# MICRO-CREDENTIALS: OPPORTUNITIES OR THREATS FOR PUBLIC ADMINISTRATION EDUCATION

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**Abstract**

Higher education programmes offer students the opportunity to acquire basic skills. Due to the limited flexibility of formal degree programmes, alternatives are being sought and the concept of micro-credentials has come to the fore. Micro-credentials offer a flexible and accessible way to acquire new skills and have competencies validated by properly accredited institutions. These approaches focus on short courses and training that emphasise validation of skills and knowledge and enhance the employability of individuals. In the context of higher education for public administration, the use of micro-credentials is an issue that is emerging as the demand for specific skills in public administration increases. This paper addresses the potential opportunities, dilemmas, advantages and disadvantages of using micro-credentials in education for public administration and presents orientations for the development of this concept in the European Higher Education Area.

Keywords: micro-credentials, higher education, formal education, non-formal education, public administration training.

## 1    Introduction

Higher education programmes provide structured and systematic learning in a particular academic area. They usually offer a wide range of subjects and modules that enable students to acquire basic knowledge and specialise in a particular area. This also applies to study programmes in public administration. The content of the degree programmes is mostly normative, and the structure and content are relatively uniform. By choosing different elective subjects, students can participate to a certain extent in shaping the study programme. This partly reflects their general interest, but more often the acquisition of specific skills relevant to the labour market. They are guided by the needs of employers, who expect the study content to be more closely related to the actual needs of concrete practise. However, since higher education institutions are very rigid when it comes to changing study programmes due to the more or less lengthy accreditation procedures, other (faster) ways to acquire additional knowledge are sought. This is an urgent problem that goes beyond sectoral and even national borders. A more comprehensive model is being sought that allows for faster "adding" of specialised or up-to-date knowledge, with micro-credentials being mentioned as an important potential.

Micro-credentials aim to extend the boundaries of formal education beyond the "credentials" represented by diplomas and certificates. They provide a flexible and accessible way for individuals to acquire new skills, adapt to the changing demands of the labour market and demonstrate their expertise to employers. Micro-credentials focus on non-formal (lifelong)

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learning where the acquisition of relevant knowledge, skills and competences can be validated by an institution with an appropriate mandate. This means that the acquired knowledge can be validated, accredited, certified, etc. not only by the university but also by a third party (company, organisation, etc.).

Micro-credentials refer to different forms of training. They are usually short courses or trainings that focus on the validation of skills, achievements and/or knowledge. Validation is based on competences developed using transparent standards and reliable assessments. In this way, knowledge or learning outcomes acquired in shorter and less 'time-consuming' educational (learning) activities can improve a person's employment prospects. The issue is also relevant to the field of education for public administration, as the demand for certain skills is also increasing in the field of public administration. This leads to considerations about the possible and meaningful use of micro in programmes for public administration.

The aim of this paper is to explore the potential opportunities, dilemmas and threats associated with micro-credentials in training for public administration. The paper addresses the question of how to define micro-credentials in terms of concept and content and provides an overview of the development of micro-credentials. It offers guidance for the development of the concept of micro-credentials in the European (higher education) area. It refers to relevant studies and examples related to micro-credentials in higher education, focusing on the design of micro-credentials with a focus on the field of education for public administration in higher education programmes. The final part of the paper reflects on the advantages and disadvantages of this approach to education, the opportunities and risks of micro-credentials for public administration education, and the potential and implications for practise. Suggestions are also made for further discussion on an approach to designing micro-credentials for public administration education. In this way, we aim to provide a deeper insight into the use of micro-credentials in public administration training and contribute to the development of this important topic.

## 2    The idea of micro-credentials

Micro-credentials can thus be defined as a long-awaited professional development learning format for educators who want to personalise their learning (Hughey, 2020) and have been called the future of professional learning (Ryerse, 2023).They enable learners of all ages and levels of education to select a specific skill or area of competence they wish to improve in order to progress in their career or achieve a personal goal. As such, they are a response to the challenge that individuals want to tailor their educational and professional development to their interests (Knowles, 1984) and that adult learners choose subjects that will have a positive impact on their personal and professional lives. They therefore need an education that enables them to engage immediately in the learning process without being burdened by information they already know. Individuals thus choose education that enables them to build on their existing knowledge and skills.

