Microcredentials: an opportunity towards the digital transformation

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Abstract

This communication aims to present one of the online courses included in the Microcredentials portfolio of the Universidade Aberta, in Portugal. We start by presenting a framework of the European guidelines on Microcredentials, defining its main characteristics, namely highlighting its advantages in the context of reskilling or upskilling with a view to its applicability in the labor sector. Following the guidelines of the Portuguese Ministry of Higher Education, and specific EU funding under the Impulso Adultos programme, a proposal for a Microcredential in Digital and Distance Learning was conceptualized and developed for teachers´ training, with more than 1200 teachers already involved. An evaluation carried out through a survey delivered to trainees shows very positive results in all items evaluated, with strong emphasis on the transferability and applicability of the knowledge acquired to work contexts.

These results show that this course, developed within the scope of Microcredentials, broadly meets the needs of reskilling and upskilling, which are increasingly important in the adaptability of adults to the new challenges that digital transformation implies.

Keywords: Microcredentials; distance and digital education; digital transformations; lifelong learning; higher education.

1. Introduction

Working contexts and conditions are changing rapidly, and some studies indicate that over the course of a year, between 20% to 70% of the population change jobs or even occupations in response to the new challenges posed by technological and environmental transition (Bakhshi et al. 2017; OECD, 2012). This panorama leads to the rapid mismatch between initial formal training, defined on the basis of a set of pre-defined assumptions which are not very flexible in nature and the skills required for the professional role. Therefore, there is a pressing need for a constant renewal of existing training and the promotion of continuous learning to acquire, adjust and update knowledge and skills.

It is in this context of rapid changes in professional skills and the urgent need for training that Microcredentials have been mentioned as an educational strategy with potential to meet the needs of professional qualification and requalification in the European and national space (Kato, Galán-Muros & Weko, 2020; European Commission, 2020; MCTES, 2020).

The Recovery and Resilience Plan (PRR) in Portugal outlines post-covid objectives for the training and requalification of the labor sector, with a focus on promoting digital transition in companies and institutions and requalifying a significant portion of their workforce. Some of the specific goals of this plan include:

- Providing digital skills training to 800,000 individuals, with personalized training plans and online resources.
- Supporting the digitalization and requalification of public administration.
- Establishing programs, "schools", and "alliances" for higher education training in partnership with employers, including post-graduate diplomas and masters.
- Promote the digital transition in companies by retraining 36,000 workers.

By achieving these objectives, Portugal aims to enhance the competitiveness of its labor sector, boost economic growth, and prepare its workforce for the digital age demands.

The purpose of this paper is to gather approaches and main characteristics of the so-called Microcredentials and place them in the context of the training practices of Universidade Aberta, the public distance learning university in Portugal, which follows an internationally validated digital distance learning methodology supported by the UAb Virtual Pedagogical Model (UAb-VPM) (Pereira et al. 2007; Mendes et al, 2019).

2. The main concept

A Microcredential is a certificate of short-term learning, formal or informal, which is regarded as strategic by the European Commission to achieve its European Skills Agenda. The European Commission (EC) has sought to discuss, within the scope of a number of

projects, the definition of Microcredentials and to identify the challenges and opportunities in this area. According to the EC, Microcredentials are:

... 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 Microcredentials are designed to provide the learner with specific knowledge, skills and competences that respond to societal, personal, cultural or labor market needs. Microcredentials 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 (European Council, 2022).

The European Union definition, largely shared by other authors (Brown, et a. 2021; Wheelahan and Moodie, 2021) promotes the discussion of a tacit recognition of the accomplishment of a learning outcome from a short learning experience developed in a formal or informal learning context. This recognition usually comes in the aftermath of responding to existing societal, personal, cultural, or labor market needs. According to the EC, these needs typically originate from unexpected or conjunctural challenges projected by technological or environmental transition. Microcredits can be offered on a stand-alone basis or offered in conjunction with others (stackable) but must be guided by limited benchmarks respected by the corresponding sector, be it the educational or business sector.

