

# microVET

Introducing micro-credentials to the digital era of

## Task 1.3: Methodology for the development of microVET courses linked to micro-credentials

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the world is only one creature

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## Introduction

The “methodology for the development of microVET courses to be linked to (digital) micro-credentials” is one of the project’s major results as it is anticipated to set the fundamentals for an organized transition towards a new, digital era of education and training. The methodology includes both theoretical and practical topics that substantially contribute in the preparation of training organizations and other training providers to the up-take of the micro-credentials approach, as well as to adequately build their digital capacities to correspond to current needs. The document addresses the following topics:

- Identification of learners’ needs (deliver on-demand);
- Micro-credentials and digital credentials with flexibility in focus;
- Learning outcomes, units, and qualifications;
- Validation of learning outcomes (general guidelines, european standards) and evaluation and assessment tools;
- Online software and tools for digital content creation;
- Quality assurance tools and methods;
- Recognition.

The methodology has been delivered by CESIE with contributions from the consortium not only in developing the document, but providing feedback and suggestions as well. The document is prepared in English and will be translated to all partner languages soon after. Since the micro-credentials approach is currently evolving within the EU, the partnership ensures constant updates of the methodology to respond to the latest developments at national and European level.

The methodology is fundamental and will serve for the development of microVET courses linked to micro-credentials as well as providing training organizations and their staff a solid basis to build upon for their digital transition to a new, more flexible training approach. Even if the methodology is foreseen to provide an integrated solution that combines both theoretical and practical tools and methods, the partnership realizes that its effectiveness and practical application should be proven by the actual development of microVET courses that will be made freely available through the microVET Repository. But, without a solid, well-made and comprehensive methodology, the development of the next results cannot be successfully carried out with a high level of quality.

The development of the methodology has been anticipated to facilitate innovation in terms of both content development and delivery of training, marking the commencement of a fully flexible, learner-centered approach in education and training, hence fostering the relocation of focus from training itself to the final beneficiaries, these being learners. The transition of training organizations towards micro-credentials is expected to substantially improve both attractiveness and quality of training offers, reinforce collaboration with the labor market, and initiate wider synergies to better identify and bridge current gaps in training needs. Moreover, the methodology offers significant upskilling opportunities for training organizations and their staff to effectively build their digital capacities, as formed by current circumstances and requirements towards the plans for digital transition and the impact of COVID-19 in the provision of education and training. Last but not least, even though the methodology addresses training organizations and VET centers in particular, the partnership ensures that other stakeholders that deliver various types of training, including but not limited to chambers, higher education institutes, and public authorities, will have the opportunity to benefit from its utilization, too.

## Identification of learners' needs

In order to develop and implement microVET courses, it is fundamental to understand and develop knowledge of several key topics. One of them is the identification of learners' needs. Whenever an educational course or activity is carried out, it is important to provide learners with learning resources that meet their needs. To do this, it is needed to know what the learning needs are. This could sound granted, but it is not a simple task.

How are learning needs identified? There are several steps that can be taken to evaluate learners' educational needs in order to pick and choose the most effective learning materials and methodologies for them.

First of all, what are learning needs? Learning needs can be described as the peculiar qualities and activities learners need in their learning materials in order to learn effectively from these materials and methodologies. In fact, these qualities comprehend both the **content** of the learning material itself and its **method of learning delivery**:

**Content** refers to what a learning material teaches: what knowledge and skills it provides to its users with and what questions it answers for them. It can also refer to what kind of "level" of learning it offers, for example whether it meets novices or advanced learners with more experience.

**Method of delivery** refers to how the material provides knowledge for the learners, how it teaches them. This includes what kind of medium the material uses (e.g. writing, audio, or video), what speed it teaches at, and how accessible it is for the users at any point.

Learning needs is the gap between the learner's current level of knowledge and skills, and the level of knowledge and skills required to perform a task or a set of tasks. Knowing a learner's needs therefore is very important in order to choose the right learning materials and methodology that will help the provider of educational courses the help needed to make the learning activity accessible, effective, useful and engaging.

Why is it important that a learning activity is **accessible**?

Choosing learning materials based on people's learning needs means choosing learning materials that they can most easily use. Learning resources must be adapted to people's physical and mental accessibility needs, which differ from learner to learner. There are several examples regarding how accessible resources need to be for people with specific needs (such as health problems and disability), but another factor to take into consideration, especially in the delivery of online courses, is the proficiency of the users and learners in dealing with online digital based resources, their capability to navigate in them and be successful in their educational endeavor.

Why is it important that a learning activity is **tailored**?

It goes without saying that a provider of an educational course, wants to achieve maximum effectiveness for its learners both to gain credibility and positive feedback and to help the learners achieve the expected learning outcomes. The most effective learning is delivered at the right level. A learning material that is too easy and basic for a determined audience can be a waste of time for all parties involved. On the other hand, a learning material that is too advanced for someone is just as likely to be ineffective, as learners could spend most of their learning time trying to recover missing knowledge. The most time-effective learning resources are those that meet people at their level and help them build knowledge and skills at their optimal learning speed. Of course, methodologies also

play a very important role and it is the duty of the provider of the educational activity to understand its target group and learners' groups in order to provide and choose the right methodologies, tools and method of delivery that will ensure success and effectiveness of the learning activity itself. That means that a tailored learning activity is the one that is really effective for the learners.

Why is it important that a learning activity is **relevant**?

Especially in the field of micro-credentials, usefulness is fundamental. Learners want to quickly attain the knowledge and skills required for a specific field or to fill a gap in their education that will help them in a short amount of time to reach a better condition in the short-term. The most useful educational activities and learning resources are those that help learners with what they strive and struggle to achieve at work or for a future career, or those that help people to progress in their role within the organization they work for or they are trying to work for.

Why is it important that a learning activity is **engaging**?

The most successful learning activities are the ones that are really engaging for their audience and that are relevant to learners and meet their interests and goals. Learning is more engaging when people get to learn about things they are interested in and which are relevant to them. It is also possible to get motivated to learn knowing that the learning itself will help achieve a goal, a result or future expectations. Providing engaging learning materials and methodologies is not an easy task and it means that an educational activity should be made enjoyable and very targeted towards learners' needs.

