



AN ANALYSIS OF THE EXISTING OPTIONS THAT CAN HELP IN BUILDING OPEN AND FLEXIBLE LEARNING PATHS

Project: NEW BUILDING BLOCKS OF THE BOLOGNA PROCESS:
FUNDAMENTAL VALUES (NEWFAV)

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Introduction

Universities are invited, as part of their public responsibilities, to open learning to all types of learners and students, supporting the premises of flexible and particularised European learning pathways, enhancing the learning recognition and curricular reshape. Micro-credentials could be a response in this direction, providing more flexibility on how learning is designed, as having the potential to support continuous learning, fill the knowledge gap, and encourage diversification of learning designs and offers in higher education.

1. Aim of the study

The present study is realised as part of the deliverables and outcomes of Work Package 4: Micro-credentials a path to social inclusion and response to public responsibility for Higher Education, under the framework of the project “New building blocks of the Bologna Process: fundamental values (NewFAV)”, coordinated by the Romanian Executive Agency for Higher Education, Research, Development, and Innovation Funding (UEFISCDI). The main objective of the study is to analyse the existing practices and barriers linked with reshaping academic curricula through micro-credentials and open learning pathways, based on current research and discussions on the topic, and especially on the engagement of UNICA Network universities included in the study. The analysis starts by looking at current initiatives with a focus on the European effort for defining micro-credentials to finally propose a model for using micro-credentials in higher education curricular design and certification, but also on the practices that are developed through the European Alliances, as part of the European Universities Initiative. The study has been developed with the help of an exploratory questionnaire for universities, analysing existing practices, identified barriers and challenges, and seeking for future steps in overpassing them.

2. Methodology

The study is based on three major components: a conceptual analysis on the topic of open flexible learning and how it is reflected in several scientific papers and documents, an analysis of existing models and practices presented by policy documents and European approaches (such as the European Universities Initiative), and research on the status of micro-credentials and flexible learning pathways in UNICA Network universities. For the first two components, a non-systematised desk research has been conducted, aiming at understanding how micro-credentials are viewed and understood by some of the most recent approaches in the scientific field, as well as the practical perspective brought more by the policy level approaches. In the second section, European and international documents have been used to build an image on how micro-credentials can be extended in the understanding process, starting from the European approach and the most recent policy documents coordinated by the European Commission, and going to other key organisations such as OECD & UNESCO. The third section, the analysis of current approaches on micro-credentials in UNICA member universities, is a research based on the results collected through and online questionnaire and sent to all UNICA member universities. The methodology is explained in more detail in that section since it also specifies the level of coverage and possible limitations of the study.

Micro-credentials as a new philosophy for building open and flexible learning paths in higher education

A new approach and a new philosophy for designing and developing educational activities in higher education are more and more needed in the current and future social and professional environments, from a transformative perspective. Universities become more present on the social arena and the cooperation between the professional sector and the educational one asks for stronger connections between what we offer and what the beneficiaries need. From the idea of “universities without walls” (EUA, 2020) and the focus on flexible and open learning paths as “*important aspects of student-centred learning*” (EHEA, 2020, p. 6), universities are invited to reconsider curricular innovations that would enable students to design their own learning experiences and academics to engage in more modern teaching activities and practices.

Such innovative approaches are not recent constructs in themselves, recent social challenges such as the COVID-19 pandemic not only accelerated the digitalisation process of education but also “*brought some more profound structural changes benefiting students, related to academic teaching and learning processes, allowing for a more inclusive and flexible approach when it comes to learning*” (Iucu et al., 2021, p. 2). On a policy level scale, these changes were doubled by other pioneering projects at European level, such as the European Universities Initiative, the European approach to micro-credentials, European Student Card Initiative, and other strategic pillars of innovation on the agenda for educational innovation in the European educational landscape, proposing changes from three directions: policy, reflection, and practice. Here comes the possible added value of micro-credentials and their impact on designing a flexible educational offering for all, not only traditional students (meaning here students already engaged in learning or recent graduates), but also individuals seeking new professionalisation opportunities that can be supported through accessible and adaptive education and training programmes. This bidirectional input perspective makes micro-credentials not only a certification tool that the visibility and portability of learning (Berry et al., 2016), but also helps facilitators to rethink their educational activities based on a set of variables, criteria, and descriptors that derive from micro-credentials.

Existing practices in designing and implementing flexible educational activities for all types of learners are beneficial when analysing how they succeed in fitting the needs of both beneficiaries and employers (OECD, 2021), both at European and national levels. Several certifications are already in place and provide learners with a rich educational offering, whereas universities and national stakeholders argue that a conceptual and structural framework is needed to define what we refer to when speaking of open and flexible educational pathways and the universities’ role in designing and delivering programmes and activities that would fit such a framework. The concept of micro-credentials, even if not clearly defined and approached by all actors and beneficiaries in the same manner, manage to propose a common ground for discussion and their impact and beneficial roles are not to be neglected.

The results of a recent survey coordinated by the European Training Foundation (2022) show multiple benefits of micro-credentials, such as: have immediate relevance to labour market demands; support individual learning; possess stand-alone value; facilitate recognition of individual’s skills, knowledge, and competencies; facilitate the design of flexible training; and are cost and time saving (ETF, 2022, p. 3). Even if the potential benefits are often coming into discussion when analysing micro-credentials in relation with higher education, some precautions still need to be considered, since risks such as the curriculum fragmentation or drop of traditional degrees are present and some voices even say that



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micro-credentials lack trust and credibility (Boud & Jorre de St Joree, 2021; Sai et al., 2019). A complex framework for adopting micro-credentials in this vision of creating open and flexible paths need to account for various forms of disparities, such as costs, accessibility, lack of diversity (Mugayitoglu et al., 2021), having an important role in guiding learners in designing customised learning experiences (Ward et al., 2021) and in recognising their skills and competencies for professional success (Gauthier, 2020).

Designing open and flexible educational pathways for all learners includes a complex range of types of programmes and educational activities and components, either included in a formal accredited educational offering or less formal ones, specifically oriented towards transformative learning experiences, and learning and training needs of a group of beneficiaries. Many of the understandings surrounding the micro-credentials concept tend to encompass several of these types of educational activities, such as “certificates, nano-degrees, digital badges, and open badges” (Clements et al., 2020), whether they are labelled as such or not, since the descriptors and criteria they fit converge with the ones connected with the structural approaches towards a conceptual and methodological framework for micro-credentials, as can be seen in the conceptual analyses. Defining micro-credentials and their application and use in higher education is an important step forward in the process of exploring means for building open and flexible educational paths and dynamic and authentic learning experiences in higher education and beyond, extending the coverage of the “micro-credentials” concept on several educational components and offerings in the European and global certification market.

1. A conceptual approach on micro-credentials

Micro-credentials represent one of the most discussed and debated topics in European and international education, not only connected to a new approach towards shaping the higher education curricula and educational offerings, but especially underlining the need to better connect educational activities and results with competencies and professional profiles. Still, a clear conceptual approach is yet to be finalised, with the support of various actors and research areas that propose to define these innovative (in some ways) tools for certification, strongly enforced by the European strategic educational agenda (European Commission, 2022; 2020).

More consistency to define and approach micro-credentials is needed (Wheelahan & Moodie, 2021), clearing the path towards a structured manner of designing and implementing a “common currency” (Wheelahan & Moodie, 2021), understanding that independent of their format and descriptors, their main role is to serve as evidence of a skill or competency, as evidence of learning (Coyne et al., 2019). The conceptual novelty comes thus not in the purpose of the tools, as we can understand when identifying the descriptive components of micro-credentials, but mostly in the need to adopt a distinct approach to the conceptual philosophy that supports the development of new certifications formats, distinct from what is being currently used for “traditional” credentials (Zouri & Ferworn, 2021).

There are several factors that generated the rapid need for new certification tools and ways to develop an educational offer. Along with the rapidly changing dynamics of the professional landscape and the growing demand for people with specific up-to-date skills, few employers tend to consider a university degree as somewhat important in several key sectors (Lim et al., 2018), seeking to hire people that can prove specific competencies more linked with their hiring needs. This is one of the areas where micro-credentials are considered to have an added value, bridging the gap between labour market



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needs and the academic offer (Maine et al., 2022), where micro-credentials can, in some cases, “strengthen traditional degree programs, support competency-based programs, and link badge earners to potential employers and professional organisations” (Carey & Stefaniak, 2018, p. 1212).

There is an ongoing debate that higher education programmes and courses include in several cases components that support the acquisition of specific skills and competencies relevant to the professional needs of the learners, but they are not always sufficiently or explicitly assessed and shown (Tomasson Goodwin & Lothgow, 2018). The different way in which higher education institutions and practices, on one hand, and the labour market, on the other hand, describe learning achievements is one of the key interest topics for understanding the role and presence of micro-credentials in the higher education sector (Orr et al., 2020; Maina et al., 2022; Canales-Negrón, 2020). But for a clear approach on designing and implementing micro-credentials in higher education institutions to be put in place, more research is needed, both on the conceptual and the practical, instrumental, levels, drawing from the experiences and lessons learned from previous testing and piloting processes. Such approaches are needed if we want to develop a coherent and clearly structured credential ecosystem, integrating also micro-credentials and other certification formats (Brown et al., 2021). To develop a structured way of understanding micro-credentials and their real potential for the higher education landscape, “a set of crucial data must be correlated with these certification mechanisms [micro-credentials], in an effort to support the creation of a European micro-credential framework” (Iucu et al., 2021).

As micro-credentials are becoming more and more present in the educational strategies and practices, universities need to overcome some of the existing knowledge transfer paradigms and support the adoption of active learning models (Sokhanvar et al., 2021) and innovative pedagogical approaches, emphasising the need for more authentic assessment tools and practices (Maina et al., 2022), showcasing both academic knowledge and workplace skills (Kilsby & Goode, 2019). “The moment for a systematic approach is now” (Brown et al., 2021, p. 249), understanding that an obvious (and, paradoxical, quite overlooked) barrier to developing a conceptual and practical framework for designing and developing micro-credentials in higher education is a certain lack of data and analyses related to the labour market’s needs (Kato et al., 2020) and the universities’ capacity to offer.

The current research resources on micro-credentials are not yet rich enough to offer sufficient data and results that can develop a coherent research-based framework and propose it also to the policy level debates on the topic. Nevertheless, the past few years have shown that micro-credentials and their presence in the higher education agenda have manifested an intense growth. Especially due to the COVID-19 pandemic, but even before it, governments, universities, and public authorities turned their focus on how to develop new educational components that can really reach out to the educational beneficiaries (Wheelahan & Moodie, 2021). Analysing the existing practices and results on how micro-credentials can become more present in the universities’ educational offer, research shows that, whereas scientific papers focus more on the practical aspects that define the adoption of these new certification tools in universities, policy documents are more interested in preparing a common ground for discussion, developing a place where further research can be conducted (Cartiş et al., 2023).

When analysing the research state of the art, it shows up that alternative terminologies for micro-credentials were present even before this growing trend (Kato et al., 2020), either if treated as digital



badges (Carey & Clements et al., 2020; Stefaniak, 2018; Gibson et al., 2015; Elliott et al., 2014), alternative credentials (Kato et al., 2020; Jirgensons & Kapenieks, 2018; Fong et al., 2016), or conceptual elements closely related to modular approaches in education (Mugayitoglu et al., 2021; International Council for Open and Distance Education, 2019). These top layer results enforce some of the voices that consider the credentials market somewhat confusing, due to so many topics and formats (Stephen & Yi, 2019) that direct the learner to similar learning achievements. Some authors even consider that the nature and understanding of micro-credentials has become a matter of ‘common sense’, where micro-credentials cannot be separated by one of the major role and purposes of higher education: supporting people to obtain the necessary skills and competencies for work (Wheeler & Moodie, 2021). Moreover, if micro-credentials and this ‘common sense’ of understanding them are analysed in the recent health crisis and in the current geopolitical one, they can even become a rapid and customised alternative for re-professionalisation (reskilling) and new skills development (Iucu et al., 2021). The growing presence of micro-credentials can also be seen when analysing the online presence of the topic, Figure 1 showing that the concept of “micro-credential” is meaningful since 2010.

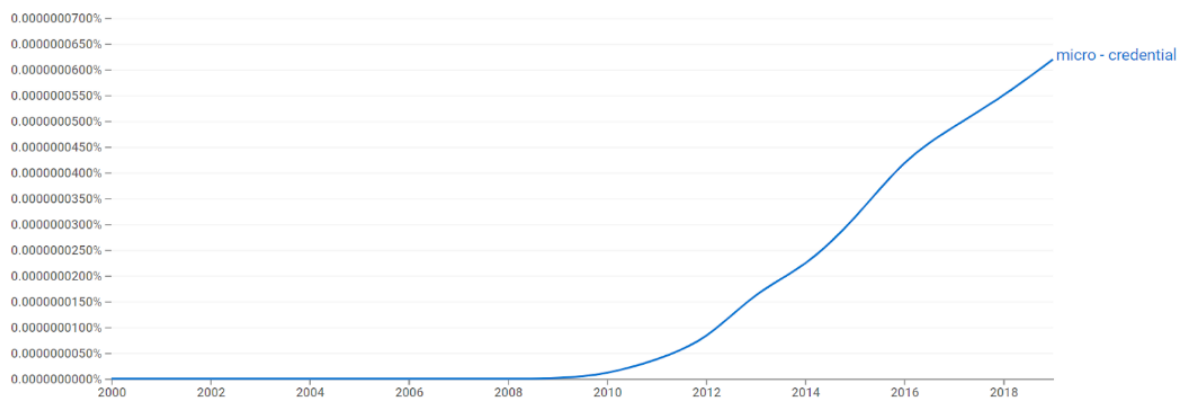


Figure 1. Frequency of the term “micro-credential” in books indexed by Google¹

Recent analyses on the conceptual approaches on micro-credentials in higher education research areas shows that much of the research does not focus on micro-credentials from the conceptual point of view and their implications for the higher education sector but were more focused on regarding these new tools as alternative credentials mechanisms in teaching and learning practices (Cartiș et al., 2023), connected to the growing presence of digital credentials and open badges. Research findings echoes the assertion that micro-credentials, from a conceptual perspective, are not entirely new (Oliver, 2019), since several approaches in the academic offer have enabled flexibility and access to further education and lifelong learning, especially when linked with huge providers for such small learning components (such as Edx for micromasters) or digital badges on specific topics (Brown et al., 2021). Jumping on the policy perspective, a UNESCO report even states that “micro-credential” is an umbrella term that “encompasses various forms of credential, including ‘nanodegrees’, ‘micro-masters credentials’, ‘certificates’, ‘badges’, ‘licences’, and ‘endorsements’” (UNESCO, 2018, p. 10).

¹ Google Ngram Viewer, https://books.google.com/ngrams/graph?content=micro-credential&year_start=2000&year_end=2019&corpus=26&smoothing=3#, last accessed on 2022/09/16.

Several ways in which micro-credentials are defined and characterised have been identified in the scientific literature, underlining the lack of consistency and cohesion (Wheelahan & Moodie, 2021; Kato et al., 2020; Gibson et al., 2015) when discussing about what are micro-credentials and how can they be used in higher education. Definitions range from very broad and complex ones (McGreal & Olcott Jr., 2022; Daellenbach, 2018), to very specific ones (Hotaling & Van Sumeren, 2022; Song, 2019; Ryerse, 2017), or to more general conceptual remarks (Mugayitoglu et al., 2021; Clements et al., 2020; Sai et al., 2019; Milligan & Kennedy, 2017). Even if such conceptual variations are not directly contributing to the development of a coherent framework for micro-credentials, they have the important role of supporting a reflective design process for something called “a new credential ecology” (Brown et al., 2020). Figure 2 shows that such an approach can be designed on two axes, one based on the relation between credentials and credits (such as the ECTS credit points) and the other based on the stackability or independence of the credentials.

