



Assessment development and micro-credentials



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INTRODUCTION

What is assessment in adult education?

On a global scale, there is an interesting shift of more traditional education models towards the establishment of "knowledge-based communities" (UNESCO World Report, 2005) that respond to the new learning requirements, given the rapid changes in learners' daily lives. Angelo (1995) underscores the importance and relevance of adult learning, emphasizing its role in providing more opportunities for adults in the contemporary world. Developing evaluation methods, criteria and indicators in this field, which are tailored to the unique labour market specifications, is imperative to address the diverse challenges currently faced by adult learners.

The terms "evaluation" and "assessment" are commonly used interchangeably to denote the process of judging and assigning value to an item. Nevertheless, the term "assessment" technically refers to the judgment of work, learning, or performance, whether formally or informally, while "evaluation" is employed to judge all other aspects of academic endeavours (Martin & Collins, 2011).

In the domain of adult education programs, assessment and monitoring play a key role in improving quality and conditions and usually go beyond the perspective of the assessor as it implies including the learner in the process (Comings, 2007).

In this context, assessment is defined as an ongoing process aimed at measuring, monitoring, and enhancing learning, degree of achievements, outcomes, and determining the extent to which objectives are met (Fernandes et al., 2012; Parker et al., 2001; Yambi, 2018). Conversely, evaluation validates and judges the quality and level of performance or outcomes for decision-making (Baehr, 2005). Therefore, the key distinction lies in the fact that assessment is focused on learning progression, while evaluation is oriented towards outcomes. Assessment involves continuous systematic measures to review and evaluate learner improvements, weaknesses, and strengths using acquired data and information to provide academic support (Yambi, 2018).

Purpose of this report

In PRIORITY45, the main objective is indeed to assess the learning progression as the goal of this learning offer is to provide tools that allow adults 45+ to progress as individuals, workers and entrepreneurs, thus opening new opportunities and enriching society and the labour market.

This document aims thus to develop an assessment methodology that is compatible with the P45 digital platform and training offers. In addition, the requirements for awarding micro-credentials to learners who complete the P45 course are analysed and discussed towards potential uses in the future.

THE ASSESSMENT METHODOLOGY IN P45

Types of assessment relevant for adult learning

Given that adult learners distinctly engage with education from traditional students, assessing their levels of learning success and achievement proves to be challenging for trainers, teachers and evaluators. This difficulty is especially pronounced in distance education settings, where several different challenges may arise (Vasilevska et al., 2017).

Certain education experts argue that the existing framework for adult evaluations lacks clarity, being both time-consuming and intricate, posing significant challenges in terms of execution (Hay et al., 2010; Lavin, 1993; OECD, 2008). Promoting a student-centred approach that encourages reflection and addresses individual needs and experiences, along with providing immediate feedback, is crucial. Assessments focused on evaluating mental phenomena, such as intelligence and creativity, play a vital role in preparing learners to generate solutions for future challenges. However, these measures must be well-defined for the benefit of the learners.

Evaluation and assessment of adult learning encompass various approaches. These include assessing learning outcomes, measuring the effectiveness of teaching methods, evaluating learners' skills and competencies, and measuring the overall impact of the learning experience. Continuous formative assessment, which occurs throughout the learning process, helps monitor progress and identify areas for improvement. Summative assessment, conducted at the end of a course or program, assesses overall achievement and mastery of content. Self-assessment empowers adults to reflect on their learning and set personal goals. Additionally, peer assessments and feedback provide valuable insights from fellow learners. Overall, a combination of these assessment types contributes to a comprehensive understanding of adult learning effectiveness (Mubayrik, 2020).

The selected methods for P45

For the evaluation of P45's informal training provided through the digital platform, there is the need to assess three main aspects:

- a) **User experience and accessibility**
- b) **Learning outcomes and retention**
- c) **Skills in real-world scenarios and impact.**

Feedback and reflections from adult learners are crucial, along with tracking engagement metrics and social interactions. The platform's adaptability, customisation features, and support mechanisms should be evaluated. Additionally, assessing participants' application of skills in real-world scenarios and the long-term impact of the training on their digital literacy and overall well-being can be an added value.

The methodology for P45 assessment aims thus to be comprehensive, considering the unique characteristics of this target group and aiming to provide insights into the effectiveness and practicality of the training.