### **Needs analysis**

A need analysis it's an assessment of the skills needed to perform upcoming educational activities, the skills currently known and the tools for understanding the gap between where the learner is now and where it needs or wants to be. One of the many benefits is that the educational provider will be able to more effectively close the gap through specific strategic learning and development. In order to plan and carry out a need analysis based on learning outcomes and objectives it is possible to proceed step by step:

- a) Have clearly in mind what are the learning outcomes and what skill or skills the educational activity wants to teach and have them presented clearly to the learners in order to have them develop clear and reasonable expectations;
- b) Assess as best as possible the current skill level and knowledge of learners regarding the specific topic that the educational activity will be about;
- c) Identify the skill gap, if present, between the expected results of the educational activity and the starting point of the majority of the learners;
- d) Adapt, change, modify, further develop or improve the educational activity at all levels based on the feedback provided by the learners in order to meet their needs in the best possible way and more efficiently and effectively;
- e) Implement the training and educational activity (it is possible to collect more feedback during the activity itself);
- f) Evaluate the results at the end of the training activity in order to assess if the educational gap is filled, if the learning outcomes are achieved and if the learners are satisfied.

### **What tools should be used to carry out a need analysis?**

The most common is of course the questionnaire. Especially for digitally implemented training activities, assessment questionnaires are the easiest and simplest solution to gather feedback from

learners effectively and efficiently. Questionnaires prior to the training activity and after, as an assessment tool, are a very important instrument capable of providing useful feedback if well prepared.

Learning needs refer to each individual's specific needs regarding the resources they learn from. This covers the learning content and the level at which it is taught, as well as the medium in which it is delivered. It's important to know what learners' learning needs are so that it is possible to choose and provide the learning resources best suited to each student. This will give each of them a much better opportunity for learning. It is also important to establish what each person's specific learning style is and what accessibility needs they have. This way the courses can provide learners with learning material that are accessible and helps them learn to their full potential.

## **Micro-credentials and digital credentials**

<sup>1</sup>Small learning experiences, such as short courses leading to micro-credentials, allow for a targeted acquisition of skills and competences adapted to a fast-changing society and labor market while not replacing traditional qualifications. Their objective is to be complementary. The European approach to micro-credentials aims at providing a clear definition and European standards to allow for the learning outcomes of these small experiences to be easily recognized and understood by employers, learners and, education and training institutions, as well as guiding principles to consider when designing or issuing high-quality micro-credentials. Common approaches to developing and using micro-credentials at the EU level can support and enhance national efforts for their quality, transparency, cross-border comparability, recognition, and portability. It can also help to build trust in micro-credentials for the benefit of the learners, employers, and education and training institutions.

### **What is a micro-credential?**

The European approach to micro-credentials offers a common definition that is valid across sectors of education and the world of work and mirrors the societal mission of education and training institutions, including higher and vocational education and training (VET) institutions, and nonformal providers as well as employers and labor market actors. “A micro-credential is the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes have been assessed against transparent and clearly defined standards. Courses leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labor market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be standalone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity.”

### **What EU standard elements should it include?**

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:

Mandatory elements:

- Identification of the learner;
- Title of the micro-credential;
- Country/Region of the issuer;
- Awarding body;
- Date of issuing;
- Learning outcomes;
- Notional workload needed to achieve the learning outcomes (in ECTS credits, wherever 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;

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<sup>1</sup>European Commission (2021) A EUROPEAN APPROACH TO MICRO-CREDENTIALS, December 2021

- Type of quality assurance used to underpin the micro-credential.

Optional elements, where relevant (non-exhaustive list):

- Prerequisites needed to enroll 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 (standalone, independent micro-credential / integrated, stackable towards another credential);
- Further information.

## **How to design and issue micro-credentials?**

When designing and issuing micro-credentials, some key principles should be followed. **The 10 principles** presented below specify the nature of micro-credentials and offer guidance on the design and issuance of high-quality micro-credentials. The 10 principles highlight the key characteristics of the European approach to micro-credentials. They are universal and may be applied in any area or sector.

### **1) Quality**

Micro-credentials are subject to internal and external quality assurance by the system producing them (e.g. the education, training or labor 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.

Providers should make sure that internal quality assurance covers all the following elements:

- The overall quality of the micro-credential itself;
- The quality of the course, where applicable, leading to the micro-credential;
- Learners' feedback on the learning experience leading to the micro-credential;
- Peers' feedback, including other providers and stakeholders, on the learning experience leading to the micro-credential.

### **2) Transparency**

Micro-credentials are measurable, comparable and understandable with clear information on learning outcomes, workload, content, level, and the learning offer, as relevant.

Workload

- Higher education institutions should use the European Credit Transfer and Accumulation System (ECTS) and comply with the principles in Annex V to the EQF Recommendation, wherever possible, to demonstrate the notional workload needed to achieve the learning outcomes of the micro-credential;
- Providers that do not use the ECTS may use other systems or types of information that can effectively describe learning outcomes and workload, in compliance with the principles in Annex V to the EQF Recommendation.

Qualifications framework/systems

- Micro-credentials may be included in national qualifications frameworks/ systems, where relevant and in line with national priorities and decisions. National qualifications frameworks/

systems are referenced to the European qualifications framework and, for higher education qualifications, self-certified to the qualifications framework of the European Higher Education Area, which can further support the transparency, and trust in, micro-credentials.

#### Information on the offer of micro-credentials

Systems for micro-credentials should provide transparent and clear information, to underpin guidance systems for learners, in line with national practices and stakeholders needs:

- Information on providers of micro-credentials should be published in registers, or incorporated into existing registers. Higher-education providers (and other relevant providers) should be included, where possible, in the Database of External Quality Assurance Results (DEQAR), based on quality assurance in line with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG);
- Information on learning opportunities leading to micro-credentials should be accessible and easily exchanged through relevant platforms, including Europass.

### **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 organizations, employers, social partners, other providers, and users of micro-credentials is encouraged to increase the relevance of the micro-credentials for the labor market.

### **4) Valid assessment**

Micro-credential learning outcomes are assessed against transparent standards as well as methodologies that will ensure that a valid assessment is done by the actual person it wanted to assess.

### **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.

#### Stackability

Micro-credentials are designed to be modular so that other micro-credentials may be added to create larger credentials. Decisions to stack or combine credentials lie with the receiving organization (e.g. education and training institutions, employers, etc.) in line with their practices and should support the goals and needs of the learner.