Micro-credentials are linked to the expectations of employers and individuals (employees, students, citizens) in several ways. Employers often look for candidates who have the knowledge and skills required for a particular job. Micro-credentials, on the other hand, allow individuals to acquire exactly "those" skills by recognising specific competences or achievements acquired in short courses or workshops. The focus is on the possibility of tailor-made learning that responds to the perceived needs, expectations and preferences of the

participants. This approach requires changes in education that link "knowledge" about learning content (programmes) to concrete practise and empower learners, educators and students. They can play an important role in the selection of a candidate by serving as evidence that the candidate meets certain standards of professional competence. Micro-credentials are evidence of knowledge and skills acquired through formal or non-formal education, experience and other activities. They indicate demonstrated competence in a particular skill (National Education Association, 2023). They are directly related to the idea of learner-centred learning. They are competency-based, linked to concrete, practical work requirements and thus focused on the needs of the individual.

Micro-credentials consist of relevant, high-quality, market-driven short learning units and provide pathways to affordable, accessible, targeted and immediately recognised learning opportunities. They are aligned with learners and their interests, needs, skills and career goals and are awarded based on demonstrated skills or competencies in one or more specific areas acquired over a shorter or more flexible period of time (Kansas State University, Global Campus, 2023). Each micro-credential is directly related to the educator's individual interests and supports and reinforces current pedagogical (guidance and instructional) practises in innovative ways (Hughey, 2017). Unlike most formal study programmes, micro-credentials can be tailored to a greater extent to one's own learning pace (schedule). They allow learning opportunities to be more personalised, more practical, more useful and faster. Individuals decide which micro-credentials they want to acquire and can create their own training list. They can learn what they "need" to learn and what they want to learn. They provide a detailed insight into relevant topics for educators who want to develop their professional skills.

Individual learning topics can be "stacked" or combined within micro-credentials to reach different levels. They also promote learning by doing: Learners put their knowledge into practise, collect evidence and demonstrate their competence. This form of micro-credentials professional development enables learners of all ages and educational levels to select and develop a specific skill or area of competence to advance their career or achieve a personal goal (Hughey, 2020). It can be understood as a tailored, self-directed learning process that provides learners with a meaningful, authentic professional development experience.

Micro-credentials refer to targeted training to acquire specific knowledge, develop a competence or acquire skills. The spectrum of knowledge acquired in this way can range from the acquisition of basic knowledge in the subject of study to highly specialised content in a particular industry. The idea is related to lifelong learning of individuals and the creation of a culture of lifelong learning in society. A culture of lifelong learning allows each individual to develop in his or her own way, determined by personal preferences and needs. When the learner is involved in selecting the topic and/or activities of the micro-credentials, research shows that the depth of learning increases (Pane et al., 2017). Learners feel empowered when they have control over their goals and activities. After completing the process, they can add micro-credentials to their CV, CV and/or portfolio (Hughey, 2017).

Micro-credentials have long been used by various sectors and companies to allow workers to demonstrate skills that have been validated through assessments by experts in the field (Berry & Byrd, 2019). Micro-credentials provide a certified educational experience that can be used in the labour market. In this respect, there are various attempts and solutions in different social settings to embed micro-credentials in a system of publicly valid qualifications and thus in the education system. In other words, this means that their validity is reflected in the equivalent recognition of knowledge acquired in this way with knowledge acquired in traditional

education systems (e.g. at university). Micro-credentials enable the targeted, flexible acquisition of knowledge, skills and competences to meet new and emerging needs in society and the labour market. They enable individuals to fill the skills gaps they need to succeed in a rapidly changing environment without replacing traditional qualifications. (Council of the European Union, 2022, para. 5).

The *OECD* (OECD, 2022) reports that these are the most anticipated continuing education and professional development themes of the future. The themes interact with individualised, personalised education and show that the approach of personalising learning is not a fad. Micro-credentials have also been described as "informal signals of educational achievement" that "offer an alternative solution to preparing for the workplace of the future" (Oliver, 2019, p. 1). Micro-credentials are a form of credential that represent competencies, skills and learning outcomes derived from assessment-based activities without a degree, and indicate a place for evidence of the content of the achievement acquired achievement (Ehlers, 2018, p. 2).

## 3    Developing micro-credentials

The concept of micro-credentials is not new and dates back to 2013 when the Mozilla Foundation wanted to create a way to promote lifelong learning for adults in the workforce with the "Digital Badge" movement. The idea quickly gained political support (Clinton Global Initiative), particularly to help workers validate their skills to employers (American Institutes for Research, 2017, p. 3). Around the same time, the American Institutes for Research published a report (Finkelstein et al., 2013) that found that digital badges could help validate functional skills valued in the workplace. With the growing interest of digital badge providers and technological developments among teachers, experimentation with digital badges has increased in the industry and among adult learning advocates. Developments have led to some certificates and digital badges offered by a HEI or professional body being referred to as "micro-credentials".