Regarding the context where the training takes place, although it was initially born in online contexts, particularly through MOOCs and short courses held in distance learning platforms such as Coursera or Futurelearn, the EC recommends that Microcredentials can be offered in various educational environments such as face-to-face, online, hybrid or blended-learning environments, or even in a work context. Regarding the entities that provide the training, initially the need to adapt to the ECTS system led to an almost inevitable association with higher education institutions. The last recommendation (European Council, 2022) opens the possibility of Microcredentials having the involvement of other institutions such as Vocational and Lifelong Learning Agencies or industry federations with training academies. The need for the existence of a transversal unit of measurement such as the ECTS in order to be used as a legal framework for evaluating the workload of the trainee/student during the training period was made more flexible by no longer being included as mandatory by the commission, and therefore, giving each member-state room to define its own legal framework. Regardless of this European guiding document it is important to identify the existence of Microcredentials in the Anglo-Saxon higher education space, in particular in the United States, Australia, Canada, and more recently also in the United Kingdom.

The working group on Microcredentials, supported by the European Commission, published a report in December 2020, addressing the need to define Microcredentials in a single format

and shared by its member states. Later, in 2022, the Council of the European Union adopted the European Commission Recommendation on Microcredentials as a European strategy for lifelong learning and employability. The Recommendation seeks to support the development, implementation and recognition of Microcredentials across institutions, companies and sectors. In this joint approach, member states are responsible for informing the European Commission on appropriate measures to adopt the recommendations by December 2023. The recommendations point to the need for member states to:

- Develop an ecosystem of microcredentials, including promoting the creation of new microcredentials, encouraging the development of microcredentials in formal and informal contexts, promoting the quality and transparency of Microcredentials and fostering the development of partnerships between educational institutions and social partners, employers and industry, innovation and research centers and local and national authorities.
- Realize the potential of Microcredentials by integrating them into existing offers and training, reaching a wider and more varied type of learners, including disadvantaged and vulnerable groups, and integrate Microcredentials into employment and labor market support policies.

This type of training can complement traditional learning and teaching by better enabling students to acquire high-level skills. This process of Microcredentials, should also facilitate access to a new type of learners (European Commission, 2020) or allow the return of former students into higher education in a perspective of professional requalification. The strategy foresees that by 2030, 60 % of all European adults undergo in training every year.

Microcredentials allow for opportunities to diversify learning and improve education through shorter courses, extending the qualifications that each person already has.

In addition, Microcredentials can be grouped into subjects, being the proof of the learning acquired and their certificates do not correspond to a full degree as, for example, the degree that is obtained in a bachelor's, master's or doctorate.

For a good streamlining of the certificates awarded, it will be necessary to adopt a single, transversal digital system that allows any university or employer to verify the information elements of each certificate. This also means that secure access to the data must be ensured, and they must also be verifiable free of charge. Transparency tools and processes are related to the transparency of qualifications (the European Qualifications Framework); quality assurance in higher education; credits for learning achieved; recognition of prior learning and validation of non-formal and informal learning; lifelong learning and career management. The European Council (2022) recommends Europass as the Digital Credentials Infrastructure that could eventually facilitate the issuing, sharing and storage of all forms of learning in a digital format, including Microcredentials.

3. Microcredentials at Univ. Aberta

Since 2009, Universidade Aberta (UAb) has been investing in Lifelong Learning (LLL) for the personal and professional training of adult learners, offering a wide range of courses, from short courses, with one or two ECTS, to post-graduation courses typically involving from 30 to 60 ECTS. Since the development of this strategy, more than 13,000 people have obtained certification in the various Lifelong Learning courses that have been offered at UAb. For these participants, these courses have the advantage that they are usually more applicable to their professional areas, less time-consuming and usually require less personal, financial and professional investment.

The offer of LLL courses at UAb has become recognized within and outside its community, as a natural and intrinsic situation to its own way of presenting itself. The model of online distance learning, applied mostly in asynchronous format, has a wide capacity and applicability among the target audience that is distributed across all regions of the national territory and abroad with various schedule commitments, which means that this type of education allows temporal and spatial flexibility suitable for students with personal and professional limitations (in Portugal, distance learning is regulated by the decree-law 133/2019).

Lifelong Learning at UAb organizes the offer of a diverse set of courses in several areas. These courses have been offered in a logic of providing their learners with a set of professional and personal skills that allow them to quickly achieve their goals by linking them with other formal and non-formal learning that they already have or will acquire.

