraged by initial successes to continue in a training path.

Source: González Gago, 2023

According to González Gago (2023, p.25), considering future micro-credentials within the employment system could increase flexibility. Universities are anticipated to offer micro-credentials to both undergraduate and graduate students in the future. Each university will have the independence to design the content of these future micro-credentials.

Text box 21. Example of stackability from Ireland

In **Ireland**, the stackability possibilities are numerous. Micro-credentials can be regarded as minor-awards and can be accumulated (or stacked) to earn a major award, allowing learners to progressively work towards a full qualification or receive recognition for their accomplishments if they are unable to complete the major-award. However, in practice, many micro-credentials might be smaller than a minor-award (bearing 5 credits). In this case, micro-credential can be equated to a digital badge and can be stacked to entry to the programmes leading to qualifications. Regarding adult and continuing learning, while employers use micro-credentials to assess the skills of their workers and to provide training, employees, in this way, seek recognition for their accomplishments.

Source: Hawley Woodall, 2024, and McCoshan, 2023. Micro-credentials' **stackability can influence national qualification systems by pushing them to become more flexible and adaptable to labour market needs** (Cedefop 2023, p.127). Moreover, the possibility to combine and accumulate micro-credentials allows one to personalise learning pathways, which in turn promotes lifelong learning (Cedefop, 2023, p.99-100). However, the possibility of accumulation means that learners might be encouraged to finish the education system with partial qualifications instead of striving for full qualifications (ibid, p.132). Therefore, it is feared that labour market demand will eventually shift from qualifications to skills.

Turning to the African countries, various methods of stackability are employed by providers of micro-credentials. The possibility of combining it into a full qualification, recognition of prior learning and recognition as part of an education and training programme are available in Kenya and Zambia. The combination of micro-credentials into a larger credential is offered in Tunisia and Zambia.

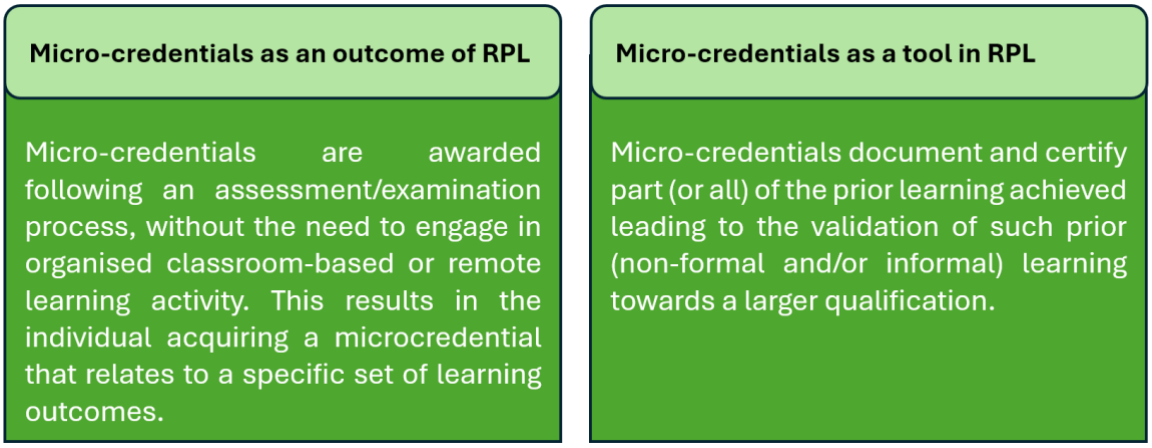
In conclusion, the stackability of micro-credentials plays a crucial role in enhancing the flexibility and accessibility of education and training systems. By allowing smaller learning units to be combined into larger qualifications, stackable micro-credentials help bridge gaps between education and the labour market, making lifelong learning more attainable. Countries like New Zealand, Spain, and Ireland have developed frameworks to support this approach, integrating micro-credentials into vocational training, higher education, and adult learning. However, challenges remain in aligning these credentials with national qualifications frameworks and ensuring their recognition as meaningful components of formal education. Despite these challenges, stackability offers a promising path for learners to progressively work toward full qualifications and for employers to assess and recognise skills effectively.

4.5 Micro-credentials and recognition of prior learning

Recognition of prior learning (RPL) allows individuals to formalise their skills and knowledge, leading to improved employability, learning and worker mobility, and social inclusion. RPL systems, which are often linked to national qualifications frameworks (NQFs) and follow similar standards to formal education, enable people to gain either partial or full qualifications. Within this context, micro-credentials have become a key tool in these systems where they can formally acknowledge skills and knowledge acquired through informal learning experiences, such as volunteering, hobbies, or self-study. This recognition helps learners demonstrate their competences to employers and educational institutions.

Cedefop (2023) mapped two **overarching approaches to the role of micro-credentials in the RPL process**:

Figure 6. Approaches to the role of micro-credentials in the RPL process



Source: Cedefop (2023)

For instance, in countries like Spain and Ireland micro-credentials are tools within RPL, whereby learners may use micro-credentials to obtain partial or full qualifications, gain access to educational programmes, or receive exemptions from parts of those programmes. Micro-credentials' focus on learning outcomes is particularly important in this respect, if they are to complement formal qualifications gained through RPL.

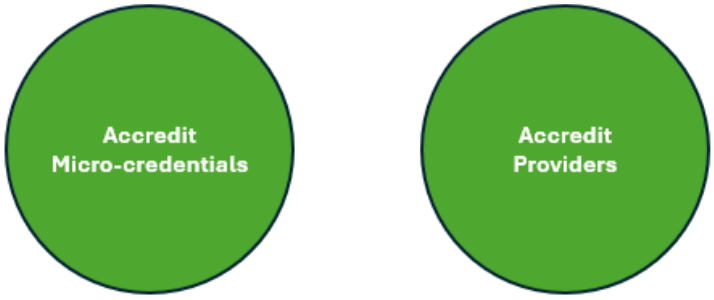
Such a distinction between the role of micro-credentials as either an outcome or a tool in the RPL process results in several **use cases for micro-credentials in RPL** (Cedefop, 2023; Enhancement Themes, 2023):

- Micro-credentials used in RPL to obtain a partial qualification.
- Micro-credentials used in RPL to obtain a full (larger) formal qualification by accumulating/stacking several micro-credentials.
- Micro-credentials used in RPL to access a formal education programme (i.e., micro-credential(s) used as evidence of prior learning to meet the programme's preconditions).
- Micro-credentials used in RPL to get exempted from part(s) of an education programme, decreasing the workload and shortening the study duration.

- Micro-credentials used in RPL to get exempted from part(s) of a professional qualification.

The **ETF's guide to designing, issuing, and recognising micro-credentials** indicates that currently, RPL is the main and most common form for recognising micro-credentials, acting as the default 'fallback' recognition route that is always available since RPL systems and mechanisms do exist in most countries (ETF, 2022). However, such RPL process tends to be administratively heavy. Thus, it is recommended to simplify the process by enhancing quality assurance practices that would result in quality assured or accredited micro-credentials that are more compatible with the existing RPL system requirements. This would lead to smooth, or even automatic, recognition of prior learning.

There are **two key approaches to the quality assurance of micro-credentials** within the scope of an RPL system (Cedefop, 2023).



The first approach is to **accredit micro-credentials**, ensuring that the issued micro-credentials are quality-assured to the desired standards by the awarding body. The responsible QA agency would ensure strict internal and external QA mechanisms are in place. The second approach is to **accredit providers**. This would ensure that micro-credentials are awarded by accredited and quality-assured providers, which would automatically signal trust in the issued micro-credentials.

In addition to quality assurance, another approach that contributes to a smoother and less administratively complex RPL process is the **modularisation of education programmes** (Pouliou, 2024). This allows micro-credentials to better fit within a larger qualification where a single (or multiple) micro-credential can cover the learning outcomes needed for a single (or multiple) module.

Within this context, the **second EHEA-Africa online Conversation on Recognition, organised by the Africa Subgroup**, offered valuable insights and recommendations on recognition for lifelong learning with an emphasis on the role micro-credentials play in this process (In-Global, 2024):

- Qualifications are evolving, and HEIs are shifting from being solely providers to also recognisers of micro-credentials. Such a shift requires them to adapt their admission processes to accommodate individuals with relevant micro-credentials and avoid rigidities that could limit access to further education.
- Europe and Africa need to address the specific needs of migrants and refugees, particularly those without proof of their qualifications. Validating and recognising prior learning is crucial for those who may lack documentation of their prior learning.

- Both Europe and Africa have actively worked towards developing policy frameworks and institutions to support lifelong learning and recognise qualifications. Within this context, quality assurance remains a key challenge for micro-credentials, as education systems are designed to validate formal learning outcomes. In contrast, micro-credentials often encompass knowledge, skills, and competences not associated with formal education programmes.
- The developed frameworks offer guidance and recommendations for countries seeking to establish RPL policies. For example, joint initiatives, such as the 1981 Arusha Convention and the 2014 Addis Ababa Revised Convention, offer HE and VET institutions RPL guidelines. However, it is the responsibility of each country to adapt implementation to national legislation and needs. Examples include France, Belgium, Sweden, and Norway in Europe, as well as Tunisia, Senegal, Morocco, and Ivory Coast in Africa, which have introduced RPL policies and systems. Countries like South Africa and Mauritania have also established qualification frameworks that include RPL mechanisms.
- Another example is Senegal's 2015 law on vocational and technical training, which led to the establishment of an inclusive technical committee in 2020 to review RPL applications. A pilot phase is also underway to facilitate RPL in sectors like masonry, shoemaking, jewellery, crafts, and agriculture. Meanwhile, a separate initiative focuses on recognising the prior learning of women in the cereal processing sector.
- In Mozambique, the TVET sector has recently introduced RPL mechanisms. In 2022, TVET recognised the competences of about 30 professionals and issued certificates.

Micro-credentials may synergise especially well with RPL policies, as it allows potential RPL applicants to prepare and invest in the assessment step-by-step, gaining part qualifications in multiple sessions, instead of submitting themselves to one large process, from which many applicants may drop out (Werquin et al., 2024). As such, micro-credentials could allow learners to build up to full qualifications gradually, in a self-paced manner.