There are different formulations of this term in OECD countries, particularly in relation to the scope of the credentials. In the United States, micro-credentials are generally understood to be learning activities that involve "more than a single course but less than a full degree". In Oceania, a broader definition is used and both of the above types of micro-credentials, which range from 5 to 40 credits, are considered micro-credentials (Kato et al., 2020, pp. 8–9). Micro-credentials thus represent a new way of marking certificates and digital badges. Some alternative credentials (e.g. according to ISCED (UNESCO, Institute for Statistics, 2012)) can be classified as part of a formal education programme, others as a non-formal education programme (or part of a non-formal education programme) and still others would be acquired through informal learning activities. However, it was also recognised very early on that only the stackable micro-credentials seem to be a well-designed and standardised framework that is suitable for employers or can be integrated into a traditional application (Hall-Ellis, 2016, p. 234). In general, there are few standardised frameworks that provide a systematic classification of micro-credentials and overcome the difficulties that micro-credential providers, micro-credential recipients and potential employers may face.

The first micro-credentials framework was developed by the New Zealand Qualifications Authority – NZQA in Year 2018 to help businesses access employees with the skills they need in a rapidly changing world. It is based on the idea of recognition as a non-formal qualification and assumes a basic definition of the term: The definition of 'micro' is extremely small, and

'credential' can be defined as an endorsement issued to a person by a third party detailing competence. Micro-credentials are part of New Zealand's regulated education and training system. They complement full qualifications of longer duration and enable industry and businesses to identify priority areas and unmet skills needs and work with education providers to develop micro-credentials that respond quickly to these skills and knowledge needs (Construction and Infrastructure, 2023).

The NZQA defines micro-credentials as a formal way of recognising your skills and knowledge in a particular area that employers are looking for. They are aimed at people who want to further their education or learn a particular skill, who work with fast-changing technologies, who want to change careers quickly without taking time off for training, who want to acquire particular skills that employers are looking for, and who want to get recognition for skills they already have (New Zealand Qualifications Authority, 2023). Micro-credentials are evidence of acquired knowledge, skills or competencies that do not initially have the validity of a public qualification (e.g. a diploma) but can be credited towards a qualification under previously known conditions. As micro-credentials are part of New Zealand's regulated education and training system, they must meet a number of requirements and thus be quality assured in order to be accredited.

In the education sector, there are efforts in the United States, Australia, New Zealand and Europe to support and lead initiatives for micro-credentials. Countries such as Australia, New Zealand and Canada have allocated budgets for the expansion of micro-credentials; Australia and New Zealand have also allocated funds for the expansion of micro-credentials, and Australia and New Zealand have even adapted national frameworks (McGreal & Olcott, 2022).

## 4    EU and potential of micro-credentials

The potential of micro-credentials was further highlighted in the context of the EU's efforts to recover society and the economy from the Covid 19 pandemic. The need for new skills, competencies and capabilities was highlighted to bridge the gap between formal education, individual skills and experience, labour market demands and the challenges ahead. The fact that micro-credentials can be designed and issued by different providers in different (learning) environments has led to a growing awareness in the EU area of the importance of systemic regulation of future lifelong learning. Policies that support the lifelong learning approach are on the rise, as are proposals that will give new impetus to the education sector. These include in particular the initiative to create a European Education Area by 2025 by removing barriers to learning in the Union and promoting innovative and inclusive education and training for all (European Commission, Directorate-General for Employment, Social Affairs and Inclusion, 2020, p. 4).

The above activities also relate to the development of a European approach to micro-credentials ((European Commission, Directorate-General for Employment, Social Affairs and Inclusion, 2020, pp. 18, 19, Action 10). The Commission is committed to proposing a new initiative to promote the quality, transparency and EU-wide use of micro-skills, involving all stakeholders (public or private education and training providers, social partners, chambers of commerce, employers). This would ensure a common European standard (minimum quality and transparency requirements) at policy level, which the Commission believes would increase confidence in micro-qualifications and facilitate their transferability and recognition across the EU. To this end, the recommendations on micro-qualifications issued and adopted by the

European Council in 2022 were adopted to ensure standardisation, recognisability and transferability across the EU (European Commission, 2021).