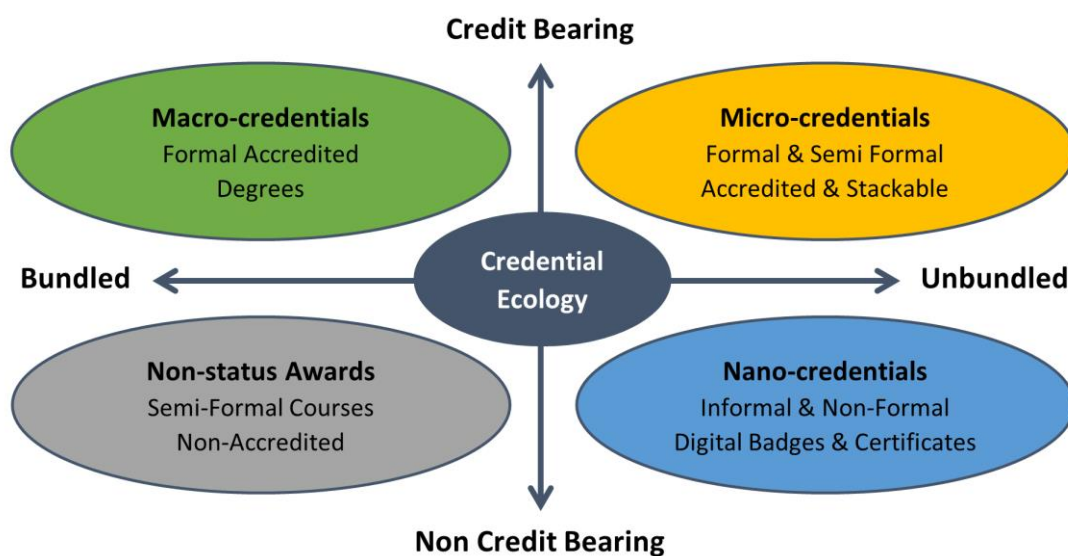


Figure 2. The new credential ecology (Brown et al., 2020)

Ranging credentials from small to large and from credited to non-credited represents a useful approach when aiming to identify means for grouping several credentialing tools and mechanisms based on similarities and common features. Designing a credentialing ecosystem in which micro-credentials and other smaller credential can fit could also include a digital input sector, since we can consider that micro-credentials (and not only them) are part of “a digital credentialing ecosystem, made possible by digital communications technologies establishing networks of interest through which people can share information about what a learner knows and can do” (Milligan & Kennedy, 2017, p. 43).

There is not only one way to arrange such an ecosystem, but all proposals support developing a common conceptual and structural framework. Micro-credentials invite universities and other relevant actors to reassess their credentialing practices, granting true insights beyond degrees and academic documentations (Sai et al., 2019). Other research analyses propose a clustering system the views of micro-credentials and their definitions (Carțiș et al., 2023), even if, in some cases, understandings cannot be matched with just one cluster or category but are represented by cross-

cluster meanings and purposes. In this case, Figure 3 shows that micro-credentials definition clusters can be designed on a bundled – unbundled axis (like the previous example), starting from analysing diverse and varied conceptual approaches on the use of micro-credentials in higher education.

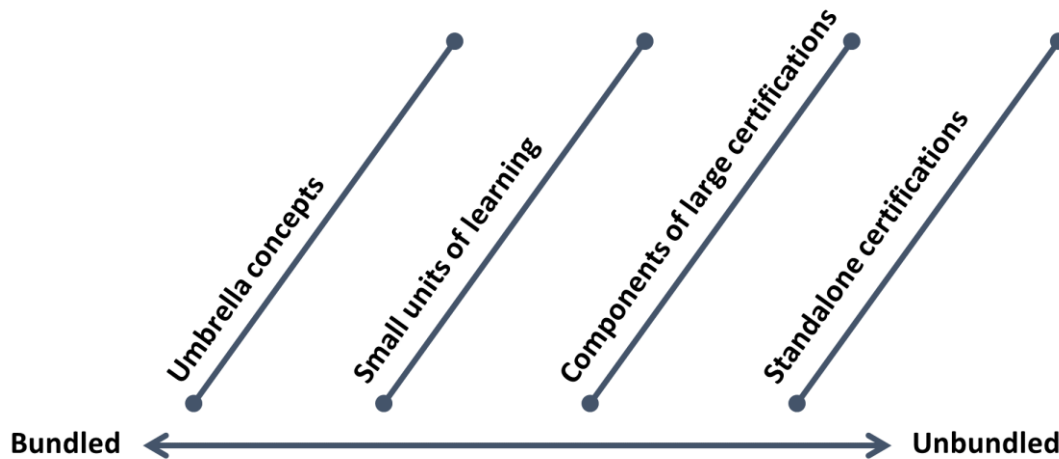


Figure 3. Clusters of definitions for micro-credentials (Carțiș et al., 2023, pp. 5-6)

Much of the definitions used for naming micro-credentials and what is their characteristics share common elements, distinctions being mostly when discussing about the connection with other certification tools or related to the way in which different authors or stakeholders choose to make use of the linguistic varieties. Elements such as “proof”, “learning outcomes / results / achievements”, “short”, and “assessment / assess”, or synonyms are found in many of the definitions (Carțiș et al., 2023), meaning that such concepts could become some of the main vectors for building a conceptual consensus on what micro-credentials are what are they for. Connecting these aspects with the aim of building flexible learning pathways for all learners, short-length educational activities that focus more on achievements and are based on transparent assessment processes clearly contribute to an educational offering co-designed by the student (Song, 2019) and with specific finalities; through such an approach, learners have “a voice and choice in what credentials they want to pursue and can create their own educational playlist” (Ryerse, 2017, p. 6). As can be seen here, when defining micro-credentials, some not so common terminologies are used to describe the nature of these certifications. Analysing the scientific research on the topic, diverse concepts are used, such as: “education playlist” (Jones-Schenk, 2018; Ryerse, 2017), “micro competencies” (Song, 2019), “educational-credits” (Mugayitoglu et al., 2021), “certifications of mastery of specific skills” (Hotaling & Van Sumeren, 2022), “representation of an accomplishment” (Gibson et al., 2015), “educational awards” (Wheelahan & Moodie, 2021), “portable currency for professional learning” (Berry et al., 2016), “tokens” (Grech & Camilleri, 2017), or “industry-aligned short units of learning” (Wheelahan & Moodie, 2021).

The conceptual approaches linked with understanding what micro-credentials are and how they can be described, as can be found in the current scientific literature, manifests a great diversity of terminologies and more interconnections need to be drafted between micro-credentials and traditional credentials (Stephen & Yi, 2019). Further on, these analyses must be compared with the policy agenda and the descriptions used by relevant stakeholders and higher education institutions



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for these innovative credentialing tools. Independent of how they are described, it is important to manifest a balanced vision, since micro-credentials are still suspected of being more of a “trend-like” presence (Kato et al., 2020; Jirgensons & Kapenieks, 2018) than truly useful credentialing tools that can support universities in designing an educational offering that builds open and flexible pathways for all learners.

2. A policy perspective: exploring models to develop a strategy for micro-credentials

Micro-credentials represent one of the key components of the European innovation agenda for higher education, as the Ministers for Education of the European Higher Education Area committed to support higher education institutions to: diversify the learning offer and innovate in educational content and modes of delivery. Moreover, the Rome Ministerial Communiqué emphasises the significance of developing new models for teaching and learning in European higher education, starting with creating a more flexible approach to how teaching and learning is designed and delivered. *“Flexible and open learning paths, part of the original inspiration for the Bologna Process, are important aspects of student-centred learning and are in increasing demand in our societies. In addition to full degree programmes, many higher education institutions offer or plan to offer smaller units of learning, which enable learners to develop or update their cultural, professional, and transversal skills and competences at various stages in their lives. We ask the BFUG to explore how and to what extent these smaller, flexible units, including those leading to micro-credentials, can be defined, developed, implemented, and recognised by our institutions using EHEA tools”* (EHEA, 2020, p. 6). We notice that, from the very initial status, micro-credentials and flexible learning pathways are stated as inspiration components for the Bologna process, where learning was to be redesigned in a way to better respond to the students’ changing needs.

While the process is not an easy and short one, the European Commission and other relevant European and international organisations such as UNESCO (2022) and OECD (2021) are determined to support higher education institutions and countries to adapt and change their legislation and practices, to have the possibility to develop and implement these new models of education. In this regard, as part of the strategic projects proposed by the European Commission, the European Approach to Micro-Credentials (European Commission, 2021) has not only provided key insights and proposals for the development in this area, but especially set up new policy level discussions and debates meant for setting a common agenda for innovating academic curriculum and designing process of educational activities. While some critics may argue that micro-credentials have a stronger policy level lobby than a grassroot one, it is not always the case, as we will see when discussing on some of the pilot initiatives of the European Universities Alliances or as we can already see in some examples provided by the universities participating in our study’s survey.

Of course, there are still areas that need to be further explored and analysed to be able to create a clear and operational framework for designing and implementing micro-credentials, but several steps have already been made in this direction and the research and the piloting interest are continuing to grow. Micro-credentials become a good example of cases where trends transform the practical approaches and tips the scales for how changes are usually done in the field of education. While the European context explores some of the practices and actions taken by other regional actors (USA,



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Canada, Australia, etc.) in defining micro-credentials in their legislation and practices, there is also a need to address the topic from a specific perspective, closely linked not only to the finalities and the outcomes of the educational activities, but also to the university culture and values promoted in Europe, where universities are seen as “*lighthouses of the European way of life*” (European Commission, 2022, p. 4).

Going a step further in defining how micro-credentials contribute to changing the educational landscape, the European approach on micro-credentials reached one key objective by launching, by the Council of the European Union in June 2022, the “Council Recommendation on a European approach to micro-credentials for lifelong learning and employability” (Council of the European Union, 2022). This Recommendation not only takes the discussions on how member states and universities can approach micro-credentials, but especially provides a common ground for three major aspects related to a European approach to micro-credentials: defining what micro-credentials are and what are their characteristics, setting standard descriptive indicators and information, and postulating principles that govern designing and issuing of micro-credentials in Europe.

Aiming to showcase a definition proposal for micro-credentials, we understand micro-credentials as *“the record of the learning outcomes that a learner has acquired following a small volume of learning. These learning outcomes will have been assessed against transparent and clearly defined criteria. Learning experiences leading to micro-credentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural, or labour market needs. Micro-credentials are owned by the learner, can be shared and are portable. They may be stand-alone or combined into larger credentials. They are underpinned by quality assurance following agreed standards in the relevant sector or area of activity”* (Council of the European Union, 2022, p. 14). We can already identify some key elements that previous analyses have also considered relevant for approaching the conceptual basis of micro-credentials: small volume of learning, assessed learning outcomes, responding to `real` needs, owned by learner, portable, quality assurance mechanisms and processes. The Recommendation also brings forward descriptive elements for micro-credentials that need to become part of any approach to designing micro-credentials (Council of European Union, 2022, p. 21):

- *Identification of learner;*
- *Title of the micro-credential;*
- *Country(ies)/Region(s) of the issuer;*
- *Awarding body(ies);*
- *Date of issuing;*
- *Learning outcomes;*
- *Notional workload needed to achieve the learning outcomes (in ECTS credits, where possible);*
- *Level (any 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.*



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The growing trend of micro-credentials is analysed both by researchers, who want to understand the process and the reasons and functional perspectives of these new approaches for certifying competencies and learning outcomes in educational activities and programmes, but especially by policy makers and decision-makers, since they want to make use of the full potential of micro-credentials for the overall development of the educational context. Even if the topic has been extensively analysed in the past years, especially during and after the COVID-19 pandemic, there are some aspects that still need to be discussed and for which common agreements and grounds are yet to be found, such as: micro-credentials' identity and typology, types of learners, types of providers, duration and workload, delivery format, integration in study programmes and degrees, mobility and flexibility, modular approach, digital credentialing, and many other key issues. Nevertheless, the exploration for each of these areas is at a different stage, since many higher education institutions, European Universities Alliances, European and international organisations are currently trying to be part of the process and contribute to the overall understanding of micro-credentials and their true nature and connection with 'traditional' degrees and programmes.

Higher education institutions made a step forward from this conceptual basis and explored how micro-credentials can become a real component of their innovative educational offer, especially through European Universities Alliances, as forefront piloting testbeds launched as flagship projects of the European Commission. Reaching out to new types of learners through transnational programmes, European Universities are the most important 'players' in the micro-credentials arena, piloting innovative micro-credentials and testing the challenges and opportunities linked with such processes, to propose changes and adaptations to countries and decision-makers. Alliances such as ECIU, CIVIS, Una Europa, UNITA, and many others pursued an approach towards micro-credentials, starting from the broad one and particularising it for the alliance's aims and objectives, based on specific elements that consist of their vision on how micro-credentials can enhance the learning experience for the students and other beneficiaries. In some cases, universities which are member of Alliances have created a shared 'space' for discussions and debates at national level, to propose common approaches at national level. This is the case with the "RO European Universities" network, bringing together all Romanian universities part of Alliances, coordinated by the West University of Timișoara (member of the UNITA Alliance). Under the framework of one of the working groups dedicated to micro-credentials, the experts, stakeholders, and other relevant parties have proposed a set of recommendations for adapting regulations in line with European visions and trends related to micro-credentials in higher education, as part of the current process of changing the Romanian national educational legislation.

The European Consortium of Innovative Universities (ECIU) is a significant voice at European level for an approach towards micro-credentials and how micro-credentials can be defined and implemented in European higher education. The vision they propose is based on 5 key principles: "(1) common definition supporting both credit and non-credit recognition pathways; (2) European quality assurance guidelines for micro-credentials; (3) Society engagement identifying, understanding and helping shape perceptions of the value, credibility, recognition and currency of micro-credentials; (4) Suitable open technical platforms and systems for sustainability and managing new credit and recognition models; (5) Commitment from policy makers, institutions and initiative leaders" (ECIU, 2020, p. 1). With an extended offer of micro-modules designed with a challenge-based approach and high engagement of stakeholders and society partners, ECIU alliance propose a development vision that consider 5 building

blocks (Brown et al., 2021, p. 5) that have the potential to ensure a sustainable approach to designing and implementing micro-credentials: definitions and standards; quality assurance; credits and recognition; storage, portability, and platforms; successful uptake.

