BRIDGING INITIAL AND LIFELONG LEARNING. MICRO-CREDENTIALS AS A GATEWAY FOR UNIVERSITY STUDENTS

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Innovative Practice

ABSTRACT

Micro-credentials provide flexible and targeted opportunities for learners to acquire competencies that enhance their academic degrees. While their significance in improving employability is gaining recognition, their impact on preparing students for lifelong learning has received less attention. This article highlights an innovative initiative at Université libre de Bruxelles, where Master's students in Human Resource Management were introduced to a micro-credential in project management. Our findings indicate that such initiatives offer students an early experience with modular, competency-based learning and foster an awareness of the importance of continuous upskilling throughout their careers. By positioning micro-credentials as a gateway to university lifelong learning (ULLL), this paper contends that universities can establish themselves as keystones of lifelong learning cultures and create meaningful connections between initial education and future learning pathways.

INTRODUCTION

In today's rapidly evolving labour market, higher education institutions are under increasing pressure to effectively prepare students for professional integration and to instil in them a commitment to lifelong learning (OECD, 2023; UNESCO, 2021; Brown et al., 2021). Traditionally, degree programs offer considerable disciplinary depth and academic rigor; however, they often fall short in familiarising students with the modular, flexible, and self-directed learning practices that define ULLL.

Recently, micro-credentials have emerged as a prominent tool for addressing this gap. These short, targeted certifications validate specific skills that are frequently aligned with labour market demands (Oliver, 2019; Cartiş et al., 2022). While much of the policy discussion focuses on their impact on employability and reskilling (Lang, 2023; Sanchez Barrioluengo, 2025), micro-credentials also possess considerable pedagogical potential. By introducing students to competency-based frameworks and modular certification systems, they can serve as gateways into a culture of continuous education.

This article examines the dual role of a specific initiative: the incorporation of a 14-hour micro-credential in project management into the Master's program in Human Resource Management (HRM) at the Université Libre de Bruxelles. In today's human resources landscape, skills in project management, digitalisation, and data analysis have become increasingly essential (Sparrow & Makram, 2015; Schwab, 2017; Hennebert & Bourguignon, 2021). After consulting with a group of employers, we opted to emphasise project management as a crucial transversal skill that is relevant not only to HR but also to broader management fields. This focus is particularly significant at the nexus of education and employment, where the capacity to coordinate, plan, and deliver tangible results is in high demand (Ribeiro, Amaral & Barros, 2021; Martinez, 2022).

Our objective was twofold: to enhance transversal skills for employability and to cultivate students' awareness of lifelong learning as both a personal and professional imperative. By offering students the opportunity to earn a micro-credential, we aimed to create a bridge between their initial university education and ongoing professional development. By emphasising both outcomes, we contend that micro-credentials should be viewed not only as tools for the labour market but also as pedagogical instruments that introduce students to the ecosystems of university lifelong learning and development. This paper presents preliminary insights from our innovative practice.

Our goal is not to evaluate impact in a conventional sense, but rather to contribute to the ongoing reflection on best practices for integrating micro-credentials into higher education curricula, while providing concrete perspectives from the field.

CONTEXT AND DESCRIPTION OF THE PRACTICE

As part of the FSE-funded initiative "Donner du crédit à la formation tout au long de la vie," coordinated by the ULB Continuing Education Office, a program was launched at the Faculty of Philosophy and Social Sciences at the Université libre de Bruxelles (ULB). This program took place within the framework of the Master's in Human Resource Management (HRM) during the academic year 2024-2025. A cohort of 83 students participated in a 14-hour micro-credential in project management over one month, which was subsequently reinforced with additional coursework in the second semester. Of these students, 90% were aged between 21 and 25 years. Furthermore, 73.49% identified as female, while 26.51% identified as male, with no participants identifying as non-binary. It is also noteworthy that over 85% of the cohort possessed relevant work experience, primarily through student jobs.

Why give micro-credentials to Master's students?

One of our objectives was to equip students with project management tools while simultaneously introducing them to the concept of modular certification, which they are likely to encounter in their lifelong learning pathways. For many, this micro-credential served as their first experience with an educational structure specifically designed for portability and recognition beyond the university.

Importantly, the micro-credential was integrated into a change management course, positioning it not as a standalone addition but as part of a pedagogical experiment that connects initial academic learning with the lifelong learning ecosystem. This design choice reinforced the understanding that university education is not a closed system but rather part of a broader continuum of learning opportunities.

Micro-credentials facilitate the modularisation of learning and provide students with the chance to gain certified recognition of critical skills that enhance their academic master's degree (Kato et al., 2020; Hotaling & Van Sumeren, 2022). By validating competencies that

are relevant to the labor market, micro-credentials aid in a smoother transition into professional life (Vasilev, 2024). Furthermore, they cultivate an awareness among students nearing the completion of their second cycle about the importance of lifelong learning, empowering graduates to pursue ongoing education after finishing their initial university training (Brown et al., 2021).