#### Validation of non-formal and informal learning

Obtaining micro-credentials is possible following assessment of learning outcomes, obtained either through a specific course leading to a micro-credential, or on the basis of assessment of learning outcomes resulting from non-formal and informal learning.

### **6) Recognition**

Recognition has a clear signaling 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-centered**

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 taken into account 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.

# Learning outcomes, units, and qualifications

## Introduction

Nowadays, an increasing interest in validation and micro-credentials is noted, which along with the changing nature of qualifications and credentials, has an important effect on the value of VET skills and competences and also to the ability of individuals to improve their learning and working status.

Thus, it is crucial that the role of VET and training providers must be strengthened. In addition, flexible and modular learning opportunities should be available for all. These opportunities must address targeted needs to reskill or up-skill, bridge particular skills and qualifications gaps, and also to ensure widely recognized validation of learning outcomes. MicroVET project aims to familiarize relevant stakeholders with national qualification frameworks and processes for the recognition of skills and qualifications.

The recognition of a successful completion of education or training, or of a success in a test or examination, or even the requirements of an individual to enter within an occupation in an official record, is actually a qualification. According to Council Recommendation of May 2022, “Qualifications are more transparent and comparable when they are presented in documents that include a reference to the applicable EQF level and a description of the achieved learning outcomes”<sup>2</sup>. In this point, it must be mentioned that there is an increased need for using a set of common principles for presenting qualifications, in order to facilitate learners, employees and employers to comprehend the content of a specific qualification (Cedefop, 2017)<sup>3</sup>.

## Methodology for defining appropriately learning outcomes

The methodology for the development of microVET courses linked to micro-credentials will result to increased quality and attractiveness of the training offers of VETs, since micro-credentials certify the learning outcomes of short-term learning experiences and considering that learning outcomes involve the elements that an individual needs to thrive in a continuously growing labor market and society. Besides, this is one of the most desirable outcomes of a training program as is stated in the “Current status report on micro-credentials” prepared by the partnership of the microVET project, in order to facilitate the delivery of the currently described methodology.

To succeed that, the courses that will be developed through microVET project, will be designed in a way that will provide to learners specific knowledge, skills and competences relevant to the needs of the labor market and to the societal and personal needs of the learners.

The learning outcomes are ‘...statements of what an individual should know, understand and/or be able to do at the end of a learning process, which are defined in terms of knowledge, skills and responsibility and autonomy’ (Council Recommendation, 2017).

Learning outcomes influence the delivery of VET. They are a form of a common language in terms of content and profile of a VET programme and qualifications, allowing a kind of discussion among stakeholders. The record of the learning outcomes that a learner has acquired following a small

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<sup>2</sup> COUNCIL RECOMMENDATION of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (2017/C 189/03). 22/07/2017, Official Journal of the European Union.

<sup>3</sup> Cedefop (2017). Defining, writing and applying learning outcomes: a European handbook.

volume of learning is actually a micro-credential according to the European approach of the topic (Cedefop, 2022)<sup>4</sup>.

The learning outcomes shall be clear (free of ambiguous words) and measurable, defining what learners should understand after completing their learning path, having this way an important role in assessment and evaluation. In addition, they shall be appropriate for the level of the learner, aligned with the course content and learner-centered (Gronlund & Brookhart, 2009)<sup>5</sup>. Alignment of teaching/learning and assessment to intended learning outcomes is also vital.

A useful learning outcome include:

- a verb (in the future tense) that defines an observable action (most of the appropriate verbs' lists available are based on Benjamin Bloom's Taxonomy of Learning Objectives, 1956);
- a description of what the learner will be able to do;
- the conditions required for the learner to be able to do what described as mentioned above;
- the performance level that a learner can reach.

An ideal number of learning outcomes when developing an assessment plan, should be three to five, in order to avoid both inadequate information and complicated conditions to assess them.

It is worth noting that CEDEFOP, published in 2017 a handbook for the definition, writing and application of learning outcomes, which is a tool developed for those involved in defining and writing learning outcomes not only in education and training in general, but also in vocational training in particular.

### **Units of learning outcomes**

In European countries, qualifications acquired through vocational education and training (VET) are diverse, as they are affected by countries' specific conditions by socioeconomic, labour and traditions aspects. In VET and higher education, the majority of qualifications are developed in units. In addition, the last VET Act's amendments (2014 and 2018), introduced the learning outcomes units which constitute a procedure for validation of competences acquired in non-formal and informal learning, and arrangements for credit transfer and accumulation in VET.

Moreover, the European Credit System for Vocational Education and Training (ECVET), guided by a European- level Recommendation, counts among other issues on the description of qualifications in units of learning outcomes. A unit (ECVET), is “ A set of knowledge, skills, and/or competences which constitute a coherent part of a qualification. A unit can be the smallest part of a qualification that can be assessed, transferred, validated and, possibly, certified. A unit can be specific to a single qualification or common to several qualifications.” (Cedefop, 2014)<sup>6</sup>. It is therefore important that for this reason, the learning outcomes units must be structured in a comprehensive way, to be logical and

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<sup>4</sup>Cedefop (2022). Delivering VET and qualifications (accessed 01/09/2022). <https://www.cedefop.europa.eu/en/themes/delivering-vet-qualifications>

<sup>5</sup>Gronlund, N. E., & Brookhart, S. M. (2009). Writing Instructional Objectives (8th Edition). Upper Saddle River: Pearson Education Inc.

<sup>6</sup>Cedefop (2014). Terminology of European education and training policy: a selection of 130 terms. 2nd ed. Luxembourg: Publications Office.

provable. Units can be either specific to a single qualification or to several qualifications. They can also describe additional qualifications which are not part of a formal qualification (ECVET, 2022)<sup>7</sup>.

Units can be weighed in credit points. That way, they can be compared – in terms of importance- to other units or even to the entire qualification.

When designing a unit, it must be provided a cohesive and structured learning process and in addition clear criteria for assessment and agreed learning outcomes in a learning agreement. The scope of the learning outcomes along with the duration of the mobility measure are also important to have been agreed. Work assignments, working processes, areas of work, fields of action and fields of competence can serve as the basis for the determination of such units.

It shall also be noticed that when determining units, the following criteria shall be applied: They shall be as independent as possible from other units, include all necessary learning outcomes, not being very extensive in order to ensure that the learning outcomes defined can be reached in the given time and to be assessable (ECVET, 2022). When saying that a unit should be assessable, it is implied that they are written either with regards to learning outcomes or to competencies.