The document also provides a common definition for establishing a system of micro-credentials that works across institutions, companies, sectors and borders. It states: "Micro-credentials certify learning outcomes following a small learning experience (e.g. a short course or training). They provide a flexible, targeted way to help people develop the knowledge, skills and competences they need for personal and professional development." (European Commission, Directorate General for Education, Youth, Sport and Culture., 2020). A coherent, standardised approach to micro-credentials is essential for cooperation between different institutions and especially across EU borders. Short-term academic programmes that meet the quality standards of our universities and offer transparency about what the participant has learned, transferability of evidence and individual accountability for their learning (4EU+ European University Alliance, 2022, p. 3).

A micro-diploma is evidence of the learning outcomes acquired by a learner after a short learning experience. These learning outcomes have been assessed against transparent standards. The evidence is contained in a certified document listing the name of the holder, the learning outcomes achieved, the method of assessment, the awarding body and, where applicable, the level of the qualification framework, and the credits earned. Micro-credentials are the property of the learner, can be passed on, are transferable and can be combined to form larger credentials or qualifications. They are underpinned by quality assurance to agreed standards (European Commission, Directorate General for Education, Youth, Sport and Culture., 2020, p. 10).


## 5    Micro-credentials in higher education

The challenges faced by higher education institutions in relation to micro-credentialst are many and multifaceted, making it all the more necessary to examine them. Firstly, there is the question of who should offer these courses, consequently award micro-credentials and consequently award ECTS. The micro-certificates awarded certify certain knowledge or skills with defined learning outcomes, which means that they can subsequently be combined (or not) into larger accredited units. For higher education institutions, this may mean that they have to restructure or 'reorganise' study programmes and change the structure of courses in order to add micro-credentials. On the other hand, it also means that new content ( micro certificates ) has to be added to the faculties' offer. All this is related to the consideration of moving from comprehensive structured content (programmes, courses) to a series of smaller learning units (micro-credentials certificates) that can be "used" on their own or as part of a broader learning content (courses). The above has implications for the possible development of study programmes that may include or even be based on micro-credentials in a reformed education system.

Micro-credentials should make it possible to "assemble" new forms of qualifications and continuously adapt them to the needs of employers (at the learner's discretion). In the delivery of learning, the current "home" faculty" will no longer have a privileged position, as the student will build his/her learning portfolio in different institutions, which are not even necessarily higher education institutions. Micro-credentials, as a new category of structured education offering smaller learning units, represent both a potential and a threat to higher education institutions or existing programmes in public administration education.

At some universities around the world, students can apply for micro-credentials as part of their degree programme and receive credit for the micro-credentials they complete. For example, Arizona State University in the USA offers a programme called the 'Digital Credentials Initiative' that allows students to receive credit for micro-credentials earned outside of the university. The University of California, Irvine in the USA has a programme called 'Division of Continuing Education', the University of Leeds in the UK has a programme called 'Degree Plus', the University of New South Wales in Australia has a programme called 'UNSW Micro-credentials'. Utrecht University in the Netherlands offers students the opportunity to have micro-credentials recognised as part of their degree programme, and the University of Helsinki in Finland also has a system called "Avoin Yliopisto" (Open University) where students can earn credits for completed micro-credentials.

Given the development in this area, the issue of micro-credentials is one of the priority issues in the construction of the European Higher Education Area. The European Commission provides extensive resources on micro-credentials based on the existing educational structures established under the Bologna Process and the European Qualifications Framework. In addition, the European Union promotes various initiatives and projects that advance the use of micro-credentials in education and support them as a tool for developing skills and knowledge. For example, the European Commission supports the "Digital Skills and Jobs Coalition" initiative, which, among other things, promotes the use of micro-documents for the acquisition and development of digital skills.

These sources, as well as projects such as ERASMUS and policy documents, serve as valuable references for micro-credentials design (McGreal & Olcott, 2022, pp. 12–13). However, there is relatively little academic research on the implementation and sustainability of micro-credentials in higher education. Much of the work takes place in industry, both in the form of thought leadership and design and in media articles. While there is some recent research on digital signage, research specifically on micro-credentials is still sparse and often limited to white papers, guidelines, guidance and reports (Selvaratnam & Sankey, 2021, p. 13).

