

CRITICAL FUTURES PROGRAM

Advancing Competency-Based Education Through Technology-Enabled Microcredentials

A Strategy Paper developed by the UPCIDS
Critical Futures Program

*Emmanuel C. Lallana, PhD, Saddam Bazer, PhD , Rommel Feria ,
Jon Paul Maligalig , Elenita Que, PhD , Kirsten Therese Navarro *¹

Key Takeaways

- Competency-based education (CBE) is widely regarded as the future of learning because it focuses on mastery of skills, allowing personalized, self-paced progression.
- The Philippines' policy environment is already shifting toward lifelong learning, especially with the Lifelong Learning Development Framework Act and the Philippine Qualifications Framework.
- UP should adopt a system-wide policy on CBE to enhance the quality of education by establishing common standards for competency definitions, assessment criteria, and credit recognition while allowing constituent universities flexibility in implementation.
- Through microcredentials, UP can also improve access and equity in higher education, develop bridging programs for graduate students,

provide remediation tools for incoming students, and flexible learning options for working professionals and adult learners.

Introduction

Background/Policy Landscape/ Rationale

Higher education is undergoing transformation as societies confront rapid technological change, evolving labor markets, and increasingly complex social challenges. Developments associated with digital transformation, platformization, and artificial intelligence (AI) have accelerated the obsolescence of narrowly defined qualifications and intensified the demand for adaptable, transferable, and demonstrable competencies (OECD 2021; WEF 2023). In this context, traditional time-bound and degree-

¹ Emmanuel C. Lallana, PhD - Professorial Fellow and Convenor, Critical Futures Program (eclallana@up.edu.ph), Saddam Bazer, PhD - Assistant Professor, College of Education (scbazer@up.edu.ph), Rommel Feria - Associate Professor, Department of Computer Science, College of Engineering (rom@up.edu.ph), Jon Paul Maligalig, PhD, - Assistant Professor, College of Education (jfmaligalig@up.edu.ph), Elenita Que, PhD - Professor, College of Education (enque@up.edu.ph), Kirsten Therese Navarro - Junior Research Associate, Critical Futures Program (kfnavarro@up.edu.ph)

centric models of higher education are increasingly challenged to prepare learners for employability, civic participation, and the “good life.”

In response to these, competency-based education (CBE) has gained global traction as a strategic approach that shifts the focus of education from time, credit accumulation, and program completion toward the verified attainment of clearly articulated competencies. These competencies integrate knowledge, skills, values, and dispositions that learners can apply across professional, civic, and personal contexts (Kelchen 2015; UNESCO 2022). Complementing this shift is the growing adoption of flexible and technology-enabled learning pathways, including microcredentials, which support continuous upskilling and reskilling while maintaining academic rigor and quality assurance.

In the Philippines, these global developments intersect with urgent national imperatives related to workforce competitiveness, social inclusion, and lifelong learning. The enactment of Republic Act No. 12313, or the “Lifelong Learning Development Framework (LLDF) Act,” in October 2025 marks a significant policy milestone in the country’s effort to build an integrated, learner-centered, and future-ready education system.

Together with the Philippine Qualifications Framework (PQF) - the outcomes-based quality assurance policies of the Commission on Higher Education (CHED), and national development plans emphasizing innovation and human capital development, the LLDF Act signals a decisive shift toward learning systems that prioritize demonstrable competencies and meaningful learning outcomes.

Within this global and national context, the University of the Philippines (UP) system has already adopted outcomes-based education (OBE). OBE has strengthened curricular alignment, clarified intended learning outcomes, and improved assessment practices. However, its implementation remains largely embedded within conventional degree structures and time-bound academic calendars. Learning outcomes are not always operationalized as discrete, assessable, and portable competencies that support lifelong learning and flexible progression.