4.6 Micro-credentials and credit transfer systems

Credits, as compound indicators, measure workload as a function of the time needed to achieve units of learning outcomes. The ECTS Users' Guide defines ECTS credits as *"the volume of learning based on the defined learning outcomes and their associated workload"* (European Commission, 2015). In relation to this, **Credit Accumulation and Transfer Systems (CATS) serve the essential purpose of making learning content comparable and transparent. In the case of micro-credentials, this is key to stackability and recognition**. They also ensure that micro-credentials can be transferred across qualifications and institutions. The European Credit Transfer and Accumulation System (ECTS), which facilitates the transfer of credits between institutions, is one of the key examples of credit transfer systems. Another example

is the European Credit System for Vocational Education and Training (ECVET), which similarly aimed to facilitate the transferred of assessed learning experiences.[46]

In practical terms, **CATS allow credits acquired in a particular education programme to contribute to the fulfilment of another programme/degree**. It also allows for the recognition of credits awarded by a different credit-rating (awarding) body. Therefore, such transfer and recognition processes are highly relevant to stacking micro-credentials acquired from different providers (Enhancement Themes, 2023). Within this context, CATS tools and regional initiatives play essential roles, such as the national policies of the 2022 decision of the Inter-University Council of East Africa for the valorisation and recognition of qualifications in the region. In some countries, however, credit transfer systems are still under development, limiting the portability of micro-credentials between different education and training providers.

Cedefop's research highlights that the learning outcomes-based approach is the standard practice for formal education and training. However, **not all micro-credentials, especially those outside the formal system, are associated with learning outcomes**. In VET, the use of credits is not uniform and remains inconsistent across Europe. When it comes to private VET providers of micro-credentials, they rarely use credit systems. Instead, they indicate the workload in terms of hours (Cedefop, 2023). In higher education, using credits to measure the workload of micro-credentials is more common.

Text box 22. Micro-credentials and ECTS

Most large digital learning and MOOCs platforms include in their portfolios micro-credentials for which credit points are awarded by the participating universities. These credits can in cases contribute to part(s) of a master's degree programme. In line with this, a recent survey by AI Campus showed that 32.3% of respondents (n: 357) indicated that the possibility of earning ECTS credits was one of the appealing options for earning a certificate.

Education and training providers can choose whether to issue micro-credentials based on an existing CATS or in a unique/new CATS that is specific to their institution. However, aligning with existing may facilitate the transfer and recognition processes. For example, within the scope of the the Common Micro-Credential Framework (CMF), the partners of the European MOOC Consortium and other micro-credential providers are mandated to offer micro-credentials with ECTS credits.

Source: Flasdick et al., 2023; ETF, 2022

Text box 23. Digital micro-credentials for credit

In Northumbria University (UK), the MSc in Data Science programme implemented a trial of credit recognition by mapping two LinkedIn Learning courses to a programme module. This allowed advanced entry upon completion. After departmental approval, the proposal passed through the Faculty Pro Vice-Chancellor and the legal team. Although this pathway enabled advanced entry, uptake has been limited. This likely because LinkedIn Learning

[46] ECVET was repealed by the 2020 VET Council Recommendation, but many objectives and principles were carried over.

users are often full-time professionals seeking professional development rather than formal, full-time study opportunities. However, it remains an inspiring examples of transferring learning outcomes acquired through digital micro-credentials into credits within the formal system.

Source: Ward et al., 2023

Within this context, it is **important to design CATS with flexibility and transparency in mind**. Especially when considering the integration of micro-credentials in national qualifications frameworks (NQFs). In the case of the EU, the Council Recommendation on the European Qualifications Framework for Lifelong Learning (EQF) included **design principles for credit systems** (Council of the European Union, 2017), as illustrated in Figure 7 below.

In cases where it is not feasible to define workload using a credit system, it is critical to ensure the transparency of the acquired learning outcomes to facilitate the recognition of micro-credentials and their inclusion in NQFs (ETF, 2022).

Figure 7. Design principles for credit systems

Text box 24. Connecting CATS and Micro-credentials in newest CATS Policies and Guidelines in African countries

Several African countries working with ACQF-II on development of their NQF eco-systems in 2024 are establishing conceptual and technical linkages between CATS and micro-credentials, supporting maximation of impacts for lifelong learning. This is the case of Seychelles (Seychelles National CATS), Somalia (SCATS) and Ghana (GhCATS).

The related policies and guidelines have passed the different stages of stakeholders' consultation and are planned for approval in 2025.

4.7 Quality assurance, credibility and trust

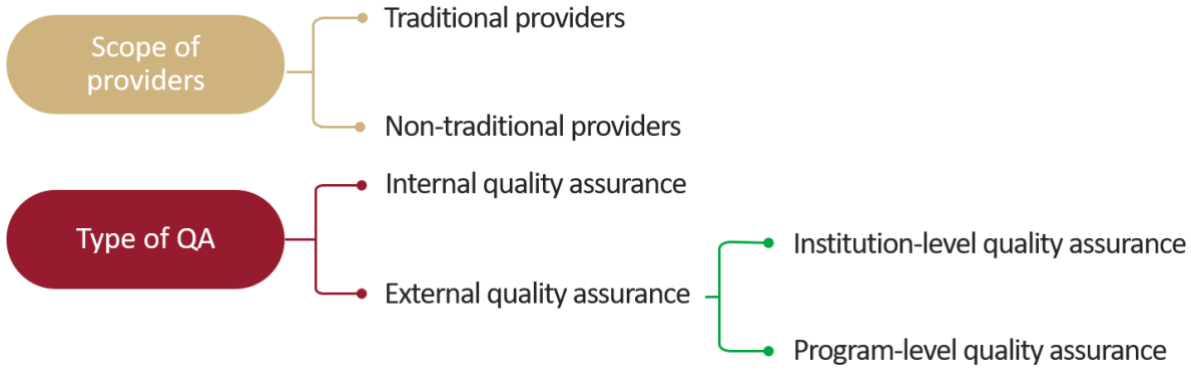
The mainstreaming of micro-credentials has grown into a field that remained largely unregulated, given that traditional quality assurance mechanisms often evade credentials of shorter length. Providing **quality assurance to micro-credentials is a necessary step to ensure the credibility and trust in micro-credentials among learners, employers and education providers** (Cedefop, 2022).

According to the European Association for Quality Assurance in Higher Education (ENQUA), **all micro-credentials should undertake rigorous internal QA assessment**, while external QA is more complicated due to three main challenges:

- the lack of comprehensive understanding of micro-credentials,
- the lack of supporting national legislation or gaps in legislation, and
- the lack of clear definitions/descriptors to allow micro-credential quality assurance requirements to be determined (ENQUA, 2023).

Ultimately, finding the right mix of internal and external QA practices is a **balancing act of ensuring high-quality credentials, whilst minimising the administrative burden and costs on the providers** and quality assurance agencies and ensuring that micro-credentials remain innovative and responsive to social needs. Irrespective of the different approaches outlined below, the literature is in agreement that **well-defined learning outcomes, transparent assessment as well as transparency regarding other information** on the credential are hallmarks of quality assurance (ETF & Knowledge Innovation Centre, 2023).

Figure 8. Mechanism of quality assurance



As illustrated above, the possible **configurations of a quality assurance system varies on three two main dimensions.**

1. First, quality assurance may extend in **scope** solely to traditional education and training providers or can include non-traditional ones such as companies and other industry representatives as well.
2. Second, public agencies and providers may put varying emphasis on internal quality assurance, external quality assurance and the requirements for transparency and public reporting.
   Internal QA includes regular evaluations of course content, learner outcomes, and feedback mechanisms from both learners and industry stakeholders.

External quality reviews are independently conducted audits by quality assurance bodies, to assess the alignment of micro-credentials with industry standards and educational frameworks, ensuring that they meet the evolving needs of the labour market. In this case, the provider may either choose or be subjected to a review by a public authority or an external body providing certification or standardisation schemes (e.g. ISO standards, the Assessment-Based Certificate Accreditation Programme) (ETF & Knowledge Innovation Centre, 2023). External quality assurance may either provide institution-level reviews of providers or adapt existing quality assurance procedures to perform programme-level accreditation.

Transparency standards or principles may require providers to publish clear information regarding the learning outcomes, assessment methods, and the results of both internal and external QA processes.

Evidently, a **combined approach** of these can also be applied and many countries seem to choose a tailored approach. Furthermore, a comprehensive quality assurance system should include elements of self-assessment, external review and processes for feedback and improvement (ETF & Knowledge Innovation Centre, 2023)

Nevertheless, findings indicate that it is crucial that the **development and use of micro-credentials do not impose extra administrative burdens on institutions**. Rather than treating micro-credentials as separate from existing qualifications, they should be integrated into the current quality assurance systems to the extent possible (Cedefop, 2023). Below, we outline some country examples to illustrate further points on the design of optimal QA processes.

Quality assurance practices vary, and not all micro-credentials are assessed against national quality standards. A recent mapping of practices shows that most countries do not yet apply specific external QA standards for micro-credentials (Brown & Duart, 2024).

In **formal education systems**, quality assurance is typically governed by legal regulations and overseen by relevant authorities. Consequently, micro-credentials offered within these systems are expected to adhere to the same standards as other formal qualifications. In countries with modularised vocational education and training (VET) systems, micro-credentials often function as modules within broader qualifications. These modules are already governed by specific quality assurance processes, eliminating the need for additional standards. Similarly, higher education institutions that organise their programmes into modules apply these same standards to micro-credentials. However, **outside of formal systems**, quality assurance often lacks legal regulation, and there is generally less information available on how it is applied. Micro-credentials that evolve outside formal education systems tend to have lower levels of quality assurance. This is often because the standards are less formalised, or because these credentials are stand-alone offerings, not part of a larger qualification. **Error! Reference source not found.** provides an example of QA practices implemented by Spain since 2022.

Text box 25. Example of QA of micro-credentials in Spain and Mauritius

Spain

In 2022, the National Agency for Quality Assessment and Accreditation in Spain (Agencies Nacional de Evaluación y Acreditación – ANECA) presented a framework document for the quality assurance of micro-credentials in the Spanish University System. According to the

framework, micro-credentials will be subject to internal and external quality assurance procedures.

First, micro-credential suppliers shall ensure the quality of their offer by implementing internal quality assurance systems covering all areas of their business **(internal QA)**. In the case of Spanish universities, the legislation was updated to provide a comprehensive framework for lifelong learning programmes (which also include micro-credentials).

The internal quality systems are then assessed externally. Hence, the **external QA** does not require an external assessment of each micro-credential. For this purpose, the AUDIT-International programme[47] of ANECA will be followed, which has certification procedures that have micro-credentials under their scope.

Mauritius

In Mauritius, a national framework for micro-credentials has been developed in 2024 and is preparing to start implementation. Quality assurance and accreditation are part of this framework, which includes specific quality assurance standards and describe the role of quality bodies.

Quality of micro-credentials will be ensured through:

- Accreditation by recognised body: Institutions should seek accreditation from relevant educational authorities or professional organisations to validate their micro-credential offerings.
- Alignment with NQF: Micro-credentials should be mapped to national framework to facilitate recognition and transferability.

