

IQ-DigitS

*Interoperability of Qualifications
- by building Sustainable Digital
credentials Infrastructure*

Development of a common methodology for the adaptation of existing curricula towards modular learning, based on learning outcomes and micro-credentials

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- Abstract

The internationalisation of vocational education and training (VET) and non-formal education is strongly emphasised by national and European strategic documents. Besides other objectives, this comprises not only the use of a common micro-credential framework but also quality assurance measures. To contribute to this objective, one of the aims of the IQ-DigitS project, supported by the European Commission, was to find a common methodology for the adaptation and development of curricula in both non-formal education and VET after mapping similarities and differences on a system level in European countries as a very first step of this project. This methodology should also support modular learning and be based on learning outcomes. As a prerequisite for finding a common methodology, another desk research has been conducted to analyse existing European Union (EU)-strategies and requirements for micro-credentials and quality assurance in non-formal education and VET. After proposing a methodology based on this analysis and the existing European Digital Credentials Infrastructure (EDCI), it was discussed among educational experts in structured workshops at a training activity. The results have been included in this report. The main findings were that a common methodology shows opportunities such as the promotion of internationalisation and interoperability of course programs, but is challenged e.g., by the high regulation of national VET systems and thus the lack of compatibility when developing curricula. Also, quality assurance measures vary in different countries. As a next step of this project the methodology will be further tested and refined to serve specific needs.



1 Introduction

Problem definition and objectives

More and more, the European Commission as European countries (EU member countries and beyond) aim to find solutions to transform the existing national non-formal education and VET systems into a common European approach. Especially, a framework based on micro-credentials seems promising to establish a transparent and flexible system based on learning outcomes. However, this system is not yet well established among non-formal education and VET providers. On the one hand, the educational systems are either very regulated within the national education systems (VET) or only little regulated in many countries (non-formal education). Therefore, to find a common transnational methodology may be hard to find. On the other hand, there is no common definition for micro-credentials, learning outcomes, etc. yet.

The European Commission started to initiate a public consultation and to collect ideas on a possible common European approach for micro-credentials in 2021. As a result of this consultation, the issue of quality assurance was raised as essential to establish a transparent and trustful system of micro-credentials in non-formal education and VET.

Also, after analysing the findings of the first project result of the IQ-DigitS project, which aimed to map already existing methodologies find a common methodology for adapting/developing curricula in non-formal education and VET, it was clear that the education systems of only four countries were very different in terms of legislation, regulation, and quality assurance even though they implemented the same EU guidelines and strategies.

Therefore, the final conclusions and recommendations from PR1 for the development of a common methodology for curriculum development/adaptation in non-formal education/VET were as following:

1. Education programs should be developed in accordance with the labour market demands.



2. Formal programs are less flexible and therefore non-formal education is a field which may help bridge the gap between the education system and the market.
3. clear quality standards are needed.
4. A standardised format with obligatory sections should be proscribed.
5. The methodology should be based on modular learning, based on sets of learning outcomes, and based on contemporary pedagogy and andragogy
6. The qualification should also contain obligatory elements.

Objectives

As an attempt to build up on the current discussions within Europe and to contribute to the development of a common transnational approach of micro-credentials in non-formal education and VET, the objectives of this project result 2 are as following:

1. Map European strategies on micro-credentials and quality assurance tools in VET and non-formal education.
2. Develop a standardised way of issuing micro-credentials and assuring quality development in VET and non-formal education.

Methodology

To achieve the objectives, the project team agreed on the following methodology: 1.) A desk research has been carried out to analyse and discuss current EU requirements, strategies and challenges regarding micro credentials. Additionally, existing standards and elements of micro-credentials have been identified based on research in different European strategies and frameworks. The last topic of the desk research was to find and discuss existing quality frameworks applied in non-formal education and VET.

This desk research served as a prerequisite for 2) the development of a possible common methodology to develop new curricula and/or to adapt existing curricula in non-formal education and VET. This methodology was presented and discussed at a training activity of this project in December 2022. All results during this workshop, especially opportunities and



challenges of applying this methodology, were documented, and integrated in this report.

To ensure the further development of this topic and give recommendations, 3) means of portability, storage and sharing of micro-credentials will be given based on the previous analyses and discussions, and additionally based on an online questionnaire among the participants at the end of the LTTA.

2 Desk research

2.1 Specification of EU-requirements and strategies

Current situation regarding micro-credentials in AE, and VET in the EU

Lifelong learning is a key element in ensuring knowledge, skills, and competences for thriving in both personal lives and professional lives. Micro-credentials certify the learning outcomes of short-term learning experiences, and they further offer a flexible yet more targeted way for people to develop the skills, knowledge and competences needed for personal and professional development. Micro-credentials are currently being developed rapidly across all of Europe and other countries around the world and are being made available by a wide variety of both public and private providers as a response to the demand for flexible learner-centred forms of education and training.

In December 2021, a proposal was put forward by the European Commission, for a Council recommendation on a European approach to micro-credentials for lifelong learning and employability. The intentions behind the proposal were to bring down the barriers for learning and to improve accessibility to quality education throughout all of the EU. The proposal further called upon the relevance of inclusion and quality in lifelong learning, as they are proclaimed in the European Pillar of Social Rights.

Then, on January 26, 2022, the joint Advisory Committee for Vocational Training and Directors General for Vocational Education highlighted the findings from research on micro-credentials as a facilitator for learning for



employment, conducted by the European Centre for the Development of Vocational Training (CEDEFOP). This study attempts to provide a better understanding of the role that micro-credentials play as an element of training, education, and learning, and supporting the employment-relevant training for labour-markets. It further aims to offer new knowledge on the characteristics of micro-credentials as well as their value to individual learners and employees, and the impact it has on existing qualifications and recognition systems. These specifics are highlighted as there is an uncertainty linked to the functions of micro-credentials and a need for more awareness regarding their functions as well as potential for boosting lifelong learning.

In relation to the abovementioned proposal for a recommendation, it is necessary to mention that the commission had already proposed a strategy for micro-credentials in the European Skills Agenda 2020. This proposal suggests developing skills in the modern labour market which rapidly changes all the time, and mainly happened due to the major changes in labour markets which was seen during and after the COVID-19 crisis, where everyone was forced to adapt to a new way of working life. There was a definite need to continually update knowledge, skills, and competences, as well as to fill the gap between education and training, which fit well into the definition of why micro-credentials are a necessary means to update the labour market. The European Skills Agenda 2020 further links to the European Digital Strategy, the Industrial and Small and Medium Enterprise Strategy, the Recovery Plan for Europe, and an increased support for youth employment. The agenda includes 12 actions organised around four blocks, whereas Actions 9-11 seem to be most related to the topic of this report:

- A call to join forces in a collective action:
 - o Action 1: A Pact for Skills
- Actions to ensure that people have the right skills for jobs:
 - o Action 2: Strengthening skills intelligence
 - o Action 3: EU support for strategic national upskilling action
 - o Action 4: Proposal for a Council Recommendation on VET
 - o Action 5: Rolling out the European Universities Initiative and upskilling scientists



- Action 6: Skills to support the twin transitions
- Action 7: Increasing STEM graduates and fostering entrepreneurial and transversal skills
- Action 8: Skills for life
- Tools and initiatives to support people in their lifelong learning pathways:
 - Action 9: Initiative on individual learning accounts
 - Action 10: A European approach to micro-credentials
 - Action 11: New Euro pass platform
- A framework to unlock investments in skills:
 - Action 12: Improving the enabling framework to unlock Member States' and private investments in skills

Existing goals, strategies, and requirements in the EU regarding micro-credentials in AE and VET in general

As a response to the proposal for the European Commission, the council made a resolution titled “Council Resolution on a Strategic Framework for European Cooperation in Education and Training Towards the European Education Area and Beyond (2021-2030)”. The resolution has 5 strategic priorities:

1. Improving quality, equity, inclusion, and success for all in education and training.
2. Making lifelong learning and mobility a reality for all.
3. Enhancing competences and motivation in the education profession.
4. Reinforcing European higher education.
5. Supporting the green and digital transitions in and through education and training (PO EU).

Even though these are described as being strategies, one can also argue that they are the goals of the resolution, and generally of implementing micro-credentials in AE and VET. Another clear goal of implementing micro-credentials is, as has been mentioned earlier, to improve the skills needed for lifelong labour as well as better employability possibilities in the European labour market. A survey by the European Training Foundation (ETF) about education, training, and labour market stakeholders outside of



the EU also found that the main motivation behind the issue and uptake of micro-credentials is to address specific work needs and recognize learning outcomes achieved outside of formal education.