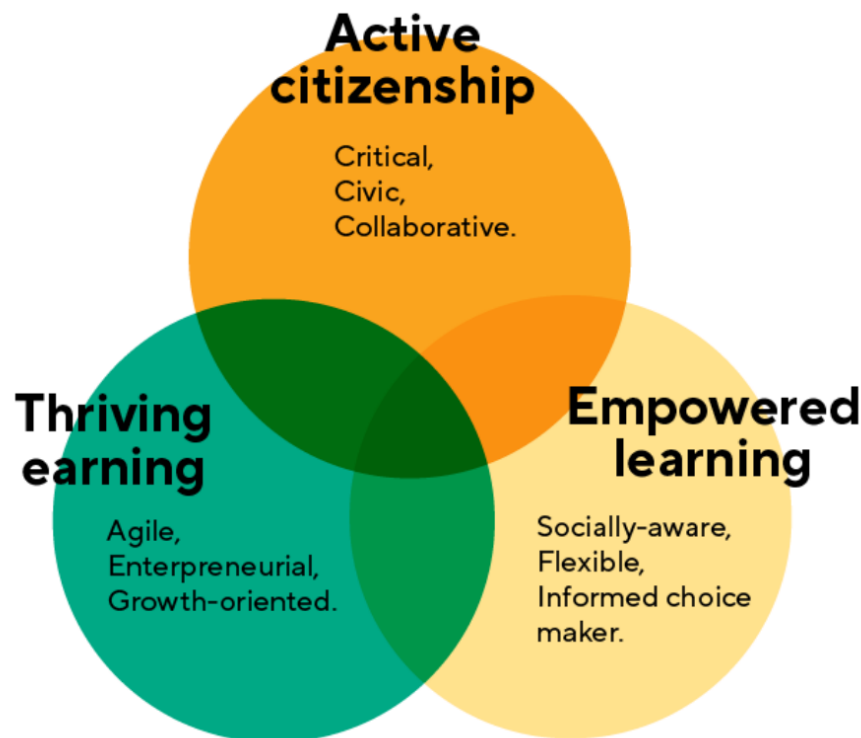


Figure 4. Fostering holistic learning (Mac Lochlainn et al., 2022, p. 12)

These principles and key building blocks lead the development of micro-credentials in bridging the gaps between the learners and the society at its whole, developing a holistic approach to what innovative learning experiences should provide in any format, as a value-based approach to how we design and deliver learning in higher education. The figure above shows that active citizenship, thriving earning, and empowered learning are, in the vision of ECIU Alliance, key elements that can ensure the success of new learning activities, such as micro-credentials, and what transversal components could be considered by higher education institutions when developing micro-credentials.

Another important aspect is brought by Una Europa Alliance, with a more practical approach to designing micro-credentials at alliance level, in new formats and with the perspective of providing significant contributions towards the European approach and the overall development of micro-credentials in European higher education. Moreover, Una Europa is one of the key alliances in the discussions and debates towards the development of Joint European Degrees, with a pilot Joint Bachelor of Arts in European Studies developed by 8 of the Alliance's universities under the label of Una Europa. In the discussion towards the premises of developing flexible learning pathways in higher education, this joint programme offers the students the chance to design their own mobility scheme plan for the degree, since they have the possibility to have embedded mobility in 1 or 2 other universities than the 'starting' ones, allowing them to move seamlessly during their study period, as the figure below shows.

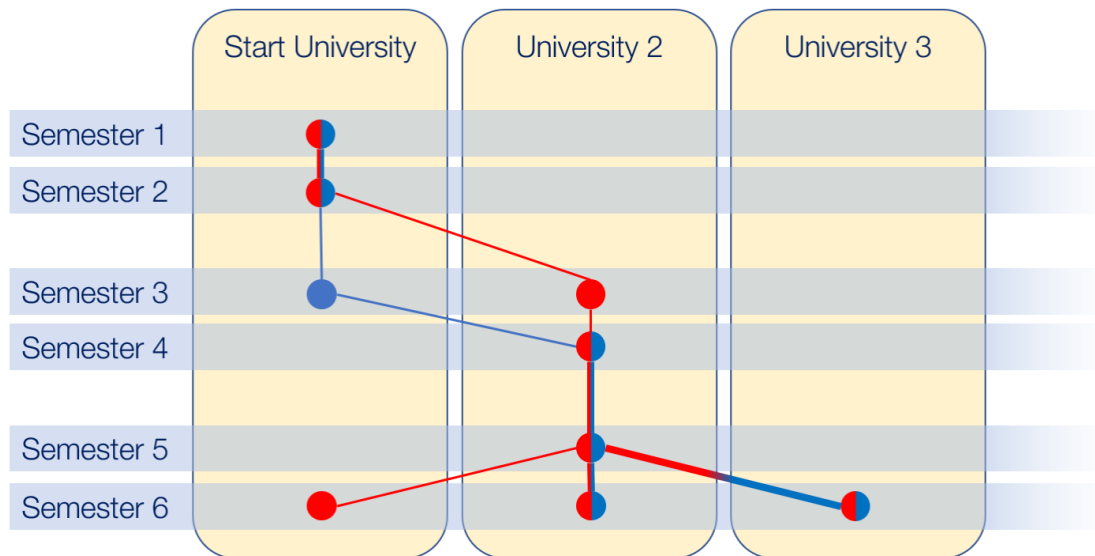


Figure 5. Mobility pathways and destinations for Una Europa Joint Bachelor of Arts in European Studies (<https://www.una-europa.eu/study/baes/programme-information>)

While noticing that the alliance applies flexible pathways to their joint degree programmes, it is the same when analysing their vision on micro-credentials approach, as is the case with the Una Europa Micro-Module in Sustainability (<https://www.una-europa.eu/study/microcredential-sustainability>). This programme is built on several stackable and independent (but related) MOOCs, so that learners can build their own learning plan, adapted to their needs around a proposed topic (sustainability). While MOOCs are open to any type of learners across the globe, those that want to recognise the ECTS credit points need to register through Una Europa partner universities, thus becoming a real member of the transnational academic community (Una Europa, 2021, p. 7). While the MOOCs remain open to all, as part of the third mission of the universities, academic records are also provided for the learners that are part of the alliance and use these credits for their own degrees.

On another perspective, CIVIS - Europe's Civic University Alliance also aligned its strategic priorities to the major development directions at the European level, this including topics such as the European approach to micro-credentials. In this regard, the CIVIS vision consists of a 'modular approach' for designing micro-credentials at alliance level, as 'CIVIS micro-programmes' that allow students to combine multiple CIVIS courses or modules into one coherent learning pathway which reinforces or complements their main study programme (<https://civis.eu/en/civis-micro-programmes>). Starting from the need to enhance mobility for all students of the alliance, especially as virtual mobility opportunities for all learners, CIVIS modular approach is built "on pillars such as embedded mobility (virtual, physical, or blended), innovative pedagogies, multilingual practices and contexts, enhanced recognition of learning (through ECTS credit points, an umbrella agreement, and the CIVIS Passport), and flexible learning pathways" (Zus et al., 2022, p. 463). To support the development of these micro-programmes, CIVIS proposed a curricular diagram, as educational framework for designing new models of learning activities, that shows not only the relationship between different learning activities, but also the stackable approach and the methods through which students can build their own learning pathways based on small units of learning that interconnect and built larger learning components such as micro-programmes, modules, and degrees, as the figure below shows.

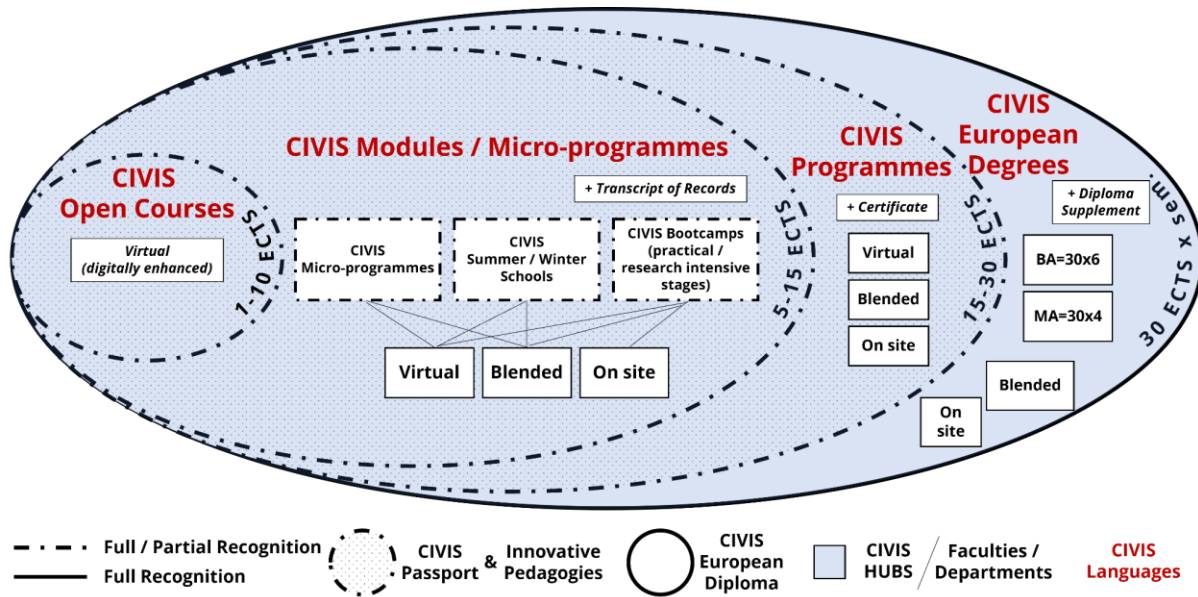


Figure 6. CIVIS Curricular Diagram - Pathways for building European Degrees (Iucu et al., 2022, p. 25)

For example, the first CIVIS micro-programmes, ‘Micro-Programme: Civic Engagement’ and ‘Micro-Programme: Global Awareness’, are built on a modular approach that allow students to build their learning pathways based on several units and modules that are interconnected and include several learning activities that can lead to specific learning outcomes connected to the needs and aims of the students. In this sense, to get the micro-programme certification and the 15 ECTS credit points, students must complete each module. Another interesting component of the ‘Micro-Programme: Civic Engagement’ is that one of the modules is represented by the recognition of activities and engagement of learners in civic engagement activities and organisations, such as NGOs / NPOs or other specific organisations, through active partnerships between the academic community and the society.

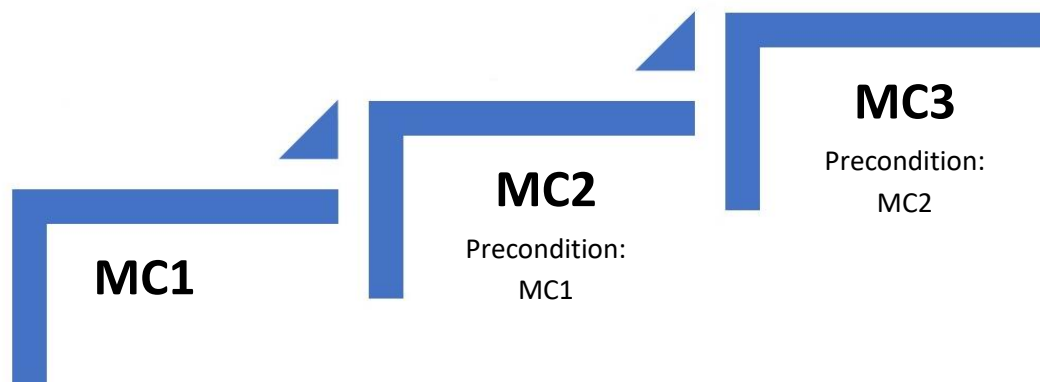


Figure 7. Model of progressive micro-credentials in a degree programme (Petcu & Fit, 2022, p. 27)

Developing micro-credentials at this level requires conceptual and structural approaches that support the designing and implementing of micro-credentials in higher education, while thinking on how the components are interconnected and reach to the overall objectives of the credential or degree. There are several ways in which the modular approach can be built, and the micro-credentials components can lead to the degree / certification. One model could be represented, as the figure above shows, by progressive modules / micro-credentials that lead to degrees or certificates. In this case, each module



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/ micro-credential is conditioned by the completion of the previous one and opens the possibility to start the following one. In a practical manner, one 30 ECTS credit points micro-programme could be built of 3 micro-credentials / modules (each of 10 ECTS) that follow one after the other.

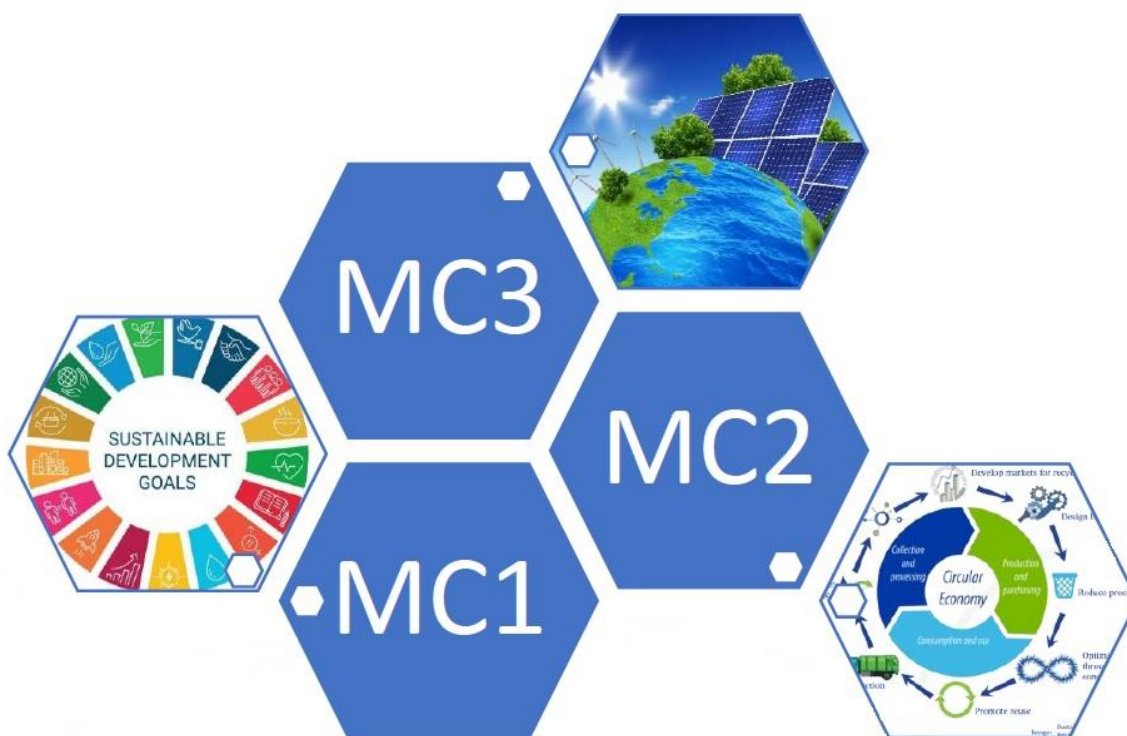


Figure 8. Model of micro-credentials 'network' in a degree programme (Petcu & Fit, 2022, p. 28)

A different approach, as the figure above shows, could allow the degree to be built on a network of micro-credentials, where the interconnections between modules are topic-based, while the conditions for the degree being consisted of reaching the proposed learning outcomes, rather than the 'order' the learner finish the modules. Even if it may appear that this model is more suitable for building a flexible approach, not all learning experiences would allow this approach since, in some cases, learners need to acquire a set of competences to be able to take a step forward to the next module(s).

While there is no fit-for-all approach, a vision on how micro-credentials could explore the full potential of flexible learning must be considered by experts and decision makers, starting from the experiences and practices already in place, where higher education institutions play an important role in piloting new ways of designing learning. Such an academic vision can develop a 'micro-credentials philosophy' that does not only reach to the structural aim of micro-credentials, but brings a more transformative approach to how universities redesign the entire educational offer, based on a set of principles (Iucu & Carțiș, 2022) that guide the transformation and innovation:

- **Modular design:** how to assure stackability and interconnection;
- **Trans-disciplinarity:** soft skills and hard skills and what do employers need;
- **ECTS credit points:** the balance between too many and the minimum threshold;
- **Flexible pathways:** who or what is leading the flexibility and what are the limits;
- **Multiple formats:** how many formats and who has a say about the limitations;



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- **Embedded mobility:** what formats and how to ensure feasible approaches;
- **Innovative pedagogies:** can innovation guidelines be used in education;
- **Recognition & certification:** do trust and accountability overpass national barriers;
- **Inter-institutional cooperation:** how to define a successful cooperation in higher education;
- **Structural, systemic, sustainable impact:** how to design an impact assessment model.