For a Unit that is described using ECVET principles, at least the following information shall be provided:

- The generic unit titles (should be precise, short and to offer information on the unit's content and difficulty level).
- The generic qualification titles.
- The reference of the qualification according to the EQF and NQF levels.
- The learning outcomes contained in the units (usually expressed as knowledge, skills and competences).
- The procedures and criteria for assessment of the relevant learning outcomes.
- The related ECVET points.

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<sup>7</sup> ECVET (accessed 31/08/2022). Geographical Mobility in Vocational Education and Training Guidelines for describing units of learning outcomes <http://www.ecvet-info.de/>

## **Validation of learning outcomes, evaluation and assessment tools**

### **The importance of validation of learning outcomes for microVET project**

The validation of learning outcomes attained through non-formal and informal learning, can be very vital for the improvement of employability and mobility and for the increase of motivation for lifelong learning, especially in the case of the socio-economically disadvantaged or the low-qualified individuals<sup>8</sup>.

One of the outcomes that microVET project foresees to succeed, is to build the capacity of trainers and training providers to uptake new, innovative approaches for the development and delivery of training which would lead to validated learning outcomes. To achieve that, this deliverable of the project, aiming to provide a methodology for the development of microVET courses linked to micro-credentials, is considered essential and to ensure its appropriateness, it has taken into account the current status report, delivered for the purposes of this project result.

### **The four phases of validation**

“Validation of non- formal and informal learning means a process of confirmation by a competent authority that an individual has acquired, measured against a relevant standard and consists of the following four distinct phases: identification through dialogue of particular experiences of an individual, documentation to make visible the individual’s experiences, a formal assessment of those experiences and certification of the results of the assessment which may lead to a partial or full qualification”<sup>9</sup>.

The 1st phase- the phase of identification of knowledge, skills and competence acquired - often involves active contribution of consultants having the ability to carry out an effective dialogue with the candidate and to point for this person appropriate tools.

For the documentation phase that is related to the collection of evidence of the learning outcomes attained, special attention must be paid to the portability of the evidence that should be coordinated at national and European level to some extent<sup>3</sup>.

The phase of assessment is described in more detail in the next sub-chapter.

As far as the phase of certification is concerned, it should be noted that the learning outcomes that may have been attained through non-formal and informal learning, can be either in the form of a qualification, or credits leading to a qualification, or even in any another form, as appropriate.’<sup>1</sup>

It is very important, the purpose and the different phases of the validation process to be clearly defined and communicated to the individual candidates. The level to which a validation process of learning outcomes can be transferred and exchanged, is very closely related to the extent to which the resulting document - i.e. a certificate - is reliable for the relevant interested parties. Through this process, it can be indicated the way that the phases mentioned above were designed and carried out.

Certification has to do with the final phase of validation and is most frequently a form of award (or even a license that gives the right to carry out specific tasks) of a formal qualification. To reach certification, an assessment that officially confirms the successful attainment of a learning outcome

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<sup>8</sup> COUNCIL RECOMMENDATION of 20 December 2012 on the validation of non-formal and informal learning (2012/C 398/01), 20/12/2012, Official Journal of the European Union.

<sup>9</sup> COUNCIL RECOMMENDATION of 22 May 2017 on the European Qualifications Framework for lifelong learning and repealing the recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning (2017/C 189/03). 22/07/2017, Official Journal of the European Union.

against a specified standard, is required. It is essential that the awarding body is credible and legitimate and has public trust, otherwise the value of the certificate is low. The standard (either occupational or training/educational) against an assessment that will be carried out, it is also very essential to validation and the resulting outcomes, since if for example is considered weak or if it is outdated, the assessment against it will lead to a weak certificate.

Last but not least, it must be mentioned that validation arrangements and quality assurance arrangements are linked to each other and are therefore affecting both trust and credibility<sup>10</sup>.

### **Assessment of learning outcomes**

The assessment of learning outcomes refers to the “Process of appraising knowledge, know-how, skills and/or competences of an individual against predefined criteria (learning expectations, measurement of learning outcomes). Assessment is typically followed by certification.”<sup>11</sup> It is therefore indicated, evaluation of written or other forms of evidence.

Generally, learning-outcomes-based standards favor the validation. In any case, the assessment to be used, shall be presented in a transparent way.

According to the European approach to micro-credentials, the type of the assessment applied is a mandatory element of information that the micro-credential shall provide. Usually, assessments that have to describe in detail their requirements (such as in the current case), are mainly summative without excluding the formative assessment. In more detail, a summative assessment aims to evaluate a student’s learning at the end of a unit against a standard and/or benchmark while on the other hand a formative assessment aims to monitor student’s learning so as to provide feedback with the purpose to improve both teaching and learning.

### **Assessment tools**

Lots of the assessment tools used in terms of non-formal and informal learning are quite similar to those in formal education and training. The essential difference between the assessment tools used in formal and non-formal and informal learning is that while the first ones are applied in a large number of students and less priority is given to the particular needs of individuals, in the second case they need to be designed taking into account the specific learning for each individual learner and the framework in which this learning was carried out.

The methodology of determining assessment tools shall taking into account:

- If the assessment tools to be chosen will be adapted to the individual’s needs and characteristics;
- if the choice of an assessment tool considers its reliability and/or validity;
- if the reference point (standard) to be used is considered suitable for capturing the individual variation that characterizes the non-formal and informal learning.

The conditions (procedure, tools and relevant assessment/evaluation standards) for assessment have also to be clearly defined and communicated to interested parties (candidates, employers and VETs).

Moreover, the validity of an assessment tool (that shows if it measures what’s intended) is one of the basic criteria that should be met. Other assessment criteria that are considered to be necessary to evaluate assessment tools are: reliability, fairness, cognitive range and fitness for the purpose of the assessment.

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<sup>10</sup> Cedefop (2015) European guidelines for validating non-formal and informal learning. Reference series 104 Luxembourg: Publications Office of the European Union, 2015

<sup>11</sup> Cedefop (2014). Terminology of European education and training policy: a selection of 130 terms. 2nd ed. Luxembourg: Publications Office.