In relation to micro-credentials in HEIs, and based on the review of the literature on micro-credentials, there are two key areas (Ahsan et al., 2023) that need to be understood when integrating micro-credentials into the curriculum HE. The first area focuses on the design, development and application of micro-credentials. Technology plays a key role in this area as it is the driving force behind the platform for the delivery and acquisition of market-relevant knowledge and skills. The second area concerns the labour market environment and the policy framework for the provision of education. Several forces play a role in this area, such as labour market demand for skills, evolving industry practises and government policies on the quality and standards of education. Understanding this area is key to building an effective micro-credentials ecosystem.

From the literature review (Ahsan et al., 2023), two basic domains of the conceptual framework for micro-credentials in HE (Figure 1) can be referred to as the operational domain and ecosystem domain. The operational domain focuses on the technology-enabled development and implementation of micro-credentials, while the ecosystem domain of micro-credentials encompasses the labour market environment and education policies that influence the relevance and acceptance of micro-credentials. The reach of micro-credentials is largely determined by technology, which facilitates trust and knowledge sharing through technology-enabled learning platforms for micro-credentials and secure digital certificates, data portability and high quality

learning. By integrating learning analytics into learning management systems or collecting data on student activities and performance, technology reduces teacher workload. The introduction of microcredentials is in this way also a challenge in terms of the digital transformation of higher education.

*Figure 1: A conceptual framework for introducing micro-credentials in higher education*
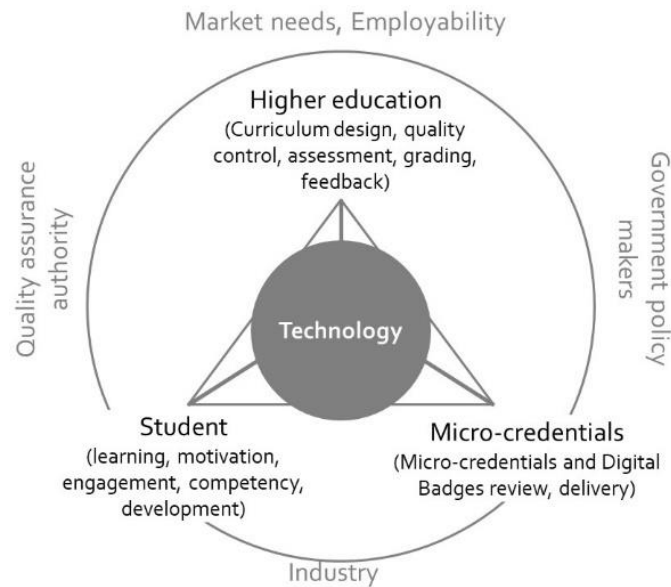


*Source: adapted from (Ahsan et al., 2023)*

The micro-credentials ecosystem includes influential stakeholders such as practitioner organisations, recruitment agencies, quality assurance bodies and government agencies. Higher education institutions need to work with these external and internal stakeholders to ensure that micro-credentials are aligned with learning outcomes and industry needs. Organisations working directly in the field have a key role to play in developing 'market-relevant' micro-credentials that enhance the employability of graduates.

While micro-credentials are supported by industry leaders and gradually also by university management, they are often met with criticism and resistance from university teachers and students. The situation is similar to the concerns raised in the early days of Massive Open Online Courses (MOOCs), particularly with regard to the fear that the trend towards micro-credentials could lead to a complete replacement of teaching staff with fully automated online course offerings (Ralston, 2021, pp. 90–92). Alongside this, Ralston also suggests ((Ralston, 2021, p. 97), that a critical view of micro-credentials can be seen as a resistance to technological progress in higher education. Slowing down the spread of the neoliberal learning economy is difficult, if not impossible.

## 6    Creating micro-credentials in public administration education

Micro-credentials offered by universities for public administration are rarer. In our experience, this could be because they have a negative connotation in the sense that they undermine the quality of education and can lead to superficial knowledge. Moreover, there is not infrequently the impression that they are rather an opportunity for individuals to acquire new skills quickly

and cheaply. However, micro-credentials are also slowly gaining acceptance in the field of education for public administration, and there are currently no uniform rules, standards or guidelines regarding providers, the scope of knowledge and assessment of micro-credentials (competencies and skills), possible ECTS recognition etc. There is also no recognition of the involvement of wider stakeholders, such as However, there are examples of micro-diplomas that can be considered as part of the "labour market offer for public administration". In the most general sense, the European MOOC Consortium Eurepeana (Europeana, 2023), can be counted as part of this. The Europeana includes platforms such as FutureLearn, FUN, MiriadaX, EduOpen and OpenupEd, ... These platforms offer a wide range of courses and micro-credentials in several languages and target learners from different European countries.