A case study was conducted regarding micro-credentials in VET to find out more about what requirements and strategies should look like in these regards. This study found that “In the context of quickly changing and emerging skills needs and the need for upskilling and reskilling, micro-credentials can be an effective tool to supplement initial VET qualifications”. However, the study also advised that micro-credentials should not replace initial vocational qualifications. On an international level the research on the interest in micro-credentials found that in the Australian VET system, micro-credentials are used primarily for regulation and maintenance of skills regarding workplace safety, emergency preparedness and with authority to operate. Furthermore, these micro-credentials were mainly provided by private sectors, and thus both employers and individuals were prepared to pay for the training due to a regulatory requirement that the training has a recognized value.

The research was further done on 8 different European countries, being Denmark, Iceland, Norway, France, Germany, Netherlands, Lithuania, and Finland. The study found that in Denmark the system is very flexible and micro-credentials are used mainly for low skilled workers. In Norway courses are used to address skills gaps and are offered by providers of initial vocational education, vocational colleges, higher education institutions and similar. In France, micro-credentials are discussed in the context of the transformation of the current VET system. In Germany, there is also ongoing discussion about modularization and certified training supplements in the VET system. In the Netherlands, they have a digital certificate platform called Edubadges which enables organisations to award students or workers with evidence (a badge) of the skills or knowledge they have obtained. In Lithuania, it was found that a vocational training centre has concentrated its efforts around actively modernising practical training opportunities through modularization. Lastly, in Finland, two schools of professional teacher education and a VET provider have co-created a competence-based



professional development program that supports teachers in building work life ICT skills and knowledge.

Regarding the requirements for micro-credentials in AE and VET on a European-based level, it already has been mentioned earlier, that there is no standardised guide for the use of micro-credentials. This lack makes it difficult for learners, employers, education and training institutions, and quality assurance agencies to understand the value of them, which further leads to a lack of trust, and proves why transparency is crucial. One of the key recommendations is therefore to adopt a definitive list of critical information elements which micro-credentials are obliged to provide, which would be the EU standard.

Existing challenges regarding micro-credentials, and how should they be tackled

As is the case with most project proposals, there are challenges to implementing the recommended means (see Figure 1). In the case of micro-credentials there are of course also challenges, which the council touches upon themselves.



Figure 1: Challenges regarding micro-credentials (own figure)

The first problem regarding micro-credentials has also been mentioned earlier above, and it is the lack of a clear definition and global consensus. Even though there is an increasing global interest in the topic of micro-credentials, there is a gap in the shared definition of it, and this has proven to be the most substantial barrier to further developing the term, especially because of the way it is then perceived by learners as well as stakeholders. Micro-credentials are furthermore still viewed by many countries as being an alternative or supplementary strategy of teaching. The term is new and is still being developed which is the main reason behind this problem, however the field is rapidly evolving, and new initiatives and priorities constantly emerge, which has also been noted by the OECD.

Another problem is directly connected to the abovementioned one, and it is the lack of trust for the term, which naturally happens due to the missing shared definition. The lack of a definition leads to a distrust of the reliability, quality and authenticity by employers, learners, and education and training institutions. The study from CEDEFOP mentioned above, also found a high percentage of distrust among national authorities and VET providers. A way to steer around this problem is for the council to identify the necessary policy measures and actions needed to make the term better understandable and for organisations as well as individuals to better trust them. Another issue that might occur in relation to this is a lack of transparency. The issues that have just been described lead to a lack of transparency, which limits the use of micro-credentials. Another consideration regarding these issues is the lack of digital solutions issuing and sharing experiences with micro-credentials. Lastly, micro-credentials are not recognized for data collection in the EU or other similar institutional levels. When micro-credentials become more widespread as a method within learning, there will be a need for better data collection, as well as transparency.

The last example of an issue with micro-credentials is a lack of uptake. This problem is a combined effect of all the above-mentioned issues, as the lack of a clear definition, trust and transparency means that there is not yet a wide and inclusive acceptance, awareness, and uptake of the term, even though there is a notable interest in micro-credentials. There are further



uncertainties about the value and benefits that micro-credentials can produce for both personal and professional lives. Thus, it is crucial that the European Union works to address the gap on awareness and work towards utilising the full potential of micro-credentials. In the future, the uptakes on micro-credentials will also be highly dependent on availability of information and guidance, for learners and employers.

One of the first steps that the European Commission has taken to deal with the challenges that micro-credentials still pose is to develop the European Digital Credentials Infrastructure (EDCI). EDCI will support efficiency and security in how credentials, like qualifications and other learning achievements, should be recognized unequivocally across Europe.

The infrastructure has noticeably increased micro-credentials' visibility and transparency since it allows certified issuers at European level to create digitally signed credentials. The EDCI offers a series of advantages because, in the form of a digital file, credentials can contain very valuable information to help their recognition and understanding by employers and other institutions. Benefits of the EDCI include:

1. Reducing administration work for students, education and training providers and businesses.
2. Decreasing the impact of credential-fraud and contributing to paperless documentation.
3. Supporting instant verification.
4. Allowing automatic verification of information such as the identity of the awarding body or the quality assurance of a qualification.
5. Providing a legal presumption of authenticity across the EU as well as equivalence to paper-based credentials with an e-Seal signed authentication mechanism.
6. Issuing, storing, verifying, and viewing credentials in users' existing software in a format supported across all EU Member States as well as compatible with other digital wallet services.
7. Facilitating interoperability of credentials among various EU languages.



In the context of the European project IQ-DigitS - Interoperability of Qualifications by building Sustainable Digital Credentials Infrastructure, Project Result 3 will be dedicated to the EDCl, and it will develop guidelines and tutorials for VET and AE providers to help them issue digital micro-credentials to integrate them in their educational offer.

2.2 EU-standards of constitutive elements of micro-credentials requirements

Current EU-standards and systems concerning issuing and recognizing micro-credentials in different areas of education (AE, VET, etc.)

‘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.

According to a “European approach to micro-credentials (2021)”, designing and issuing micro-credentials should be based on ten universal principles which are applicable in all sectors:

1. **Quality:** Micro credentials are subject to internal and external quality assurance by the system producing them (e.g., the education, training, or labour market context in which the micro-credential is developed and delivered). Quality assurance processes must be fit-for-purpose, be clearly documented, accessible, and meet the needs of learners and stakeholders. External quality assurance is based primarily on the assessment of providers (rather than individual courses) and the effectiveness of their internal quality assurance procedures.



2. **Transparency:** Micro-credentials are measurable, comparable, and understandable with clear information on learning outcomes, workload, content, level, and the learning offer, as relevant.
3. **Relevance:** Micro-credentials should be designed as distinct, targeted learning achievements, and learning opportunities leading to them are updated as necessary, to meet identified learning needs. Cooperation between education and training organisations, employers, social partners, other providers, and users of micro-credentials is encouraged to increase the relevance of the micro-credentials for the labour market
4. **Valid assessment:** Micro-credential learning outcomes are assessed against transparent standards
5. **Learning Pathways:** Micro-credentials are designed to support flexible learning pathways, including the possibility to stack, validate, and recognize micro-credentials from across different systems.
6. **Recognition:** Recognition has a clear signalling value of learning outcomes and paves the way for a wider offer of such small learning experiences in a comparable way across the EU. Micro-credentials are recognized for academic, or employment purposes based on standard recognition procedures used in recognizing foreign qualifications and learning periods abroad, when dealing with micro-credentials issued by formal education providers.
7. **Portability:** Micro-credentials are owned by the credential-holder (the learner) and may be stored and shared easily by the credential-holder, including through secure digital wallets (e.g., Europass), in line with the General Data Protection Regulation. The infrastructure for storing data is based on open standards and data models, this ensures interoperability and seamless exchange of data, and allows for smooth checks of data authenticity
8. **Learner-centred:** Micro-credentials are designed to meet the needs of the target group of learners. Learners are involved in the internal and external quality assurance processes and their feedback is considered as part of the continuous improvement of the micro-credential.



9. Authentic: Micro-credentials contain sufficient information to check the identity of the credential-holder (learner), the legal identity of the issuer, and the date and location of issuance of the micro credential.
10. Information and guidance: Information and advice on micro-credentials should be incorporated in lifelong learning guidance services and should reach the broadest possible learner groups, in an inclusive way, supporting education, training, and career choices.

European standards for the design and issuance of micro-credentials

According to the “European Approach To Micro-Credentials Output Of The Micro-Credentials Higher Education Consultation Group” (2020), there are already a number of tools and standards that have emerged from the collaboration within the EU and the Bologna Process. The main goal is to adapt existing European tools to support quality, transparency, portability, and comparability of micro-credentials in the EU.