Source: (ANECA, 2022) and (HEC, 2024)

Following the consideration of limiting additional administrative burdens, some countries review only offerings that are not provided by an already recognised provider. In New Zealand, NZQA applies **a review of new micro-credential offerings** outside of those issued by tertiary education providers (OECD, 2023). In contrast, tertiary education providers are not included in the review process, as they are already functioning under accreditation and should follow applicable guidelines. Nonetheless, this solution program-level quality assurance might not be always suitable, as micro-credentials might be regularly updated to respond to societal needs.

Other countries opted for **quality assurance at the institutional** level, considering that the offering of micro-credentials is on a growth trend and a review process of each offering would not be cost-effective. The European approach is a good example, whereby the importance of external quality assurance of providers, together with effective internal quality assurance procedures within higher education is emphasised (Microbol, 2022). In the case of performing external quality assurance on the institutional level, the international QA procedures, covering the entire provision of the institutions are evaluated (Cirlan, 2023).

[47] https://www.aneca.es/en/internal-quality-assurance-systems-for-institutions

Text box 26. External quality assurance standards for micro-credentials

The Council Recommendation on a European approach to micro-credentials makes reference to Annex IV of the EQF recommendation (EU recommendation, 2017). Accordingly, standards of external QA for the micro-credential should follow:

- The design of micro-credentials and application of the learning outcomes approach.
- The process of certification and whether learner assessment is valid and reliable, according to agreed and transparent learning outcomes-based standards.
- Quality assurance processes (for e.g. internal quality assurance) consist of feedback mechanisms and procedures for continuous improvement of micro-credentials and are based on clear and measurable objectives, standards and guidelines.
- Involvement of all relevant stakeholders at all stages of assuring and improving the quality of micro-credentials.
- The regularity of evaluations associated with self-assessment and external review.
- Whether QA is integral to internal management and supported by the appropriate resources.
- The electronic accessibility of evaluation results.

Source: Council of EU Recommendation (2017), Cedefop, 2022.

Malaysia, in contrast to the above-presented cases, plans to extend **quality assurance to non-traditional providers** (Malaysian Qualifications Agency, 2023). The guidelines set by the agency allow for the recognition of stand-alone micro-credentials in the HE sector, on a voluntary basis. Such providers might be professional associations, non-profit organisations, private companies or international organisations. Yet, results often show that most quality assurance agencies do not include the external evaluation of alternative providers. Other cases include initiatives from Belgium and France, exploring how to integrate labour market credentials into formal systems and develop recognition frameworks, particularly for micro-credentials offered by international and private providers (Cedefop, 2022).

The lack of a legal mandate for such evaluations or the lack of available resources to carry these out are frequent reasons for preventing the coverage of alternative providers. Nonetheless, research showed that non-traditional providers base their own quality criteria on market and social-relevance, while possibly neglecting the assessment of learners' knowledge or monitoring (Cirlan, 2023).

Internal quality assurance standards and procedures are influenced not only by the type of providers but also depend on micro-credentials models. In institutions where micro-credentials are created from unbundling programmes (most notable in the case of HEIs), the quality assurance procedure is relatively lighter, given that the full programmes usually already received an appropriate evaluation. On the other hand, standalone micro-credentials may necessitate various procedures, depending on their intended purpose.

Text box 27. Integrating micro-credentials into internal quality assurance standards for evaluation

Malta implemented the same quality assurance standards and procedures for micro-credential programmes as for qualifications. Further, micro-credentials are still required to follow the learning outcomes linked to respective levels in the qualifications framework. Thus, irrespective of the type of credentials, Malta developed 11 internal quality assurance standards:

- Set-up and publication of an effective policy for quality assurance;
- Institutional probity both financial and institutional;
- Appropriate design and approval of programmes;
- Student-centred learning, teaching and assessment that encourages students to take an active role;
- Published and consistently applied regulations for student admission, progression, recognition and certification;
- Competence and effectiveness of teaching staff;
- Appropriate learning resources and student support;
- Collection, analysis and use of relevant information for the effective management of programmes and other activities;
- Appropriate public information;
- On-going monitoring and periodic review of programmes;
- Cyclical external quality assurance.

These internal standards are complemented by the national External Quality Assurance system, verifying that the internal systems of the provider are:

- fit for purpose according to the provider's courses and service users;
- compliant with standards and regulations and contributing to the development of a national quality culture;
- contributing to the fulfilment of the broad goals of Malta's Education Strategy 2014-2024;
- implemented with effectiveness, comprehensiveness and sustainability

Source: (Referencing Report, 2024), https://mfhea.mt/external-quality-assurance/

Lastly, there are other alternative quality assurance practices that are most frequently applied for micro-credentials outside of the formal system. Generally, given that this is largely unregulated, there is a variation in practices but also a stronger lack of information.

Granting **quality labels** by external quality assurance agencies has been discussed as a further instrument to provide recognition. Based on discussions, quality labels to providers have been identified as an effective and proportionate option (Cirlan, 2023). In France, a quality label for professional education is issued, called QUALIOPI (Ministere du travail et al., 2023), which is a prerequisite for benefitting from public funding to offer professional education modules. To receive the label, organisations are submitted to an external quality assurance evaluation by the certifying body.

A similar practice is the use of external quality assurance standards, for example certain industry standards to be respected (ETF & Knowledge Innovation Centre, 2023). Among the main examples, it is worth noting the schemes provided by international standardisation bodies (such as ISO 21001, ISO 17024 etc) or those provided by industry standards (e.g. IATF 14949).

Another example is that providers often host their micro-credentials on third party digital platforms, with a wide reach. Such an example is Digital Promise, as highlighted by a study done in the United Kingdom (ECCTIS, 2024), which accepts micro-credentials based on pre-set criteria. Thus, digital platforms may also as facilitators of quality assurance imposing certain processes and expectations.

Quality assurance challenges are often tied to the **standardisation of learning outcomes for micro-credentials**. Without establishing an equivalence of learning achieved across the various providers through the description of learning outcomes and assessment methods used can prevent efficient comparability and quality assurance both for public officials and learners (OECD, 2021a).

Furthermore, facilitating a **common understanding and a common language** across the field is key to strengthening overall trust (European Commission, 2020a). More widely, quality assurance should also incorporate findings from monitoring and benchmarking exercises and take into view the national objectives and strategies related to micro-credentials.

4.8 Other considerations on support measures and policies

The literature shows that **public funding** is often desirable to provide incentives for education and training providers to adopt micro-credentials faster. Public institutions may provide funding to target specific skills, occupations, sectors, learner groups or universal funding (OECD, 2023d). Indeed, it was found that financial incentives are a good instrument for launching the development of micro-credentials within HEIs (European Commission, 2020).

Countries applied diverse strategies for funding. While some opted to provide short-term funding (e.g. Ontario, Ireland) others established more systematic funding mechanisms (e.g. Austria, Finland, Singapore), where structural or core funding is allocated to support the uptake of micro-credentials. Nonetheless, stemming from the fact that most countries are only developing their frameworks, funding is most frequently ad-hoc and does not form part of a more structural or normative effort (OECD, 2023c).

Furthermore, based on its target group, funding mechanisms may target both the providers and the learners directly. In the latter case, funding may be provided to learners in the form of a yearly 'stipend' (e.g. in France or Singapore, learners receive a pre-defined sum in their learning accounts) that may be used for upskilling, reskilling and lifelong learning. Tuition waivers, student grants, loan support are different ways, in turn, to support learners directly.

Funding for providers may support the development costs of micro-credentials, to allow for experimentation or to require a levy on fees charged to learners (e.g. in New Zealand, tertiary organisations may apply for public funding to develop micro-credentials (Education, 2019) or in Spain where the national Foundation for Training for Employment is managing a partial funding of these training activities (González Gago, 2023)). Funding opportunities may be used

to promote certain traits of micro-credentials, most notably stackability (e.g. in the case of the UK, it is required that the developed courses can be used as credits towards a full degree).

Micro-credentials could be integrated into **information systems** in their widest sense (e.g. encompassing guidance centres, portals, reporting, tracking systems of recipients, various surveys and censuses). Indeed, many countries have developed dedicated online portals[48] to provide public-facing information or lead efforts in creating data linkages regarding wider workforce data.[49]

Together with the standardisation of micro-credentials, a more systematic tracking could allow for a more accurate and comprehensive picture of the state and impact of micro-credentials.

Text box 28. Integration of micro-credentials into tracking systems

Non-degree credentials, in more general terms, are rarely tracked by public authorities, either in graduate tracking systems or national surveys. There are, nonetheless, cases where

The US Adult Education Survey (ATES) has been extended to cover non-degree credentials in 2016 (Cronen et al., 2018, from OECD, 2023), including occupational licenses, industry certificates and post-secondary certificates. In 2022, a questionnaire continued collecting data on non-degree certificates in an effort to provide time series data to observe more complex trends.

Moreover, **awareness raising and providing information to learners** is key not only to helping learners make informed decisions but also to ensure that disadvantages learners are not under-represented and are able to access information on opportunities and education offerings. Beyond the universal provision of information, certain states are also undertaking targeted efforts to reach under-represented groups, via partnering up with organisations connected to target groups or disadvantaged regions. Awareness building should target a wide breadth of stakeholders spanning both learners and providers. Actions may include some of the following:

- Promoting a national dialogue between industries, providers and national authorities, to raise awareness and ensure a common understanding of micro-credentials and their potential (Nic Giolla Mhichíl et al., 2020),
- Promote and fund opportunities for micro-credential development within and across various sectors, involving both providers and employees (Nic Giolla Mhichíl et al., 2020),
- Develop centralised platforms of information hubs for easy information access. Due to the current fragmentation of the field (e.g. in terms of frameworks, platforms, practices), learners often lack sufficient information about these learning opportunities. To counter this, hubs of information or "marketplaces of micro-

[48] Micro-credential Portal (microlearnontario.ca) in Montaria Canada offers information on micro-credentials Credential Finder allows users to explore the Credential Registry in the US on various programmes

[49] Data Quality Campaign DQC-Workforce-Linkages-Roadmap-09262018.pdf (dataqualitycampaign.org)

credentials" remove the barrier of learners and other stakeholders having to research opportunities on various platforms. (OECD, 2024b).

Research done by the OECD showed that often, education and training providers plan to develop micro-credentials by unbundling existing degree programmes into smaller chunks (OECD, 2021c). In order to ensure innovation in the space, public officials may foster **collaboration between stakeholders** (employees, employers, industry representatives) to adopt, develop and deliver micro-credentials.

Text box 29. Collaboration between stakeholders throughout the process of adopting, developing and providing micro-credentials

In the MicroCreds project, the partner institutions of the Irish Universities Association are identified and **designing micro-credentials** through a consultation of enterprises (*MicroCreds*, n.d.). In another example, the Institute of Coding, a consortium of employers, education providers and outreach organisations in the UK, received financial support from the government to collaborate with universities and private companies in developing programmes that enhance digital skills.