While this vision can support the overall development of micro-credentials in higher education, it also raises questions and concerns about the different perspectives that need to be addressed in further discussions and analyses on how a ‘micro-credentials philosophy’ can lead to the transformation of higher education institutions and learning pathways.

3. Micro-credentials in UNICA universities

Our study investigated the development status of adopting micro-credentials in different higher education systems and institutions across Europe, to understand how such a strategic overarching process is undertaken by different stakeholders and local authorities. When discussing how micro-credentials can be adopted by higher education institutions, there are still different levels of understanding and decision-making aspects. The unequal levels are given both by the ongoing discussion and progress on defining a micro-credential approach and conceptual framework, as well as by specific local / regional cultures and practices, as those linked with lifelong learning, vocational and professional training, non-traditional students, and labour market connected educational offers. It is also very important to notice at this point that there are some political perspectives which are surrounding designing, reflection, and application processes for micro-credentials, derived from different bodies originating at the national level, such as the rectors’ conference and confederations, national qualifications agencies, national agencies for quality assurance, and others. Many of them are accompanying the process of structuring policies and influencing points of reflections, in close cooperation, in many cases, with higher education institutions and other relevant stakeholders.

This is where our study brings an updated understanding and vision on what some of the European states are doing in relation to the approach on micro-credentials and on what could be some of the most interesting and useful case studies and best practices to promote and share among the academic community, while taking advantage of the important role of that UNICA (Network of Universities from the Capitals of Europe) plays in innovating higher education at European level. UNICA universities are key actors in this European setting, as important representatives of the academic community across Europe and of their own local and regional contexts, as universities from the capital cities. UNICA (Network of Universities from the Capitals of Europe) is an institutional network of 56 universities from 41 capitals of Europe, gathering a community of over 150.000 staff and 1.500.000 students. Moreover, since European Universities Alliances play an essential role in piloting strategic approaches at European level, such as the European Approach to Micro-Credentials, 40 UNICA members are part of European Universities Alliances.

One of the major working groups of the network is UNICA EduLAB (formerly called the ‘Bologna Lab Coordinators Group’), which aims at supporting the development and innovation of the Bologna Process in Higher Education Institutions towards the transformation of the European Higher Education Area. Represented by experts from all member universities, the EduLAB group focuses on new



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concepts and the latest developments in academic teaching and learning, such as micro-credentials, European Universities Alliances, flexible learning, and other similar innovative approaches to the development of European higher education.

Micro-credentials and their potential impact for the European higher education landscape have been an important and significant focus for the UNICA network and its members universities, as can be seen in the actions and events dedicated to showcasing educational innovation through flexible approaches on several occasions, as well as underpinning the role and importance of micro-credentials for the academic community at a whole. As mentioned by the UNICA students, European universities can continue boosting their educational offer by new models of teaching and learning and through modern ways of designing academic curriculum (UNICA, 2021, p. 32), enhancing the students' learning experience in a more dynamic and challenging environment.

Methodology

The study was conducted through an online questionnaire consisting of open-ended questions, multiple choice questions, demographic questions, and closed questions, aiming to collect data and information on several areas such as: demographic information (information on the respondents), country level general information (legislation, practices, systems, structures, etc.), qualifications frameworks and ECTS, recognition, quality assurance, and general remarks. The complete questionnaire is attached as an annex to the present report. The questionnaire has been sent to the representatives of UNICA member universities and data have been collected between **November 2022 and January 2023**, using an online survey platform.

The data analysis, due to a small sample size and high level of specificity for each response, have been analysed case by case and in comparison, using a qualitative approach. Due to the data typology, no statistical approaches were used in this study, while case studies, examples, and resources are provided for exemplifying aspects of the study and the results. A significant number of the UNICA members participated in the study, representing **9 European countries (Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Poland, Romania, Spain, Switzerland)** and the perspective of **14 universities from capitals of Europe** on what is the status of micro-credentials in their respective countries and universities. Even if the response rate may seem low in comparison to other analyses on similar topics, the consistency and significance of the responses and the data provided represent an important contribution to the actions undertaken by national authorities and universities across Europe in adopting micro-credentials in the academic offer, adapted to a context which is under the influence of local communities surrounding universities from capital cities across Europe.

Country level general information

Micro-credentials are becoming increasingly present in the higher education landscape at European level, and we notice that national authorities and higher education institutions react to the trends and dynamics, seeking ways in which they can adapt their own educational system and better respond to an ever-changing educational market and local communities, as UNICA universities are closely connected with the community and civil society from the capital cities of Europe. The data collected through our questionnaire shows that micro-credentials are already offered or being developed in 66,7% of the countries included in the study: Bulgaria, Czech Republic, Estonia, Latvia, Poland, Spain,

Switzerland. In some cases (6,7%) show that such information is not easily available and can be referred to.

This is an interesting aspect since it can relate to another important discussion related to the academic offer and its visibility in the global market: national level educational offer platforms / catalogues that promote the universities and other higher education providers both at national and international level. The lack of information on the delivery or development of micro-credentials in some cases emphasises the need for such a corroborated dissemination of educational offers. In terms of the providers for micro-credentials in the countries that already offer or develop them, we notice that higher education institutions are the main providers (90%), yet not the only ones. We see that micro-credentials cover a larger spectrum of providers in different contexts, as the figure below shows.

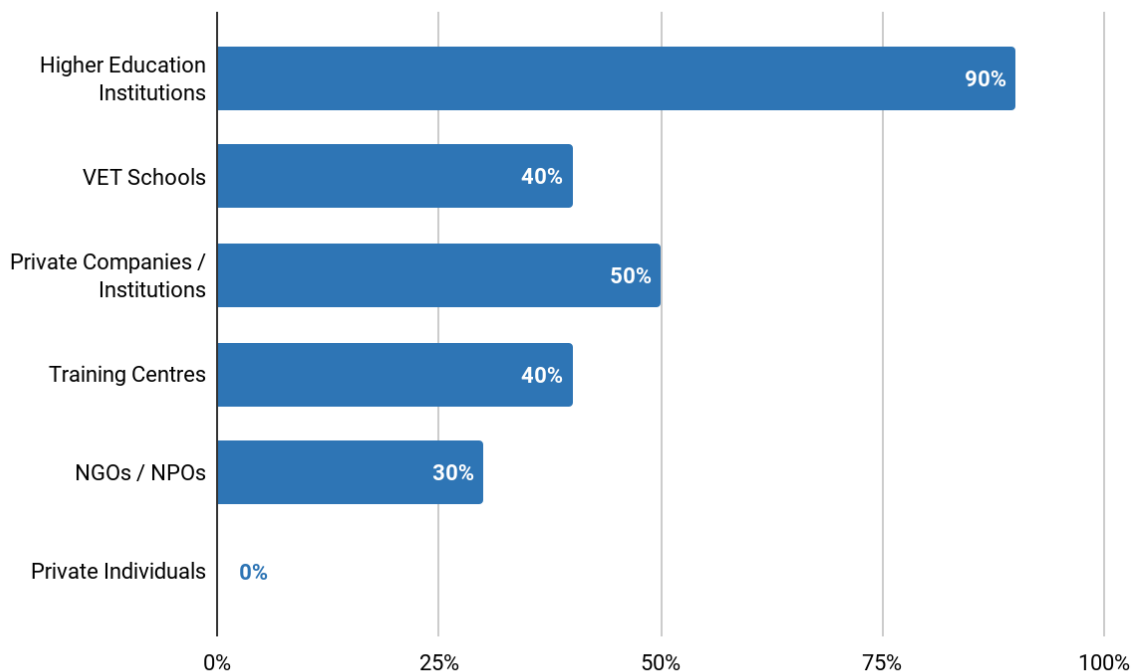


Figure 9. 'Who can issue micro-credentials in your country?' (N=10)

While we notice that higher education institutions are the main (optimal) providers for micro-credentials among the respondent countries, only 54,5% of the universities included in the study are currently offering micro-credentials as part of their educational offer, while the remaining ones (45,5%) are currently developing micro-credentials but not offering any yet. An interesting aspect to be highlighted is that all the respondent universities from countries that are currently developing micro-credentials mentioned that they are interested in developing and offering micro-credentials. This could show that the national or local context can be an important factor for universities to develop and provide micro-credentials as part of their educational offer. Of course, a direct effect cannot be justified through the present study, but this aspect can open further opportunities for reflection and research in this direction.

It is interesting to notice the variety of conceptual and structural approaches at universities that already offer micro-credentials, since the examples provided range from small units of learning (Latvia,

Spain, Switzerland) to more arborescent standalone certifications and programmes of different formats and designs (Bulgaria, Estonia). The results also stress the need to propose a clearer conceptual framework for designing and implementing micro-credentials in European universities. While in some cases micro-credentials, based on the given definition mentioned in the questionnaire (Council of the European Union, 2022, p. 14), are summer / winter schools and short courses (Latvia, Spain, Switzerland), other universities developed a more structured approach, designing nanodegrees (Bulgaria) or micro-degrees & stand-alone programmes (Estonia). The results also showcase how stackable learning modules / units can be used to create larger certifications, leading to micro-credentials. In the case of Poland's academic context, we notice that micro-credentials are mainly offered or developed by private higher education institutions and those that are part of European Universities Alliances.

This is the case, for example, with the Nanodegree in European Studies developed by the Sofia University St. Kliment Ohridski (<https://eurasiaproject.eu/nanodegree-courses/>), in partnership with the University of Catania (Italy) and the Jagiellonian University (Poland), as an experimental programme which allows flexible learning pathways in an online environment, leading to 3 types of certifications: course digital badge (for completing any of the 9 courses included in the nanodegree), nanodegree digital badge (for completing one set of courses, and certificate badge (for completing 2 of the 3 sets of courses), as the figure below shows.

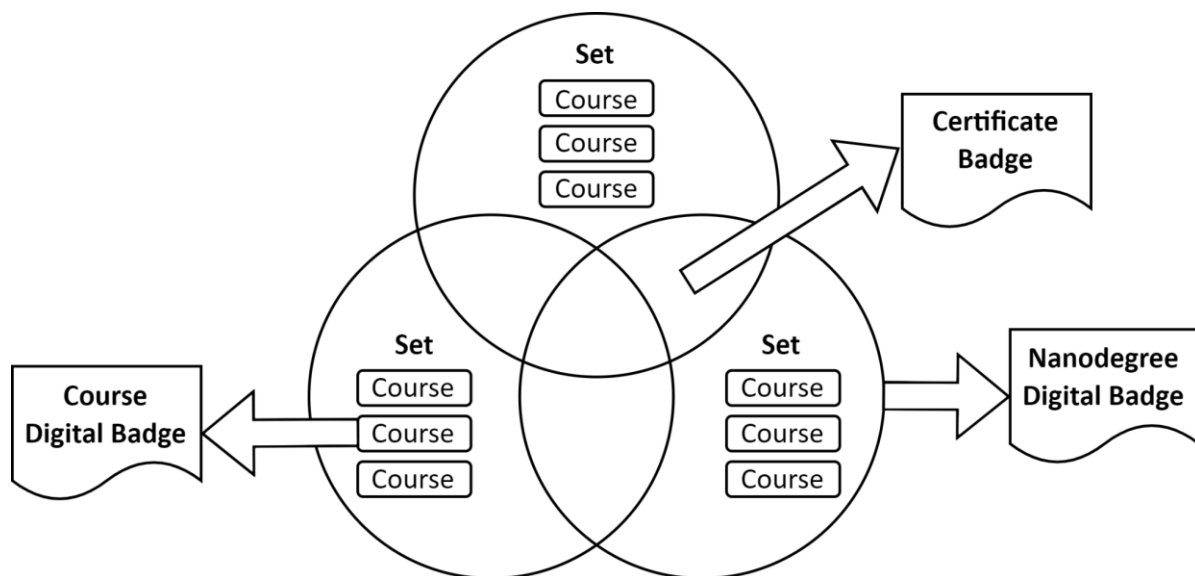


Figure 10. Structure of the Nanodegree in European Studies (Sofia University St. Kliment Ohridski). The model is created by the authors of the present study, based on the descriptions and details provided by the respondents

This design permits the 3 certification types to be built from each previous one, as follows: 3 course digital badges lead to 1 nanodegree digital badge, and 2 nanodegree digital badges lead to 1 certificate badge, as the figure below shows. It is even more interesting to think on the possible developments of this model, since it can also lead to larger certifications and degrees connected with the thematic area and the proposed field(s) of study. Similar approaches as this one can be applied in further piloting and testing processes for implementing new educational programmes based on a 'micro-credentials philosophy', with focus on components like modularisation, stackability, and interconnection.

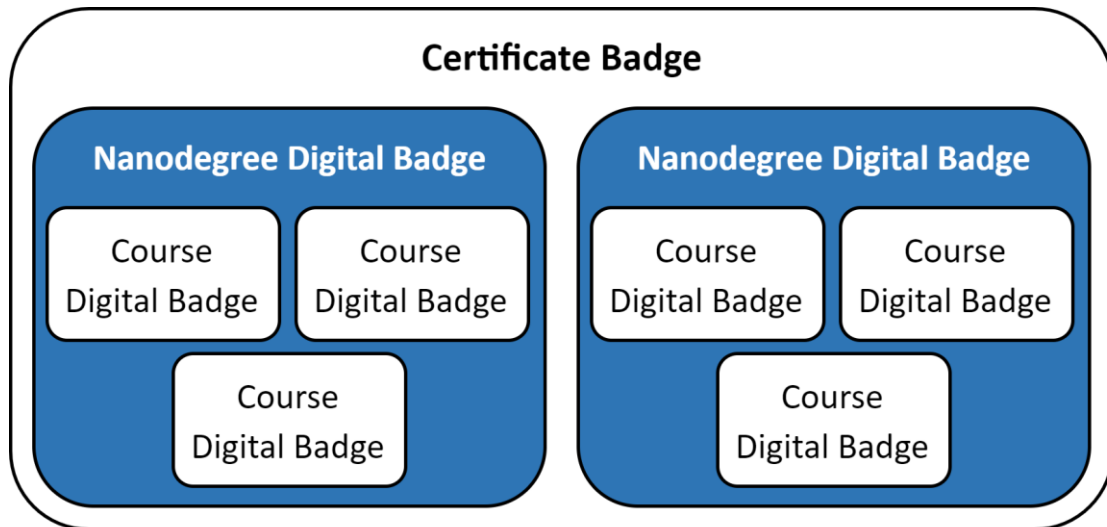


Figure 11. Stackable design for badges of the Nanodegree in European Studies (Sofia University St. Kliment Ohridski). The model is created by the authors of the present study, based on the descriptions and details provided by the respondents

This is not the only example of micro-credentials currently provided by universities across Europe. The results of our study also show that some Spanish universities have already included micro-credentials in their educational offer, while Spain also manifests an important national level interest for developing micro-credentials offerings in the Spanish universities for all types of learners.

For example, the Complutense University of Madrid currently has 3 micro-credentials in their continuing education offer (<https://www.ucm.es/estudios/2022-23/microcredenciales/?ord=3>), on topics such as Arts, History, and Medicine, while the Cardinal Herrera University (CEUs) offer 32 micro-credentials course and programmes based on a Micro-Credentials Ecosystem composed of 21st century competencies structured in 6 axes: Ethical Commitment, Research, Instrumental Skills, International Experience, Soft Skills, and 'To Be Professional' (<https://www.uchceu.es/conocenos/microcredenciales>).