The assessment of P45 will encompass thus a tri-dimensional approach:

User experience and accessibility:

- Evaluate the user interface and experience to ensure that it is user-friendly and accessible for individuals in the target age group.
- Assess the platform's compatibility with different devices and the ease of navigation for individuals with varying levels of digital literacy.
- Track engagement metrics, such as checking what the learners do and do not do on the platform, to understand how actively participants engage in the training.
- Assess the availability of customisable features that allow individuals to pace their learning according to their comfort and schedule.

Learning outcomes and retention:

- Collect feedback through online surveys to gauge participants' perceptions of the training content, format, and overall experience.
- Measure the effectiveness of the training by assessing the participants' knowledge of key concepts and skills before and after the program.
- Conduct follow-up assessments to evaluate short-term retention and application of the acquired knowledge.

Skill application in real-world scenarios and impact:

- Encourage participants to reflect on how the training has impacted their understanding or skills in a particular area.
- Design assessments or scenarios that require participants to apply the acquired skills in real-world situations, providing a more practical evaluation of the training's effectiveness.
- Evaluate whether the informal training contributes to an improvement in participants' overall digital literacy and comfort with using technology.
- Conduct assessments at intervals beyond the training period to understand the long-term impact on participants' personal or professional lives.

SPECIFIC ASSESSMENT IMPLEMENTATION PER AREA

User experience and accessibility

To assess the platform, several questions are defined that will pop up during the use (e.g. at the end of each unit and/or module) to be able to evaluate the tools developed and improve the offer. Between M18 and M19, in the “Training Learning Verification” activity, at least 30 learners will test and evaluate the P45 e-learning course, and they will answer these questions. The Consortium will analyse the answers and, if needed, adjust the e-learning platform to promote a better experience for the user.

Platform design questions

1. Did you find the design of the platform visually appealing?

YES

NO, improvement is needed for the following aspects:

2. Do you find the platform’s colours choices attractive?

YES

NO, improvement is needed for the following aspects:

3. Were you able to differentiate links easily?

YES

NO, improvement is needed for the following aspects:

4. Did you find the images, interactive exercises and videos on the Platform useful?

YES

NO, improvement is needed for the following aspects:

5. Do you consider the size of web controls to be appropriate?

YES

NO, improvement is needed for the following aspects:

6. Were you able to find the resources you were looking for easily?

YES

NO, improvement is needed for the following aspects:

7. Did the Platform render correctly in your browser?

YES

NO, improvement is needed for the following aspects:

Platform usability

On a scale of 1 (very poor) to 10 (excellent), how would you rate the usability of the Platform?

1	2	3	4	5	6	7	8	9	10

Navigation survey questions

1. Did you find it easy to move between the different pages or sections of the platform?

YES

NO, improvement is needed for the following aspects:

2. Did the links take you to the relevant pages?

YES

NO, improvement is needed for the following aspects:

3. On a scale of 1 (not at all) to 10 (completely), how intuitive do you rate the navigation on the Platform?

1	2	3	4	5	6	7	8	9	10

Content survey questions

1. Did you find the content on the Platform well-structured and easy to understand?

YES

NO, improvement is needed for the following aspects:

2. Did you find materials engaging and interactive?

YES

NO, improvement is needed for the following aspects:

3. On a scale of 1 (very poor) to 10 (excellent), how do you rate the clarity of the content?

1	2	3	4	5	6	7	8	9	10

Platform performance

1. Did it take too long to load the Platform?

YES

NO, improvement is needed for the following aspects:

2. Did you encounter any technical issues while using the platform?

NO

YES, improvement is needed for the following aspects:

3. On a scale of 1 (very poor) to 10 (excellent), how would you rate the performance of our Platform?

1	2	3	4	5	6	7	8	9	10

Overall Satisfaction

On a scale of 1 (not at all) to 10 (completely), how satisfied are you with your overall experience with the platform?

1	2	3	4	5	6	7	8	9	10

Learning outcomes and retention

Several formative assessment methods and techniques were researched and below some practical examples are listed (Srivastava et al., 2018; Trumbull & Lash, 2013) that can be used to assess this dimension:

1. Exit ticket/ slip: A question is asked to all learners after a module or unit to measure understanding. For example, "What are the main points that you have learned?."
2. Quizzes: Helps in assessing cognitive skills, allowing learners to evaluate their own knowledge.
3. One-minute paper: 60 seconds for the learner to recall what knowledge was acquired at the end of a module or unit.
4. Muddiest point: Learners identify the most difficult point to comprehend.
5. Directed paraphrasing: Restate section or unit/module.
6. One-sentence summary: Learners answer a set of questions in only one sentence.