Reliability refers to the level to which alike results would be reached every time an individual is assessed under the same circumstances. Fairness refers to the level to which an assessment decision is free from unfairness (i.e. culture unfairness). The cognitive range is related to the question if the assessment tool allows assessors to judge the depth of the individual's learning. Lastly, the fitness for purpose of the assessment has to do with the confirmation that the tools are appropriate for the intended use.

May not only one tool can be required for the appropriate completion of the assessment. For instance, a combination of written tests and practical challenges could be more sufficient rather than using just written tests as an assessment tool. Examples of applied assessment tools are provided below:

- Debate: Allows candidate to show his/her communication skills apart from his/her level of knowledge.
- Declarative methods: Is related to the candidate's statement of competences and learning (type of self-assessment) usually signed by a 3<sup>rd</sup> party. This method is mainly used in combination with others that can be evaluated in a more independent way.
- Interviews: Is an ideal tool when judges and values are to be evaluated, or when complementary information is required.
- Observation: Candidate's behavior in a particular setting is being assessed by someone else.
- Portfolio method: It concerns systematized collection of materials (such as documents referring to performance appraisal) that presents and confirms skills and knowledge attained through experience.
- Presentation: A formal presentation to a board of experts from the candidate can provide information on candidate's communication - among other – skills, such as analytical ones.
- Simulation: It concerns a practical demonstration by the candidate in an environment simulated to real conditions.
- Tests and examinations: Can be oral or practical and are widely used due to their low cost and to their fairness<sup>3</sup>.

## Online Software and Tools for Digital Content Creation

### What is interactive learning?

Interactive learning is a “hands-on” approach to education, aimed to engage learners and to enhance their active participation on the subject taught through guided social interaction and the use of digital tools.

Learning activities of a mindful structure are designed using novel and more practical techniques that manage to trigger learners’ emotions and foster group learning<sup>12</sup>. Conventional “homework” activities like applying course topics, solving problems, working through issues, are done together “on-site”, while the classic “onsite” activities, such as hearing course lectures, are substituted by videos, by reading and using online resources.

Learners’ curiosity is therefore enhanced by engaging with topics in advance and then they are given a task, a project, digital learning course scenario questions as well as simulations, case studies, or role-play activities which engage them with their peers and teaching staff in an interactive and energetic learning environment.

Interactive learning is, therefore, a holistic methodology that combines both online and offline components and together they make a complete educational experience.

### Why use interactive learning?

In the learning space, the term interaction has a lot to do with an active learning approach which may have the following benefits that are important through the learning procedure:

- ✓ Trigger learners’ emotions and therefore facilitate learning
- ✓ Enhance learners' engagement and gain focus
- ✓ Raise learners’ retention ability using hands-on activities, scenario-based elements, multimedia & games

### Digital Resources to create interactive & engaging learning content

In today’s tech-friendly world, the fact that one has access to a plethora of media tools is one of the most exciting and effective aspects of instructional design. To create digital content for eLearning courses, trainers have a large variety of available digital resources to choose from (indicatively):

1. [Images/audios/graphics](#)
2. [Animations & Cartoons](#)
3. [Interactive Videos](#)
4. [Games & simulation development tools](#)
5. [E-learning authoring tools](#)

Below you will find basic information and tips on how to make your course content interactive using free digital tools.

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<sup>12</sup> Silberman, M. and Biech, E., 2022. *Active Training: A Handbook of Techniques, Designs, Case Examples, and Tips*. ebb associates.



## 1) Add images/audios/graphics to your course content (open license)

### Add images that are copyright free and relevant to the content

The easiest way to make content more attractive and engage the learners is to include images that illustrate content or are relevant to the course. When searching for images, be sure to opt for ones that are copyright free and you will not have to deal with intellectual property issues. Remember that the content and information should not be lost among graphics, photos, or clip art images. Here are some tips for the best use of images in eLearning:

- Use an image that supports the text;
- Never use an image just to fill the content area, but only when they add value. Otherwise, the image becomes a distractor for learning although it may be visually appealing;
- Decide the type of images to be used. Be consistent with the image format.

### **Suggested resources:**

[Canva photos](#) provides free images to use for your courses

### Add some audio to offer more interactive content.

Audio choice, whether this is audio presentations or even background music, can enhance interaction and offer a more interactive and engaging learning experience. Learners will be deeply involved in the eLearning course if you should add some relevant audio elements, such as audio-based scenarios, company music, or even background sounds that are relevant to the content. Upon selecting your audio, keep in mind to opt for high-quality audio and clear vocals, (if you are including voice-over audio elements). Remember not to use audio throughout the whole training session, as this can be destructive for the learners.

Here are some tips for the best use of audio in eLearning:

- Synchronization of audio with the on-screen elements is really important for learners' comprehension;
- Audio should not be verbatim of the on-screen text but should be explanatory and act as the function of the screen reader, thus reinforcing text and graphics;
- Tone, narration speed, and accent are also important elements to be taken care of.

### **Suggested resources:**

[Audacity](#) is an audio editor for recording, slicing, and mixing audio.

## 2) Create animations

Animations can be based on text, images, or both and they can be 2D or 3D. They are the main attractions in eLearning. Find below some tips for their best use in eLearning:

- Keep in mind the learning factor. Animations are meant to enhance learning rather than just attracting the learner.
- Discreetly use animation speed and elements. Avoid exaggerations: ideally use one or two at a time so that the learner can focus on it. Pay also attention to the speed.
- If you choose to use a character animation, then hand movements and gestures should also be taken care of.

### **Suggested resources:**

[Canva](#), is a website to create animations

### 3) Create Interactive PDFs

You can easily **add some movement** to your PDF using eLearning software or a live web app to add a video to your PDF. It's easiest to embed an existing video from a sharing app like YouTube. To view the video, your PDF will have to be opened while your online learner is connected to the internet. Furthermore, you can embed buttons that link your reader to appendices, online stores, libraries, or reference books. The **buttons** can also be used for navigation. Buttons like arrows or images may widen your online learner's options, which is especially helpful for touchscreen devices that may not have analog keyboards. PDFs in eLearning should include social media icons to make the experience more engaging and add social interactivity. Just make sure the buttons are clearly labeled so they don't get overlooked.

Adding **audios in PDFs** can be really useful. If you're studying in transit, for example, you can have a voice read-out for the entire document. You might include audio clips for case studies, or you could record a voice-over for some parts of your learning material. The audios can be muted at will, or a translated version can be chosen. This is ideal for online learners with special needs, such as those with visual impairments. Ambient background sounds could also be included to calm and keep the learners focused.