In **Somalia**, a technical training centre focuses on addressing existing skills gaps by aligning the learning contents of short courses (a proxy for micro-credentials) with the market needs. The target groups of this initiative include recent graduates, senior students, and mid-career professionals seeking upskilling opportunities. Although the program is at an initial stage, being geographically limited to local areas, the initiative has been used to complete a curriculum **review for a learning programme**, ensuring that they provide micro-credentials bridge the gap between learning content and workforce requirements.

Source: (OECD, 2021a); ACQF Survey for collection of good practices in micro-credentials (November-December 2024).

4.9 Main challenges of micro-credentials adoption and implementation

All participants in the micro-credential ecosystem stand to gain from the early adoption of these credentials. However, to unlock their full potential and achieve their intended purposes, several key challenges must be overcome.

A study concluded by PPMI for Cedefop has found several barriers to using micro-credentials for labour market-related education, training and learning. These include the **complexity of micro- credentials offerings, lack of understanding of what micro-credentials are among some stakeholder groups, lack of trust in some micro-credentials, lack of funding support for micro-credentials** as well as **constraints in recognition and quality assurance** of micro-credentials (European Centre for the Development of Vocational Training, 2022).

The study noted a **high uncertainty and limited knowledge about micro-credentials**, manifesting in inconsistencies in understanding what micro-credentials are and the lack of a clear, shared definition. Naturally, this is compounded by the observed absence of standardised recognition processes (European Centre for the Development of Vocational Training, 2022).

The ACQF survey highlights that **many stakeholders remain unfamiliar with micro-credentials**, leading to confusion when comparing them to other short learning programmes available in various countries (ACQF, 2024a). Efforts should focus on increasing the recognition of micro-credentials, especially among employers.

Results of the ACQF Micro-credentials survey confirm the main challenges and barriers found in the Cedefop study as well as other articles' findings (Varadarajan et al., 2023). African stakeholders indicate that the four main challenges related to adoption are that there are **no agreed standards for QA** of micro-credentials, that it is a form of credentials **not well known**, that micro-credentials are **not supported by national authorities and policies sufficiently** and the range of various names cause confusion among stakeholders (ACQF, 2024a).

Quality assurance plays a key role in building trust in micro-credentials. For these credentials to be credible, they must meet high standards of quality. This includes transparent and rigorous assessment processes to ensure that learners have genuinely achieved the required competencies. A clear framework for quality assurance would help to enhance the credibility of micro-credentials and increase their acceptance by both employers and educational institutions.

Recognition by employers and compatibility with national qualifications frameworks were often cited as barriers. These findings evidence that a comprehensive approach should be taken, in order to ensure consistency of terminology, quality and recognition for these short learning experiences.

For **workforce upskilling**, micro-credentials must not only align with current labour market needs but also gain widespread acceptance and recognition from employers. A lack of understanding among employers can limit the value of these credentials, particularly in regions like Africa where familiarity with micro-credentials remains low. Efforts to promote awareness should be prioritised to ensure that employers and employees alike appreciate their value. This may include developing clear guidelines on how micro-credentials can enhance employability and productivity.

In terms of **academic progression,** micro-credentials should be designed to fit within broader educational frameworks. They need to be stackable, allowing learners to combine smaller credentials into full qualifications. Without this integration, the appeal of micro-credentials may be limited, especially if learners perceive them as lacking long-term value.

Limited funding is also a barrier. Core state funding is usually allocated to full qualifications, whereas individuals seeking learning opportunities may face challenges in finding affordable opportunities, as it is not profitable for VET centres to run courses with too few participants. For micro-credentials to be accessible to a wide range of learners, they need to be affordable. High costs can limit access, especially for vulnerable groups. Governments and institutions shall explore funding options or partnerships to reduce these costs and make micro-credentials more widely available.

Another significant challenge is the need for a unified approach to the recognition and quality assurance of micro-credentials. As seen, there is currently no global standard, and the criteria for awarding and recognising micro-credentials can vary widely. Establishing a consensus on how these credentials fit into national and international qualification frameworks is crucial.

As mentioned, many countries are taking steps toward this goal, but a lack of coordination could hinder progress. To this end, ACQF survey respondents stressed the importance of a common, continental approach to micro-credentials, with a strong emphasis on recognition and quality assurance. Building on the information provided in this handbook, Chapter 5 offers initial recommendations for establishing this common framework.

5 Towards a common approach on micro-credentials for Africa – pointers and recommendations

This chapter provides a first orientation towards the definition of principles and topics for a common approach to micro-credentials in Africa.

The essential foundations for the development of the chapter are contained firstly in the ACQF Policy Document (2023)[50], which mentions micro-credentials in the context of the ACQF's objectives and principles and in the conceptual-technical design. The approved implementation plan of the project supporting the implementation of the ACQF includes analysis and development of principles and orientations on micro-credentials in the context of NQFs. To this end the first continental survey on micro-credentials was conducted and the analytical report was published in April 2024[51]. Respondents of this survey unanimously agreed on the need to develop a common approach to micro-credentials in Africa.

This Handbook was submitted to stakeholders' consultation through a dedicated online survey (October 2024) complemented by in-depth structured discussion in working groups during the 4th ACQF Forum, in Seychelles on 13-14 November 2024. Upon recommendation of the stakeholders, a post-Forum online survey gathered cases of good practice in Africa, which have been integrated in this final version of the Handbook.

The ACQF Stakeholders agreed to validate this Micro-credentials Handbook upon integration of all comments, and elaborated shared views on several subjects, notably on the definition and purposes of micro-credentials.

5.1 Validation of the ACQF Micro-Credentials Handbook

The first complete draft of the Handbook was presented and discussed with the stakeholders at the 4th ACQF Forum, gathered in Seychelles on 13-14 November 2024 under the theme "Micro-credentials for better opportunities"[52].

The ACQF stakeholders have conducted an in-depth analysis of the draft Handbook on Micro-Credentials, shared their recommendations and comments elaborated through structured working groups debates in Session 7 of the 4th ACQF Forum, and have validated the Handbook.

[50] https://acqf.africa/resources/policy-guidelines/acqf-policy-document-upon-validation-by-au-member-states-en-fr-pt/acqf-policy-document-en/@@display-file/file/ACQF%20Policy%20document_for%20validation%20process_17Nov2022_EN_WEB.pdf

[51] https://acqf.africa/resources/surveys-acqf-ii-nqf-rpl-micro-credentials/recognition-of-prior-learning-rpl-in-africa-full-report/@@display-file/file/ACQF-II%20RPL%20Survey%20report%202024.pdf

[52] https://acqf.africa/capacity-development-programme/webinars/seychelles-national-credit-accummulation-and-transfer-system-sncats-policy-and-guidelines

5.2 Definition of Micro-credentials

The stakeholders at the 4th ACQF Forum, Seychelles, 13-14/11/2024, jointly discussed and proposed a revised, contextualised definition of micro-credentials, as follows

Text box 30. Revised definition of micro-credentials for the ACQF context (stakeholders)

Micro-credential is a certification of assessed quality assured short period of learning, which is intended to provide learners with knowledge, skills, values and competencies in a targeted area and or practice.

Source: Materials of the 4th ACQF Forum at https://acqf.africa/capacity-development-programme/webinars/4th-acqf-forum-micro-credentials-for-better-opportunities/s7_q1_group-ghana-seychelles-sierra-leone-somalia-assignment-2.pdf/@@display-file/file/s7_q1_group-ghana-seychelles-sierra-leone-somalia-assignment-2.pdf.pdf

5.3 How can Africa take a leading role in micro-credentials

The initial panel of stakeholders at the 4th ACQF Forum, Seychelles, 13-14/11/2024, discussed the strategic question:

"*How can Africa take a leading role in harnessing the potentialities of micro-credentials for the green and digital transformation and for better opportunities?*".

This section offers views shared by the panellists and published on ACQF website.

Panellist: Prof. Carlos Mataruca, CNAQ, Mozambique

Source: https://acqf.africa/news/how-can-africa-take-a-leading-role-in-harnessing-the-potentialities-of-micro-credentials-for-the-green-and-digital-transformation-and-for-better-opportunities-for-all-by-prof-carlos-mataruca-cnaq-mozambique

Africa has significant potential to leverage micro-credentials as a key tool for driving its green and digital transformation while promoting more equitable access to opportunities. Micro-credentials, which are short, focused learning programs that recognize specific skills and competencies, can play an essential role in building a workforce capable of navigating the changing global landscape, particularly in areas like sustainability, renewable energy, digital technologies, and inclusive economic development. Here's how Africa can take a leading role in harnessing micro-credentials for these transformations:

1. **Align Micro-Credentials with Green and Digital Skills Needs**

- **Green Skills**: As Africa looks to increase its participation in global efforts to combat climate change and drive sustainable development, there is a growing demand for workers with green skills. Micro-credentials can be designed to address specific competencies in areas such as renewable energy (solar, wind, etc.), sustainable agriculture, waste management, energy efficiency, carbon reduction technologies, and environmental governance.
- **Digital Transformation**: The increasing reliance on digital technologies across industries—such as AI, data analytics, software development, cloud computing, and cybersecurity—calls for the widespread development of digital skills. Micro-

credentials can provide targeted learning opportunities in these areas, allowing individuals to quickly upskill and reskill.

By focusing on green and digital sectors, African countries can develop tailored micro-credentials that meet the needs of emerging industries, ensuring that local workers can contribute to, and benefit from, these transformational sectors.

2. **Foster Public-Private Partnerships and Regional Collaboration**

- **Government Involvement**: Governments can create policies and frameworks to encourage the creation of micro-credential programs, and align them with national development goals, such as sustainable development or the digitalization of key sectors. National strategies on digitalization, green energy, and economic inclusion can integrate micro-credentials as part of workforce development programs.
- **Private Sector Collaboration**: Private companies, particularly those in technology, energy, and environmental industries, can partner with educational institutions to co-create micro-credential programs that are aligned with real-world needs. These partnerships can ensure that micro-credentials are industry-relevant and improve employability.
- **Regional Cooperation**: Africa can benefit from a collaborative regional approach, where countries share best practices, curricula, and resources. This can ensure consistency and scalability, particularly in regions where skill gaps in green and digital sectors are more pronounced.

3. **Promote Digital Learning Platforms and Access**

- **E-Learning Infrastructure**: Africa needs to invest in digital infrastructure to make micro-credential programs accessible to a wide range of people, especially in remote or underserved areas. Online platforms can host micro-credentials and enable self-paced learning, making them accessible even in areas with limited access to traditional educational institutions.
- **Mobile Learning**: Given the high penetration of mobile phones across Africa, mobile platforms can be used to deliver micro-credential courses, particularly in rural areas. Tailoring programs for mobile devices can break down barriers to education, providing flexible, affordable, and accessible learning.
- **Language and Cultural Relevance**: Micro-credential programs should be designed to reflect the diverse linguistic and cultural landscape of Africa. Offering courses in local languages and ensuring that content is contextually relevant will increase uptake and effectiveness.