The EU approach to micro-credentials consists of several key building blocks:

- A common and transparent definition
- A defined list of critical information elements to describe micro-credentials
- Alignment to National Qualifications Frameworks (NQFs) and the European Qualifications Framework (EQF): defined levels, standards for describing learning outcomes
- Quality assurance standards
- Defined credits: European Credit Transfer and Accumulation System (ECTS), defined learning outcomes and notional workload
- Recognition: for further studies and/or employment purposes
- Portability: issuing, storage and sharing of micro credentials
- Platform solutions for the provision and promotion of courses leading to micro-credentials
- Incentives to stimulate the uptake of micro-credentials

The role of the European Qualification Framework

EQF is a reference framework for qualifications based on level descriptors for learning outcomes, applicable to all levels of qualifications. It provides a



potential basis for the inclusion of micro credentials if Member States wish to include these in their national qualification frameworks, as the EQF can be a referencing tool to indicate the level of micro-credentials. Furthermore, it is comprehensive in terms of provision as it is based on outcomes of learning.

Enhancing transparency using the ECTS system

ECTS is suitable for micro-credentials, as it is based on learning outcomes and makes learning measurable. ECTS could be used in the transcripts or certificates for micro-credentials and could thereby contribute to their transparency. ECTS is currently primarily used within the field of higher education, but its use could be expanded to other sectors, or a similar logic can be applied. Using ECTS credits as a measure of the volume of micro-credentials would be a basic element that could allow micro-credentials to become stackable in a transparent way and based on learning outcomes and the workload. This could also facilitate the national and international recognition of short courses as independent modules.

Common micro credential Framework (CMF)

The Common Microcredential Framework (CMF) is developed by the European MOOC Consortium consisting of FutureLearn (UK), FUN (France), MiriadaX (Spain and IberoAmerica), EduOpen (Italy), iMooX, and OpenupEd/ the European Association of Distance Teaching Universities (EADTU). The Common Microcredential Framework (CMF) uses the European Qualification Framework (and other national qualification frameworks of recognised universities) to provide high-quality courses that award academic credit. The EQF is a common European reference framework whose purpose is to make qualifications more readable and understandable across different countries and systems. To meet the requirements of the CMF, micro-credentials must meet the following specifications:

- Has a total workload (or study time) of 4-6 ECTS (100-150 hours), including revision for, and completion of, the summative assessment.
- Be levelled at Levels 5-8 in the European Qualification Framework or the equivalent levels in the university's national qualification



framework or be levelled at Level 5 and fulfil the criteria of the European Credit Transfer and Accumulation System.

- Provides a summative assessment that awards academic credit, either directly following successful completion of the micro credential or via recognition of prior learning upon enrolment as a student on a university's course of study.
- Uses a reliable method of ID verification at the point of assessment that complies with the recognised university's policies and/or is widely adopted across the platforms authorised to use the CMF.
- Provides a transcript that sets out the learning outcomes for a micro credential, total study hours required, EQF level, and number of credit points earned.

Mandatory and optional elements of micro-credentials

According to the Council Recommendation on a European approach to micro-credentials for lifelong learning and employability (2022), Member States are recommended to adopt and promote the use of:

- a) the definition of micro-credentials as set out in paragraph 5(a);
- b) the European standard elements to describe a micro-credential including the following elements:
 - a. Mandatory elements: Identification of the learner
 - Title of the micro-credential
 - Country(ies)/Region(s) of the issuer
 - Awarding body(ies)
 - Date of issuing
 - 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, QF-EHEA), if applicable
 - Type of assessment
 - Form of participation in the learning activity



- Type of quality assurance used to underpin the micro-credential
- b. Optional elements, where relevant (no exhaustive list)
 - Prerequisites needed to enrol in the learning activity
 - Supervision and identity verification during assessment (unsupervised, with no identity verification, supervised with no identity verification, supervised online, or onsite with identity verification)
 - Grade achieved
 - Integration/stackability options (stand-alone, independent micro credential/integrated, stackable towards another credential)
 - Further information

These standard elements will be included in a European data model that specifies a common format for describing micro-credentials. The data model will be available as an open standard to be used by providers of micro-credentials, where relevant, and could support interoperability and easier exchange of data on micro-credentials.

According to the European approach to micro-credentials (2021), the basis for trust in micro-credentials is transparency. Micro-credentials should be clearly identified as such with elements that make it possible for learners, education and training institutions, quality assurance agencies, and employers to understand the value and content of micro-credentials and to compare them. The European approach to micro-credentials suggests a list of critical information elements that any micro-credential should provide, and they are the same as the elements stated by the Recommendation above.

Digitalization as a standard for micro-credentials issuing

There is a general agreement that original micro-credentials (certificates) should be issued in digital format and be learner-controlled. Depending on the national regulatory framework and the level of development of digital infrastructures, micro-credentials can also be issued in paper format.



Digital credentials can facilitate portability, transparency, reliability of information and verification of authenticity, and as such support a fast and fair recognition process and enhance stackability.

Digitalization of micro-credentials should consider the main agreed principles of the international community in the field, such as, but not limited to, user-centricity, inclusion and accessibility, subsidiarity and proportionality, openness, data protection by design and by default, interoperability, transparency, etc. This is particularly relevant for micro-credentials taking into consideration the large number of such certificates.

Concerning the digital provision of micro-credentials, internal QA needs to consider the following aspects: appropriateness of digital tools, digital learning materials, pedagogies and assessment methods and support systems for students. Additional guidance to address the digital modes of delivery might be needed (for example teaching staff trained for using digital tools).

2.3 Implementation of quality assurance tools at non-formal VET (and AE) providers

Currently existing quality assurance tools used in the EU-area in non-formal VET, AE and beyond

The implementation of a quality assurance tools in non-formal VET and AE providers is of a key importance, taking in account the findings and conclusions that we have reached during the preparation of the PR1 Mapping of applied methodologies in developing existing curricula of accredited training at VET and AE providers, that the flexibility of the non-formal programs, often affects the quality of the program.

As our research confirmed, very often, educational authorities do not have a national level quality framework in place for non-formal training. Few conditions are challenging in this regard: the number of providers for non-formal education is very fluctuating, the preparation of courses is highly dynamic and implementation of standards requires financial resources.



Although the non-formal education is typically less regulated, and its quality is highly variable, the fact is that much more learners worldwide are involved in non-formal education. Consequently, the non-formal education tends to have a leading role for upskilling adults, in particular those with low levels of skills, and from this perspective has much more potential in bridging the gap between the educational systems and the market needs. Another indisputable fact is that for non-formal education, to be able to serve to this goal and to fill up the gap between the education and the needs of a fast-changing society and labour market, will have to implement the standards which will guarantee the quality of the learning processes, learning outcomes and competences acquired.

Quality assurance involves the systematic review of educational provision to maintain and improve its quality, equity, and efficiency. By the definition, quality assurance represents “all activities involving planning, implementation, evaluation, reporting, and quality improvement, implemented to ensure that all education and training (content of programmes, curricula, assessment, and validation of learning outcomes, etc.) meet the quality requirements expected by stakeholders. Quality assurance encompasses school self-evaluation, external evaluation (including inspection), the evaluation of teachers and school leaders, and student assessments.

Overall, it is possible to identify three approaches to quality assurance in non-formal education:

1. The regulatory approach imposes minimum quality requirements that providers need to meet to be recognized.
2. The advisory approach advises providers on what quality should look like, providing guidelines and examples of good practices for them to follow.
3. The organic approach leaves providers the overall definition of their own professional standards and quality systems.

While theoretically different, these three approaches to quality assurance are not always clear-cut and they can co-exist in many countries.



To operationalize these approaches, two categories of quality assurance tools seem to prevail in the European context: quality certificates and labels, and (self-)evaluations.

Quality certificates and labels impose minimum requirements that training providers need to fulfil to be certified, with the objective of guaranteeing a standard, uniform level of quality of services. Evaluations are done either by providers themselves or by external bodies. External certification bodies could be national, international, public, and private. The most recognizable international certification body is International Organization for Standardization (ISO).

ISO is an independent, non-governmental international organisation with a membership of 164 national standards bodies. Regarding the non-formal education, there are a few ISO standards, that could be obtained by the non-formal education providers:

- ISO 29990:2010 Learning services for non-formal education and training — Basic requirements for service providers
- ISO 21001:2018 Management system for educational organisations
- ISO 29991:2020 Language learning services outside formal education
- ISO 29992:2018 Assessment of outcomes of learning services – Guidance
- ISO 29993:2017 Learning services outside formal education – Service requirements
- ISO 29994:2021 Learning services outside formal education – Additional requirements for distance learning
- ISO 29995:2021 Learning services outside formal education – Terminology

Quality initiatives for ISO standardisation almost exclusively originate by the providers (bottom-up approach).

Other external bodies that can provide certification under prescribed procedure are the national bodies whose competences are established and/or regulated by a legal act. Often the use of public funds for non-formal education providers is restricted with certification by these bodies.



Non-formal providers to be certified by an external body must implement certain procedures and submit proof (documents, reports etc) for compliance, to assure that they fulfil the standards requested by the certification body. External evaluation is performed with on-site visits and inspections, expert consultations, validation of reports, to assess the fulfilment of the required quality standards. If the provider complies with the quality assurance standards, the certification body will issue the appropriate quality label.