PDFs in eLearning have the added advantage of **scrollable picture galleries**. Images can be uploaded in layers, so a reader can swipe through them without making the document significantly heavier. Photos can be captioned and connected to audio clips that can stay flat, pop up, or prompt full-screen formats.

Another useful aspect is hyperlinks. Hyperlinks can connect online learners to the appendix, glossary, or reference materials in later or earlier modules. You're also able to redirect an online learner from the contents page to the relevant unit or page. Some links require live web access while others can function **offline**. Links should be kept internal, attaching references as part of your eLearning course. Thus, online learners get a more flexible and convenient experience since they don't have to worry about data bundles and Wi-Fi.

What is important is to include elements that support the learning objectives and outcomes. The goal is to create a more immersive learning experience that offers more value to the online learner. Not to dazzle them with over-the-top media.

**Suggested resources:** [Adobe](#)

### 4) Create interactive videos

**Videos are the ideal opt for lectures & training scenarios.** Learners can be provided with an engaging training session delivered by a remote instructor or as an addition to an e-learning course. Most importantly, videos can be saved for later use, which can save on time and resources. Thanks to new and easy-to-use technology available today, you can develop top-notch videos, even if you don't necessarily have the AV experience or know-how. What to keep in mind when creating videos:

- Keep videos short and crisp. It is difficult for an average learner to pay attention to learning videos for more than 3-5 minutes.

- Videos are best used as small learning nuggets with short messages.
- Use social learning platforms to deliver videos.

Multimedia plays a critical role in making eLearning effective. However, it needs a detailed design and instructional approach to make each element of multimedia stand out and contribute to the learning process. An effective multimedia strategy can make learning outcomes much more efficient and effective.

**Suggested resources:**

[H5P](#) is a website to create interactive videos

## 5) Create educational games

Creating an entertaining educational experience, while cramming the required lessons, usually results in deep compromises on either end<sup>13</sup>. Even just allowing players to drag their answers into a receptacle can help learners better connect to what they are learning and may help them better visualize solutions. Modern individuals are bombarded with information from all sides, which has made them more prone to ruling out any information that doesn't hold their attention for more than a minute<sup>14</sup>. This reduced ability to keep attention means that digital learning content needs to exploit strategies in digital learning which keep learners engaged, motivated, and entertained throughout the duration of the module or course.

Game-based learning is one of the most popular and most effective ways to engage, motivate, and entertain learners while also helping them learn skills and apply them in a virtual environment. Game elements used in game-based learning target the intrinsic motivations of individual learners such as winning, competing, and being rewarded, which is why they are so effective in ensuring that the information being provided is assimilated and retained.

**Suggested resources:**

[H5P](#) is a website to create game-based learning material

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<sup>13</sup> Game Design and Development Services. 2022. *5 Tips for More Engaging Educational Games*. [online] Available at: <<https://workinman.com/tips-for-better-educational-games/>> [Accessed 28 August 2022].

<sup>14</sup> Bull, C., 2022. *How To Engage Remote Learners Using Gamification With A Cloud-Based LMS*. [online] eLearning Industry. Available at: <<https://elearningindustry.com/how-engage-remote-learners-using-gamification-with-cloud-based-lms>> [Accessed 28 August 2022].

## Quality assurance tools and methods

### What is Quality Assurance?

Quality assurance is one of the key aspects when developing a course. It is a topic that tendentially suffer from being overlooked. This may occur since the person, or group of people, developing the course are focused on ensuring that all the theoretical and practical topics are present in the course being developed. The developers must remember that without the correct Quality Assurance strategy, the course will always be suboptimal due to a lack of knowledge about the needs of the trainees, the accuracy of the topics, and the overall quality of the materials and modules.

With this chapter we intend to provide help to those developers that want to ensure quality to their course. It is intended to provide a clear image on what quality assurance is, which processes are important to put into work, what is the most common terminology on the subject, and finally, to provide a set of tools and methods to ensure that quality is obtained.

The course developer must be aware of the most common jargon applied to this area of course developing. Some of those terms are the following:

- “Validation: assurance that the product meets the agreed-upon needs
- Verification: compliance with requirements
- Precision: repeatable measures in a tight grouping
- Accuracy: closeness of a measure to the true value
- Tolerance: range of acceptable results” (McClintock, 2016)

After having a clear base on what jargon is used when developing a quality assurance plan, the developer must, also, be aware that there are, at least, three main processes to put into place. Those three quality management processes are straightforward, nevertheless its implementation is pivotal for obtaining the best results. The processes are the following:

- Identify que quality requirements and standards for the course;
- Audit the quality requirements and quality control results in order to ensure that appropriate quality standards are being used;
- Monitor and record the results of quality activities to assess the performance and recommend necessary changes.

### Which methods and tools can I use to ensure course quality?

A wide variety of tools, methods and techniques can be put into place in order to ensure the proper quality of a course. In the present chapter, we intend to provide the course developers with a wide range of tools, not all of them need to be used at once, one can choose from the following list which are the most appropriate for the development of the course. The presented tools can be used combined to ensure more successful results. The most used and useful tools/methods are:

1. Brainstorm: “Brainstorming is a group problem-solving method that involves the spontaneous contribution of creative ideas and solutions. This technique requires intensive, freewheeling discussion in which every member of the group is encouraged to think aloud and suggest as many ideas as possible based on their diverse knowledge.” (Bernstein, 2017)<sup>15</sup>. This technique

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<sup>15</sup> Bernstein, C. (June de 2017). <https://www.techtarget.com/whatis/definition/brainstorming>. Obtido de whatls.com: <https://www.techtarget.com/whatis/definition/brainstorming>