There are relatively few higher education courses based on micro-credentials. Some of them are designed as short online courses, also known as Continuing Professional Development courses, which offer a focused and targeted approach to further education in specific areas of public administration. Institutions such as the Institute of Local Government Studies in the UK offer modular courses such as the Master of Public Administration (MPA) that enable individuals to tackle real-life challenges in the public sector. These courses provide access to the same material and support as a traditional programme, and each module lasts just 8 weeks. Upon successful completion, participants receive 10 master's credits and a certificate highlighting their new qualification. Similar postgraduate micro-credentials on topics such as leadership, management and performance management in public administration are offered by the University of Birmingham. The National University of Ireland offers 38 micro-credit programmes in collaboration with the Institute of Public Administration.

There is also a commitment to credit transfer, which are not always micro-credentials programmes but rather 'classical' non-formal education. At the University of Ljubljana, for example, there is a regulation that provides for the recognition of non-formal education in terms of recognition of informally acquired knowledge and skills and thus the acquisition of ECTS that a student can claim as part of their study programme (Univerza v Ljubljani, 2007). In a way, the content is meaningfully related to micro-credentials, even though at the time of the adoption of the regulation micro-credentials in the current sense were not yet known. Babes-Bolyai University, where the Faculty of Political, Administrative and Communication Sciences is located, has adopted the Decision on the Procedure for the Implementation of the European Credit Transfer and Accumulation System (ECTS) for Educational Programmes Completed with Micro-credit Points at Babes-Bolyai in 2022 (Babes-Bolyai University, 2022). Decision on the procedure for the implementation of the European Credit Transfer and Accumulation System (ECTS) for training programmes completed with micro-credentials at Babes-Bolyai in Cluj-Napoca. This allows, among other things, the awarding of transfer credits (ECTS) for the completion of shorter training courses, proportional to the duration and content of the course. These micro-credentials can be issued in printed or digital form and comply with the applicable national and international regulations for micro-credits and the system of study documents.

Universities and colleges recognise the value of micro-credentials in today's competitive market. They are responding to these developments by exploring the offer of micro-credits and the possibilities of integrating them into existing programmes through modular, networked learning. Some countries, such as Australia, are investing in the development and use of micro-credentials to support economic recovery and create a market for it (Teachonline.ca, 2020a). In general, colleges and universities are actively engaging in micro-credit to meet the changing needs of students and industry, but there are challenges around standardisation and transferability within the education system. They emphasise the importance of differentiating

these credentials from other services and enhancing the skills and competencies of the workforce, which helps businesses remain relevant and adaptable (Brown et al., 2021). The boundaries of validated formal and informal learning are shifting beyond the traditional basis of diplomas and certificates to an approach where all relevant skills and competencies of learning can be validated, certified and transcribed not only by the university, but also by a third party as part of students' collective learning, skills, competencies and knowledge (Teachonline.ca, 2020b).

There are various views and dilemmas in the literature regarding the introduction of micro-credentials in higher education, especially in the field of training for public administration. Some of them can be summarised under two general headings or defined as opportunities and threats.

## 6.1    Opportunities for public administration education

Micro-credentials are a flexible and efficient means by which individuals can expand or refine their knowledge and skills in the face of rapidly changing demands and challenges in public administration. They enable individuals to acquire targeted skills and knowledge that are highly relevant to their specific tasks and responsibilities. At the same time, it allows them to demonstrate their commitment to continuous learning and to demonstrate a broad range of skills and competences. In this context, several opportunities for higher education institutions in the field of training for public administration can be highlighted, to highlight five:

1. We have many professors in universities who are knowledgeable about public administration and at the same time experts in different areas of public administration. We know how to design interesting courses, how to design content and how to achieve learning outcomes. All this provides the opportunity to harness the potential of in-depth knowledge, especially in some very specific areas of public administration. This is especially true in areas where we see a need, based on what we hear from our partners, employers and our students.
2. Faster adaptation of educational content compared to formal diploma programmes. Adapting accredited programmes is time-consuming and usually cannot respond quickly to the needs of the environment. The time lag also makes it difficult to raise awareness of the essential competencies needed in theory and especially in practise. In a field as diverse as public administration, raising awareness of and developing core competencies can provide the foundation for further development.
3. Micro-credits can be a potential for learning content development. They are used to test learning content before it is officially integrated into the curriculum.
4. Smaller training/learning and certification segments offer the possibility to better respond to changes in the public sector/environment/industry/sector. Enables (further) education in specific areas, which improves employment opportunities. Learners have access to what they need. They learn only what the learner needs and wants at a given time. Motivation remains high.
5. Learners can build their portfolio from several different institutions - several colleges and universities and other education providers, including industry. In this way, they form a network that represents their map of knowledge providers. This allows access to different geographical locations where students can acquire knowledge and skills that they cannot get in their local environment).