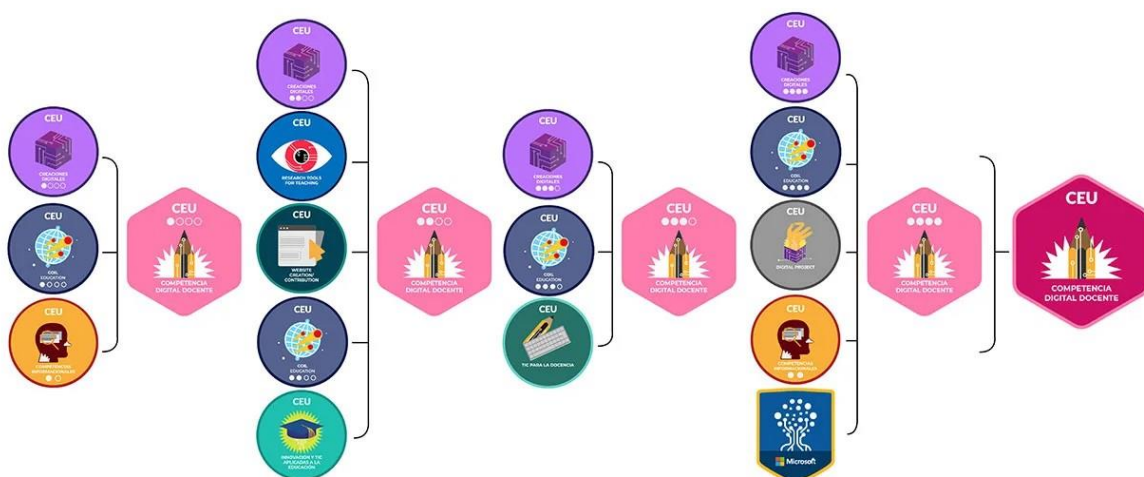


Figure 12. Stackable design for micro-credentials leading to a Degree in Primary and Early Childhood Education (CEU UCH) (Cardenal Herrera University)



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A particular interesting component of the micro-credentials offered by the Cardinal Herrera University (CEUs) is that students can build their own learning pathways that lead to a Degree in Primary and Early Childhood Education (CEU UCH), also in a stackable approach, as the above figure shows. As the university mentions in the description of this flexible pathway, after each milestone, students receive micro-credentials that can already be used in professional networks and contexts, until they reach the full degree.

Our study shows that all major Estonia universities, such as Tallinn University (TU), Tallinn University of Technology (TalTech), and University of Tartu provide micro-credentials based on degree study programmes. For example, the offer of micro-credentials from Tallinn University (TU) for this academic year includes more than 60 micro-degrees (<https://www.tlu.ee/mikroraad>) that range from 6 to 30 EAP (ECTS) and can last as long as 3 semesters. It is also noticeable that the aim for developing such micro-credentials is for universities to better respond to the dynamic needs of the labour market, while constantly adapting their micro-credentials offer based on a close cooperation with actors from the professional society. A similar approach can be seen at the Tallinn University of Technology (TalTech), while in this case the duration is lower than in the case of Tallinn University (TU), the micro-degrees from TalTech reaching up to 2 semesters (<https://taltech.ee/avatud-ope/mikroraadid>). The same duration is also proposed for the micro-degree programmes offered by the University of Tartu (<https://ut.ee/et/mikroraadid>), where these programmes can range up to 30 ECTS and they have an active offer of more than 50 micro-credentials this academic year. As we mentioned before, not all universities are currently offering micro-credentials, yet they are engaged in a development process and we notice from the result that some of the universities also consider mid-term goals for this approach, either during this year (Spain, Romania) or by 2024 (Czech Republic).

Spanish universities are strongly engaged in the process of adopting micro-credentials in the academic offer, for all types of learners and especially connected with the lifelong learning components offered by the universities. For supporting the process, the Spanish National Agency for Quality Assessment and Accreditation (ANECA) has launched 2 studies that aim at addressing the issue of micro-credentials as a training offer combined of flexible and modular approaches that expand learning opportunities to all people: “Study on quality assurance in the European Universities Alliances, European Degrees, and Micro-Credentials in the Spanish University System” (ANECA, 2022a) and “Microcredentials. Inclusive training in all formats and for all ages” (ANECA, 2022b).

In the case of the Czech Republic, this timeline is closely related to national level objectives, where all higher education institutions are part of a national project within the NRRP called “Improving the accessibility of education at the university level using micro-credentials”, aiming to develop a unified approach to micro-credentials by June 2024. This also included support for public universities across the Czech Republic to design and implement projects aiming to transform universities and adapt to new forms of learning, in response to the changing needs of the labour market (<https://www.msmt.cz/vzdelavani/vysoke-skolstvi/vyzva-k-predkladani-navrhu-projektu-v-ramci-narodniho-planu-1>), through a call for proposals within the framework of the national renewal plan for higher education area for 2022-2024.

A similar process can be seen in Romania as the country is currently in the process of changing the national educational law and related legislation, as part of the strategic project “Educated Romania” (<http://www.romaniaeducata.eu/>). As part of the consultations and developments in this process, the

projects for educational laws also include proposals related to micro-credentials in higher education and lifelong learning settings, in a process of setting a common understanding and process at national level until the end of this year.

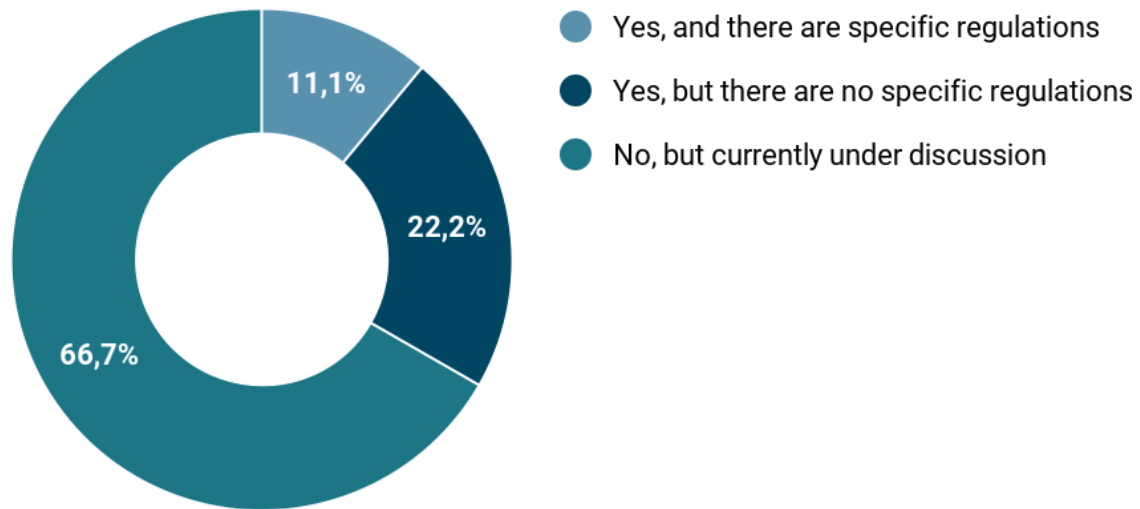


Figure 13. 'Does your national legislation allow for the provision of micro-credentials?' (N=9, one response per country)

As we noticed in the data collected through the questionnaire, in most of the cases in which micro-credentials are still under development or discussion, the main challenge or barrier is represented by the national legislation and the provision of micro-credentials in it. In this aspect, the figure above shows that in most of the cases (66,7%) the legislative framework is still under discussion and development, while only in Spain micro-credentials already have specific regulations mentioned by the national legislation. The Spanish 'Royal Decree 822/2021 for establishing the organisation of university education and the quality assurance procedure' article 37.8. mentions that "universities will be able to offer their programmes of less than 15 ECTS that require or not prior university degrees, in the form of micro-credentials or micro-modules, which allows certifying learning outcomes linked with short-term learning activities" (<https://www.boe.es/buscar/act.php?id=BOE-A-2021-15781>). An interesting aspect also reflected in the decree is that the micro-credentials and micro-modules offered by universities must not be confused with the certifications provided by vocational training centres of middle or higher degree, thus differentiating the educational and training offer of universities with the one coming from other providers of higher education in Spain.

In Estonia and Switzerland, micro-credentials are mentioned in the national legislation, but no specific regulations are yet in place. In Estonia, the Ministry of Education is currently developing requirements for micro-credentials to be implemented into the national legislation, starting from the second part of 2023, based on the characteristics and descriptions included in the European Commission's final report on a European Approach to Micro-Credentials (European Commission, 2020). The Estonian context is an interesting one in this perspective since, on one hand, includes several universities that already provide micro-credentials in their offer (as we have seen with the examples above), and on the other hand adapts the national legislation based on the input coming from the European context and the already existing practices. The Estonian case is a good example of national level reforms that are based on already existing successfully implemented programmes and projects, their outcomes becoming essential components of the legislative reforms. On a different note, the Swiss example is

based on a more decentralised approach. Even though micro-credentials are not specifically mentioned in the existing legal framework, for the University of Lausanne, the format and organisation for issuing certificates are defined by the regulations of the faculties, as is mentioned by article 100a from ‘Regulation 414.11.1 for implementing the Law of 6 July 2004 on the University of Lausanne (RLUL)’ (<https://www.lexfind.ch/fe/fr/tol/18682/versions/209279/fr>).

We notice that the European component linked with micro-credentials in higher education is a very strong factor for legislation changes in different countries. Many of the respondents from countries where micro-credentials are not yet included in the national legislation but are under discussion mentioned that the European approach is a significant influence. A similar ‘push’ towards adapting the legislation for the provision of micro-credentials comes also from universities that are members of European Universities Alliances (as in case of Bulgaria, Hungary, Latvia, Poland, Romania). This is important because it shows how universities part of different Alliances reach some of the objectives of the European Universities Initiative, inspiring the transformation of higher education (<https://education.ec.europa.eu/education-levels/higher-education/european-universities-initiative>). We also notice that the discussions connected with the legislative changes concern similar areas connected with designing and implementing micro-credentials in higher education, such as recognition, accreditation, format, quality assurance, and transferability.

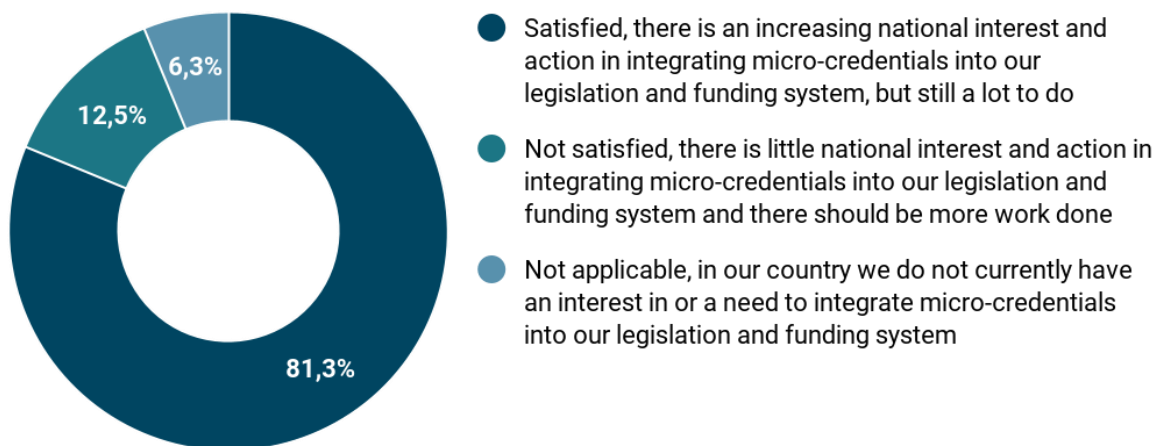


Figure 14. ‘How satisfied are you with the current uptake and acceptance of micro-credentials in your legislation?’ (N=16)

As the figure above shows, most of the respondents (81,3%) reply that they are satisfied with the current uptake and acceptance of micro-credentials in their country’s legislation, mentioning that there is an increasing national interest and action in integrating micro-credentials into the legislation and funding system, as is the case for respondents from Czech Republic, Estonia, Hungary, Latvia, Romania, Spain. On the other hand, in the case of Bulgaria and Poland, the respondents mention that there is little national interest and action, stating that they are not satisfied with the current uptake and acceptance and micro-credentials in their country’s legislation. On the opposite side, the respondents from Switzerland mentioned that there is no particular interest or a need in their country to integrate micro-credentials into their legislation and funding system. We could consider that this perspective may come from the decentralised approach we noticed earlier, when analysing the legal framework. Also, we notice that in all cases there are still things to do to improve the legal framework,



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since none of the respondents mentioned that they are very satisfied and that micro-credentials are well integrated.

Micro-credentials are not only a driver for reshaping teaching and learning in higher education and other learning environments, but also for enhancing the adoption of digital technologies for credentialing and certification, areas in which we usually talk about portability, learning passports / wallets, digital identity, professional digital networks, also strongly linked with the European Student Card Initiative (<https://erasmus-plus.ec.europa.eu/european-student-card-initiative>). In this sense, our study also investigated whether countries have any national policy on the digitalisation of credentials and, if yes, whether micro-credentials are part of it. We notice that most of the countries included in this study do not currently have a national policy on the digitalisation of credentials. Hungary is the only country in the study that mentions that they currently have a national policy in this regard and that micro-credentials are part of it. This approach is mostly linked with the ongoing developments in each country in changing the national legislation to provide for the implementation of micro-credentials.

In the same digital context, we also investigated whether micro-credentials and providers in respondent countries are included in an official record or register. The results show that there are no official or registers of micro-credentials and providers in the participating countries, while some respondents mentioned that they do not know whether such registers or records exist in their country. However, we notice that one of the important components of the NRRP project called “Improving the accessibility of education at the university level using micro-credentials” mentioned earlier in the study is dedicated particularly to this process of designing and implementing a national record or register for micro-credentials and providers in the Czech Republic.

Qualifications Framework and ECTS

In this section, our study investigated the presence of micro-credentials in different national qualifications frameworks and the range of ECTS credit points provisioned for micro-credentials in different countries and universities. The results collected from participant universities in our study show that in most cases (43,8%) national qualifications frameworks are not yet open to micro-credentials, while a surprising number of respondents (31,3%) mention that they are not informed about this process in their country, as the figure below shows. One notices similar reasons for countries not including micro-credentials in their national qualifications frameworks: ongoing discussions and debates at national level on their definition and ways to be included in the academic offer in their respective countries (Latvia, Poland, Romania, Spain); Switzerland is the only country where no national debates exist.

Interestingly, all respondents consider that their countries’ national qualifications framework need to be open for the inclusion of micro-credentials. This shows that micro-credentials need to become an intrinsic component of the qualifications frameworks, strengthening their role and impact in offering real qualifications for their graduates and with a real meaning for their professional development.