- when used within the Quality Assurance scope provides problem-solving lateral thinking which is important to enhance the quality of the course.
2. Force field analysis: Force field analysis also known as FFA is a tool that is used to analyze ideas by creating groups of characteristics or factors that are for (pros) or that are against (cons) of the idea at the discussion (McClintock, 2016)<sup>16</sup>.
  3. Nominal group technique: Nominal Group Technique (NGT) is similar to brainstorming in many ways. In NGT the developers “begin by writing down their ideas, then selecting which idea they feel is best. Once team members are ready, everyone presents their favorite idea, and the suggestions are then discussed and prioritized by the entire group using a point system. NGT combines the importance ratings of individual group members into the final weighted priorities of the group.” (ASQ Quality Press., s.d.)<sup>17</sup>.
  4. Cause and Effect Diagrams: The Cause and Effect Diagrams “is a graphical tool used to explore and display the possible causes of a certain effect” (Institute for Healthcare Improvement, s.d.)<sup>18</sup>. It provides the developer with the understanding that there are many causes that may contribute to an effect, it provides the relationships of the causes to the effect graphically displayed, and it provides help to identify areas of improvement.
  5. Flowcharts: “Flowcharts show the logical steps in a process and how various elements within a system are related. They can be used to determine and analyze potential problems in quality planning and quality control.” (McClintock, 2016) This process outlines the logical steps to complete an activity and by doing so the developers can identify where quality problems may arise and the developer can proactively approach them.
  6. Check Sheets: Check sheets or checklists are used to gather and organize information. They are particularly effective for inspections, enabling focus on the particular attribute that may be contributing to a quality problem.
  7. Benchmarking: Benchmarking is one of the most common strategies to develop quality plans. This strategy involves comparing the current project/course to similar projects/courses. “This process generates ideas for improvement and provides a standard to measure quality performance. Benchmarks can be created from a variety of standards, including experience on other projects within the company, experience by vendors outside the company, or published industry standards.” (McClintock, 2016)

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<sup>16</sup>McClintock, T. (2016). The Tools and Techniques Useful in Quality Planning, Assurance, and Control. (G. Knowledge, Ed.) Expert Reference Series of White Papers. Obtido de <https://d1wl9nui6miy8.cloudfront.net/media/965849/wp-tools-and-techniques-useful-in-quality-planning.pdf>

<sup>17</sup>ASQ Quality Press. (s.d.). <https://asq.org/quality-resources/nominal-group-technique>. Obtido de [asq.org: https://asq.org/quality-resources/nominal-group-technique](https://asq.org/quality-resources/nominal-group-technique)

<sup>18</sup>Institute for Healthcare Improvement. (s.d.). <https://www.ihl.org/resources/Pages/Tools/CauseandEffectDiagram.aspx>. Obtido de <https://www.ihl.org/>: <https://www.ihl.org/resources/Pages/Tools/CauseandEffectDiagram.aspx>

8. Design of Experiments: Design of experiments is the process of going through what-if scenarios with a limited number of samples to determine the optimal solution to improve quality. It is a statistical method that identifies the variables that will have the greatest effect on the quality of the project/course.
  
9. Affinity Diagrams: Affinity diagrams are used to organize large numbers of ideas for review and analysis. It is an excellent tool for organizing large amounts of ideas and data into meaningful groups by finding relationships between the ideas. It makes data easier to review and analyze.

## **Conclusion**

In conclusion, the quality process is of pivotal importance to any project and must be applied when developing high-quality courses as well. In order to implement a coherent quality process, the developer must not forget the three main steps of implementing it, and be aware that the quality process is a moving element of the development, which means that it will be present in all phases of the course development.

The developer must be mindful of the diverse terminology that can be used when developing, and following a Quality Management Plan. Not only the developer has to be aware of the terminology, but also of the plethora of tools and methods that one can use. This chapter provided a course developer with many tools and methods that can be used as stand-alone or in conjunction with each other to provide more efficient results. The developer must keep its horizons open, and understand that the quality process is never finished.

## Recognition of micro-credentials

### The importance and value of recognition

Two key concepts underpin the MicroVET project that underline the importance of recognizing learning happening in courses leading to micro-credentials:

- Firstly, the recognition that learning takes place in many different learning environments – formal, non-formal, informal - beyond that provided within a formal national education system regardless of the level of individual attainment at or beyond compulsory education.
- Secondly the concept of lifelong learning which explicitly acknowledges that no subject or professional discipline exists in a static form. Rather, with the pace of change, innovation and with the use of digital technology requires individuals to continually refresh, revise, and reskill.

In the light of these two considerations policymakers and employers alike have become aware of the potential to draw upon non-formal and informal learning as an invaluable means of enhancing their human capital. The labor market implicitly acknowledges the reality of valuable learning and skill sets by virtue of pay scales which recognise and reward experience.

The problem with this approach however is that it lacks specificity, there is no formal, objective way to identify and codify individual learning, skills and experience. For any individual it is often the case that they do not recognise their own talents and abilities, learning and development, and talents much less the value that they can carry for others. Further even in cases where an individual does recognise talents and abilities, there is the added problem of being able to provide objective evidence to current potential (new) employers of their capabilities and potential. It can be understood that a structured approach based upon a coherent programme of competences would support individual progress and recognition in terms of comparability, progression, and transferability, where participants could evidence completion and attainment.

According to CEDEFOP<sup>19</sup> on the Validation of Non-formal and Informal Learning “[t]he importance to Europe of skilled and knowledgeable citizens extends beyond formal education to learning acquired in non-formal or informal ways. Citizens must be able to demonstrate what they have learned, to use this learning in their career and for further education and training.” This statement is at the core of the efforts around the recognition of micro-credentials – mostly provided within non-formal education - developed using the MicroVET methodology. Since micro-credential are a new development even if and when they are provided as a formal education path, the recognition challenges are similar. As you will see, the challenge is at least three-fold:

- Creating a validation system for the MicroVET courses that clearly demonstrate learnings;
- Presenting them in the framework of a certification process that helps employers as well as the individual learners themselves understand what the validated knowledge, skills and competences entail;
- Adjusting the validation and certification process to the requirements of formal education providers, especially in the field of vocational education and training, and higher education.

In order to address the first challenge, the MicroVET methodology encompasses a framework for defining and demonstrating expected learning outcomes and a quality assurance system that provides for the safe validation of them.

The ability to recognise and validate competences has the added advantage of facilitating entry or progress into further formal education within a given career path, support entering new career paths

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<sup>19</sup> <https://www.cedefop.europa.eu/en/projects/validation-non-formal-and-informal-learning>

internally and progressing in current careers, or indeed opening the potential to acquire or develop additional competencies for an individual to consider a career change.

By providing an accelerated pathway to build and consolidate upon non-formal and informal learning motivation and engagement in self-directed learning is raised considerably. The ability to secure course credits and or exemptions or alternatively bridging or conversion programmes would be cost effective, efficient, and mutually beneficial for individuals, course providers, current and prospective employers.