Institutionalizing competency-based education within UP presents a strategic opportunity to deepen and extend existing OBE practices. Rather than replacing OBE, CBE strengthens it by translating learning outcomes into coherent competency frameworks,

enabling progression based on demonstrated mastery, and supporting authentic, performance-based assessment (Le, Wolfe, and Steinberg 2014). Within this framework, technology-enhanced microcredentials emerge as a practical and scalable pathway for implementation, serving as modular, quality-assured mechanisms for certifying competencies in alignment with global and national priorities and UP’s public service mandate.

Statement of the Argument/Research Questions

Building on its mandate as the national university, UP carries a distinct responsibility to lead, innovate, and set standards in Philippine higher education. UP is expected to serve as a benchmark and knowledge leader for reforms that advance quality, equity, and relevance. UP’s role extends to shaping frameworks, practices, and governance mechanisms that other higher education institutions may adopt or adapt.

UP is uniquely positioned to operationalize CBE. Its system-wide structure, autonomy, disciplinary breadth, research capacity, and public service mandate allow UP to pilot innovative learning models while ensuring academic rigor and institutional credibility. Through coordinated system-level action, UP can bridge policy intent and institutional practice by translating national goals into implementable and quality-assured educational strategies.

UP’s leadership role is not limited to program delivery to include standard-setting for competency frameworks, assessment and recognition of learning, faculty capability development, and the ethical and equitable use of educational technologies. By providing shared reference points and coherent governance mechanisms, UP can ensure that innovations such as CBE and microcredentials are not fragmented initiatives, but integral components of a cohesive and sustainable learning ecosystem aligned with national development priorities.

Literature Review

The shift toward competency-based education reflects a broader reorientation of education systems from time-bound instruction to outcomes-based learning. CBE emphasizes the demonstration of clearly defined competencies, enabling learners to progress upon mastery rather than through fixed instructional periods (Kelchen 2015). This approach supports greater flexibility and personalization, particularly

for diverse and non-traditional learners. Building on this, Le, Wolfe, and Steinberg (2014) situate the contemporary competency education movement within reform efforts aimed at improving equity, learner agency, and alignment between educational outcomes and real-world applications. Together, these perspectives position CBE as a structural innovation with the potential to address persistent inefficiencies in traditional education systems.

At the global level, the imperative for more adaptive and lifelong learning systems is well established. The Organisation for Economic Co-operation and Development highlights the growing importance of continuous skills development in the context of accelerating technological shifts and evolving employment structures (OECD 2021). Similarly, the World Economic Forum (2023) underscores the accelerating pace of job disruption and the corresponding demand for large-scale reskilling and upskilling. These trends reinforce the need for modular, flexible learning pathways that allow individuals to acquire relevant competencies throughout their lifecourse.

Microcredentials have emerged as a key mechanism within this evolving landscape. The United Nations Educational, Scientific and Cultural Organization defines microcredentials as short, targeted learning experiences designed to certify specific learning outcomes in a transparent and portable manner (UNESCO 2022). Their stackable nature enables learners to accumulate competencies over time, aligning closely with the principles of CBE. When supported by digital technologies, microcredentials offer scalable solutions for expanding access to education and improving the recognition of skills across contexts.

In the Philippine context, recent policy developments provide a strong enabling environment for the integration of CBE and microcredentials. The Lifelong Learning Development Framework (LLDF) Act institutionalizes a national approach to lifelong learning by promoting flexible learning pathways, recognition of prior learning, and the integration of formal, non-formal, and informal education systems. This legislative framework aligns with global trends and creates opportunities to leverage technology-enabled microcredentials as part of a more responsive and inclusive education system.

Overall, the literature indicates that the convergence of competency-based education, microcredentials, and digital technologies offers a strategic pathway for education reform. By aligning learning systems with evolving skills demands and enabling more flexible, learner-centered pathways, this approach supports the development of a resilient and future-ready workforce and empowered citizens.

Discussion/Argumentation

UP should consider positioning CBE as an overarching framework for learning, assessment, and credentialing, with microcredentials serving as a key mechanism for implementation. Within this approach, microcredentials translate competency frameworks into assessable and stackable units that support flexible learning pathways, recognition of prior and experiential learning, and alignment with the PQF and national development priorities.