It is also worth noting that micro have to do with the economic efficiency of learning, especially the efficient use of time and financial resources. Education through micro-content units

becomes more accessible. This means that micro are more accessible to those who cannot afford or do not want to attend post-secondary education. Because of their internal logic, micro-credentials offer the potential for a holistic learning experience for individuals and thus for creating a structure for lifelong learning for individuals.

## 6.2    Threats for public administration education

Just as each institution is different, the thinking and practises in each area of higher education may also be different, and it would be difficult to create an authentic micro-credentials programme that could meet the needs of all teaching areas or institutions. If public administration practise is to drive demand for micro-credentials, change and innovation in public administration must be encouraged at the same time. However agile you want to be with micro-credentials, developing a micro-credentials curriculum takes time. Given that micro-credentials are very much focused on practical needs in terms of acquiring knowledge and skills, this can mean that there is a danger that micro-credentials end up being too reactive (backward-looking) and do not offer the depth and breadth that formal higher education does (which can stimulate innovative thinking as well as breadth of knowledge). In this context, we can formulate some threats to public administration education:

1. Lack of standardisation and trust between institutions regarding micro certificates. Despite EU policy guidelines, there is still no standard definition within a country or EU region, e.g. Slovenia or the NISPAcee region, of what micro-credentials are and how they can be exchanged between different groups. Micro-credentials do not mean the same thing to everyone. We need a common vocabulary so that employers know what a micro-credentials means. What micro-certificates mean to someone who has one. What do micro certificates say about their holder?

2. External pressure to produce micro-credentials can lead professors to feel that external systems are undermining their professional autonomy. The question arises as to who should lead the process (already overburdened professors, researchers) and whether the resources are there to do so. In this context, there is a question of who should lead the process (already overburdened professors, researchers) and whether the resources are there.

3. Some higher education programmes are currently not well connected to the labour market. This is a current weakness that makes some programmes less relevant to the labour force. In addition, HEIs are used to designing their curricula independently, with the idea that the HEI will lead the way. As a result, university teachers are less engaged with the practise of public administration. The answer to the question why this is so is often justified by academic freedom, the scientific character of university teachers and the fact that universities are not professional schools working directly in practise.

4. Many faculties of public administration are located at universities. The "fragmentation" of subjects in public administration may mean that related faculties within the same university can more easily work in certain areas related to the public sector (e.g. economics, governance, etc.). This leads to competition and rivalry within different faculties of the same university. In addition, there is the question of the origin of micro-credentials within a given association and the potential "battle" for micro-credentials accreditation within a given association.

5. From an economic point of view, micro-credentials offer the opportunity to generate revenue (profit only). If micro-credentials become popular, they can be seen as an opportunity to increase the profit of different institutions or organisations. This could lead to more and more institutions offering these courses to generate revenue instead

of offering quality courses to learners. It is expected that there will be many private initiatives, not necessarily only from private higher education institutions. If micro-credits are seen as a source of revenue, the initiators may just be recycling content that is already offered in another course. For busy professors, rationalising time and work could mean breaking down existing content into smaller chunks and turning them into micro-credits, or repeating content from other similar courses. This could lead to an inflation of identical content with the same names, reducing the visibility of "our" products or even causing confusion.

In addition, we might also encounter the possibility of transferability or use in all areas of the public sector. Due to their specificity, they may even be too narrowly focused on a particular content, making it difficult to use them in other workplaces or sectors, which is an additional challenge for micro-credential creators.

## 6.3    Approach to designing micro-credentials for public administration education

In light of the above, we believe that several important aspects need to be taken into account when designing a micro-credentials programme for public sector education and three main objectives and related outcomes can be formulated.