Within the P45 virtual course, the consortium chose different activities that allowed the user to have immediate feedback on their knowledge. This choice was made having in mind the specific characteristics of the Adult Learner, but also because the course does not foresee real interaction with trainers or facilitators at a distance, hence the need to promote self-reflection and learning by users. Throughout the P45 course, the participant will find:

- Quizzes
- True or false exercise blocks
- Crosswords
- Find the words
- Fill the box
- Multiple choice
- And other interactive exercises.

Moreover, the participants can measure the level of skills before and after the course, by answering the Self-assessment tool on 45+ adults' skills (A4.3) that will be developed by the consortium partners and also integrated into the learning platform.

Skill application in real-world scenarios and impact

For the evaluation of this dimension, some possibilities were foreseen:

1. Case studies and simulations: finish each module with the presentation of a real-world scenario relevant to the course content and ask learners to apply their acquired skills to analyse and propose solutions.
2. Project-based assessment: similar to the previous one, but more complex. The idea is to assign a project, at the end of the course, which mirrors real-world challenges, requiring the learner to demonstrate the practical application of the skills within a specific context.
3. Portfolio assessment: provide a place in the platform where learners can share with others a compiled portfolio highlighting their achievements after they finish the course, including at work, projects, or personal successes that directly result from the skills gained during the course.
4. Written essay: request learners to draft a final essay discussing their experience applying course-related skills in real-world situations, emphasizing challenges, successes, and lessons learned that can be published in the project website and social media.

In line with the previous said, because there is no mandatory interaction between the participant and a facilitator foreseen to the course, a mix of multiple-choice questions and self-reflection questions was the option for this evaluation.

Through this approach the participant has immediate feedback about the answers, and can also think more deeply about their knowledge, their context and their real life, evaluating a desirable change before and after the course.

For that, at the end of each unit, the participant will find a multiple-choice questionnaire about the topics covered in the unit. In total, the participant will have access to 22 sets of questions.

Moreover, the “Self-assessment tool on 45+ adults' skills” that will be developed under the WP4 - PRIORITY 45 Digital Discovery Tour will be integrated into the e-learning platform, allowing for the participants to self-assess their transversal skills, and to make a pre and post-evaluation.

INTERNATIONAL OVERVIEW OF LEARNING VALIDATION

Besides the assessment of the learning offer and tools, it is also necessary to assess how to validate the learning. To do so, three main topics will be portrayed, including an EU overview of validation and certification schemes; the status quo towards the integration of P45 with the Europass tools; and the potential use of micro-credentials.

Validation and certification of informal and non-formal learning

The need to respond to the demand for more flexible, student-centred forms of learning has led to an increasing number of providers (public and private) offering alternative types of learning and its validation.

Micro-credentials are gaining increasing prominence as a way of certifying specific competencies. These small units of learning can be obtained through online courses, face-to-face training or experience, and are a way of demonstrating competencies acquired in specific areas, complementing or even replacing traditional formal education certificates.

The document "Proposal for a Council Recommendation on a European approach to micro-credentials for lifelong learning and employability" published by the Council of the European Union in 2021 aims to promote the use of micro-credentials as a tool to facilitate lifelong learning and improve employability.

The ETF (European Training Foundation, 2022) has also published a guide which, despite being aimed at third countries, gives clear instructions for designing, issuing and recognising micro-credentials. Even though this standardisation and cross-border recognition is still underway, micro-credentials have been the focus of attention from various public and private players.

Another alternative to traditional methods of validating learning that has also been developed by the European Commission is digital credentials. With this aim, the European Digital Credentials Infrastructure (EDCI) is being developed, which aims to support the entire structure ranging from the validation and authentication of documents and information as defined in Article 4 (6) of the Europass Decision (European Parliament, 2018).

These credentials can describe sessions attended, projects conducted, competences acquired or qualifications obtained. This type of credential makes it easier for organisations to understand the validated competence since it contains a large amount of information. Being digital, it reduces administrative work and combats fraud since the information it contains is easily verifiable.