(Self-)evaluation methodologies are more convenient for advisory and the organic approaches and generally are based on sets of principles and indicators of quality in education. Self-evaluation methodology for quality assurance in AE is implemented in a few EU countries.

How are quality assurance tools defined, what are the crucial elements?

The creation of educational policies is generally in the competence of the EU member states, and each country has developed its own model for quality assurance in non-formal education. But still there are several initiatives for the introduction of common mechanisms for quality assurance in education on EU level.

In this regard, EQAVET is the most significant initiative for QA in Europe (see Figure 2). By this initiative self-assessment methodology is combined with external evaluation, and it is a promising instrument of quality assurance and development for VET institutions/providers.



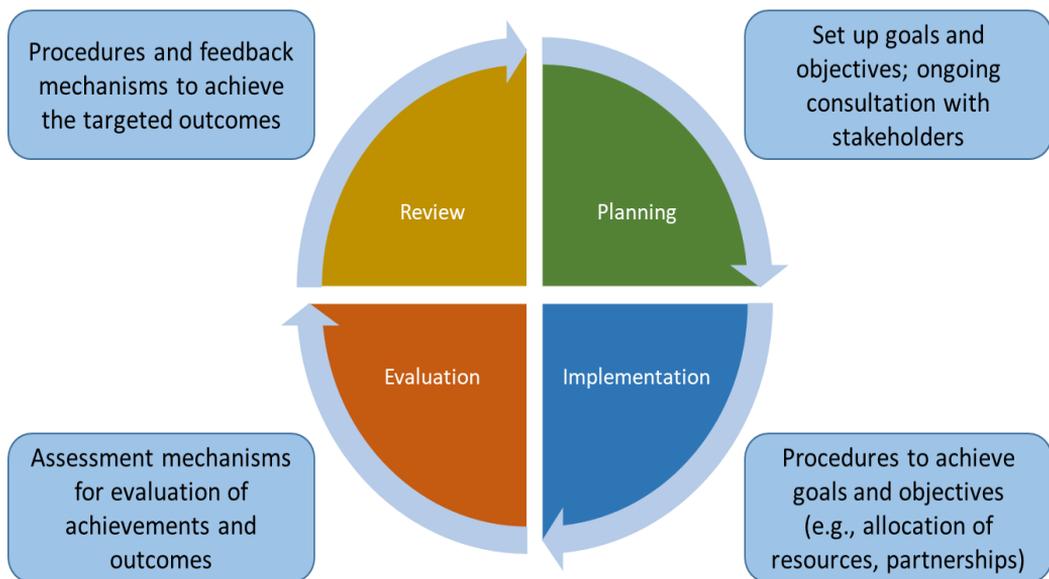


Figure 2: EQAVET Quality Assurance Cycle (own creation)

We could count the Lisbon Strategy 2000-10, as a starting point for development of EQAVET, one of the EU initiatives recommending greater investments in adult learning with the ultimate goal of upskilling and improving both economic development and social inclusion. The European Commission funded the European Forum on Quality in VET as a platform for collaboration between Member countries, the social partners, and the European Commission in the area of quality assurance in VET. The forum developed a work programme for 2001-02, focusing on four central areas:

- (1) quality management approaches for VET providers;
- (2) self-assessment in VET institutions;
- (3) types of examination and certification practices; and
- (4) indicators for a European quality in VET strategy.

Common Quality Assurance Framework (CQAF) for VET was developed in 2004, by which the development of reference levels, common principles for

certification, and common measures, including a credit transfer system for VET, were recommended.

The following year 2005, the European Commission established the European Network on Quality Assurance in VET (ENQAVET) to provide a sustainable platform to support the implementation of the Copenhagen Declaration.

The 2010 Bruges Communiqué defined the priorities for the VET sector up to 2020, prominently including the promotion of flexible pathways between the VET sector, general education, and higher education and the establishment of comprehensive national qualification frameworks based on learning outcomes. The Communiqué highlighted the creation of a European Quality Assurance Reference Framework for Vocational Education and Training (EQARF) and a European Credit System for Vocational Education and Training (ECVET). ECVET allows learners to accumulate and transfer their learning in units, enabling learners to build a qualification at their own pace from learning outcomes acquired in both formal, non-formal and informal contexts. ECVET intends a modular approach in VET provision, with courses described using units of learning outcomes. The same year, the EQAVET network was established to replace the former ENQAVET platform, with the objective of encouraging and supporting the national implementation of the EQARF. Both the EQAVET and ECVET Recommendation were adopted in 2009.

The 2016 New Skills Agenda not only launched the revision of the EQF Recommendation and the Europass Decision, which have since been adopted, but also brought forward a possible revision of the EQAVET and ECVET Recommendations as part of an action to support VET modernisation.

Since adoption of EQAVET and ECVET, nineteen EU countries have made major changes to their QA arrangements for IVET, including self-assessment requirements for providers, and the others have made some adjustments. Twenty countries have made some changes to their QA arrangements for CVET.



Indicative descriptors are also widely used, with over 87% of countries reported that their national QA system included EQAVET indicative descriptors. However, the type and number of indicators and indicative descriptors used varies significantly by country. Some indicators such as 4 and 3 were used by nearly all countries whereas others such as 6A and 6B, 9B and 10B were used by less than seven Member States.

Important finding of so far implementation of EQAVET is that although the framework is general and is applicable to any education, it is mainly used in QA of school-based VET. So, it is not highly accepted among the non-formal AE providers.

Another issue is that the initiatives for AE that are tickling the quality assurance for non-formal and non-VET education are less developed.

In the 2011 Council of the European Union approved a resolution on a renewed European Agenda for Adult Learning (2011/C 372/01) for the 2012-14 period. Among other recommendations, this document called for: raising motivation for participation; information and guidance systems; second-chance opportunities; flexible learning pathways; quality assurance systems and accreditation systems; and AE staff training systems.

In December 2016 the Council of the European Union adopted the Recommendation Upskilling Pathways: New Opportunities for Adults, which made provision for a three-step mechanism focusing on skills assessment, provision of a tailored, flexible, and quality learning offer, and validation and recognition of acquired skills.

In November 2017, the European Commission introduced its vision for a European Education Area by 2025, in which learning, studying, and doing research would no longer be limited by any borders.

Currently the most relevant initiative that includes the quality assurance in AE is the European approach to micro-credentials for lifelong learning and employability.



2.4 Conclusion

Micro-credentials - strategies and standards

Discussions are more and more developing to find common definitions and standards for creating and issuing micro-credentials, but they need to be further developed. Existing solutions for issuing micro-credentials are not widely used within Europe. The system of micro-credentials faces many challenges, e.g., a lack of trust and transparency, no clear definition, and no digital possibility to create and issue credentials.

The European Approach To Micro-Credentials Output Of The Micro-Credentials Higher Education Consultation Group (2020) provides some discussion points in order to find clear and transparent key definitions and standards. The Council Recommendation on a European approach to micro-credentials for lifelong learning and employability, however, provides a good starting point for mandatory and optional elements of micro-credentials.

The EDCI has been established but is not in a productive status yet. However, this seems to be a promising instrument to build on.

Another issue which might be challenging to solve are the different educational systems and regulations in each country. These national systems are often well accepted by the stakeholders (learners, providers, companies, etc.). Thus, it might be hard to convince them to change it because they fear loss of trust or efforts to clarify transparency, quality assurance, and the certification system.

Quality assurance

Non-formal education for adults is the least regulated category with quality standards, but still has the highest number of adult learners and hence the strongest potential for harmonising mismatches in the labour market.

Most countries in Europe have established systems for introducing quality assurance standards in non-formal AE. Approaches and methodologies differ, and we can identify systems founded on external evaluations, systems founded on self-evaluations (based on pre-defined groups of



indicators for different areas of evaluation) and systems that combine these two methodologies.

In the past two decades, EU countries developed a few frameworks to adopt common quality standards, particularly in higher and VET. As a result of these initiatives, the EQAVET (European Quality Assurance Reference Framework for VET) framework was designed. EQAVET does not prescribe a particular quality assurance system or approach, but provides a framework of common principles, indicative descriptors and indicators that may help in assessing and improving the quality of VET systems and VET provision.

Most of the European countries agree that this tool has enabled the improvement of introducing quality in education. However, the level and degree of adoption of the EQAVET framework across Europe differs.

In that direction, research on the degree of adoption of this tool shows that its implementation is generally carried out in the formal part of VET education, but not among non-formal providers of AE.

3 Analysis and development of a new methodology

3.1 Definition of common principles/standards for curricula development and issuing micro-credentials

In the previous chapter, key strategies and standards have been introduced to demonstrate the rising importance of micro-credentials in the non-formal education and VET sector in Europe. Additionally, these strategy documents also contain definitions to clarify key terms and to establish a common understanding.