More importantly, by facilitating integration of the education and learning that quality-assured frameworks such as MicroVET offers, the learning dynamics and quality of learning in or for the labor market should be significantly improved. From a policymaker's or socially responsible employer's point of view, one can also identify social benefits as the recognition of new kinds of learning – such as micro-credential - also affords a means to improve greater equity in terms of access to educational opportunities, effectively a second chance for those who might have failed to fully exploit formal education having perhaps dropped out too early. There is an added inter-generational dimension since educational opportunities might well have been limited to a smaller proportion of a given age cohort in the past in comparison with current provision.

At a time when many EU Member States have been receiving large numbers of adult refugees in different waves, aside from social, cultural and language barriers, a major challenge has been to find ways of recognising and fast-tracking existing qualifications, skill sets and experience, and – if necessary – adjusting them to the realities of European labor market(s) or the EU Member State. Integration into the labor market of a certain Member State is of utmost importance with social, mental health and well-being benefits for the individual, and a major saving for governments in terms of financial support. Finding ways to facilitate non-formal and informal learning is something that both policymakers and potential employers have a mutual interest in resolving as speedily and cost-effectively as possible. Micro-credentials, especially if and when developed in an EU-funded framework and thus accessible freely or at minimal costs, also improve the accessibility of the education system.

Similarly, the recognition of non-formal learning is at the core of delivering on the gender equality aims of the European Pillar of Social Rights. One of the main aims is to significantly raise the employment level of women. The related Action Plan also implies that at least 60% of all adults should be participating in training every year by 2030. Achieving this goal, providing for and recognising quality-assured micro-credentials is a cost-effective and realistic approach. Especially for women with lower levels of formal education or for those who have been absent from the labor market for longer periods of time, micro-credentials, if fully recognised, could be gate-openers.

It should be noted that beyond the European context that access to education for marginalized or less advantaged groups has been high on the agenda of the UN since the adoption of the [Sustainable Development Goals \(SDGs\)](#). SDG4, in particular, aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' by 2030.

### **The link between validation and recognition**

Since 1996, when the reality of lifelong learning was first formally acknowledged by the OECD, ministers of education have agreed to jointly develop strategies to embrace the concept of learning from cradle to grave including formal, non-formal and in-formal learning has progressively moved up both national and international policy agenda. For adults it is very likely that learning, taking place at home, at the workplace, on the internet or elsewhere, is a lot more important, relevant and significant than that which takes place in formal settings<sup>20</sup>.

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<sup>20</sup> [https://www.researchgate.net/publication/233317772\\_Informal\\_Learning\\_in\\_the\\_Workplace](https://www.researchgate.net/publication/233317772_Informal_Learning_in_the_Workplace)



The fundamental challenge is that such learning is not well understood, visible and more crucially measurable and hence capable of being valued. The ability to record such learning and skills would then contribute to the portability of a given skill set of learning outcomes.

The introduction of the European Qualifications framework, (EQF) at EU level in conjunction with the increasing movement internationally towards competence-based formal curricula with explicit learning outcomes in the form of knowledge, skills and competence does support attempts to capture individual attainment more closely in whatever sphere, capacity or stage of career. Building upon this development the EU Council Recommendation on Validation of non-formal and informal learning in 2012 gave an additional impetus to the alignment process with the goal of linking learning from educational institutions, (formal) with in-company training, on-line learning civic society and lastly learning from daily activities that take place at work, leisure and in the home. Micro-credential courses can also serve the systematization of such learning leading to recognised certification.

The MicroVET project has been expressly informed by the intention to secure recognition and validation. Utilizing EU frameworks such as ECVET and ECTS.

ECVET, the European credit system for vocational education and training is a technical framework for transfer, validation and, where appropriate, accumulation of learning outcomes by individuals, to achieve a qualification. ECVET tools and methodology comprise a description of qualifications in units of learning outcomes with associated points, a transfer and accumulation process and complementary documents such as learning agreements, transcripts of records and ECVET users' guide.

MicroVET also has the ambitious goal to host some micro-credential courses that can be part of ECTS, the European Credit Transfer System, a central tool in the Bologna-process. It is a tool of the European Higher Education Area for making studies and courses more transparent. It helps students to move between countries and to have their academic qualifications and study periods abroad recognised. ECTS allows credits taken at one higher education institution to be counted towards a qualification studied for at another. ECTS credits represent learning based on defined learning outcomes and their associated workload.

In order for recognition to be achieved, the MicroVET methodology is proposing courses that are aligned and capable of integration within the ECVET system. ECVET itself was expressly designed to give people greater control over their individual learning experiences and make it more attractive to move between different countries and different learning environments. The system aims to facilitate the validation, recognition and accumulation of work-related skills and knowledge acquired during a stay in another country or in different situations. It should ensure that these experiences contribute to vocational qualifications. ECVET aims for better compatibility between the different vocational education and training (VET) systems in place across Europe and their qualifications. It aims to create a technical framework to describe qualifications in terms of units of learning outcomes, and it includes assessment, transfer, accumulation and recognition procedures.

ECVET is based on the following elements that support recognition:

- Learning outcomes – statements of knowledge, skills and competence that can be achieved in a variety of learning contexts.

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[https://educationresearch.pressbooks.com/chapter/informal-learning/#:~:text=\(2015\)%20describe%20informal%20learning%20as,in%20a%20highly%20structured%20setting.](https://educationresearch.pressbooks.com/chapter/informal-learning/#:~:text=(2015)%20describe%20informal%20learning%20as,in%20a%20highly%20structured%20setting.)  
<https://kennisopenbaarbestuur.nl/media/255094/leren-op-de-werkplek-wat-weten-we-over-informeel-leren.pdf>

- Units of learning outcomes that are components of qualifications. Units can be assessed, validated and recognised.
- ECVET points, which provide additional information about units and qualifications in a numerical form with the rule of thumb that 25-30 learning hours are translated to 1 ECVET point.
- Credit for assessed Units. Credit can be transferred and accumulated to achieve a qualification.

Aligning MicroVET validation and certification with ECVET is to support employers understand what these micro-credentials are equivalents of, makes it possible for the learner to have this prior learning recognised in case they pursue formal VET (or HE) pathways, but it also supports the individual learner to understand and celebrate their learning.