For an organisation to use them, it must first obtain an e-Seal (European Commission, s.d.) and then issue the credentials (European Union, s.d. a).

In Portugal, the Decree-Law no. 27/2021 aims to "*modernise incentives for higher education institutions to cooperate with companies and the public administration, supporting the diversification of the training offer and lifelong learning*", seeking to diversify the offer and diversify the methods of certifying learning. On the other hand, the DGERT (Directorate-General for Employment and Labour Relations) envisages that various institutions will adopt this type of training.

Most higher education institutions already offer micro-credentials in their curricula. All these new forms of certification are validated by government order¹. The offer in Portugal covers several areas, including information technology, management, and health, among others.

As far as Digital Badges are concerned, several organisations offer them, whether in the public sector (e.g. for Portugal, the University of Lisbon, the University of Porto) or the private sector (galileu.pt, flag.pt).

In Portugal, for an organisation to be able to issue a digital badge, it must:

1. Finding a Digital Badges platform that is recognised and used in Portugal.
2. Create an account on the platform and complete the necessary requirements to obtain the desired Digital Badge.
3. After completing the requirements, the platform usually issues the Digital Badge automatically or after review.
4. The Digital Badge can be shared on social networks or online professional profiles.

Although relatively new, digital badges and micro-credentials have emerged as valuable tools in the education and professional development landscape in Europe.

CERTIFICATION OF KNOWLEDGE

Europass tools

P45 will issue proofs of completion of the units and the overall course. Moreover, even though the course has been developed to allow a participant to take it alone (without being integrated into a group training context), the P45 platform can also be applied in group workshops by organisations that are certified and can issue a valid certificate with the learning achievements, namely using the [Europass](#) tools and / or micro-credentials.

With the Europass tools, users can document their skills, qualifications and experience in a free and secure online location. This platform allows users to enter details about their work history,

academic background, training efforts, language proficiency, digital skills, involvement in projects, voluntary work and achievements. The Europass Certificate Supplement can be added to a certificate and is a considerable benefit for the person receiving it. More details and a link to national templates can be found [here](#). [Digital Credentials](#) are one of the Europass tools. European digital credentials cover statements awarded by an organisation to a learner, including diplomas,

¹ For example: <https://www.ipsantarem.pt/wp-content/uploads/2022/10/Despacho-49-2022-normas-funcionamento-cursos-microcredenciais.pdf>



transcripts of records, entitlements and various other types of certificates that demonstrate learning achievements. These credentials are multilingual and have a distinctive electronic seal. The education and training institutions can easily authenticate, validate and recognise these credentials, and give them to the learners to certify the learning they have undertaken. These credentials can refer to diverse types of educational experiences: formal education, online courses, volunteer experiences or others; and streamline the bureaucracy often encountered by these institutions-

However, there are a few preconditions to be fulfilled by the issuers of Europass Digital Credentials. The adult education institution needs to obtain a qualified electronic seal. The European Commission developed a tool for this purpose, and a [tutorial](#) explaining how to prepare the data (more info available [here](#)).

The Online Credential Builder facilitates data entry entirely via the browser. Once all the credential information is entered and the file is uploaded, the data is reviewed and digitally sealed. Recipients receive email notifications and, if they have an online wallet, the credentials are sent directly to it.

The Europass Digital Credentials is fully aligned with [European Qualifications Framework for Lifelong Learning \(EQF\)](#), another Europass tool. The EQF is a translation tool to make national qualifications easier to understand and more comparable with other countries. It aims to support cross-border mobility of learners and workers, promote lifelong learning and professional development across Europe (European Union, s.d.c.). It covers all types and levels of qualifications to clarify what a person knows, understands and is able to do. By linking the EQF closely to national qualifications frameworks, a comprehensive map of all types and levels of qualifications in Europe can be provided.