"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.” (Council recommendation on a European approach to micro-credentials for lifelong learning and employability, 2021).

“Learning outcome” means statements regarding 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 responsibility and autonomy.” (EQF recommendation 2017)

Additionally, following the literature (European Commission 2021b; Council of the European Union 2017), a learning outcome seems to be the smallest learning unit in the actual discussion. This term should also be applied within the proposed common methodology following.

However, these definitions are lacking clear and specific statements. What is a small volume of learning? How many learning outcomes can be included into one micro-credential? Who is defining transparent and clearly defined criteria? What does quality assurance mean? Which framework can be used? At which point a learning outcome has too many statements of knowledge, skills and responsibility?

It is not easy to find a common methodology based on these not entirely specified definitions and the different education systems across Europe’s countries. However, it might be interesting to change the process and to introduce a possible common methodology of developing/adapting curricula based on micro-credentials firstly, and afterwards discussing a more concrete definition of the term micro-credential for the purposes of this project.

As one of the project goals was to find a common methodology compatible with the EDCl, this platform will be introduced. Afterwards, this structure should be used to introduce a common methodology for the development/adaptation of curricula in non-formal education / VET.



The European Digital Credentials Infrastructure (EDCI)

As outlined in the last chapter, micro credentials are more and more in discussion around Europe. Moreover, issuing credentials digitally has become important for learners to document learning achievements. However, there are still issues in low interoperability between standards, fragmented markets and competing standards. The main goal of EDCI, which was launched within strategy frameworks such as the European Skills Agenda and the European Strategy for Data, was therefore to promote interoperability, standardisation, and legal validity for digitally signed credentials. It has been decided by the Commission to integrate the EDCI with the Europass, a platform to document skills and work experience for job seekers.

The EDCI allows to issue electronically sealed digital records to certify learnings and can be created for any learning types (formal education, training, online courses, etc.). It is possible to create learnings on a modular basis. The EDCI framework consists of several forms which are connected to each other (see Figure 3 and Figure 4).

Basically, Credentials consist of 1 or more achievements which then can be issued as a digital record to the learner. Also, an Entitlement can be included to note the right to e.g., to practise a profession. Additionally, it is possible to include Activities to a Credential, e.g., if an Activity is not assigned to a certain Achievement.

Achievements are the result of acquiring one or more Learning Outcomes within a learning process. This can be a full program or parts of it (e.g., apprenticeships, classes, study visits, theses, short learning programmes, etc.). It depends on how to build up the programme according to the EDCI structure. It would also be possible to create sub-Achievements as parts of one full Achievement. On the EDCI platform you can also choose the mode of learning (blended, online, presential, etc.), the learning setting (formal or non-formal) and the EQF-level. To specify this achievement, several data can be entered, such as volume of learning, maximum duration, ECTS credit points, thematic area, and others.



Learning Outcomes specify what learners know, understand, and can do after a learning process. They are obligatory for creating an Achievement. On the EDCI platform it is possible to set the Learning Outcome type (knowledge or skill), and the acquired skills and competences (cross-sector, occupation specific, sector specific, transversal).

You can also add Activities to Achievements to show how the learners acquired the knowledge and skills (via apprenticeships, classroom or e-learning coursework, job experience, workshop, seminars, etc.) and in which mode of learning. It is also possible to specify the notional workload in hours, the language of instruction, and the start- and end date.

Assessments are used to show to which extent a learner has gained specific knowledge, skills, or competences. Several options are possible such as marked assignment, oral examination, quiz, portfolio work, peer assessment, etc.). Also, the mode of assessment can be selected (blended, online, presential, etc.).

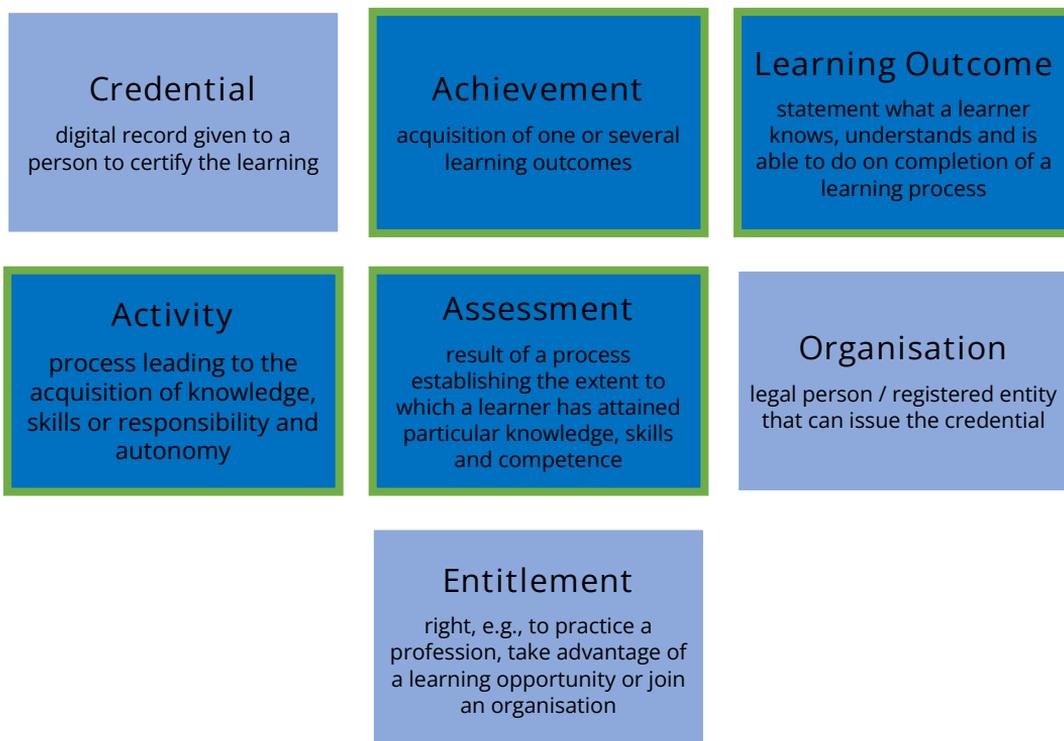


Figure 3: EDCI components (own creation).

The element Organisation might not directly be relevant for the development of curricula. Here, it is possible to enter organisational data (name of the organisation, address, contact possibilities, etc.), and to verify them.

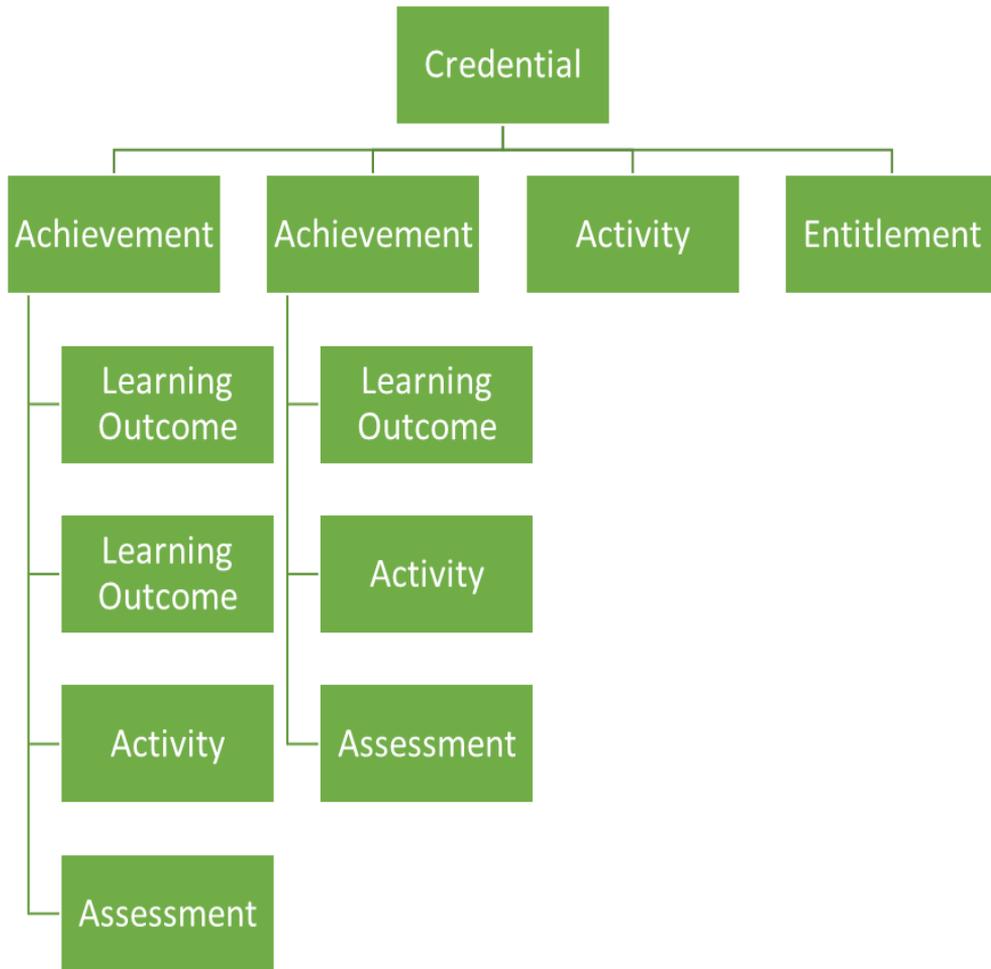


Figure 4: EDCI framework for credentials example (own creation).