4. **Focus on Inclusive Skills Development**

- **Youth Empowerment**: Africa has a young and growing population, many of whom face challenges in accessing quality education and employment. Micro-credentials offer a flexible, cost-effective way for young people to gain the skills they need to enter the green and digital economy. Programs should focus on upskilling youth in high-demand sectors, such as clean energy, digital entrepreneurship, and tech-based services.

- **Women's Economic Empowerment**: Micro-credentials can also be a tool for addressing gender inequality in the workforce. Specific initiatives could be designed to provide women with skills in emerging sectors, such as renewable energy, digital technologies, and sustainable agriculture, which can enhance their employability and entrepreneurial opportunities.
- **Informal Sector Workers**: Many workers in Africa are employed in the informal economy, where access to formal training and certification is limited. Micro-credentials can help these workers formalize and improve their skills in a variety of green and digital areas, contributing to a more inclusive workforce.

5. **Enhance Recognition and Standardization of Micro-Credentials**

- **Quality Assurance**: For micro-credentials to be widely accepted, they must be recognized by employers, governments, and educational institutions. Africa can lead the way in establishing a regional framework for recognizing and accrediting micro-credentials, ensuring that they meet internationally recognized standards while reflecting local needs.
- **Digital Badges and Credentials**: Leveraging digital credentials and blockchain technology for verification and portability can make it easier for individuals to showcase their skills across borders. A pan-African or global system for verifying and transferring micro-credentials could encourage mobility and cross-border job opportunities.
- **Employer Engagement**: African employers in the green and digital sectors should be actively engaged in the creation and recognition of micro-credentials. This can ensure that the programs align with actual market demands and that the credentials hold value for both job seekers and employers.

6. **Incorporate Sustainability into Education Systems**

- **Curriculum Integration**: As part of a broader educational reform, micro-credentials can be integrated into national curricula, particularly in schools, vocational institutions, and universities, as a way to enhance traditional learning pathways. This can ensure that students have access to targeted, industry-relevant skills that complement their formal education.
- **Sustainability-Focused Education**: Education systems can incorporate green skills and digital literacy into primary, secondary, and higher education to ensure that every graduate is equipped with the competencies needed to thrive in a sustainable, technology-driven economy. Micro-credentials can supplement this foundation by providing specialized, short-term training.

7. **Build Global and Local Networks**

- **International Partnerships**: Africa can build partnerships with global institutions, such as the World Economic Forum, the UN's International Labour Organization, and international tech companies, to create micro-credential programs that are globally recognized. These partnerships can also open doors for African talent to participate in global supply chains and technological innovations.

- **Local Networks**: Collaboration among local educational institutions, industry players, and government agencies will be critical for ensuring the relevance and scalability of micro-credential programs. Local networks can help identify key regional needs and provide a more nuanced, context-sensitive approach to skill development.

Reflective Conclusion

Africa is positioned to harness micro-credentials as a transformative tool for green and digital transitions. By aligning micro-credential offerings with emerging industries, ensuring they are accessible and inclusive, and creating frameworks for recognition and standardization, Africa can build a skilled workforce capable of driving innovation, sustainability, and economic growth. With the right investments, collaboration, and policies, micro-credentials can become a powerful catalyst for an equitable, green, and digitally enabled future for all Africans.

Panellist: Laurent Ndaywel Mbosele, D. R. Congo

Source: https://acqf.africa/news/comment-lafrique-peut-elle-jouer-un-role-de-leader-dans-lexploitation-des-potentialites-des-micro-certifications-pour-la-transformation-verte-et-numerique-et-pour-offrir-de-meilleures-opportunites-pour-tous-by-mr-laurent-ndaywel-r-d-congo

Summary

Africa, and notably the DR Congo (DRC), can play a leading role in leveraging micro-certifications to accelerate the green and digital transformation by quickly training a skilled workforce to address environmental challenges and technological opportunities. Micro-certifications, focused on specific skills, help bridge the skills gap in a flexible and accessible way, especially in critical fields such as renewable energy, waste management, sustainable agriculture, and digital technology.

By investing in partnerships among governments, businesses, and educational institutions, Africa can establish affordable online training platforms tailored to local needs. These certifications provide a solution for developing "Green Skills," essential for building a sustainable and inclusive economy. Furthermore, promoting micro-certifications will support the creation of an entrepreneurial and self-sufficient middle class, ready to drive green and digital innovation across the continent.

To address this issue, Africa has enormous potential to play a leading role in leveraging micro-certifications to drive both green and digital transformation, particularly by providing opportunities for inclusive development.

1. **A need for targeted and flexible training Micro-certifications represent an agile and quick response to the changing needs of the labor market.** In Africa, they can facilitate rapid and specialized training, particularly in strategic sectors such as renewable energy, sustainable agriculture, and digital technologies. In the Democratic Republic of Congo (DRC), for example, micro-certifications could bridge the skills gap in green and digital professions, thereby accelerating the green transformation process while reducing dependency on imported expertise.
2. **Promoting entrepreneurship and the development of the middle class Micro-certifications** can help structure and professionalize the skills of entrepreneurs and artisans, particularly in small and medium-sized enterprises. In the DRC, where middle-

class development is essential for economic stability, micro-certifications can be a powerful tool for formalizing skills, fostering local innovation, and reducing unemployment. By training entrepreneurs in green and digital skills, Africa can not only meet its internal needs but also become a competitive player in the global market.

3. **Creating an inclusive and multilingual learning ecosystem Africa** can leverage its linguistic and cultural diversity to develop micro-certifications tailored to local contexts and accessible in multiple languages (such as French, English, and Portuguese). This would promote the inclusion of rural areas and youth, who are often disadvantaged. In the DRC, for instance, this would allow young people to engage in new employment dynamics without requiring lengthy academic training, which is crucial in a country where access to higher education remains limited.
4. **Facilitating public-private partnerships for innovation African governments**, particularly in the DRC, can take advantage of public-private partnerships to support the development and recognition of micro-certifications. By encouraging private companies to invest in training young people and workers through micro-certifications, this would create a virtuous cycle of innovation and job creation, meeting market needs while supporting sustainability goals.
5. **Strengthening alignment with international standards Finally**, Africa could play a leading role in developing micro-certifications aligned with international standards, which would make African skills recognized and valued globally. In the DRC, such an initiative would contribute to making local skills exportable while fostering regional and international exchange.

Conclusion :

Africa can play a crucial role in leveraging micro-certifications for green and digital transformation by investing in targeted training, developing entrepreneurship, and facilitating partnerships. The DRC, with its economic potential and young population, could set an example for transformation by integrating these certifications into its training and skills development programs, thereby contributing to the creation of opportunities for all and reducing poverty.

5.4 Purposes of Micro-credentials defined by the ACQF stakeholders

The ACQF stakeholders gathered at the 4th ACQF Forum in Seychelles (13-14/11/2024) discussed the purposes of micro-credentials to be includes in this chapter of the Handbook.

Text box 31.Purposes of micro-credentials in the ACQF context (stakeholders)

To define clear objectives around micro-credentials, it is essential to consider their role in skill development and improving employability. Here are some key objectives for their use:

Improving employability and professional integration: Micro-credentials enable individuals to validate specific skills sought by employers, thus facilitating their access to employment.

Meeting labour market needs: By focusing on in-demand technical and practical skills, micro-credentials help bridge the gap between academic training and the concrete needs of businesses.

Promoting lifelong learning: Micro-credentials allow professionals to update or broaden their skills continuously and flexibly, adapting to the rapid changes in economic sectors.

Encouraging training accessibility and flexibility: Through short and modular formats, they enable more accessible training, especially for workers, students, and people with time or mobility constraints.

Supporting the recognition of informal and non-formal skills: By validating skills acquired on the job or in informal contexts, micro-credentials allow individuals to capitalize on their professional experience and improve their profiles.

Supporting innovation in education and training: providing alternative, non-traditional pedagogical and learning methods, offering new opportunities and methods for acquiring recognised skills.

Accelerating adaptation to digital and technological transformations: With technological advances, micro-credentials allow for a rapid response to new needs in digital and technical skills.

Facilitating the transition to emerging sectors, including green jobs: They offer the possibility of certifying skills in emerging and growing fields, such as green technologies, thus contributing to the adoption of sustainable practices.

Enhancing business competitiveness: By enabling employees to develop specific and relevant skills, micro-credentials help companies remain competitive in a changing market.

These objectives can serve as a basis for convincing decision-makers and guiding strategies for the deployment of micro-credentials.

Source: 4th ACQF Forum, Seychelles, 13-14/11/2024, presentations and materials. https://acqf.africa/capacity-development-programme/webinars/4th-acqf-forum-micro-credentials-for-better-opportunities/s7_q3_group-sadc-sen-rdc.pdf/@@display-file/file/s7_q3_group-sadc-sen-rdc.pdf.pdf

5.5 Policy pointers

The sections below provide key policy pointers and recommendations for developing the common approach to micro-credentials:

1. Develop a common definition of micro-credentials.
2. Consider the micro-credentials eco-system.
3. Have clear purposes for the use of micro-credentials.
4. Design learner-centred micro-credentials.
5. Ensure transparency of micro-credentials.
6. Design an effective policy framework to recognise and endorse micro-credentials based on key principles supporting design and issuance of micro-credentials.

7. Develop clear quality assurance procedures.

Policy pointer 1: Develop a common definition of micro-credentials

Having a clear, widely accepted definition of micro-credentials is essential for building a unified approach. The definition should draw upon existing frameworks, such as those from UNESCO and the European Commission, while also being tailored to the African context.

Key elements from these definitions remain relevant:

- Micro-credentials should certify the outcome of small, focused learning experiences aimed at acquiring specific skills and knowledge.
- Learning outcomes should be assessed against specific criteria to acknowledge the learner acquired the described learning outcomes.
- The assessment shall allow opportunities for RPL through micro-credentials.
- Micro-credentials can be combined to form larger qualifications within formal education systems, increasing access to education for disadvantaged groups.
- Micro-credentials should be quality assured to enhance credibility. The ACQF survey highlighted the importance of clear quality standards, which should be included in a common framework for micro-credentials.
- The definition of micro-credentials should be flexible enough to allow the integration of micro-credentials into different national education systems, both the ones that have existing NQFs and the ones where NQFs are still under development.