At the system level, institutionalizing CBE entails establishing common policy principles, quality assurance standards, and governance mechanisms that ensure consistency, transparency, and credibility across UP's constituent universities. These include shared definitions of competencies, assessment criteria, mechanisms for credit recognition, and protocols to document and verify learner achievement. Such a framework balances system-wide coherence with the academic autonomy of individual universities and units, enabling innovation while maintaining rigorous academic standards.

Technology-enabled delivery is central to operationalizing CBE through microcredentials. Digital platforms for learning management, assessment, and credential issuance enable modular, competency-based learning experiences to reach geographically dispersed campuses and diverse learners, including working professionals, alumni, and community partners. Technology also supports evidence-based assessment and data-informed quality assurance, reinforcing confidence in UP-issued microcredentials and enabling learners to accumulate competencies that may contribute to academic credit, professional recognition, or advanced qualifications.

Through the strategic integration of microcredentials within a coherent CBE framework, UP can respond to emerging knowledge areas, workforce needs, and societal challenges, while strengthening interdisciplinary learning, flexible progression, and lifelong learning pathways. This approach positions

CBE as a system-wide transformation rather than an isolated reform, reinforcing UP's commitment to academic excellence, accessibility, and public service.

Institutionalizing CBE in UP requires a deliberate, phased, and system-wide approach that integrates microcredentials as a core mechanism for delivery, recognition, and scaling. Building on UP's existing OBE practices, the following strategic directions outline how technology-enabled microcredentials can be systematically embedded across training and extension services, academic delivery modalities, new course development, and learner support mechanisms. Collectively, these pathways operationalize CBE coherently and sustainably while preserving UP's academic rigor, public service mandate, and institutional autonomy.

1. Adoption of a system-wide policy on CBE

A system-wide policy that defines principles, quality assurance standards, and governance mechanisms to ensure consistency, transparency, and credibility across UP's constituent universities is necessary. This high-level policy shall be the foundational document that sets a strategic, non-technical framework, setting the direction for constituent universities to define/adopt their respective specific, procedural policies. The policy should enable, not constrain, CUs from developing their respective CBE policies (consistent with the system policy).

2. CBE-Driven Training and Extension

UP's training and extension functions provide a strategic entry point for advancing CBE through technology-enabled microcredentials. As part of UP's public service mandate, extension programs are expected to respond directly to the needs of communities, industries, government agencies, and civil society. Integrating CBE principles into the design of training and extension programs ensures that programs are responsive to felt needs.

Under this approach, training and extension courses should be reoriented toward competency frameworks informed by economic conditions, sectoral priorities, and national development goals. Microcredentials can then be used to certify the attainment of these competencies, providing learners formal recognition that is portable and meaningful beyond the immediate training context. Technology-enabled delivery allows these programs to be offered flexibly, expanding reach to learners who may not otherwise have access to UP's expertise.

This pathway is particularly relevant for extension work, as it provides a structured mechanism to professionalize and scale training initiatives while strengthening their impact. By adopting CBE-aligned microcredentials, UP can enhance the credibility, coherence, and sustainability of its extension services while contributing directly to human capital development, community empowerment, and lifelong learning.

3. Bridging: Microcredentials as Equity and Student Success Mechanisms

Microcredentials can also serve as targeted bridging or catch-up mechanisms to address gaps in foundational competencies among learners. One illustrative application is to use microcredentials as preparatory or supplementary programs to enter UP graduate programs. At present, graduates from other universities are asked to take UP undergraduate classes to address the lack of competencies in specific disciplinary domains (e.g., Quantitative Research in education, Operating Systems in computer science). This practice could be replaced with enrolling in relevant microcredential modules. A potential application is to use CBEs as part of a more inclusive admission policy. UPCAT takers who fall just short of the required skill level or score make up for it through microcredentials before they are fully admitted to as freshmen.