Thus, it can be stated that, unlike other HEIs, inside and outside Portugal, that have never had short courses on offer, the UAb pathway prepared the institution to start offering microcredentials, both as a conceptual and a recognition point of view. For the UAb, the concept linked to Microcredentials implementation corresponds to a natural and desired path to follow, because the strategic importance that this educational model has for the adult learners is recognized. As a natural result, the existing relations with the European Association for Distance Teaching Universities two European funded projects related to Microcredentials, and with other higher education institutions members of this association, were stepping stones that lead to UAb being perceived by the sector as a national reference entity for this area and as a "trusted provider" for the recognition of training offer and issuing of Microcredentials. Furthermore, the Impulso Adultos (Adult Impulse) programme, boosted the existing offer in Microcredentials leading UAb to set a target of training circa 6,000 adults from 2022 to 2025.

3.1. Perspectives and Proposals

For the implementation of Microcredentials, some strategic areas of knowledge that are already present in short courses at UAb and that have potential in various learning paths have been established.

The Microcredentials were thus composed of training "packages" containing short-term training courses (from 1 to 6 ECTS). At the UAb, Microcredentials are usually designed from scratch or re-adapted from existing training courses. They are designed and developed in the context of reskilling or upskilling having an applicable character in the workplace. Although not mandatory, it is recommended to work with partner institutions in the development of the training offers, particularly partners that represent the sector where learning outcomes developed can be applied.

The partnership can be a joint scientific work (planning of activities, identification of content and training objectives) or the identification of competences to be acquired (need analyses). Regardless of the model chosen, the institution has not considered strategic the use of existing courses, in particular, the use of course units from existing formal study programmes that allow stackability (Bozkurt & Brown, 2021), i.e. the possibility of joining a set of Microcredentials with the aim of forming a single piece that provides a degree or a postgraduate diploma.

Regardless of the solution used, at UAb, Microcredentials training courses should always include an element of assessment of the learning outcomes to prove that they are clearly met. The learner can create their UAb Microcredentials portfolio whenever they finish the training courses in which they are involved.

3.2. Distance and digital learning training modules - examples

UAb has already prepared about 20 training courses leading to Microcredentials which include courses from 1 to 6 ECTS. For the sake of this communication, we will present the Distance and Digital Education training course which is aimed at teachers of primary, secondary and higher education in the education system in Portugal. To obtain a Microcredit in Distance and Digital Education (DDE), participants need to undertake a 3 modules course, with 4 ECTS and a duration of 4 months. This course enables teachers to design and monitor a distance learning unit of a study programme/course and has been in offer since 2021, leading to the certification of about 1200 higher education teachers. Its structure integrates the following modules:

- E-activities in Course Design in DDE (1ECTS)
- Digital Teaching in Network (1ECTS)
- UC Project in Digital Environment (2ECTS)

The main objectives of this Microcredential, are:

- To reflect about pedagogical practice in Digital Distance Education contexts.
- Analyze communication and interaction processes in digital educational contexts.
- Mobilize relevant pedagogical strategies, namely at the level of activity design for digital educational contexts.
- Conceive, design and develop a programme unit project for DDE.
- Design and develop e-activities for DDE environments.
- Select appropriate educational resources according to the context and the target population.
- Select digital assessment instruments according to the nature and pedagogical contexts.

This training provides informed answers to the problems teachers encounter in their teaching practice in an online context and gives them the possibility to evaluate the effectiveness of innovations in order to contribute to a successful digital education. According to UAb's Virtual Pedagogical Model the asynchronous methodology allows flexibility in participation and in the learning path, highly appreciated by students because they adapt learning to their own pace. Another methodological aspect that we highlight is the assessment, where both self-assessment and peer-assessment are strongly articulated with the course assessment.

4. Final remarks

At the end of each module all trainees are asked to respond to a survey of satisfaction with questions about the structure and performance of the course, as well as aspects related to the quality of the course, such as resources, activities, tools used, and the perceived self-performance of each trainee.

The outcomes of the evaluation conducted to the participants have been overwhelmingly positive, with notable success in the self-performance category. There was a unanimous agreement among participants in their involvement with the proposed activities, collaboration, and exchange of knowledge. Furthermore, the acquired knowledge and collaborative processes were deemed easily transferable and applicable to each trainee's respective work contexts. Although being an online course, the flexibility and the organization of the course allowed the majority of the participants to have success in achieving the learning outcomes. The course allowed three ending points – participants could leave after each module being recognized with nano-credits related to the specific modules they successfully completed. Notwithstanding, circa 50% of the participants finished all three modules of the course and have been able to apply what they learnt in their own practice.

The results show that this short course developed at Universidade Aberta within the scope of Microcredentials fits the concept and objectives for which it was created, i.e., it responds positively to the immediate needs of reskilling and upskilling in a work context.

Acknowledgements

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