Recommendations:

- **Keep the definition broad and inclusive**. Micro-credentials should encompass a wide range of learning experiences, regardless of whether these experiences existed before the mainstreaming of micro-credentials. The definition should be expanded to link micro-credentials to non-formal and informal education, including the possibility for RPL.
- **Develop key standards to guide implementation**. Along with a definition, a set of standard elements (e.g., assessment methods, learning outcomes, quality assurance standards) should be developed to ensure consistency and clarity in the development, implementation and recognition of micro-credentials.

Policy pointer 2: Consider the micro-credentials ecosystem

Harnessing the potentialities of micro-credentials for society and individuals while addressing their challenges and issues, will require balanced solutions to link micro-credentials to the wider education and qualifications system while recognising the specific features of micro-credentials which justify their unique added value for lifelong learning and adaptability in a time of transformation of skills, learning and work.

The Institutions In charge of policy-making, the stakeholders and implementers at all levels interested in micro-credentials policies and programmes can consider the following aspects when developing and approving legislation, regulations, funding mechanisms and communication and guidance:

- To deliver on the potential of micro-credentials, national and regional bodies can integrate them in a) education, training and skills policies; b) employment policies geared to upskill and reskill workers and job seekers; c) sustainable development policies, aimed at green the economy, develop green skills and qualifications to ensure the effective green transition; d) innovation and technology development policies and programmes; e) reform and renewal of qualifications standards and national qualifications frameworks.
- Bear in mind the synergies between the building blocks of micro-credentials eco-systems: micro-credential providers; micro-credential learners; credential portability, recognition and transparency; quality assurance and relevance; policy coordination.
- Consider options to connect micro-credentials with the NQF, with RPL and credit accumulation and transfer systems.
- Rethink the scope and the openness of the NQF to innovation, changing demands and novel types of learning and certification.
- Promote and support NQFs as platforms linking micro- and macro-credentials, leveraging on the diversity of learning, articulation and types of learning outcomes, and on the benefits of technology to support impact for learners and all parts of the eco-system.
- Leverage, to the extent possible, the already existing legal and policy frameworks, such as country-to-country agreements, regional frameworks and the ACQF to integrate micro-credentials into regional and continental cooperation. Organise guidance, information and support for the impact of micro-credentials on people and systems.
- Network, share good practices, advocate, ad communicate insights from analyses and experiences and ensure that information reaches all kinds of social groups.

Policy pointer 3: Have clear purposes for the use of micro-credentials in Africa

African countries shall define the key purposes of micro-credentials, in particular:

Provide flexible learning pathways:

- Formalise parts of non-formal and informal learning.
- Provide accessible pathways to formal qualifications through RPL.
- Bridge gaps in educational opportunities, especially for underserved populations.
- Increase flexibility and mobility for learners across education and training systems.
- Enable stackability of micro-credentials that could lead to larger or full qualifications (e.g., diplomas, degrees) in formal education. Stackable micro-credentials should have a coherent sequence and leading to acquiring higher skill and competence levels in a specific field or profession.
- Lower financial, work-related and personal barriers to training/education.

Support lifelong learning:

- Offer flexible, modular learning opportunities.
- Enable continuous skills development in a rapidly changing job market.
- Contribute to the culture of lifelong learning – linked to SDG4.

Increase employability and employment rate:

- Align the offer of micro-credentials with current labour market demands to up-skill and re-skill workers (informal and formal employment) and the active population in general.
- Ensure a widespread recognition of micro-credentials by employers across industries.
- Provide clear, credentialed proof of skills and competencies, even those acquired through non-formal and informal settings.

Develop green and digital skills:

- New technologies mean an immediate need to up-skill and re-skill. Micro-credentials allow focused learning specific to emerging needs (provide targeted training in renewable energy, sustainability, and digital literacy).
- Equip the workforce for participation in the green economy and digital sectors.
- Support national and regional goals on climate change and digital transformation.

Recommendations:

- **Set clear policy priorities related to the purpose of micro-credentials**: Countries need to embed micro-credentials into their national policies and strategies, clearly defining priorities for their use. This includes aligning micro-credentials with the education system and labour market needs. Countries should consider various support measures, such as financial assistance for learners and workers, incentives for providers to develop quality micro-credentials, and employer engagement to ensure recognition. Countries may also focus on strategic fields or sectors for developing micro-credentials to invest resources and facilitate micro-credentials,
- **Ensure inclusiveness and accessibility:** Micro-credentials should be designed and implemented to promote societal development and social inclusion. Micro-credentials must be tailored to Africa's unique social and economic diversity, ensuring they are accessible and inclusive to all learners, particularly those in disadvantaged, rural, and remote areas, as well as women and the youth. Micro-credentials should span the entire value chain in education, covering both lower and higher education levels, without placing a significant cost-burden on learners. Further, micro-credentials should overcome digital barriers, internet access and be inclusive to all kinds of linguistic communities. By recognising and validating skills acquired in non-formal and informal settings, micro-credentials can enhance socio-economic opportunities and workforce integration for these groups. Furthermore, linking micro-credentials to broader educational strategies will contribute to reducing inequality, increasing participation in formal education, and supporting inclusive growth across Africa.

Policy pointer 4: Design learner-centred micro-credentials

Micro-credentials should be designed to be accessible to a wide range of learners, including vulnerable groups, and offer flexibility to accommodate diverse needs. When designing a specific micro-credential, the duration, mode of delivery, type of certificate, workload and assessment methods shall be tailored to the specific purpose of the micro-credential. At the same time, micro-credentials should be relevant to the specific needs of end users they are addressed to.

Specific characteristics are driven by learning outcomes and the purpose of the learning. At the same time, the learning should be structured in a way that empowers learners to select training that aligns with their individual goals, education and career paths. Micro-credentials should support individuals to take ownership of their learning journey, which can enhance their personal development.

Flexible learning should be encouraged to enable learners to pursue micro-credentials at different times, in various formats, and across different locations. Self-paced and personalised learning should be encouraged to broaden access and appeal.

Where possible, institutions should offer online or blended learning formats to maximise accessibility. However, it is necessary to ensure that technological disparities do not become a barrier to learning.

Recommendations:

- **Introduce feedback mechanisms:** Allow learners to provide feedback on the micro-credentials they complete. This will not only improve the quality of the offerings but also foster a sense of ownership and promote a culture of lifelong learning.
- **Support awareness raising**: While policy-makers and professionals are actively debating micro-credentials, many potential users may still be unaware of them. Informing learners about micro-credentials is equally important that they are cognizant of its possibilities to ensure uptake.
  Existing familiarity with similar credentials can be leveraged to increase awareness and momentum for micro-credentials. Additionally, existing career guidance systems should include micro-credentials as a recognised tool for lifelong learning and entry into formal education.
- **Develop appropriate assessment methods**: Assessment methods should suit the specific learning context – whether formal, informal, or non-formal. Issuing micro-credentials after a transparent, valid, and fair assessment process ensures that learning outcomes are met, regardless of where the learning occurs.

Policy Pointer 5: Ensure transparency of micro-credentials

To enhance the transparency and trustworthiness of micro-credentials, it is crucial to adopt a well-defined taxonomy that clearly outlines the key elements of each micro-credential. This transparency will help stakeholders – learners, employers, and educational institutions – understand the value and purpose of the micro-credential. Where and when possible, micro-credentials should also be integrated into existing NQFs and credit transfer systems.

The Inclusion of the standardised key elements will ease the comparability of micro-credentials. The minimum requirements included in the micro-credential shall form or align existing data models for integration in digital databases and smooth interoperability. According to findings from the ACQF survey on micro-credentials, only a few elements are consistently used to describe micro-credentials – this includes the date of issuance, issuing body, and title –and future micro-credentials should build on that. NQFs already require specific sets of information elements, which provide a good basis for increasing the standardisation of micro-credentials.

Recommendations:

- **Integrate micro-credentials into credential and qualification databases:** Integrating micro-credentials into qualifications enhances credibility, facilitates uptake, and allows learners to easily compare options.
- **Leverage existing tools for recognition:** Where possible, micro-credentials should be referenced against existing national education systems and NQF. Whenever possible, well-developed international taxonomies shall be used, e.g., regional CATS or the ISCO classification. This alignment will streamline the recognition and comparability of micro-credentials across regions and sectors.
- **Establish a list of standard information elements:** Countries should establish a harmonised list of standard elements to describe micro-credentials. The identification of the learners, the title, the issuing body, and the date of issuance, should, at minimum be part of the standards elements. Learning outcomes, workload, level of learning experience, assessment type and quality assurance status are other elements that are recommended to be standardised. Thus, it is also recommended that micro-credentials follow criteria used for registering qualifications, such as the information elements listed above. Further, a unique number for each credential could also enhance transparency, providing an effective solution for traceability and referencing. Finally, it is important to highlight that having a standardised list of elements will ease the cross-country recognition.

Policy pointer 6: Design an effective policy framework to recognise micro-credentials based on key principles supporting design and issuance of micro-credentials

Building trust, ensuring quality, and achieving recognition are fundamental to increasing the utilisation and impact of micro-credentials. Micro-credentials hold value in two main ways: they signal specific skills and competencies to employers, and they serve as a pathway to further education. For either purpose, recognition is essential. Employers must trust that micro-credentials reliably demonstrate that learners have acquired the necessary skills with sufficient quality. Similarly, education institutions should provide possibilities to recognise micro-credentials as valid qualifications for entry into further learning.

To be effective, micro-credentials need to be integrated into a broader ecosystem. Formalising micro-credentials within **official national and regional policy frameworks** will increase their legitimacy and acceptance. In some cases, legislative changes may be needed to accommodate micro-credentials, as highlighted by the findings of the ACQF survey, which shows that this has yet to occur in many African countries. Particular focus should be placed on ensuring that the framework covers all kinds of micro-credential providers (e.g. education institutions, market bodies or official authorities) and that cross-border recognition and transferability of the credentials are in place.

Micro-credentials should be designed to support flexible learning pathways, allowing for the validation, recognition, and stacking of credentials across different educational and employment systems. At the same time, micro-credentials should have sufficient stand-alone value to be attractive in itself.

To recognise micro-credentials, a formal credit-transfer agreement should be developed between the relevant educational or training institutions. When these are already in place in a country, such systems shall be adjusted to include micro-credentials. In the absence of such an agreement, micro-credentials can still be acknowledged through RPL procedures. This is especially relevant in Africa, where much learning occurs outside formal education systems.