Bridging programs can be structured at the college or unit level, ensuring competency requirements align with disciplinary standards and program goals. Technology-enabled delivery enables the flexible offering of these microcredentials, minimizing barriers related to time, location, or learning pace. Importantly, this approach reframes remediation not as deficit-based instruction, but as competency development reinforcing learner agency and academic confidence.

As a bridging mechanism, microcredentials support smoother academic transitions, more inclusive access to UP programs, and more equitable learning outcomes across diverse student populations.

4. Microcredentials as a Mode of Delivery for Existing Courses and Programs

Microcredentials can also function as a strategic mode of delivery for transforming existing UP courses and programs. Rather than viewing microcredentials solely as new offerings, this pathway positions them as

modular delivery mechanisms through which selected courses, course components, or learning sequences may be redesigned and offered in a competency-based format.

For faculty members interested in adopting microcredentials, this approach enables the disaggregation of existing curricula into coherent competency units that can be delivered flexibly, assessed independently, and, where appropriate, stacked toward academic credit or program completion. Such modularization supports learner-centered progression, allowing students to demonstrate mastery at their own pace while maintaining alignment with program-level outcomes.

From a system perspective, this modality supports innovation without disrupting existing degree structures. It allows UP to pilot CBE approaches within established academic programs, generate evidence on effectiveness, and refine policies on credit recognition and quality assurance. Over time, this pathway can inform broader curricular reforms and contribute to a more flexible and responsive academic ecosystem.

5. CBE at birth Degrees - New Microcredential-Based Programs

A third strategic pathway involves the development of new microcredential-based courses and programs that are designed as competency-based from the outset - "CBE at birth." These offerings are particularly suited for adult learners, working professionals, and non-traditional students seeking targeted, flexible, and practice-oriented learning opportunities.

Under this pathway, faculty members and academic administrators design courses around clearly articulated competency frameworks rather than traditional course outlines. Learning activities, assessments, and credentials are aligned from the beginning, ensuring coherence and transparency. Delivered primarily through online or blended modalities, these microcredential courses can accommodate diverse learner profiles, including full-time and part-time learners, without compromising academic standards.

This approach allows the UP System to expand its reach beyond conventional student populations, while safeguarding institutional quality and credibility. By offering CBE-aligned microcredential programs in emerging and interdisciplinary fields, UP can respond

proactively to evolving societal and workforce needs, reinforce its leadership in knowledge production, and strengthen its role in lifelong learning.

Conclusion

The institutionalization of CBE in the UP System represents a strategic response to the evolving demands of higher education. Moving beyond traditional and time-bound models, CBE reframes learning around demonstrable competencies, flexible progression, and meaningful recognition of learning across contexts.

This strategy positions UP to operationalize CBE in a manner that builds on existing OBE practices, rather than replacing them. Through the deliberate integration of technology-enhanced microcredentials, UP can translate competency frameworks into quality-assured, modular, and stackable credentials that expand access, support human capital development and community engagement without compromising academic rigor.

The strategic pathways and immediate next steps outlined in this paper, spanning programmatic implementation, system-level governance, faculty incentivization, and sustained capacity building, would reinforce UP ability to move from pilot initiatives toward coherent and scalable reform. The institutionalization of CBE is thus framed not as a one-time intervention but as a deliberate, phased transformation.

Ultimately, institutionalizing CBE enables UP to fulfill its mandate as the national university by leading educational innovation, advancing inclusive and lifelong learning, and aligning academic excellence with national development needs.

Action Points

While the strategic pathways above illustrate how competency-based education and microcredentials may be implemented across instruction, extension, and new program development, their long-term sustainability and system-wide impact depend on enabling institutional conditions. To move from pilot initiatives towards an integrated and enduring reform, the UP System must put in place governance mechanisms, incentive structures, and sustained capacity-building efforts that support faculty engagement, ensure quality assurance, and maintain coherence across constituent universities.

Spearhead

As an immediate first step, it is recommended that the UP system constitute a CBE Committee under the Office of the Vice President for Academic Affairs (OVPA) to oversee and coordinate the institutionalization of competency-based education and microcredentials. This committee would serve as the primary governance and coordinating mechanism for CBE-related initiatives across the UP system.