The toolkit

The learning objectives were twofold. First, to equip students with practical project management tools pertinent to HR contexts. And second, to familiarise them with the logic and structure of micro-credentials as an emerging format in continuing education. We have integrated the micro-credential into a change management course, which enables us to effectively track the entry, follow-up, and exit points of the training program.

Practically speaking, we designed these micro-credentials as a 14-hour online module, delivered asynchronously and enhanced by peer coaching sessions. The course adopted a competency-based approach (Holubnycha, 2022; Amraouy et al., 2022), with clearly articulated learning outcomes that align with the European Qualifications Framework. The content covered the fundamentals of the project lifecycle, stakeholder analysis, planning tools (such as Gantt charts), risk management, and budgeting. Assessment involved creating a project file that addressed a real-world HR challenge, evaluated using a rubric that emphasised clarity of objectives, project structure, feasibility, and alignment with HRM practices. We have made concerted efforts to ensure that this format can be replicated in other modules or disciplines.

IMPLEMENTATION AND METHODOLOGY

To document and analyse the outcomes of this pilot program, we employed a mixed-methods approach (Artois, Moriau & Wagener, 2025). Our data collection comprised three key components designed to determine whether students could envision a long-term learning journey.

Initially, we administered a pre- and post-intervention questionnaire to all participating students. This questionnaire assessed their perceptions of employability, confidence in their skills, and familiarity with the principles of lifelong learning. For this last point, the questions aimed to explore how the micro-credential influenced their views on continuing education, their openness to further modular certifications, and their willingness to invest in training beyond graduation. This aspect was crucial for evaluating how the pilot not only fostered competencies but also shaped students' perspectives on learning as a lifelong endeavour.

Secondly, we conducted two group interviews with volunteers from the cohort to gain insights into their motivations, perceived relevance of the program, barriers to completion, and their vision of the lifelong learning process.

Lastly, we carried out semi-structured interviews with HR managers from organisations that regularly host interns from our program.

The questionnaire was designed to assess self-evaluated competencies in project management, perceived expectations within the labour market, and the willingness to pursue additional micro-credentials in the future. It included a combination of Likert-scale questions and open-ended prompts to enhance the group interviews.

These qualitative interviews allowed us to explore students' perceptions of this innovative learning format as well as employers' evaluations of its value. We also focused on the

connections students made between this module, their overall educational journey, and their professional aspirations.

While the scope and scale were somewhat limited, this methodological design facilitated triangulation of perspectives and provided valuable insights into the expectations, concerns, and ambitions of students engaging with this new certification model. This approach not only enabled us to capture both the intended and unintended effects of the intervention (Mutanaffisah, 2022) but also assessed students' readiness to embrace lifelong learning practices and how micro-credentials can reshape students' understanding of their learning trajectories.

INITIAL OUTCOMES AND REFLECTIONS

The initial findings suggest a generally positive response to the micro-credential among students. Many participants recognised the importance of ongoing learning after graduation, viewing the micro-credential format as a pathway to further upskilling and reskilling opportunities.

Students particularly appreciated the module's practical focus, noting a boost in their confidence regarding project management skills. This perceived enhancement was especially significant among those with limited prior experience in hands-on, project-based assignments within their academic programs. The module helped them understand how to apply their HR knowledge in complex and dynamic work settings. In terms of content assessment, 39.75% of students strongly agreed, and 34.93% agreed that it would benefit their future professional development, while only 3.61% disagreed. The remaining 21.71% neither agreed nor disagreed.

The main motivators for students, listed in order of significance, are certification, the perceived added value for professional development, and the establishment of a competitive edge in the job market. Interest in micro-credentials saw a noteworthy increase, rising from 16.86% before the program to 73.49% afterward. Additionally, we noted that interest in micro-credentials grows when they are linked to academic credits for students, although this correlation does not apply to professionals. Group interviews revealed that students are familiar with the concept of credits, associating them with the time commitment required and the level of difficulty. In contrast, professionals generally do not see added value in connecting ECTS credits with certification.

Despite the positive aspects, tensions did arise among students. Several individuals reported challenges in balancing the demands of the micro-credential with other end-of-program requirements. Although participation was voluntary, some students perceived it as an implicit expectation to excel in the change management course, which contributed to their stress. Additionally, others noted that the absence of ECTS credits made it challenging to justify the time investment, given their already demanding academic workload. These observations underscore the necessity for clearer communication regarding the voluntary nature and added value of these modules, as well as a more holistic approach to the overall learning journey.