Possible methodology for curriculum development

Following the Council’s recommendation’s definition of micro-credentials, that they may be stand-alone or can be combined into larger credentials, it is necessary to set some pre-conditions before proposing a common



methodology for the development/adaptation of curricula in non-formal education and VET.

- One course curriculum might consist of several (micro-) credentials
- 1 or more Achievements can be summarised to one (micro-) credential
- 1 or more Learning Outcomes can be summarised to one Achievement
- Achievements can also consist of Assessments, Activities and Entitlements
- Learning outcomes are the smallest unit of a course curriculum: At least one is mandatory for each Achievement

These pre-conditions are necessary to be able to develop curricula on a modular basis if this is desired. This would support the European principles for the design and issuance of micro-credentials outlined in the Council's recommendation on micro-credentials (2022), especially the Learning pathways: Micro-credentials should be modular to combine credentials to a larger one. The other reason for defining those pre-conditions is the structure of the EDCI platform which needs to be followed.

The proposed methodology to create curricula based on the structure of EDCI consists of 4 steps (see Figure 5). However, there is a preparation step necessary (step 0) which is the creation of an outline of the course curriculum.

0. Develop outline of a course curriculum (title, thematic area, target group, duration, overall ECTS points, mode of learning etc.)
1. Develop possible "modules" which can serve as credentials
2. Develop 1 or more achievements for each module (credential)
3. Develop 1 or more learning outcome and assessments accordingly (if applicable) for each achievement
4. If applicable, develop activities and entitlements



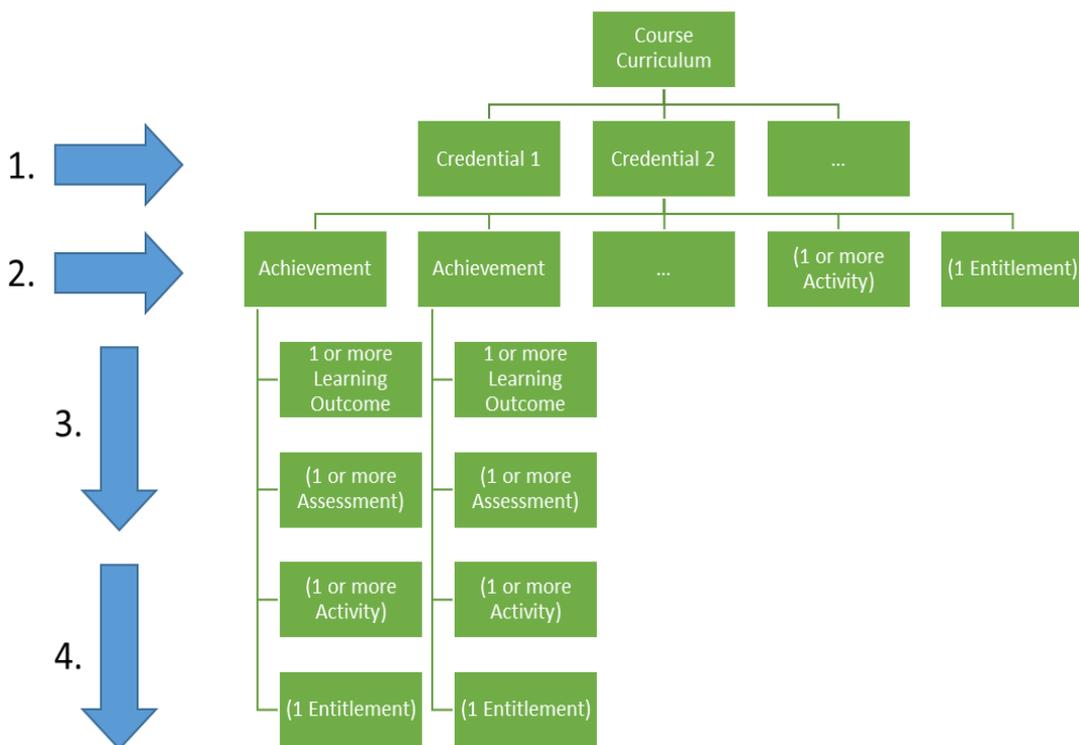


Figure 5: Proposed methodology for curriculum development (own creation).

3.2 Development of procedures for the recognition of micro-credentials and possibilities for linking micro-credentials with ECVET and EQAVET

ECVET is a European initiative focusing on the accumulation and transfer of credits gained through the recognition of learning outcomes and training achievements in VET, i.e., it allows learners to accumulate and transfer their learning achievements.

The application of ECVET is on a voluntary basis in accordance with national legislation and practice at EU countries without intention to harmonise national education and training systems, but to provide a common tool for improving transferability, comparability and compatibility of VET programmes. ECVET is intended to promote the development of mutual trust between the actors of the national training systems.

ECVET relies on a series of common goals, principles and technical components that foster transparency and comparability in VET. The most important aspect is the focus on learning outcomes to show what a learner knows, understands and is able to do upon completion of a learning process. ECVET is based on the division of qualifications into units and on the description of learning outcomes of each unit using the three descriptors of EQF; knowledge, skills, and competences, making clear the EQF level of reference.

Qualifications and units are represented by a specific number of credit points which express the volume of learning outcomes in each unit and provide information on the relative weight of the units which make up a qualification. ECVET points are a numerical representation of the overall weight of learning outcomes in a qualification and of the relative weight of units in relation to the qualification.

The allocation of ECVET points to a qualification is based on using an agreement according to which 60 points are allocated to the learning outcomes expected to be achieved in a year of formal full time VET.

Having in mind that the ECVET is based on learning outcomes and modular learning as well as micro-credentials, there are possibilities of linking in their implementation. If and when the principles of ECVET are applied in the certain micro-credential, the volume of its learning outcomes can be measured and the number of ECVET points indicated. This can contribute to building a more transparent, transferable and trustable system of interoperability of qualifications.

The European principles for the design and issuance of micro-credentials outlined in the Council's recommendation on micro-credentials (2022) also state the relevance of quality and recognition. This is important to be able to collect micro-credentials and stack them to larger credentials (if education providers allow this). However, a transparent and comprehensive quality assurance framework is necessary to ensure trust and validity in the micro-credential system and among the stakeholders (learners, employers, education providers).



As mentioned in the desk research, the EQAVET framework is generally used in the VET sector among education providers in Europe. However, non-formal education providers use different quality assurance systems since they can decide for themselves if they provide any quality assurance, and which system they use due to the lower public regulation.

The EQAVET framework might be adapted for use in non-formal education to provide a unified quality assurance system for all non-formal education providers that want to use the EDCI system as well. To tailor it to the needs of the development / adaptation of curricula, it is proposed here to divide it into three levels: Course curriculum, Micro-Credential, Achievement.



Figure 6: Quality assurance methodology according to the EQAVET framework (own creation).

At all levels the key question would be according to the EQAVET quality assurance cycle (see Figure 6):

Which measures should be taken regarding the quality assurance at the

- Planning phase?
- Implementation phase?
- Evaluation phase?
- Review phase?

The different topics to be considered in each phase are shown in Annex 2.

3.3 Results of linking theoretical foundation with practical testing

After presenting the methodology, the participants of the LTTA discussed in structured workshops in what way the proposed methodology and the EDCI platform would be suitable according to their experiences in their home countries.

The results are shown in Table 1 and Table 2 for non-formal education and VET:

Table 1: non-formal education: Opportunities and challenges regarding a common methodology for curriculum development/adaptation in the European context based on the EDCI system.

Level	Opportunities	Challenges
System	- In the case of a common methodology for the creation of micro-credentials programs, education systems could share education programs with each other and expand the offer of programs at the	- Highly unregulated education system - Insufficient number of laws and regulation related to non-formal curriculum development



	level of the entire country.	
Provider	<ul style="list-style-type: none"> - Transnational cooperation to develop programs together (e.g., EU projects) - Possibility of student mobility and enrolment of students from other EU countries 	<ul style="list-style-type: none"> - Potential unprofitability of non-formal education programs due to non-recognition of employers
Program	<ul style="list-style-type: none"> - High flexibility to adapt course program - Common methodology would lead to easier recognition and exchange of information about acquired knowledge. - (based on standards defined by a methodology that is not regulated, and each state and education institution has its own curriculum writing rules) 	<ul style="list-style-type: none"> - Low trust on program quality (if not verified by a public body) - Difficulties in accepting new methodologies and EDCI certificates with learners and employers

Table 2: VET: opportunities and challenges regarding a common methodology for curriculum development/adaptation in the European context based on the EDCI system.