The first objective relates to a systems approach and the creation of a micro-recognition map. Work on developing micro-evidence for public sector education should start with the overall goals and strategic priorities for public sector development. The system should be developmental and innovative. Therefore, a thorough needs assessment should be conducted to understand the specific requirements for each content. Aligning the micro-credential with public sector objectives helps to justify the initiative, obtain funding for the development and implementation of the system, and gain the support of key decision-makers. A range of stakeholders, including staff, managers and technical experts, should be involved in the preparation of this assessment. Understanding their specific needs will help develop a micro-credentials system that addresses skills gaps. Aligning the system with public administration objectives will help justify the initiative to obtain funding for programme development and implementation and to gain the support of key decision-makers.

The second objective relates to accessibility and inclusion: The micro-credentials programme promotes accessibility and inclusion of a wide range of public sector individuals or workers. The design of the programme should consider a variety of factors, such as different learning styles, different prior knowledge and experience, and possible barriers to participation. Resources and support should be provided to ensure that people from different backgrounds can participate in the programme and benefit from the opportunities provided. One possible outcome is that the micro-credentials system should be designed to allow for different learning formats, e.g. online courses, workshops or blended learning approaches.

The third objective is quality assurance (credibility) and accreditation of micro-credentials. Robust quality assurance mechanisms for the micro-credential system should be developed, considering all the criteria already foreseen in the EU guidelines. Cooperation with reputable educational institutions, professional associations or certification bodies in the development and validation of scientific micro-credentials should be linked or strengthened. Accreditation by recognised bodies can enhance the reputation and credibility of micro-credentials. Furthermore, strict criteria and standards for evaluation should be established. This is the only way to ensure the value and credibility of the degrees. Regular assessments and reviews should

be carried out to monitor the effectiveness of the system and implement the necessary improvements. This would lead to a system that would give broader, international validity to the content of micro-credentials. This means that if micro-credentials are issued in one country, e.g. Slovenia, and the focus is on the Slovenian civil service, the micro-credentials should be designed to be valid and applicable in other related environments (e.g. Romania or the Romanian civil service).

Taking these factors into account, we propose the creation of a system of micro-credentials in the field of training for public administration that addresses specific needs consistent with the development objectives of public administration in a wider area, e.g. Central and Eastern Europe. One such example could be the accreditation body for the validation of micro-credentials under the NISPAcee initiative.


## 7    Conclusion

The world of work is changing and the need for rapid skills development is well known. In practise, this is usually solved by quick, short courses or seminars. Short courses have been around for a long time and they have helped people to continue their education, connect with others and learn throughout their lives. Micro-credentials and other forms of informal learning can be a solution to this need for quick training. Micro-credits meet different needs and include different components for different actors. They can help employers fill skills gaps and meet requirements in specific areas. And they can support communities in local development and economic growth. Micro-credit is assessed in a variety of ways, such as through tests, exams, projects or practical demonstrations. Because micro-credentials are smaller and more targeted, they are easier to obtain and more flexible for learners who want to continue learning or move to another field.

Micro-credentials are designed to "validate the learning outcomes of short-term learning experiences with micro-credentials", in line with the European Education Area designed by the European Commission. They are usually targeted at specific skills and focus on specific areas. The amount of credits a person can earn through micro-credentials depends on the programme and the complexity of the micro-credentials, as well as on the organisation awarding them. Since 'each' (higher education) organisation can determine for itself how many credits can be earned through the successful completion of a programme according to its own approach (based on existing) accredited programmes, it is important to ensure that there is an appropriate accreditation body that monitors the design and offer of micro-credentials in order to regulate the situation in a transparent way. However, it is important to note that the number of credits that can be earned through micro-credentials is often not comparable to the number of credits that can be earned through traditional degree programmes at universities and other educational institutions. The number of credits that can be earned through micro-credentials is usually lower than the number of credits that can be earned through traditional study programmes at universities.

The challenges and potentials of micro-credentials for higher education institutions in the field of public administration education are manifold, with a focus on the aspects of standardisation and recognition as well as linkage to the respective curriculum structure. Micro-credentials offer a variety of skills and competences, which can lead to challenges in standardisation and recognition of these qualifications in public administration. Therefore, at the level of higher education institutions, consideration should be given to developing clear criteria and standards

for micro-credentials and ensuring their recognition by relevant stakeholders in public administration. A particular challenge is the integration of micro-diplomas into existing curricula and programmes for public administration. It must be ensured that micro-credentials are consistent with the overall structure of the curriculum, complement existing educational programmes, allow for further development and serve the lifelong learning of individuals. Many of the open questions raised in this paper require relatively quick answers and solutions in the European area, as the European approach to micro-credentials is a key component of the Commission's vision to create a European education area by 2025.

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