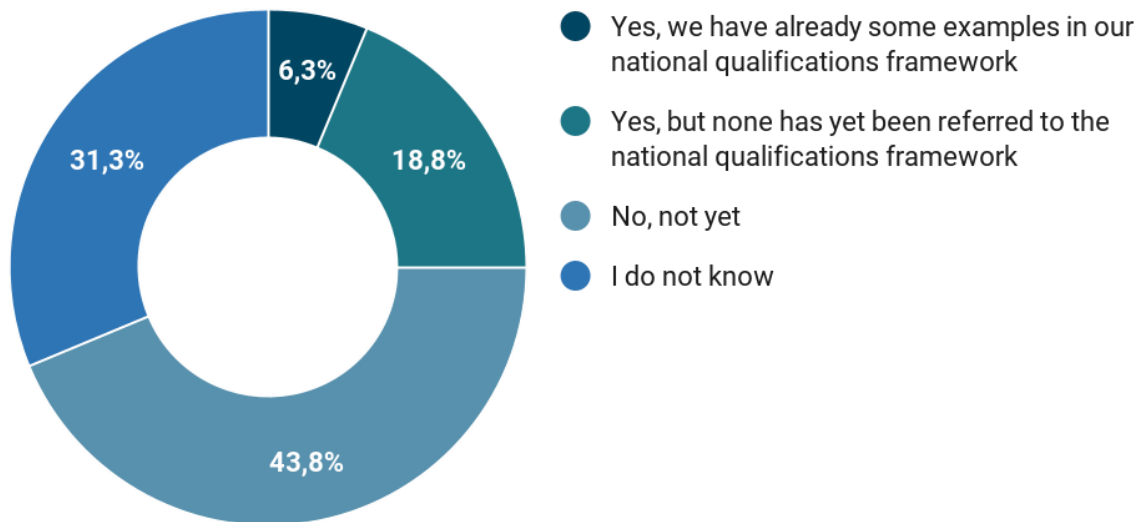


Figure 15. 'To your knowledge, is your national qualifications framework open to micro-credentials?' (N=16)

We noticed that, in some cases (Czech Republic, Estonia, Hungary), national qualifications frameworks are open to micro-credentials and allow the introduction of micro-credentials in these systems leading to qualifications, but no micro-credentials have been referred to up to this moment. This may show that the development of micro-credentials has depended on the readiness status of national tools, so a change may appear here in the close future when universities and other institutions offering micro-credentials will start referring them to the national qualifications frameworks. This is the case with the Estonian universities, for example, where universities have been proactive and launched micro-credentials before having a formal approval or framework validated by the Ministry of Education and Research. The special context here is that even without this official framework, the universities' offer has not been denied or disapproved, universities being very open to test and pilot different types of educational programmes. For this reason, the case of Bulgaria may represent an interesting opportunity for sharing best practices, since their national qualifications framework already includes micro-credentials, and the national system has transformed micro-credentials into functional components of their professional market. We notice that the reference of micro-credentials in the Bulgarian qualifications framework started from the teachers' continuing education legislation and practices (as in-service training), being referred now at levels 5, 6, and 7 EQF / NQF.

Referring to the expression of workload and learning outcomes as ECTS (or other credit system) in micro-credentials already provided or under discussion in participant countries, we notice almost all countries provide ECTS (or other credit system) for the micro-credentials that are already developed and implemented, or they consider using such a system once micro-credentials will be developed in their countries. This information enhances the relevance and importance of Bologna Tools, such as the ECTS credit points system, for designing and implementing micro-credentials in European countries, even if not necessarily only in the context of higher education, but also for other learning contexts such as VET or lifelong learning. For the range of credit points defined for micro-credentials in the participant countries, while in some cases there not specific range or amount provisioned yet (Hungary, Latvia, Poland, Romania), in most cases where the range is defined the minimum credit is 1 ECTS, while the upper limit varies across countries: 5 ECTS (Switzerland), 15 ECTS (Spain), or 20 ECTS (Czech Republic). In the Estonian context, the range and limits are not yet defined at national level,

but we notice that it varies from university to university: 6 to 30 ECTS (Tallinn University), 12 to 30 ECTS (University of Tartu), and 12 to 36 ECTS (Tallinn University of Technology).

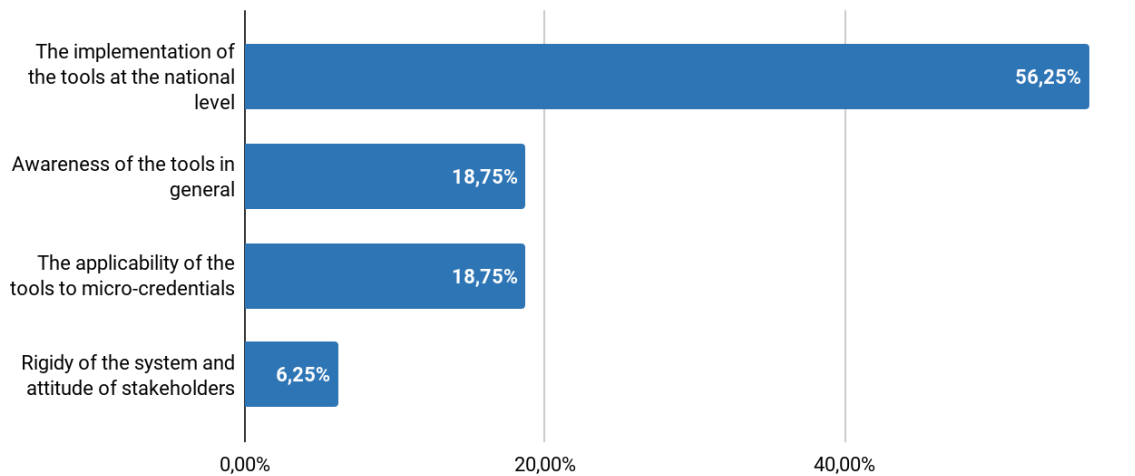


Figure 16. 'What do you think is the biggest challenge in applying Bologna tools like ECTS and Qualifications Frameworks to micro-credentials?' (N=16)

When asked what the biggest challenge is in applying Bologna tools (like ECTS and Qualifications Frameworks) to micro-credentials, as the figure above shows, most of the respondents considered that the implementation of the tools at national level may be the biggest challenge in this matter. This information is raising an important question related to the progress of adopting Bologna tools in European higher education systems, since the matter raised here does not refer only the relation between the tools and micro-credentials (which has also been considered a challenge, but by a significant lesser number of respondents), but the overall implementation of the tools. Of course, this information can still be analysed, especially in connection with the country level analyses on the implementation of Bologna tools in member universities. While there is still work to be done, some of the participants in our study understand that it takes some time to have a clear system of micro-credentials over Europe, since this is a challenging but interesting area. It is interesting to notice that no definitive contradiction can be seen between micro-credentials and the Bologna Process tools, considering that in some cases, at national levels, there are critics mentioning that micro-credentials take universities away from the ideals and aims of the Bologna Process. As we also noticed in other areas of the survey, in fact, micro-credentials aim to make full use of the Bologna tools, recognising their real value for designing and implementing transparent and visible learning experiences for all types of learners. A digital micro-credential system and a proper monitoring system is required for successful implementation of the innovation process, being necessary also that micro-credentials can be transferred throughout countries' educational systems, never forgetting the most important ideas: maintaining flexibility for all types of learners and in all formats, and a balance approach to the regulation of micro-credentials in each European country.

Recognition

Most of the countries participating in the study have not yet implemented policies and/or practices related to the recognition of micro-credentials at national level, but in half of them discussions are underway in this direction, as the figure below shows. The only case where there are no discussions

in this regard is Switzerland, and we notice that this is in line with their response to a previous question, where they mentioned that there is no particular interest or a need in their country to integrate micro-credentials into their legislation and funding system. The Swiss participants mentioned that this subject has never been proposed by the national coordination in the annual meeting, so it was not given any attention up to this moment. On the opposite side, some policies and/or practices have already been implemented in this regard in Bulgaria and in Spain, where micro-credentials are already recognisable and become part of their educational offer.

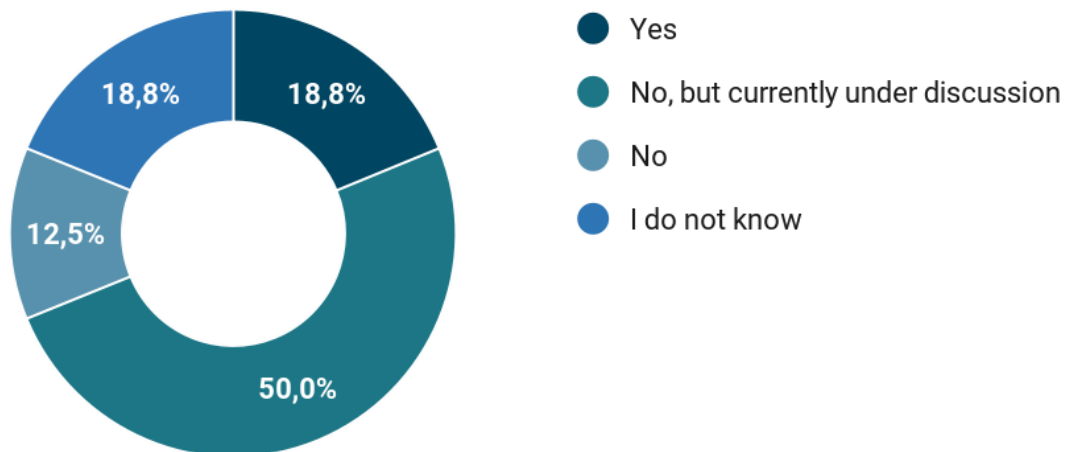


Figure 17. 'Have you implemented policies and/or practices related to the recognition of micro-credentials at national level?' (N=16)

When discussing the recognition process of micro-credentials and what the national legislation provides for it, we notice, for example, that in Spain the recognition process requirements and regulations are identical with the ones applying to all university degrees and certifications, as mentioned in Article 10 of the 'Royal Decree 822/2021 for establishing the organisation of university education and the quality assurance procedure', the recognition process and transfer of academic credits must be specifically mentioned by the universities, who are to "adopt specific regulations to provide procedures in accordance with the provisions of the Royal Decree" (<https://www.boe.es/buscar/act.php?id=BOE-A-2021-15781>). We also notice that these regulations allow universities to recognise prior professional and work-related experiences (so not only academic learning experiences) when they are closely related to the competencies provided by the degree to which they are recognised, up to 15% of the total amount of credits that lead to the diploma. So, in this case, learners can use and recognise their past work experience in study programmes, if the experience matches the competencies and learning outcomes expected by the programme, thus reducing the level of redundancy and overlap.

As elements considered relevant in the recognition process, in the case of the two countries where recognition is provisioned (Bulgaria, Spain), we notice that in both cases learning outcomes, the verification of the certificate, workload, assessment procedures, and the identification of the participant are key components for the recognition of micro-credentials. On top of these components, the respondents from Bulgaria also consider that the quality and level of the programmes are important in the recognition process, this meaning also that micro-credentials are subjected to quality assurance processes and are linked with the national qualifications framework. These recognition

processes and policies are accepted by the participant higher education institutions, either totally (Spain) or partially (Bulgaria). As we notice, the national policies and regulations become transposed at institutional levels through specific regulations, such as the case of the University of Alcalá (Spain) (<https://www.uah.es/export/sites/uah/es/conoce-la-uah/organizacion-y-gobierno/.galleries/Galeria-Secretaria-General/Normativa-Sistema-Reconocimiento-Transferencia-creditos-Grado.pdf>). In the case of Bulgaria, there is a process to widen the micro-credentials offer to reach other levels of higher education, since the Sofia University St. Kliment Ohridski (Bulgaria) is currently licensed only to award qualification credits for teachers. On the other hand, in all cases where there are no policies and/or practices related to the recognition of micro-credentials at national level, we notice that the matter is closely linked with the overall process for setting a national approach on micro-credentials in each respective country (Czech Republic, Hungary, Estonia, Latvia, Poland, Romania), as was mentioned in the analyses earlier in this report.

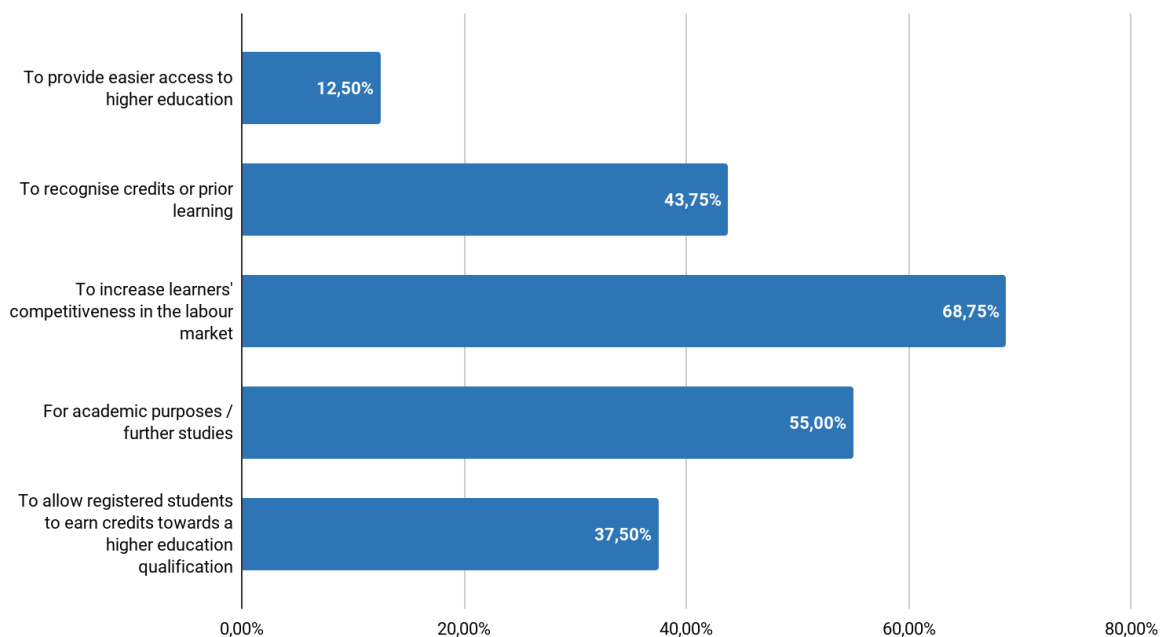


Figure 18. 'For what purpose would you recognise micro-credentials in your country?' (N=16)

While recognition is still under discussion in many of the participant countries, as we have noticed, respondents state what would be the purposes for recognising micro-credentials in their respective countries. As the figure above shows, most of the respondents (68,75%) consider that micro-credentials bring an added value, when recognition is possible, for increasing the learners' competitiveness in the labour market, and half of the respondents consider that micro-credentials should be recognised for academic purposes / further studies, so as components of larger certifications. We also notice that there is a particular interest in recognising micro-credentials to provide easier access to higher education, so to see micro-credentials as certifications provided at levels lower than higher education that can contribute to further studies at higher levels. This could also be considered as a biased approach, since the respondents are representing higher education institutions and we notice that higher education institutions are the most preferred providers of micro-credentials. This is also noticeable when we analyse whether the legislation and current regulations allow higher education institutions to recognise micro-credentials offered by providers

that are not higher education institutions, such as companies, NGOs, international organisations, or other types of providers). More than 80% of respondents mention that they can only recognise micro-credentials provided by other higher education institutions, stating that this is mostly due to the specific quality assurance processes and standards to which higher education institutions are subjected to be able to provide recognisable learning activities.

When universities can recognise micro-credentials provided by other institutions than higher education institutions, we notice that only in the case of Latvia we can discuss specific and clear procedures in place for the recognition of micro-credentials offered by these types of providers, at the university level. It is mentioned that in the case of the University of Latvia, the university level process on recognition of study courses allows recognition of such courses and activities outside of the higher education offer.