During group interviews, we discovered a connection between the reported challenges and a lack of clarity regarding future professional roles. More than two-thirds of participants had never held a position in human resources; their experience was confined to student jobs, internships, summer work, or part-time roles. We also observed a widespread belief in a lack of self-efficacy, particularly among female students and those from socioeconomically disadvantaged backgrounds.

From the perspective of employers, the pilot program sparked interest and conditional enthusiasm. Most HR managers acknowledged the initiative's worth, especially its efforts to clarify the skill sets of graduates. However, concerns were raised regarding standardisation, comparability among institutions, and the long-term recognition of such credentials in recruitment processes. The novelty of the term "micro-credential" and the lack of shared benchmarks made it difficult for many to assess its significance or relevance. The majority of the group had not heard of micro-credentials prior to this initiative.

In addition to individual feedback, the experiment prompted the teaching team to engage in deeper reflections. Staff members noted an increase in students' autonomy and problem-solving skills. They also observed a rising interest in project management principles, which, despite their alignment with HRM practices, are often underrepresented in the curriculum. This experience inspired us to explore new digital tools and reconsider how we can make transversal skills more visible and accessible.

Notably, the students' exposure to micro-credentials sparked additional curiosity. Nearly 74% of participants expressed a desire to pursue similar formats after graduation. This shift suggests that micro-credentials may not only serve to enhance skills but also cultivate a mindset of continuous learning. This aligns with broader educational objectives aimed at promoting learner autonomy, critical thinking, openness to future training opportunities, and preparing students to become lifelong learners (European Commission, 2020).

DISCUSSION AND LESSONS LEARNED

The findings emphasise the dual role of micro-credentials. They serve as enhancers of competencies and catalysts for lifelong learning pathways. Our innovative approach highlights both the potential and the complexities associated with incorporating micro-credentials into academic programs (Epaphras & Wachira, 2025; Selvaratnam & Sankey, 2021). While linking initial and ongoing training is a key objective, it poses significant challenges in implementation. Expectations among learners vary, as does the representation of certification.

From a pedagogical standpoint, micro-credentials operate as a transitional pedagogy (Kift, 2023). They familiarise students with formats they will later encounter in continuing education—specifically, short, stackable, skill-based certifications. The integration of modularised learning within a course enhances engagement by enabling students to acquire targeted, applicable skills (Ribeiro et al., 2024). The focus on project management establishes a meaningful connection between theory and practice, effectively preparing students for internships and equipping them with essential insights. This early exposure demystifies the concept of lifelong learning, transforming it from an abstract principle into a tangible, lived experience.

The asynchronous format and practical emphasis of the module significantly enhance accessibility and motivation, especially for students managing various commitments such as studies, work, and social obligations. This situation is particularly relevant for participants in university lifelong learning programs. However, our findings regarding participation highlighted distinct barriers that have been well-documented in existing literature, including factors such as socio-economic status, gender, time constraints, and socio-cultural influences (Tomaszewski et al., 2022; Günen & Vural, 2023). To effectively meet their goals, the design of micro-credentials must take these factors into account from the beginning.

Nevertheless, this initiative also revealed design-related challenges in our case. If a micro-credential is perceived as peripheral or disconnected from the core curriculum, it may risk

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marginalisation. Academic advisors must proactively assist learners, clarifying the links between various subjects and underscoring the significance of this learning.

The absence of formal credit (ECTS) has prompted some students to question the legitimacy and relevance of their learning experiences. This situation highlights the urgent need for clearer integration mechanisms, whereby micro-credentials can either be incorporated into the curriculum or offered alongside institutional incentives. Ideally, universities should establish internal validation systems that progressively recognise micro-credentials within students' academic or professional portfolios. Practically speaking, this means enhancing portability and stackability for learners to encourage participation in the micro-credentials framework (Bowles & Ghosh, 2025).

An important insight pertains to the ecosystem surrounding micro-credentials. While students acknowledge their immediate advantages, the limited recognition by employers generates a sense of uncertainty (Thi Ngoc Ha et al., 2024). How can we effectively engage with students and recent graduates when micro-credentials remain largely misunderstood by employers? Our discussions highlighted that the term "micro-credential" lacks clarity among employers, which can hinder the establishment of a culture of lifelong learning.

Currently, there exists a semantic and strategic gap. While employers may recognise the value of skills such as project management, they do not necessarily associate these skills with micro-credentials as a formal tool (Cartis et al., 2022). This disconnect undermines the potential effectiveness of these certifications and limits their overall impact. It is essential for universities and policymakers to collaborate with industry stakeholders to foster a shared understanding, establish standardised criteria, and develop recognition systems (Ali et al., 2024) that support ULL ecosystems.