Level	Opportunities	Challenges
System	<ul style="list-style-type: none"> - If public bodies decide for micro-credentials in VET, impact to establish it would be very high - Standardisation that recognizes micro-credentials in different labour markets 	<ul style="list-style-type: none"> - Highly regulated national systems - Lack of regulation documents about micro-credentials - Different definitions of micro-credentials in different countries

		- Different education systems in EU countries
Provider	- Programs can be described in detail, which will make it easier for employees to prepare lectures and exercises, and participants will know exactly what they will gain after completing the course.	Transnational cooperation not very easy due to different national requirements - Standards and principles should be equal and transparent for everyone and this should be a guarantee of quality and equality
Program	- EU level-recognized programs - Certificates issued with EDCI platform would enable transparent and easier recognition of acquired knowledge and should help employers or educational system with further education	

3.4 Conclusion

After analysing the possibility of a common methodology for adapting existing curricula or developing new ones in non-formal education and VET, there seem to be some encouraging frameworks in both curriculum development and quality assurance. To apply them, they need to be adapted towards the use of micro-credentials. The recently developed and published EDCI platform may have potential and will be tested further within the IQ-DigitS project (PR3: Infrastructure for digital certification compatible with Europass).

However, when attempting to enter an existing curriculum (which was offered as a type of micro-credential) in the above mentioned training



activity, several questions have been raised: Which function (achievement, sub-achievement, activity, learning outcome, etc.) is to be used for which part of this curriculum? How to structure this curriculum to provide a form of stackability as well? How many (sub-) levels should be created to represent the curriculum?

Additionally, the participants of the training activity, who represented four different countries in Europe (Austria, Croatia, Italy and North-Macedonia), mentioned again the challenges of developing transnational curricula in VET and non-formal education. The reasons have been shown in Table 1 and 2. However, there are also many opportunities which seem to be encouraging for investigating the topic further and to eventually agree on a common methodology with a potential of wide use.

4 Recommendations and sustainability

The main objective for the development of a common methodology to adapt existing curricula towards modular learning, based on learning outcomes and micro-credentials, was to create common principles for the private providers of VET and AE coming from different countries. This would ensure a higher level of quality in their work and integration of the latest standards and recommendations from the EU policies.

The conveyed research during the preparation of PR 1 , PR 2, and the workshops implemented at the LTTA under the IQ-DigitS project, have proven many challenges and discrepancies among the four different national educational contexts (Italy, Austria, Croatia and North Macedonia). In this regard some common principles can be developed, as indicated above, but many issues should be defined more precisely in advance. For example, if the 'micro-credential' means the record of the learning outcomes that a learner has acquired following a small volume of learning, what would be the framework for "small volume of learning" and if the learning outcomes have been assessed against transparent and clearly defined criteria, what would be the framework for assessment (who, when, how etc)?



In some national systems the assessment is exclusively in the competence of public bodies, while in others it can be delivered by private educational providers, so each solution cannot be applicable in each context.

Additionally, there are some circumstances that should be taken in account before we introduce the implementation of micro-credentials approach to VET and AE providers, such as:

- Employers still do not recognise/understand the value of micro-credentials.
- Other education and training providers may not recognise micro-credentials.
- Micro-credentials have higher complexity to be embodied at the formal education systems and properly integrated at the NQF and EQF.
- National policies about micro-credentials are not developed yet.
- Quality assurance processes differ and not all micro-credentials could be quality assured based on the nationally established quality standards.
- It is very important to find an appropriate balance between fostering trust and transparency as part of a common approach without compromising the flexibility.

During the workshops at the LTTA, a survey related to the implementation of micro-credentials approaches, from the perspective of the representatives of non-formal educational providers, was conducted. The results of this survey are attached in Annex 3.

Means of portability, storage and sharing of micro-credentials

Portability of micro-credentials means the ability for a credential-holder to store micro-credentials in a system of own choice, to share the credential with a party of own 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.



Micro-credentials can be issued in:

1. Conventional way of issuing in paper format
2. Secure digital format
3. Non secure digital format

The credentials can be stored locally or using a cloud solution.

One of the roles of the new Europass platform (particularly EDCI system) is to offer a free tool, accessible for various stakeholders, for issuing and storage of credentials in digital format. This platform is aimed to provide a suitable infrastructure that can be applied to micro-credentials. The new Europass platform was launched in 2020, when the EDCI system was announced, as well. In the meantime, the development of the EDCI has significantly progressed, but by the end of 2022, was still not fully functional. Additional guidance for users and stakeholders is still needed.

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6 Annex

6.1 EQAVET framework phases and EQF recommendations

Planning	
EQAVET framework (VET)	EQF recommendation
<ul style="list-style-type: none"> - European, national and regional VET policy goals/objectives are reflected in the local targets set by the VET providers - Explicit goals/objectives and targets are set and monitored, and programmes are designed to meet them - Ongoing consultation with social partners and all other relevant stakeholders takes place to identify specific local/ individual needs - Responsibilities in quality management and development have been explicitly allocated - There is an early involvement of staff in planning, including with regard to quality development - Providers plan cooperative initiatives with relevant stakeholders - The relevant stakeholders participate in the process of analysing local needs - VET providers have an explicit and transparent quality assurance system in place - Measures are designed to ensure compliance with data protection rules 	<ul style="list-style-type: none"> - involve all relevant stakeholders at all stages of the process - be based on clear and measurable objectives, standards and guidelines - be an integral part of the internal management, including sub-contracted activities, of bodies issuing qualifications with an EQF level



Implementation

EQAVET framework (VET)	EQF recommendation
<ul style="list-style-type: none"> - Resources are appropriately internally aligned/assigned with a view to achieving the targets set in the implementation plans - Relevant and inclusive partnerships, including those between teachers and trainers, are explicitly supported to implement the actions planned - The strategic plan for staff competence development specifies the need for training for teachers and trainers - Staff undertake regular training and develop cooperation with relevant external stakeholders to support capacity building and quality improvement, and to enhance performance - VET providers' programmes enable learners to meet the expected learning outcomes and become involved in the learning process - VET providers respond to the learning needs of individuals by using a learner – centred approach which enable learners to achieve the expected learning outcomes - VET providers promote innovation in teaching and learning methods, in school and in the workplace, supported by the use of digital technologies and online-learning tools 	<ul style="list-style-type: none"> - be supported by appropriate resources - address the design of qualifications as well as application of the learning outcomes approach



<ul style="list-style-type: none"> - VET providers use valid, accurate and reliable methods to assess individuals' learning outcomes 	
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Evaluation	
EQAVET framework (VET)	EQF recommendation
<ul style="list-style-type: none"> - Self-assessment/self-evaluation is periodically carried out under national and regional regulations/frameworks or at the initiative of VET providers, covering also the digital readiness and environmental sustainability of VET institutions - Evaluation and review covers processes and results/outcomes of education and training including the assessment of learner satisfaction as well as staff performance and satisfaction - Evaluation and review includes the collection and use of data, and adequate and effective mechanisms to involve internal and external stakeholders - Early warning systems are implemented 	<ul style="list-style-type: none"> - include a regular review of existing external monitoring bodies or agencies, carrying out quality assurance; - ensure valid and reliable assessment according to agreed and transparent learning outcomes-based standards and address the process of certification - consist of feedback mechanisms and procedures for continuous improvement - be composed of consistent evaluation methods, associating self-assessment and external review

Review	
EQAVET framework (VET)	EQF recommendation
<ul style="list-style-type: none"> - Learners' feedback is gathered on their individual learning experience and on the learning and teaching 	<ul style="list-style-type: none"> - include the electronic accessibility of evaluation results

<p>environment. Together with teachers', trainers' and all other relevant stakeholders' feedback this is used to inform further actions</p> <ul style="list-style-type: none"> - Information on the outcomes of the review is widely and publicly available - Procedures on feedback and review are part of a strategic learning process in the organisation, support the development of high-quality provision, and improve opportunities for learners. - Results/outcomes of the evaluation process are discussed with relevant stakeholders and appropriate action plans are put in place 	
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6.2 Quality assurance methodology for curriculum development by using the EQAVET framework

Planning	Course curriculum	(Micro-) Credential	Achievement
<p>European, national and regional AE / lifelong learning policy goals/objectives are reflected in the local targets set by the AE providers</p>			



Explicit goals/objectives and targets are set and monitored, and programmes are designed to meet them			
Ongoing consultation with social partners and all other relevant stakeholders takes place to identify specific local/ individual needs			