Taking a step forward on the recognition of micro-credentials, we notice that Estonia and Spain allow higher education institutions to recognize micro-credentials as part of a normal degree programme. In other words, learners can accumulate micro-credentials to build up to a degree within higher education, in a stackable manner, as we have already presented in some micro-credential examples earlier in this study. We also notice that in the countries where this process is not yet in place, it is closely linked to the general national discussion and debate on the topic of micro-credentials in higher education in the respective countries. In some cases, universities are either developing (Tallinn University, University of Alcalá) or have already established (Tallinn University of Technology) a clear procedure for the recognition of micro-credentials as part of a normal degree programme. In the case of Tallinn University of Technology, the process is considered rather easy to implement since micro-credentials (micro-degrees) subjects are based entirely on degree studies, so the correlation between them is simple and micro-credentials can easily become part of further education.

In the case of the Czech Republic, micro-credentials are intended to be stackable and lead to a degree programme, but not to fulfil a whole degree programme soon, at least at this moment, only part(s) or sequence(s) of a degree programme. While this seems to be the direction for the current discussions and debates in the Czech Republic, changes may appear based on the evolution of trends and analyses in the following period.

Quality Assurance

Institutional accreditation, evaluation or similar processes is mentioned by almost all respondents as an external quality assurance system in place to assure quality of the courses offered by higher education institutions in their respective countries, apart from Latvia, which mentions this process only at the programme level, and not at institutional one. More than half of the participant countries include accreditation and evaluation processes at both institutional and programme level (Bulgaria, Hungary, Poland, Romania, Switzerland), while the others mentioned only the institutional level accreditation and evaluation (Czech Republic, Estonia, Spain).

As the figure below shows, in most cases, micro-credentials are not explicitly referred to in the national quality assurance systems, yet they would fall, especially when they will be more clearly defined, under the same processes and specifications for quality assurance. Spain is the only country included in this study where micro-credentials are explicitly mentioned in the quality assurance

system, as we have seen earlier in the documents and provisions developed by ANECA, the Spanish national agency. From another perspective (Switzerland), micro-credentials are too small to be integrated in the quality assurance system, also due to a very long process normally necessary for including them, while in Hungary there are still discussions on this matter, to see if micro-credentials are to be integrated in the quality assurance system.

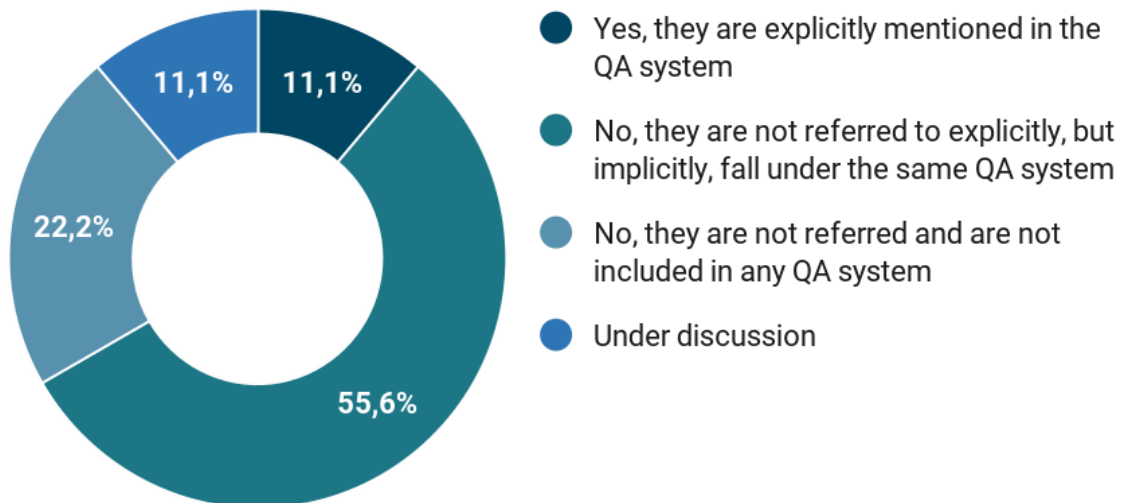


Figure 19. 'Does your national quality assurance system explicitly include or refer to micro-credentials offered by higher education institutions?' (N=9, one response per country)

None of the analysed countries and universities have implemented up to this moment any other policies and/or practices related to the quality assurance of micro-credentials, this showing that the process is at an early stage and will benefit from the developments at European and regional level, also in line with other approaches. In most cases (56,25%), the quality assurance status of awarded credentials (as, for example, the quality of the award achieved at the end of a course or programme) is obtained through the provider (higher education institution), while a dedicated portal for such information can also be used in the case of the Czech Republic.

One of the key actions for setting a common approach on quality assurance of micro-credentials in Europe is represented by the 'Implementation and Innovation in Quality Assurance through peer learning (I'MINQA)' project (<https://www.enqa.eu/projects/implementation-and-innovation-in-quality-assurance-through-peer-learning-iminqa/>). The project, under the coordination of the Bologna thematic peer group on quality assurance (TPG C), focuses on topics such as quality assurance of micro-credentials, quality assurance of European Universities, and digitalisation of quality assurance procedures and processes. Under the coordination of The European Association for Quality Assurance in Higher Education (ENQA), the project will provide a new framework for assuring quality assurance processes and procedures for micro-credentials development in European higher education, in connection with the quality assurance tools currently in place and in line with the European Standards and Guidelines (ESGs).

When considering how learners participate in learning activities leading to micro-credentials, the results of our research show that face-to-face interactions and hybrid activities are the most often encountered formats, closely followed by online learning and practical work. As the figure below

shows, civic engagement and virtual mobilities are the less used formats for learning activities, which is even more understandable due to the high level of novelty of these formats.

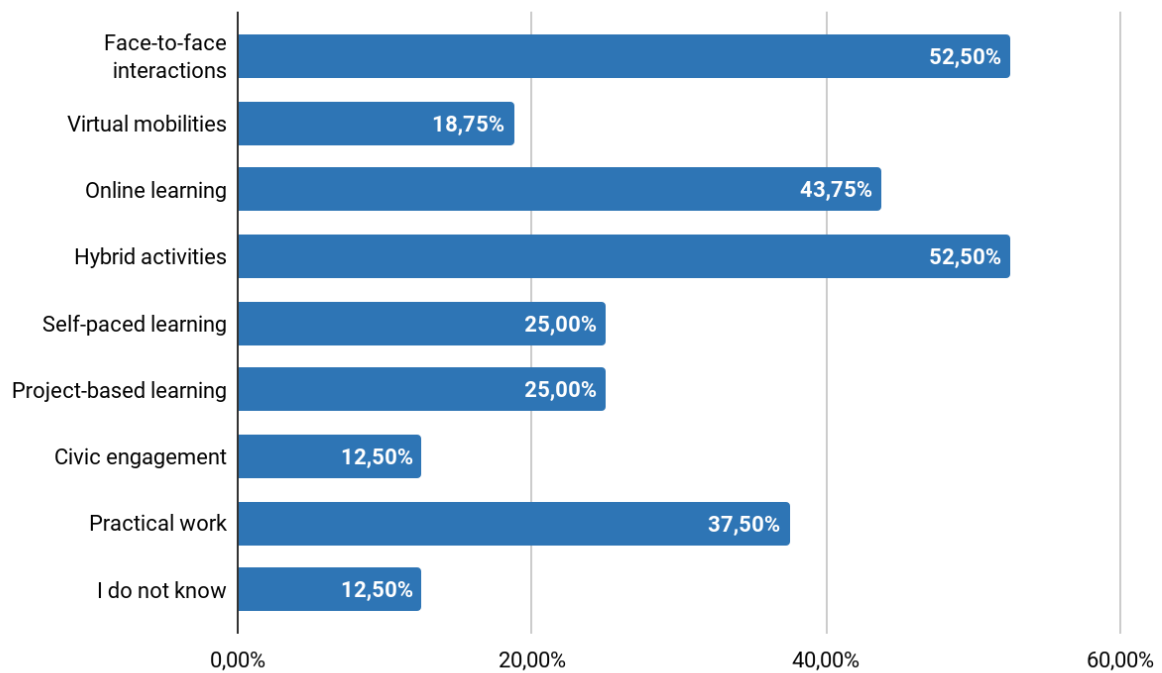


Figure 20. 'How are learners participating in learning activities leading to micro-credentials?' (N=16)

Assessment is an essential part of assuring a qualitative learning experience and micro-credentials are not distinct in this aspect. For this purpose, our analysis also explored what are the most frequently used assessment methods during the learning activities leading to micro-credentials. As we can see in the figure below, the results of our study show that there is a wide range of assessment methods used in learning activities that lead to micro-credentials and that they are not very different from the ones used in activities leading to a degree programme.

Also, like the format of learning activities, since in the previous question responses 'civic engagement' was not often used in designing learning activities, we notice here that 'field or service-learning projects' are the least preferred assessment methods (mentioned in our study only by the Autonomous University of Madrid and the Sofia University St. Kliment Ohridski). This opens possible further investigation on the reasons and motivations for academics not using these types of learning and assessment methods for micro-credentials, connected also with the competencies, and learning outcomes that would derive from such practices.

New building blocks of the Bologna Process: fundamental values (NewFAV)

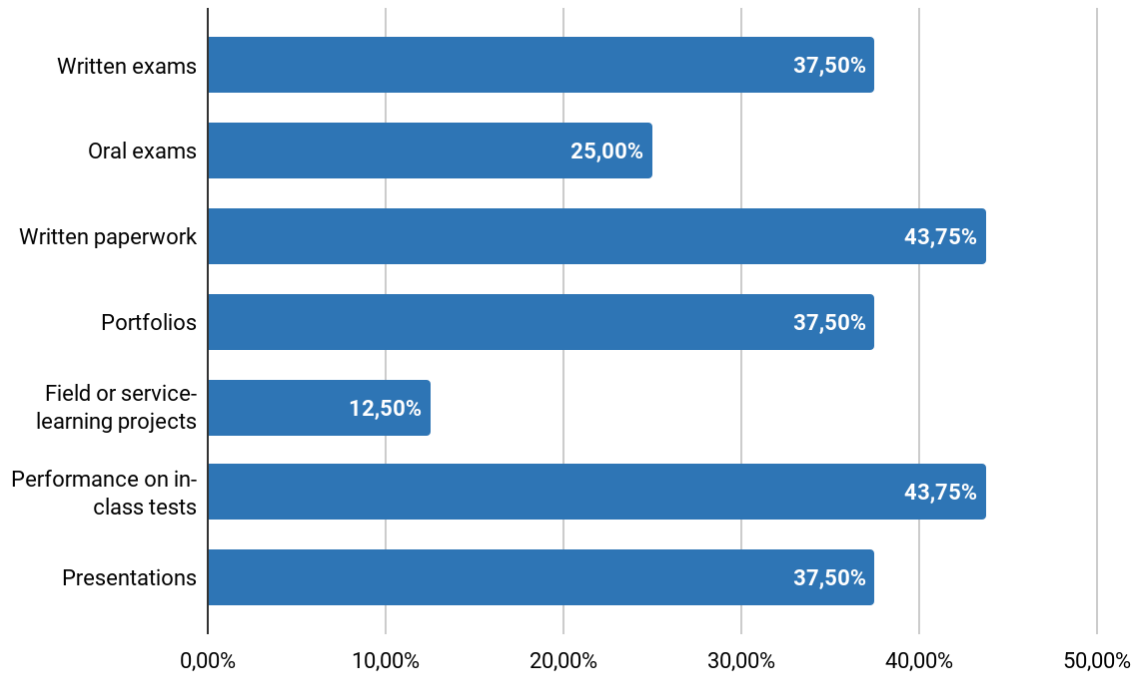


Figure 21. 'What assessment methods are most frequently used during the learning activities leading to micro-credentials?' (N=10, included only responses mentioning assessment methods)

The involvement of higher education institutions in the discussions and debates related to the national education system and the adoption of micro-credentials is crucial for the success of these processes since universities remain the most important providers for these new models of learning and certification. While we notice that some universities have a more autonomous approach to designing and implementing micro-credentials (Estonia, Switzerland), in other countries there is a more centralised system that allows the provision of micro-credentials in the higher education offer.

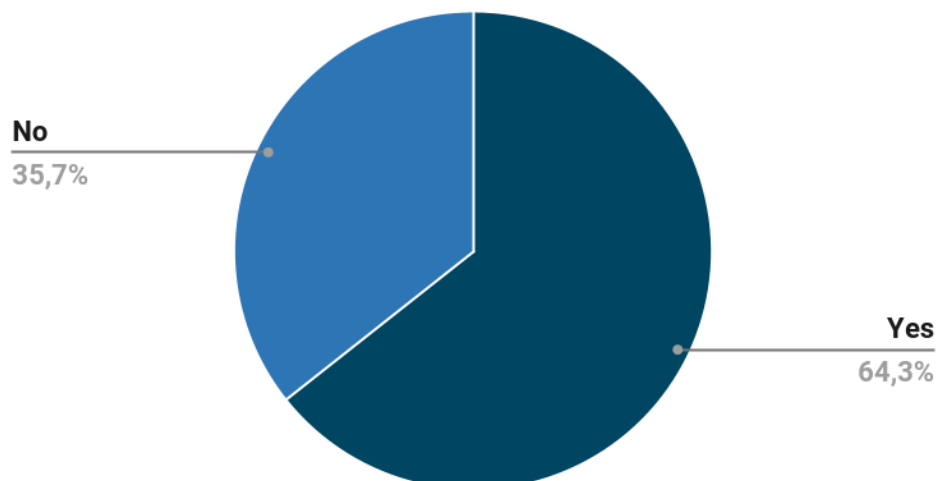


Figure 22. 'Was your higher education institution involved in the work related to adopting micro-credentials in your country's national educational system?' (N=14, one response per university)

As the figure above shows, not all participating universities (University of Latvia, Bucharest University of Economic Studies, University Carlos III of Madrid, Autonomous University of Madrid, University of

Lausanne) are being involved in the work related to adopting micro-credentials in their respective countries' national education system, while the reasons for those that have not been involved are not as transparent and clear as it should be. In other cases where universities were not yet involved, respondents mention that no committees or consultations of which they are aware were implemented at national level.

Some of the universities (Sofia University St. Kliment Ohridski, Charles University, Tallinn University of Technology, Tallinn University, Eötvös Loránd University of Budapest, University of Warsaw, Complutense University of Madrid) mentioned that their involvement consisted in the cooperation with different national level institutions and decision-makers, such as the ministries or other relevant agencies and institutions, in the discussions related to developing a national approach for adopting micro-credentials in the educational system, either as an institutional cooperation or through different experts from these universities.

In some cases, some of the universities' innovative projects and actions led to significant contributions towards the national level approach, either through university-level projects (the Nanodegree in European Studies developed by Sofia University St. Kliment Ohridski) or through strategic projects under the NRRP framework (the 'Improving the accessibility of education at the university level using micro-credentials' project in the Czech Republic, coordinated by Charles University, leading several work packages). In the case of the University of Bucharest, for example, some of the university's experts in European and international educational policies provided a series of proposals for processes and directions that could support the integration of micro-credentials in the Romanian national education system, linked with different changes at the level of legislation or structural practices (Iucu et al., 2021).

Overall, there is a general positive feeling on the opportunities and benefits that micro-credentials can bring to the higher education system and the educational offer provided by universities across Europe, since 75% of the respondents consider that "micro-credentials are a way to make higher education more flexible and inclusive in the future", and 25% state the "micro-credentials are here to stay, but they must be regulated and integrated properly".

It is interesting to notice that none of the respondents considered that "micro-credentials are a short-term trend" or that "micro-credentials do not have a place in higher education institutions and should not be included in related legislation", this showing that the overall perspective of micro-credentials among the participant universities is a positive one. Further analyses and research should be conducted to understand the perception of different key stakeholders and individuals (academics, staff members, students, etc.) on this matter and to understand what the areas and topics for which micro-credentials could be are not as well regarded by some. Nevertheless, there is a general positive attitude towards this approach, especially from academics since they are most in contact with learning beneficiaries and understand first-hand their needs and desires from educational activities.