Recommendations:

- **Integrate micro-credentials into NQFs or national competence frameworks:** Evidence reported in the handbook indicates that recognition is easier when learners are assessed against recognised national competencies. Reference to NQFs is particularly important when micro-credentials are stackable towards higher qualifications. However, as seen, international experiences also show that referring to NQFs is not always feasible, especially for micro-credentials earned outside the formal education system.
- **Embed micro-credentials within RPL frameworks**: Countries should ensure that micro-credentials are embedded within their RPL frameworks, either as an outcome of the RPL process or as a tool within the broader system. In certain cases, learners should be permitted to have their prior learning assessed without needing to attend additional courses.
- **Link micro-credentials to CATS:** Countries should exploit synergies of micro-credentials with Credit Accumulation and Transfer Systems to facilitate the recognition and accumulation of learning outcomes for use in formal education and career progression.
- **Provide multiple routes for recognition:** Establish various mechanisms for recognising micro-credentials, including agreements between institutions and through RPL systems. These routes should be tailored to the type and purpose of the micro-credentials, with distinctions made between those in formal education settings and those in non-formal or informal contexts.
- Define key **principles for design, issuance and monitoring of micro-credentials**, emphasising the key aspects that support credibility and mutual trust, in particular: quality, valid assessment, transparency, stackability, recognition, information and guidance.
- **Conduct wide consultation with stakeholders:** Adopt a collaborative approach at all levels of policy to build consensus around micro-credentials. This will help ensure buy-in from key actors, including policy-makers, employers, and educational institutions.

Policy pointer 7: Develop clear quality assurance procedures

Quality assurance is crucial to building trust in micro-credentials. As micro-credentials often fall outside the formal quality assurance frameworks due to their delivery in non-formal and informal education settings, it is essential to develop fit-for-purpose quality assurance procedures that ensure credibility while maintaining flexibility.

The ACQF stakeholders gathered at the 4th ACQF Forum in Seychelles, discussed the theme of QA of micro-credentials and agreed to maintain the integrity of the system by applying the same QA hallmarks and requirements used for all qualifications.

Within formal settings, institutions should include micro-credentials in their **internal** quality assurance processes, making it a mandatory part of their quality systems. **External** quality assurance should be applied depending on whether micro-credentials are delivered within the formal education system or not. An approach to external quality assurance could involve assessing providers' offers as a whole rather than individual micro-credentials, allowing adaptability in response to labour market needs while avoiding excessive regulation.

The balance between maintaining formal quality assurance and ensuring flexibility Is key. Striking a balance between quality assurance and administrative burden is vital, especially considering the costs. Micro-credentials should remain responsive to the labour market without becoming over-regulated. Since micro-credentials often fall outside formal quality assurance frameworks due to their delivery outside of formal education settings, it is essential to develop or recognise fit-for-purpose quality assurance procedures that ensure credibility while maintaining flexibility.

Comprehensive quality assurance systems should incorporate self-assessment, external reviews, and ongoing improvement processes. This should include regular reviews of micro-credentials to ensure they remain up-to-date and aligned with user and market needs. Feedback from learners is also essential in improving micro-credential offerings and enhancing the reputation and credibility of providers.

Transparency is key in this sense. The results of quality assurance reviews should be published and accessible to stakeholders, providing end users with the information needed to trust micro-credential providers. Different methods are available in this respect. A recognised database of trusted providers, linked to a broader QA accreditation system, could further support trust in micro-credentials. The use of quality badges or certifications could also signal adherence to standards.

Recommendations:

- **Differentiate various roles in the wider QA process:** Define and differentiate the roles of institutions and stakeholders in the quality assurance framework and processes to ensure clarity and effectiveness. Industries and other providers initiating micro-credentials are instrumental for ensuring relevance to labour market needs, while national agencies facilitate the QA process by establishing robust frameworks, aligning quality standards with broader systems and concluding external quality assurance.
- **Pursue a consultative approach:** Keep a consultative approach by involving stakeholders in developing formal quality assurance processes for micro-credentials. Aim to integrate micro-credentials into existing quality assurance systems where possible without increasing the administrative burden or costs.
- **Establish proportional quality assurance mechanisms:** Design adequate internal and external quality assurance pathways tailored to the type of providers and micro-credentials offered. Tailored approaches could include various levels of certification or accreditation, ensuring that quality assurance remains proportionate to the scope and

specific characteristics of micro-credentials. Furthermore, quality assurance approaches should be also mindful of the RPL process and have appropriate solutions to support the recognition experience gained outside of the formal education systems.

- **Tailor quality assurance approaches to education contexts:** For those outside the formal system, alternative quality assurance options should be recognised, whilst ensuring that quality assurance processes are clear and transparent. Providers not operating within formal systems may utilise industry standards, ISO certifications, or other sector-specific benchmarks to assure quality via widely recognised independent third parties.
- **Standardise quality assurance for NQF-registered micro-credentials**: Maintain the integrity and transparency of quality assurance hallmarks and processes for micro-credentials, ensuring trust and recognition of education and training providers, awarding bodies and wider public, especially for purposes of stackability, RPL and credit transfer.

6 Glossary

Main source of the glossary: ACQF. 2021. Thematic Brief 1. Concepts and definitions. https://acqf.africa/capacity-development-programme/thematic-briefs/acqf-thematic-brief-1-concepts-and-definitions

African Continental Qualifications Framework

The ACQF is a policy initiative of the African Union. The ACQF Policy Document was validated at the ACQF Addis Conference on 11-13/July 2023. The vision for the ACQF is: to enhance comparability, quality and transparency of qualifications from all sub-sectors and levels of education and training; facilitate recognition of diplomas and certificates; work in cooperation and complementarity with national and regional qualifications frameworks; promote cooperation and alignment between qualifications frameworks (national and regional) in Africa and worldwide.

Certificate / Diploma

Official document, issued by an awarding body, which records the learning outcomes (knowledge, know-how, information, values, skills, competences) of an individual following assessment against a predefined standard.

Source : Cedefop Glossary. https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?search=skills&letter=C

Competence

Competence means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

Source : EQF Recommendation 2017. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Credential

Credentials verify, validate, confirm, or corroborate a person's learning achievements, knowledge and preparedness for performing tasks. Credentials are diverse with regard to their scope, status and purpose.

View also micro-credential and macro-credential

Source:
https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Credential#start

Credit

'Credit' means confirmation that a part of a qualification, consisting of a coherent set of learning outcomes has been assessed and validated by a competent authority, according to an agreed standard; credit is awarded by competent authorities when the individual has achieved the defined learning outcomes, evidenced by appropriate assessments and can be expressed in a quantitative value (e.g. credits or credit points) demonstrating the estimated workload an individual typically needs for achieving related learning outcomes.

'Credit transfer' means the process of allowing individuals who have accumulated credit in one context to have it valued and recognised in another context.

Source: EQF Recommendation 2017. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Distance learning

Also known as e-learning or online learning, it is a form of education in which teachers and students are physically separated. Various technologies such as Skype allow for teachers and students to interact and communicate. Traditional distance learning focused on individuals in remote areas and it used to be via mail.

E-learning

E-learning is an umbrella term that refers to the use of any digital device for teaching and learning, especially for delivery or accessing of content. Thus e-learning can take place without any reference to a network or connectivity. The digital device used by the learner to access materials need not be connected to a digital network, either a local area network or to the internet (or even to a cell phone network if a tablet is used as a terminal or access device).

Source: I//oasis.col.org/handle/11599/829/restrictedresource?bitstreamId=275

Employability

The capacity of a person to secure a job, to keep it, to cope with changing technology and labour market conditions and to build a career. Relates to portable competencies and qualifications that enhance an individual's capacity to make use of the education and training opportunities available in order to secure and retain decent work.

Source:
https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Employability#start

Equivalence of certificates

International evaluation and official recognition of academic degrees and/or certificates and occupational qualifications.

Source :
https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Equivalence+of+certificates#start

Evaluation

Evaluation is the systematic and objective assessment of an ongoing or completed policy, plan or programme, including its design, implementation and results. It aims to assess the relevance and fulfilment of objectives and strategies with the intention of informing decision-making. 'Formative' evaluation relates to ongoing activities and helps guide implementation. 'Summative' evaluation assesses the results of a particular initiative, after completion.

Source: https://unesdoc.unesco.org/ark:/48223/pf0000234819

Formal education and training

Education that is institutionalised, intentional and planned through public organizations and recognised private bodies and -in their totality- constitute the formal education system of a country. Formal education programmes are thus recognised as such by the relevant national education authorities or equivalent authorities, e.g any other institution in cooperation with the national or sub-national education authorities. Formal education consists mostly of initial education. Vocational education, special needs education and some parts of adult education are often recognised as being part of the formal education system.

Source: https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Formal+education+and+training#start

Green skills

Knowledge, abilities, values and attitudes needed to live, work and act in economies and societies seeking to reduce the impact of human activity on the environment.

- Skills for the green economy consist of:
    - transversal skills, linked to sustainable thinking and acting, relevant to all economic sectors and occupations;
    - specific skills, required to adapt or implement standards, processes and services to protect ecosystems and biodiversity, and to reduce energy, materials and water consumption;
    - highly specialised skills, required to develop and implement green technologies such as renewable energies, sewage treatment or recycling;
- skills for the green economy are also referred to as skills for green jobs, skills for the green transition or green skills.

Source : Cedefop Glossary. https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?search=skills&letter=S

Informal learning

Forms of learning that are intentional or deliberate but are not institutionalized. They are less organized and structured than either formal or non-formal education. Informal learning may include learning activities that occur in the family, in the work place, in the local community, and in daily life, on a self-directed, family-directed or socially-directed basis.

Source: https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

Acquisition of knowledge, know-how, information, values, skills and competences in the framework of daily activities – work, family or leisure – which are not explicitly designated as learning activities in terms of objectives, time or learning support.

- Informal learning may be unintentional from the learner's perspective;
- its outcomes may be validated and certified;

- informal learning is also referred to as experiential or incidental/random learning;
- this term is close to, but not synonymous with: non-formal learning.

Source: https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?search=skills&letter=I

Informal sector

Part of the market economy in that it produces (legal) goods and services for sale or other forms of remuneration, covers informal employment both in informal enterprises (small unregistered or unincorporated enterprises) and outside informal enterprises; not recognised or protected under existing legal and regulatory frameworks.

Source : https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Informal+sector#start

International qualifications

Certificate, diploma or title awarded in several countries by a legally established international authority (association, organisation, sector or company) or by a national body accredited by an international authority.

- International qualifications are designed in compliance with standards (i.e. entry requirements, learning content, learning outcomes, assessment and certification) established by an international body;
- they are issued in a broad range of sectors and professions, e.g. accounting, administration and management, language teaching, education and training, financial services, industry (e.g. welding), ICT, personal services (e.g. hairdressing), sports and leisure, transport (road, air and maritime);
- this term is close to, but not synonymous with: transnational qualification / transnational certification.

Source: Cedefop Glossary. https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?letter=I#glossary-150172

Key competencies

The application of universal knowledge and skills across a range of social, work and geographical settings. Key competences are also referred to as critical cross-field outcomes, transferable skills and core competences.