Its core function would be to develop an overarching policy framework applicable across all constituent universities, including shared principles for competency definition, assessment, and quality assurance standards, credential recognition, and alignment with national frameworks such as the PQF and the LLDF Act. The committee may also identify priority areas for pilot implementation and recommend mechanisms for monitoring and evaluation.

The committee would also support CUs in defining and implementing their respective CBE strategies.

Incentivization

To encourage early adoption and sustained faculty engagement, it is recommended to institutionalize incentive mechanisms for the development of microcredentials. Incentives can follow existing guidelines, such as those outlined in OVPA Memorandum No. 2020-92, which recognizes course pack development as a legitimate academic output and outlines guidelines for incentives (OVPA 2020).

As an initial implementation parameter, each approved microcredential-linked course pack may be incentivized at PHP 10,000.00 per microcredential with the following minimum characteristics: aligned to competency frameworks, clarity of learning outcomes, appropriateness of assessment strategies, and readiness for technology-enabled delivery. To ensure equitable distribution of resources and broad participation, the number of incentivized microcredentials may be capped at five microcredentials per proponent, for a maximum incentive amount of PHP 50,000.00 per proponent during the initial implementation phase.

The corresponding grant shall be awarded to the proponent upon submission and quality review of the required course content and assessment rubrics, consistent with the approved evaluation criteria. This approach emphasizes academic rigor and deliverable-

based support, ensuring that incentives are tied to the completion of substantive scholarly work.

In addition to monetary incentives, the UP System should explore the recognition of microcredential development as part of faculty workload. For microcredential projects supported by an approved grant, development work may be credited as the equivalent of three units of workload, with the explicit understanding that such credit shall not be used for overload computation. This recognition shall be subject to endorsement through existing CU workload documentation and approval processes.

The proposed CBE Committee shall oversee the development and implementation of the aforementioned incentives.

By combining deliverable-based financial incentives with bounded workload recognition, the UP system can promote meaningful participation in competency-based education initiatives while maintaining quality assurance, equity, and consistency with existing academic policies.

Capacity Building and Professional Development

Institutionalizing microcredentialing requires sustained investment in faculty and staff development. At present, exposure to microcredential concepts, frameworks, and implementation practices remains limited to a relatively small subset of UP personnel. As an immediate next step, the UP system should expand and systematize capacity-building initiatives to support a broader and more consistent understanding of competency-based education and microcredentials.

A foundational resource for this effort is the introductory module on CBE designed by the Critical Futures Program (CFP) of the University of the Philippines Center for Integrative and Development Studies (UP CIDS). (<https://canvas.instructure.com/courses/13507993> username: “criticalfutures@proton.me” password: “UP.Naming.Mahal”). This module is intended for designers of training courses for extension services, faculty members interested in microcredentials as a mode of delivery, and faculty and administrators developing new courses for adult and non-traditional learners. It aims to equip participants with the skills needed to design, develop, and effectively implement microcredential courses, with particular emphasis on stackable, competency-based credentials aligned with industry and societal needs. Course content includes best practices in competency

articulation, assessment design, learner engagement strategies, and completion certification. By the end of the course, participants are expected to build and refine microcredential prototypes that are ready for implementation.

Systematically integrating this and similar offerings into UP's faculty development ecosystem can support shared understanding, address common misconceptions, and foster institutional buy-in. Through sustained capacity-building efforts and the cultivation of communities of practice, the UP System can advance educational innovation in microcredentialing while safeguarding academic rigor, quality assurance, and institutional credibility.

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CENTER FOR INTEGRATIVE AND DEVELOPMENT STUDIES**

Lower Ground Floor, Ang Bahay ng Alumni, Magsaysay Avenue
University of the Philippines Diliman, Quezon City 1101



cids.up.edu.ph

Telephone (02) 8981-8500 loc. 4266 to 4268
(02) 8426-0955

Email cids@up.edu.ph
cidspublications@up.edu.ph

Website cids.up.edu.ph