Discussions & Conclusions

Building new models for flexible learning approaches in European higher education institutions and building a transformative approach on the academic educational offer still needs to be discussed and analysed by all actors involved in the innovation process: universities, decision makers, stakeholders, academics, experts, students, etc. Starting from setting a common conceptual framework for what micro-credentials are and how they can be used to redesign academic curriculum and the new learning experiences, embedding a ‘micro-credentials philosophy’ in the educational offer, and creating flexible approaches for all types of learners to reach new competencies and skills through multiple learning formats, represent some of the key ideas that govern these transformative approaches.

While European Universities Initiatives pilot new approaches for how learning can be designed in a modern manner, better responding to the dynamics and challenges of the professional society, policy makers and national authorities need to react and adapt, allowing universities to be more and more present on the global educational market. Only through consensus of actions and through joint initiatives, the European educational landscape of flexible learning can move from an outside observer to active player in the global arena, where the adoption of flexible learning and micro-credentials in higher education can place micro-credentials not only as “nice to do” (McGreal & Olcott, 2022, p. 16), but as means for curricular reshape and redesigning educational offer in a transformative manner.

UNICA universities are engaged in this transformative approach and the overall vision is that micro-credentials represent real means through which students can acquire knowledge and competencies in a more flexible manner. But, for this to happen, there is still work to be done, both at European and international levels, but especially at national level, where decision makers and national authorities need to provide discussions and debates with higher education institutions and other stakeholders involved in adopting micro-credentials in the academic curriculum. Some universities are already engaged in offering micro-credentials (Sofia University St. Kliment Ohridski, Tallinn University of Technology, Tallinn University, University of Tartu, Complutense University of Madrid, Cardenal Herrera University, University of Lausanne, etc.), and in other cases universities are deeply involved in the national level discussions on this topic, seeking how national regulations and practices can be adapted to better respond to the growing demands coming from the labour market and the learners’ needs.

The micro-credentials landscape is at change and further research is needed to understand the implications and transformations that they bring in developing more flexible learning pathways in higher education and reshaping the academic curricula. The new ‘micro-credentials philosophy’ thus represents crucial innovative components for the future of European higher education and for the success of the learners in their professional and personal development.

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Annex 1:

Questionnaire on Micro-Credentials in UNICA Universities

Introduction

The questionnaire has been created in the framework of the NewFav project (New building blocks of the Bologna Process: fundamental values), aiming to set to explore the development / evolution of micro-credentials as a path to social inclusion and response to public responsibility for Higher Education, by developing an analysis of the existing options that can help in building open and flexible learning paths using the Bologna tools, through mutual learning workshops, by developing and piloting a grid for programme design, in order to address the commitments from the Rome communique. Moreover, the project aims to build up a policy framework for developing flexible learning paths for students based on micro-credentials exploring the extent to which micro-credentials can meet the public responsibility of universities in the context of the fundamental values analysis. This contribution will have an impact in increasing the capacity to support the shift to student-centred learning in higher education institutions.

The questionnaire aims to collect information on the current state-of-play and developments related to the topic of micro-credentials in different UNICA (Network of Universities from the Capitals of Europe) member higher education institutions.

The questionnaire explores the micro-credentials offered by higher education institutions or recognised by them, as well as the challenges and barriers linked with such a process, in line with national regulations and institutional practices and procedures. When filling the questionnaire, universities are invited to consider any short courses, programmes, or learning experiences (part of existing degree programmes or not), that correspond to the definition below, even if these examples are not specifically called ‘micro-credentials’.

Definition of a micro-credential within the NewFav project, according to the recently adopted [Council Recommendation](#) (p. 14):

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

The results collected from the questionnaire will be used within the NewFav project to develop a framework for designing and implementing micro-credentials in higher education institutions, with emphasis on fundamental values and universities’ role in social inclusion.



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Instructions

Please complete the questionnaire at the following link:

[NewFav Questionnaire on Micro-Credentials](#)

or type

<https://forms.gle/GuFFwAQDdiXaTDuZ7>

Important: This document is only for reference and discussion and is not a paper alternative to the online questionnaire. The questionnaire must be completed only through the link provided above.

Please note that we accept only 1 submitted response per higher education institution.

The questionnaire is open from 18 November 2022 to 30 January 2023.

Besides aiming to collect data on the current state-of-play of micro-credentials in your higher education institution, we hope this questionnaire will support further developments related to implementing micro-credentials in higher education and the linkages with the Bologna tools and practices at the level of UNICA member universities and not only. Therefore, the primary target group of the questionnaire are the universities which are members of the UNICA network and their representatives in the UNICA working groups.

Furthermore, we kindly ask you to consult the different national stakeholders (higher education institutions, students, QA agencies, recognition centres, etc.) when completing the questionnaire.

Message: When filling the questionnaire, universities are invited to consider any short courses, programmes, or learning experiences (part of existing degree programmes or not), that correspond to the proposed definition, even if these examples are not specifically called 'micro-credentials'.

Questionnaire

All questions marked with an ‘*’ are not mandatory.

CONTACT INFORMATION

In this section, we aim to collection information about the contact person for this questionnaire and the higher education institution for which the questionnaire is filled

- Please select the country of your higher education institution
- Please select your higher education institution
- Please indicate the name of the contact person for this questionnaire at your higher education institution
- Please indicate the email address of the contact person for this questionnaire
- Please indicate the main function of the contact person for this questionnaire

COUNTRY LEVEL GENERAL INFORMATION

In this section, we want to collect some general information about micro-credentials in the country of your higher education institution.

1. To your knowledge, are micro-credentials already offered or being developed in your country?
 - a. Yes
 - b. No
 - c. I do not know
2. If yes (to question 1), who can issue micro-credentials in your country?
 - Higher education institutions
 - VET schools
 - Private companies / institutions
 - Training centres
 - NGOs / NPOs
 - Private individuals
3. If yes (to question 1), is your university offering or developing micro-credentials?
 - a. Yes, we are offering micro-credentials
Please provide further details on the micro-credentials your university is offering.
 - b. Yes, we are developing micro-credentials, but we are not yet offering any
What is the expected timeline for this process and when do you expect your university will start offering micro-credentials?
 - c. No, we are not developing or offering micro-credentials, but we intend to
What is the expected timeline for this process and when do you expect your university will start offering micro-credentials?
 - d. No, our university is not interested in developing and offering micro-credentials



4. Do you have examples of micro-credentials in your country offered by HEIs, or recognised by them?
- Yes
Please provide further details on the micro-credentials you have in your country. Please provide links to relevant information and documentation, if available.
 - Being developed
Please provide further details on the micro-credentials being developed in your country. Please provide links to relevant information and documentation, if available.
 - No
 - I do not know
5. Does your national legislation allow for the provision of micro-credentials?
- Yes, and there are specific regulations
Could you please provide more detail and/or a copy or link to the relevant norms or legislation? (and an English translation, if possible)
To further develop such learning experiences or micro-credentials, would you like to receive additional support (e.g., peer support, exchange of practices with experts from other countries, webinars, etc)?
 - Yes, but there are no specific regulations
Could you please provide more detail and/or a copy or link to the relevant norms or legislation? (and an English translation, if possible)
To further develop such learning experiences or micro-credentials, would you like to have additional support (e.g., peer support, exchange of practices with experts from other countries, webinars, etc)?
 - No, but currently under discussion
Why is the legislation discussed now? What key issues are being discussed?
Would you need further support to revise your legislation (e.g., peer support, exchange of practices with experts from other countries, webinars, etc.)?
 - No, institutions should not offer such learning experiences.
What revisions to your legislation would be necessary to make provision of micro-credentials possible?
Would you need further support to revise your legislation (e.g., peer support, exchange of practices with experts from other countries, webinars, etc.)?
 - Other (please specify).



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6. How satisfied are you with the current uptake and acceptance of micro-credentials in your legislation?
- Very satisfied, micro-credentials are well integrated into our legislation and funding system
 - Satisfied, there is increasing national interest and action in integrating micro-credentials into our legislation and funding system, but still a lot to do
 - Not satisfied, there is little national interest and action in integrating micro-credentials into our legislation and funding system and there should be more work done
 - Not applicable, in our country we do not currently have an interest in or a need to integrate micro-credentials into our legislation and funding system
7. If you have a national policy on the digitalisation of credentials, are micro-credentials part of it?
- Yes
 - No, micro-credentials are not part of it
 - No, we do not have such a policy
 - I do not know
8. Do you have an official record or register of micro-credentials and providers in your country?
(multiple answers)
- Yes, we have a record/register of (most of) the providers
 - Yes, we have a record/register of (most of) the (accredited) micro-credentials on offer
 - No, we do not have a record/register or register of providers
 - No, we do not have a record/register of the micro-credentials on offer
 - I do not know

QUALIFICATIONS FRAMEWORK AND ECTS

In this section, we want to collect information about the qualifications framework and ECTS in the country of your higher education institution.

9. To your knowledge, is your national qualifications framework open to micro-credentials?
- Yes, we have already some examples in our national qualifications framework
At which level(s) are they referred to/or can be referred to?
 - Yes, but none has yet been referred to the national qualifications framework
At which level(s) are they referred to/or can be referred to?
 - No, not yet
Could you elaborate on the reason for this?
 - We do not see the need for now

Could you elaborate on the reason for this?

e. I do not know

10. Are micro-credentials in your country expressed in ECTS or other credit systems (with reference to learning outcomes and workload)?

a. Yes, always

What is the range or amount of ECTS / other credit systems for micro-credentials?

b. Yes, in some cases

What is the range or amount of ECTS / other credit systems for micro-credentials?

c. No

Why not?

d. I do not know

11. What do you think is the biggest challenge in applying Bologna tools like ECTS and Qualifications Frameworks to micro-credentials?

a. Awareness of the tools in general

b. The implementation of the tools at the national level

c. The applicability of the tools to micro-credentials

d. Other possible challenges?

12. Do you have any other comments regarding these tools in relation to micro-credentials (e.g., design, use)? *

RECOGNITION

In this section, we want to collect information about the recognition processes in the country of your higher education institution.

13. Have you implemented policies and/or practices related to the recognition of micro-credentials at national level?

a. Yes

Please specify and provide a link to relevant information and documentation, if available.

Which elements are considered relevant in the recognition process? (multiple answers)

- quality of the study programme
- verification of the certificate
- level of the study programme
- learning outcomes
- workload
- assessment procedures

- identification of the participant
- other (please specify)

b. No, but currently under discussion

Would you like to have additional support (e.g., peer support, exchange of practices with experts from other countries, webinars, etc) for the recognition of micro-credentials?

c. No

Would you like to have additional support (e.g., peer support, exchange of practices with experts from other countries, webinars, etc) for the recognition of micro-credentials?

d. I do not know

14. If yes, are these policies and/or practices related to the recognition of micro-credentials at national level accepted in your higher education institution?

a. Yes, totally

Under what format?

b. Yes, partially

Could you elaborate on the reason for this?

c. No, but they are under discussion

What is the status of the discussions?

d. No, they are not accepted

Why not?

15. For what purpose would you recognise micro-credentials in your country? (*multiple answers*)

- To provide easier access to higher education
- To recognise credits or prior learning
- To increase learners' competitiveness in the labour market
- For academic purposes/ further studies
- To allow registered students to earn credits towards a higher education qualification
- We do not (yet) recognise micro-credentials in my country
- Other (please specify)

16. Does your legislation allow higher education institutions to recognise micro-credentials when offered by providers that are not higher education institutions (companies, NGOs, international organisations, etc.)?

a. Yes, micro-credentials from all higher education institutions and other providers are recognised

b. No, only micro-credentials from higher education institutions are recognised, not from other providers

Why are micro-credentials offered by other providers not recognised?

17. If yes, does your higher education institution have a clear procedure in place for the recognition of micro-credentials offered by providers that are not higher education institutions (companies, NGOs, international organisations, etc.)?

- a. Yes
Please provide further information
- b. Under development
Please provide further information
- c. No
Why not?

18. Does your national legislation allow higher education institutions to recognize micro-credentials as part of a normal degree programme? In other words, can learners accumulate them to build up to a degree within higher education, or are they 'stackable'?

'Stackability: Stackability means that micro-credentials can be accumulated and grouped over time, building into a larger, more recognisable credential (Kazin and Clerkin, 2018, p. 7).'

- c. Yes
- d. No
Why not?

19. If yes, does your higher education institution have a clear procedure in place for the recognition of micro-credentials as part of a normal degree programme?

- a. Yes
Please provide further information
- b. Under development
Please provide further information
- c. No
Why not?

QUALITY ASSURANCE

In this section, we want to collect information about the quality assurance systems in the country of your higher education institution.

20. What external quality assurance systems do you have in place to assure quality of the courses offered by higher education institutions? (*multiple choice*)

- Institutional Accreditation, Audit, Evaluation or similar
- Programme Accreditation, Evaluation or similar
- Other (please specify)



- 21.** Does your national quality assurance system explicitly include or refer to micro-credentials offered by higher education institutions?
- e. Yes, they are explicitly mentioned in the QA system
Please give a reference.
 - f. No, they are not referred to explicitly, but implicitly, fall under the same QA system
 - g. No, they are not referred and are not included in any QA system.
How do you see it possible to integrate micro-credentials into your QA system?
 - h. Others, please specify.
- 22.** Have you implemented any other policies and/or practices related to the quality assurance of micro-credentials?
- i. Yes
Can you please specify and provide a link to relevant information and documentation, if available.
 - j. No
Would you like to have additional support (e.g., peer support, exchange of practices with experts from other countries, webinars, etc) related to QA of micro-credentials?
 - k. I do not know
- 23.** How can one get information on the QA status of the awarded credential (the award achieved at the end of the course)? *(multiple choice)*
- Through the provider (higher education institution)
 - Through a register or list of accredited micro-credentials
 - From a dedicated portal
 - Other (please specify)
 - It is not possible
 - I do not know
- 24.** How are learners participating in learning activities leading to micro-credentials? *(multiple choice)*
- Face-to-face interactions
 - Virtual mobilities
 - Online learning
 - Hybrid activities
 - Self-paced learning
 - Project-based learning
 - Civic engagement
 - Practical work
 - I do not know
 - Others (please specify)



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25. What assessment methods are most frequently used during the learning activities leading to micro-credentials? (*multiple choice*)

- Written exams
- Oral exams
- Written paperwork
- Portfolios
- Capstone projects
- Field or service-learning projects
- Performance on in-class tests
- Presentations
- I do not know
- Others (please specify)

GENERAL

In this section, please share your last examples and further thoughts and comments with us.

26. Do you have examples of good practice in relation to any of the areas in the questionnaire (legislation, recognition, QA, QF, ECTS, etc.) that you would like to share? If yes, can you please specify and provide a link to the relevant information and documentation?*

27. Was your higher education institution involved in the work related to adopting micro-credentials in your country's national educational system?

- a. Yes
In what manner?
- b. No
Why not?

28. How would you characterise your overall feeling towards micro-credentials?

- l. Micro-credentials are a way to make higher education more flexible and inclusive in the future
- m. Micro-credentials are here to stay, but they must be regulated and integrated properly
- n. Micro-credentials are a short-term trend
- o. Micro-credentials do not have a place in higher education institutions and should not be included in related legislation
- p. I have no feelings towards micro-credentials

29. Please share any further comments or thoughts. *

Thank you for completing the online questionnaire!