Source: https://unesdoc.unesco.org/ark:/48223/pf0000242887

Knowledge, skills and attitudes all individuals need for personal fulfilment and development, employability, social inclusion, sustainable lifestyle, successful life in peaceful societies, health-conscious life management and active citizenship.

In its Recommendation on key competences for lifelong learning (2018), the Council of the European Union sets out eight key competences:

- literacy competence;

- multilingual competence;
- mathematical competence and competence in science, technology and engineering;
- digital competence;
- personal, social and learning to learn competence;
- citizenship competence;
- entrepreneurship competence;
- cultural awareness and expression competence.

Source: Cedefop Glossary. https://www.cedefop.europa.eu/en/tools/vet-glossary/glossary?letter=K

Knowledge

Knowledge is central to any discussion of learning and may be understood as the way in which individuals and societies apply meaning to experience. It can therefore be seen broadly as the information, understanding, skills, values and attitudes acquired through learning. As such, knowledge is linked inextricably to the cultural, social, environmental and institutional contexts in which it is created and reproduced.

Source: https://unevoc.unesco.org/home/TVETipedia+Glossary/lang=en/show=term/term=Knowledge#start

Knowledge means the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of work or study. In the context of the EQF, knowledge is described as theoretical and/or factual.

Source : EQF Recommendation 2017. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Learning outcomes

Statements of what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and competence.

Source : EQF Recommendation 2017. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Level descriptor

A statement describing learning achievement at a particular level of the National Qualifications Framework (NQF) that provides a broad indication of the types of learning outcomes and assessment criteria that are appropriate to a qualification at that level.

Source: https://hr.saqa.co.za/glossary/pdf/NQFPedia.pdf

Lifelong learning

Learning that takes place in all contexts in life – formally, non-formally and informally. It includes learning behaviours and obtaining knowledge; understanding; attitudes; values and

competencies for personal growth, social and economic wellbeing, democratic citizenship, cultural identity and employability.

Source: https://hr.saqa.co.za/glossary/pdf/NQFPedia.pdf

Module

A course or part of a course in the context of a modular programme. A module may be taken singularly or combined with other modules offered.

Source: https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

Massive Open Online Course (MOOCs)

Online distance courses that are free or low cost, and that can be accessed by all willing learners, often without entry requirements.

Source: OECD: The Emergence of Alternative Credentials (2016). https://one.oecd.org/document/EDU/WKP(2020)4/En/pdf

Micro-credential

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.

Source: Council Recommendation on a European approach to micro-credentials for lifelong learning and mobility (2022). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02)

A micro-credential is a certification of assessed learning that is additional, alternative, complementary to or a component part of a formal qualification.

Source: Beverley Oliver. Making micro-credentials work for learners, employers and providers.

https://dteach.deakin.edu.au/wp-content/uploads/sites/103/2019/08/Making-micro-credentials-work-Oliver-Deakin-2019-full-report.pdf

National qualifications framework

European Qualifications Framework Recommendation of 2017 defines NQF as “A policy and instrument for the development and classification of qualifications according to a set of criteria for specified levels of learning achieved, which aims at integrating and coordinating national qualifications subsystems and improve the transparency, access, progression and quality of qualifications in relation to the labour market and civil society”.

Source:

https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32017H0615(01)&from=EN

An instrument for the development, classification and recognition of skills, knowledge and competencies along a continuum of agreed levels. It is a way of structuring existing and new qualifications, which are defined by learning outcomes – clear statements of what the learner must know or be able to do, whether learned in a classroom, on the job, or less formally. The qualifications framework indicates the comparability of different qualifications and how one can progress from one level to another, within and across occupations or industrial sectors (and even across vocational and academic fields if the NQF is designed to include both vocational and academic qualifications in a single framework).

Source:
https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/instructionalmaterial/wcms_103623.pdf

National Qualifications System

This includes all aspects of a country's activity that result in the recognition of learning. These systems include the means of developing and operationalising national or regional policy on qualifications, institutional arrangements, QA processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society. Qualifications systems may be more or less integrated and coherent. One feature of a qualifications system may be an explicit framework of qualifications.

Source : OECD (2007), *Qualifications Systems: Bridges to Lifelong Learning*, Education and Training Policy, OECD Publishing, Paris, https://doi.org/10.1787/9789264013681-en.

Non-formal education

Education that takes place outside the formal system on either a regular or an intermittent basis. https://unesdoc.unesco.org/ark:/48223/pf0000029940

Non-formal learning: Planned learning activities, not explicitly designated as learning, towards the achievement of a qualification or part qualification; often associated with learning that results in improved workplace practice.

Source: SAQA, Standard Glossary of Terms. https://hr.saqa.co.za/glossary/pdf/NQFPedia.pdf

Online credential

The electronic representation of the different types of learning acquired and mastered by an individual (examples include the Europass CV, test-based credentials, online badges and online certificates).

Source: https://unesdoc.unesco.org/ark:/48223/pf0000029940

Online learning

Online learning is e-learning with a mandatory involvement of a digital network, which a learner needs in order to access at least part of the learning materials and services. Online learning refers to network-enabled teaching and learning that allows the learner to have increased interaction with content, teacher and other learners.

Source: UNEVOC. https://unevoc.unesco.org/home/tvetipedia+glossary/lang=en/show=term/term=Online+learning

Open and distance learning

An approach to learning that focuses on freeing learners from constraints of tme, space and place while offering flexible learning opportunities. It allows learners to work and combine family responsibilities with educational opportunities.

Source: https://www.sadc.int/sites/default/files/2022-07/Regional_ODL_Strategic_Plan_2022_2030.pdf

Prior learning

The term "recognition of prior learning" should be understood as a process, undertaken by qualified personnel, of identifying, documenting, assessing and certifying a person's competencies, acquired through formal, non-formal or informal learning, based on established qualification standards.

Source: https://unevoc.unesco.org/home/TVETipedia+Glossary/show=term/term=Recognition+of+prior+learning

Programme

In ISCED, an education programme is defined as a coherent set or sequence of educational activities or communication designed and organized to achieve pre-determined learning objectives or accomplish a specific set of educational tasks over a sustained period. Objectives encompass improving knowledge, skills and competencies within any personal, civic, social and/or employment-related context. Learning objectives are typically linked to the purpose of preparing for more advanced studies and/or for an occupation, trade, or class of occupations or trades but may be related to personal development or leisure. A common characteristic of an education programme is that, upon fulfilment of learning objectives or educational tasks, successful completion is certified.

Source: https://uis.unesco.org/sites/default/files/documents/international-standard-classification-of-education-isced-2011-en.pdf

Portability

Means the ability for a credential-holder to store their micro-credentials in a system of their choice, to share the credential with a party of their choice (whether national or transnational) and for all parties in the exchange to be able to understand the content and verify the authenticity of the credentials. This enables portability between and within education and training sectors, in the labour market and across countries.

Source: Council Recommendation on a European approach to micro-credentials for lifelong learning and mobility (2022). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02)

Providers of micro-credentials

Education and training institutions and organisations, social partners (i.e. organisations representing workers and employers), employers and industry, civil society organisations, public employment services (PES) and regional and national authorities, and other types of actors designing, delivering and issuing micro-credentials for formal, non-formal and informal learning.

Source: Council Recommendation on a European approach to micro-credentials for lifelong learning and mobility (2022). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02)

Qualification

Means a formal outcome of an assessment and validation process which is obtained when a competent authority determines that an individual has achieved learning outcomes to given standards.

Source: European Qualifications Framework (EQF) Recommendation of 22/05/2017, Annex I. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

A registered national qualification consisting of a planned combination of learning outcomes which has a defined purpose or purposes, intended to provide qualifying learners with applied competence and a basis for further learning and which has been assessed in terms of exit level outcomes, registered on the NQF and certified and awarded by a recognised body.

Source: SAQA, https://hr.saqa.co.za/glossary/pdf/NQFPedia.pdf

Quality assurance

Processes involved with ensuring that relevant standards and requirements for teaching, learning, assessment, and management have been met in accordance with legal and or organisational requirements.

Source : https://unevoc.unesco.org/home/tvetipedia+glossary/lang=en/show=term/term=Quality+assurance#start

Processes and procedures for ensuring that qualifications, assessment and programme delivery meet certain standards.

Source: https://www.ilo.org/sites/default/files/wcmsp5/groups/public/@ed_emp/@ifp_skills/documents/instructionalmaterial/wcms_103623.pdf

Recognition

'Formal recognition of learning outcomes' means the process of granting official status by a competent authority to acquired learning outcomes for purposes of further studies or employment, through (i) the award of qualifications (certificates, diploma or titles); (ii) the validation of non-formal and informal learning; (iii) the grant of equivalence, credit or waivers.

Source: European Qualifications Framework (EQF) Recommendation of 22/05/2017, Annex I. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Recognition of Prior Learning

The Recognition of Prior Learning (RPL) is a process through which formal, non-formal and informal learning is measured, mediated for recognition across different contexts and certified against the requirements for credit, access, inclusion or advancement in the formal education and training system or workplace.

Source: SAQA. National Policy and Guidelines for the Implementation of RPL (amended in March 2019). https://www.saqa.org.za/wp-content/uploads/2023/02/National-Policy-and-Criteria-for-the-Implementation-of-RPL-Amended-in-March-2019.pdf

Regional Qualifications Framework

A broad structure of levels of learning outcomes that is agreed by countries in a geographical region. A means of enabling one national framework of qualifications to relate to another and, subsequently, for a qualification in one country to be compared to a qualification from another country.

Source: ASEAN QRF: ASEAN Qualifications Reference Framework, A Practical Guide and All you Need to Know. Page 33. https://asean.org/wp-content/uploads/2018/12/AQRF-Publication-2018-Final.pdf

Skills

'Skills' means the ability to apply knowledge and use know-how to complete tasks and solve problems. In the context of the EQF, skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments.

Source: European Qualifications Framework (EQF) Recommendation of 22/05/2017, Annex I. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=oj:JOC_2017_189_R_0003

Stackability

The possibility, where relevant, to combine different micro-credentials and build logically upon each other. Decisions to 'stack' or combine credentials lie with the receiving organisation (e.g. education and training institutions, employers, etc.) in line with their practices and should support the goals and needs of the learner. Stacking does not create an automatic entitlement to a qualification or a degree. Such decisions are made by regional and national authorities or institutions in line with their awarding processes.

Source: Council Recommendation on a European approach to micro-credentials for lifelong learning and mobility (2022). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32022H0627(02)

Stakeholder

A person, group or organization that has an interest or concern in, or can be affected by the results of, a particular action, objective, system or policy. It is good practice to consult and involve all stakeholders in decisions which affect them.

Source:
https://www.open.edu/openlearncreate/mod/glossary/view.php?id=148117&mode=search&hook=stakeholder&fullsearch=1

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