Table 1. Description of the eight EQF levels (European Union, s.d. b)

	Knowledge (theoretical and/or factual)	Skills (cognitive and/or practical skills)	Responsibility and autonomy
Level 1	Basic general knowledge	Basic skills required to carry out simple tasks	Work or study under direct supervision in a structured context
Level 2	Basic factual knowledge of a field of work or study	Basic cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	Work or study under supervision with some autonomy
Level 3	Knowledge of facts, principles, processes and general concepts, in a field of work or study	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work or study; adapt own behaviour to circumstances in solving problems
Level 4	Factual and theoretical knowledge in broad	A range of cognitive and practical skills required to generate solutions to	Exercise self-management within the guidelines of work or study contexts

	contexts within a field of work or study	specific problems in a field of work or study	that are usually predictable, but are subject to change; supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities
Level 5	Comprehensive, specialised, factual and theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	A comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities where there is unpredictable change; review and develop performance of self and others
Level 6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles	Advanced skills, demonstrating mastery and innovation, required to solve complex and unpredictable problems in a specialised field of work or study	Manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts; take responsibility for managing professional development of individuals and groups
Level 7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; Critical awareness of knowledge issues in a field and at the interface between different fields	Specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	Manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams
Level 8	Knowledge at the most advanced frontier of a field of work or study and at the interface between fields	The most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and/or innovation and to extend and redefine existing knowledge or professional practice	Demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research

The EQF is linked to the National Qualifications Frameworks (NQFs). If they are preferred as a reference framework, they can be found [here](#). Given their flexibility and adding to the already existing approaches, so-called “micro-credentials” are likely to increase their importance in the future. Micro-credentials, too, can be designed and delivered by a variety of providers in many different formal, non-formal and informal learning settings as proof of the learning outcomes that a learner has acquired following a short learning experience (Futures, Andersen & Larsen, 2020).

Micro-credentials

On 16 June 2022, the Council of the European Union adopted a Recommendation on a European approach to micro-credentials for lifelong learning and employability. The Recommendation seeks to support the development, implementation and recognition of micro-credentials across institutions, businesses, sectors and borders.

This recommendation aims to establish guidelines to guarantee the quality, transparency and recognition of micro-credentials throughout the European Union. This includes defining criteria for the assessment and validation of micro-credentials, as well as establishing a credit system that facilitates the comparison and recognition of these credentials in different educational and professional contexts.

Annex I of the same document describes the standard elements recommended for describing a micro-credit scheme at the European level:

Table 2. European standard elements to describe a micro-credential (Council of the European Union, 2022)

Identification of the learner	
Mandatory elements	Title of the micro-credential
	Country(ies)/Region(s) of the issuer
	Awarding body(ies)
	Date of issue
	Learning outcomes
	Notional workload needed to achieve the learning outcomes (in ECTS credits)
	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
Optional elements, where relevant (non-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)
	Grid achieved

	Integration/stackability options (stand-alone, independent micro-credential/integrated, stackable towards another credential)
	Further information

Micro-credentials certify the learning outcomes of short-term learning experiences, for example a short course or training. They offer a flexible, targeted way to help people develop the knowledge, skills and competences they need for their personal and professional development.

Shorter forms of learning opportunities than traditional qualifications, such as micro-credentials, are being developed rapidly across Europe and around the world. These opportunities are made available by a wide variety of public and private providers in response to the demand for more flexible, learner-centred forms of education and training. They also have the potential to offer education and training opportunities to a wider range of learners, including disadvantaged and vulnerable groups.

The Council Recommendation aims to:

- **enable individuals to acquire, update and improve the knowledge, skills and competences** they need to thrive in an evolving labour market and society, to benefit fully from a socially fair recovery and just transitions to the green and digital economy and to be better equipped to deal with current and future challenges
- support the **preparedness of micro-credential providers** to enhance the quality, transparency and flexibility of their learning offer to empower individuals to forge personalised learning and career pathways
- **foster inclusiveness, access and equal opportunities**, and contribute to the achievement of resilience, social fairness and prosperity for all, in a context of demographic change and throughout all phases of economic cycles (Council of the European Union, 2022).

The Recommendation provides **BUILDING BLOCKS** including a **definition**, standard **elements** for describing micro-credentials, and **principles for designing and issuing** micro-credentials.

As a result, micro-credentials can be developed, used and compared in a coherent way among Member States, stakeholders and different providers (from education and training institutions to private companies) across different sectors, fields and borders.

The Recommendation will support the development and uptake of high-quality and transparent micro-credentials and outlines key areas for action in this field in education and training and labour markets policies. This will enable people to learn new skills in a tailored way, inclusive for all.

However, **without common standards** ensuring their quality, transparency, cross-border comparability, recognition and portability, micro-credentials cannot reach their full potential.

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