The lack of a shared understanding poses a significant risk of fragmentation. As more institutions expand their offerings of micro-credentials, the likelihood of inconsistent proliferation increases (Harris & Wihak, 2018). This complexity can make it difficult for learners and employers to navigate or compare credentials, ultimately undermining trust in their value. Consequently, a coordinated effort at either the national or European level may be necessary to promote systemic coherence and mutual recognition. In Belgium, there is a notable interest from non-university entities, including public vocational training and employment administrations, as well as private organisations, to explore the issuance of micro-credentials with level 6 or 7 recognition. Although these discussions are still in the early stages, they underscore the challenges faced by university ecosystems.

More broadly, micro-credentials have the potential to redefine the role of universities within the framework of lifelong learning (Enstroem & Schmaltz, 2024). By offering students their initial experience of self-directed, modular learning, micro-credentials encourage the development of habits that are conducive to ongoing personal and professional growth (Yilik, 2021). This approach is particularly valuable in fields such as Human Resource Management (HRM), where adaptability, strategic thinking, and interprofessional coordination are essential.

Micro-credentials as spaces of acculturation to ULL

An essential insight from this pilot program is the role of micro-credentials as platforms for acculturation to university lifelong learning. For many students, this initiative marked their first encounter with a learning format that was intentionally designed to be modular, transferable, and reusable. In contrast to traditional degree programs, micro-credentials were presented as stand-alone units that could theoretically be stacked or combined with other certifications. This paradigm shift encouraged students to reimagine education—not as a linear journey culminating in a diploma, but as a flexible and iterative process that extends throughout one's

lifetime. However, the challenge remains to ensure that this approach is not viewed as a temporary experiment but rather as an invitation to a more extensive learning continuum. Consequently, universities must craft follow-up opportunities, whether through continuing education offerings, alumni learning pathways, or collaborations with professional training providers. Without such continuity, there is a risk that students may perceive micro-credentials as isolated additions rather than integral components of their lifelong learning journey.

The introduction of micro-credentials encourages a deep reflection on the institutional culture of learning. This initiative has led faculty members to adopt a more competency-based and practice-oriented pedagogy, shifting away from traditional models of knowledge transmission. Additionally, it highlights the importance of student feedback loops and agile course design. While these changes may appear modest, they signify a broader transformation in how universities view their mission and their ongoing relationship with learners throughout their lives (Oliver, 2021).

This pilot program demonstrates that effectively integrating micro-credentials requires careful orchestration, including alignment with labour market needs, a strong pedagogical foundation, institutional commitment, and external validation. Our ecosystemic, user-centred approach, which involves engaging employers and stakeholders from the outset, has shown considerable advantages in terms of recognition. Although micro-credentials are not a silver bullet, when thoughtfully designed, they can foster lifelong learning and drive innovation within higher education.

To enhance the transition from isolated experiences, universities could establish a clear institutional policy that positions initial education as the beginning of a lifelong learning continuum. Strategies might include systematically embedding micro-credentials within both undergraduate and postgraduate curricula, facilitating seamless transitions into continuing education programs, and developing learning pathways tailored for alumni. Additionally, creating recognition frameworks that allow credits earned through micro-credentials to be stacked towards advanced qualifications could signal to students the long-term value of their learning.

Universities ought to strategically align degree programs with pathways for continuing education to cultivate a robust culture of lifelong learning. This approach encourages students to perceive their academic journey not merely as a terminal point, but rather as a foundational framework for ongoing intellectual development and personal growth. Such alignment not only enhances the relevance of academic curricula but also instils in students the importance of adaptability and continuous skill acquisition in an ever-evolving professional landscape.

CONCLUSION

This paper presents an innovative pilot program that integrates a micro-credential in project management into a Master's degree in Human Resource Management. The initiative has yielded promising results in skill development, student motivation, and stakeholder engagement. However, its most significant contribution lies in its introduction of lifelong learning practices to students. When embedded within university curricula, micro-credentials can serve as gateways to ULL. They provide students with their first experience of modular certification, foster awareness of the importance of ongoing education, and encourage the cultivation of lifelong learning identities. Furthermore, our findings suggest that micro-credentials can enhance the ecosystem within a specific field, promoting closer collaboration among universities, businesses, and public authorities.

While further evaluation is necessary, this case suggests that micro-credentials can effectively kickstart lifelong learning journeys. Universities have the opportunity to align their practices with the mission of Universal Lifelong Learning (ULL). Our experience indicates that such initiatives could inspire other institutions to creatively and sustainably bridge initial and continuing education. Indeed, our data show that our module serves not just as an additional skill for students, but as a gateway to fostering a culture of lifelong learning. By enhancing awareness of lifelong learning and modular training approaches, universities can better prepare their students for the uncertainties, changes, and opportunities that lie ahead. In the context of broader digital and societal transformations, micro-credentials may provide crucial pathways for visibility and adaptability, thereby promoting a strong commitment to lifelong learning.

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