Implementation	Course curriculum	(Micro-) Credential	Achievement
AE providers' programmes enable learners to meet the expected learning outcomes and become involved in the learning process			
AE providers respond to the learning needs of individuals by using a learner - centred approach which enable learners to achieve the expected learning outcomes			



AE providers promote innovation in teaching and learning methods, in school and in the workplace, supported by the use of digital technologies and online-learning tools			
AE providers use valid, accurate and reliable methods to assess individuals' learning outcomes			

Evaluation	Course curriculum	(Micro-) Credential	Achievement
Evaluation and review covers processes and results/outcomes of education and training including the assessment of learner satisfaction as well as staff performance and satisfaction			



Review	Course curriculum	(Micro-) Credential	Achievement
<p>Learners' feedback is gathered on their individual learning experience and on the learning and teaching environment. Together with teachers', trainers' and all other relevant stakeholders' feedback this is used to inform further actions</p>			
<p>Procedures on feedback and review are part of a strategic learning process in the organisation, support the development of high-quality provision, and improve opportunities for learners</p>			

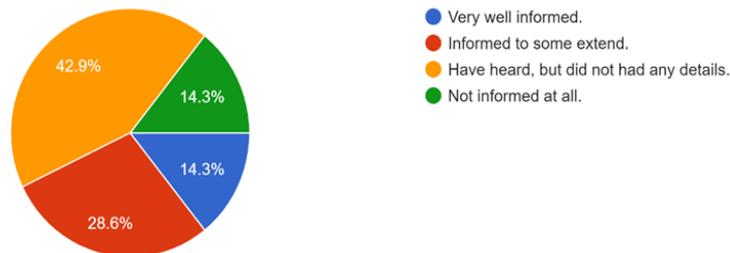


6.3 Survey results among participants of the IQ-DigitS LTTA regarding the implementation of micro-credentials in project partner countries

1. How informed were you, as a staff of an organisation active in education, about the micro credentials, before the involvement of IQ-DigitS project?

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7 responses



2. Do micro-credentials represent a genuinely new form of recognition or a new label to represent existing and old practices, or is it a mixture of the two?

Do micro-credentials represent a genuinely new form of recognition or new label to represents existing and old practices, or it is a mixture of the two?

7 responses



3. According to your opinion, what is the main reason for targeting micro-credentials with the new EU policies?
- I believe that the reason of adopting micro-credentials in the EU Agenda is that they can be a useful method to certify every learning experience, even the shortest ones (even non-formal and informal) and issuing them in a digital way is the safest way in which they can be verified.
 - I do believe the proposed micro-credential approach (based on the possibility of issuing them in a digital way) is in line with the priorities of the new Erasmus programme.
 - To get a standardized format of credentials for short educational projects. Stackability may be a good opportunity to collect different achievements and to be able to summarize them from different institutions into one bigger curriculum (such as joint studies in higher education).
 - They should be more flexible and shorter than regular education and can be stacked
 - I think the main reason is that education is equal throughout the European Union.
 - Standardization of EU education systems and flexibility for labour market needs
 - More flexibility, common standards...
4. Are there any discussions surrounding the topic of micro-credentials in your national context, that you are familiar with?
- While in Italy they are starting to discuss about the topic of micro-credentials, at the same time nothing concrete has been done yet. While we were conducting our research for PR1 and PR2, we just found a project in which the Italian Information Centre on Academic Mobility and Equivalence was a partner, and that tried to check whether existing Bologna tools are fit for micro-credentials and/or propose changes for adaptations on European level.
 - When doing the research for PR1, we've discovered that one big university in Italy (University of Bologna) that is trying to adopt the



micro-credentials within their context, but we haven't further investigated it yet. Our plan for PR2 and PR3 is to try to get in contact with as many organisations as possible to collect their feedback and opinions on this approach, including possible advantages and disadvantages.

- I'm not aware of any bigger discussions on this topic in my country.
- Yes, but everything is still quite new and most people are still not familiar with them
- I don't think there is. One of the reasons is that micro-qualifications in Croatia are a type of training that existed before. The only considerations and discussions take place around the writing of the programs and how they can be financed by the Employment Office. In addition, it discusses how to write a program with green and digital skills. There are many questions about the creation of the program and the understanding of the national agency. I still think that the concept of micro-qualification is different in our country, because before there was training for a forklift operator, and now it is only a program for acquiring a micro-qualification for operating a forklift. The same thing with a different name and slightly modified program. I believe that the concept of micro-qualifications according to the instructions of the European Union was not mentioned enough in Croatia.
- There are many questions about micro-credentials in Croatia and there are still missing some regulation documents about them
- I'm not familiar

5. Are there any specific characteristics and critical features, regarding the use of micro-credentials that, by your opinion, are particularly important for different stakeholders (e.g., providers, learners, employers, national authorities)?

- I believe that there are many characteristics that could be really important and useful for the different stakeholder, because micro-credentials can be used to address a specific work need and can to recognise learning outcomes acquired outside formal education.



Furthermore, the fact that they can be digitally signed and seal, prevents the possibility of forgery and, having all of them in their Europass wallet will help the learners and the employers check and verify them in a time and cost saving way. Nevertheless, I believe that the different definitions still need to be better developed, in order to ensure a European and unambiguous approach.

- In order to adopt, use micro-credentials and recognise micro-credentials, the stakeholders should be more informed about them. The definitions we have now are still quite vague and are open to different interpretations.
- Micro-credentials are supposed to help learners getting trained in an easier and more flexible way. The stackability potential is also very intriguing, but needs further explanations.
- a meaningful and transparent quality assurance, the use of a standardized format of micro-credentials
- For learners, acquiring or improving skills that can help them get a job or do their jobs better is very important. For the government and the EU is important to lower unemployment, but also to promote green and digital skills to improve our society.
- To begin with, I think it should be clarified in more detail what micro-qualifications are and what their role is because that part is unclear to all possible participants. Also, I think that it should be clearly explained what the participant will gain after completing the program.
- There should be quality standards with Micro-credentials that everyone who has gained micro-credential diploma has the same level of knowledge

6. What is the best way for VET and AE providers to adapt their learning programs to the micro-credentials approach?

- First and foremost, the micro-credentials approach should be better defined and explained, since without a common definition, it would be quite challenging for VET and AE providers to adapt their learning programmes.



- They should be more informed about the approach on the first place and training should be provided. Afterwards, once a common definition and common approach is reached, learning programmes can be modified accordingly.
 - AE providers (non-formal learning): to form strategic national/transnational groups or via organisations/associations on a system level; also via EU-projects
 - VET providers: to collaborate on a transnational level and to adapt certain VET programs into a common approach
 - Not just to reintegrate their programs, but to create new programs based on specific learning outcomes which can be useful to learners as standalone skills
 - This is quite difficult to answer because of the different education systems in our countries. In Croatia, this is not a problem, because we have received instructions from the Agency for Adult Education on how to write new programs, and in accordance with these instructions, we will change all the education programs we offer in the future.
 - This is not a new way of lifelong learning, but it needs to be adapted on EU level that everyone has the same standards
 - I don't know what is the best way, but it is nice to have some standard that everyone could somehow adapt their learning programs.
7. How complicated would-be the use of micro-credentials from perspective of VET and AE providers?
- I believe that with the correct guidelines and instructions, the use of micro-credentials will not be that complicated for VET and AE providers, since it means to be a way to help them reduce costs and time in the issuing of credentials and certificates.
 - With guidelines and trainings, the use of micro-credentials should ease and simplify the certification process for VET and AE providers. Still, I think that the full recognition and implementation of this new approach will require at least some years before it is fully integrated within the current system.



- VET provider: programs differ very much from country to country and are strictly regulated, would be very difficult to align programs (but maybe one can exemplify it through a certain program)
- AE provider: would be easier to use the micro-credential approach, but the acceptance by learners and employers seems to be a difficult point.
- It shouldn't be after some time, but we all need better definitions and guidance about micro-credentials. It is very important to both providers and learners to shift our mindset from the old system and start to think about micro-credentials as something that can be useful on their own and not just as part of the bigger qualification.
- With good instructions, I don't see why it would be complicated at all? It is only necessary to clarify the meaning of micro-qualification, for example, is it internet marketing and branding or is it, for example, the use of social networks in business (which is part of internet marketing). With good instructions, I don't see why it would be complicated at all? It is only necessary to clarify the meaning of micro-qualification, for example, is it Internet marketing and branding or is it, for example, the use of social networks in business (which is part of Internet marketing). I think that is the main goal and the main question, after which it should not be a problem to call for a template for writing a program or to implement it.
- I think that use of micro-credentials is not complicated for VET and AE providers but it may be complicated for labour market and making them recognized by employers end equal for everyone who gained them.
- In the beginning it would be complicated, but with time the use of micro-credentials I think will be normal.





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