Convergence or fragmentation? Recent developments in recognition of microcredentials and their impact on higher education in Asia and the Pacific

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Abstract

Purpose – This paper explores the development of microcredentials (MCs) through a regional lens, considering their implications for lifelong learning and skilled labour mobility in Asia and the Pacific. It also examines recent global initiatives led by the United Nations Educational, Scientific and Cultural Organization (UNESCO).

Design/methodology/approach – The study reviews recent global initiatives aimed at developing shared definitions and principles for MCs, as led by UNESCO, taking into account the importance of existing initiatives such as the pilot project launched by the Australian government in 2022. The formalization of MCs within national education systems is also examined, with reference to frameworks developed by organizations like the European Union (EU), Australia and the Malaysia Qualifications Agency (MQA, 2020).

Findings – The paper underscores the increasing attention from international organizations and governments to the development and recognition of MCs, with significant efforts in countries like Australia and pilot initiatives in New Zealand and Malaysia. However, it also highlights that many MC projects in Asia are still in their early developmental stages, emphasizing the need for further progress and formalization.

Originality/value – This paper offers a unique perspective on the development of MCs in the Asia–Pacific region and their potential role in international education. It explores the prospects for MCs in international education, including student mobility and cross-border online courses. The challenge of integrating MCs into existing systems for recognizing international qualifications is discussed. Overall, the paper contributes to the understanding of MC frameworks as essential tools in the formalization of lifelong learning in the region, supported by the provided citations (OECD, 2021).

Keywords Microcredential, Foreign credential evaluation, Student mobility, Quality assurance, Tokyo convention

Paper type Research paper

Section I: international initiatives to develop definition, standard and recognition of microcredentials

This research discusses how MCs have been developing in Asia and the Pacific, particularly in active user countries such as Malaysia, New Zealand and Australia. In addition, Japan's case is introduced because there has been an active initiative for creating a guideline as well as a framework for implementation since 2023.

As one form of alternative credentials, MCs have become a global trend, and various providers are increasingly offering them by "rebranding and restructuring" their existing programs and by creating new programs (OECD, 2023). MCs are now offered by a range of providers, including higher education institutions, university consortia, industry bodies and for-profit providers.

Although there are various attempts to define MCs by providers or individual countries, those definitions have not been fully acknowledged by the international audience. Since the early 2020s, the Organization for Economic Cooperation and Development (OECD) and United Nations Educational, Scientific and Cultural Organization (UNESCO) have taken initiatives to describe the role of MCs. Based on extensive research and consultations with experts in various countries, UNESCO proposed the following definition of microcredentials (Oliver, 2022):

A microcredential:

(1) Is a record of focused learning achievement verifying what the learner knows, understands or can do

(2) Includes assessment based on clearly defined standards and is awarded by a trusted provider

(3) Has standalone value and may also contribute to or complement other microcredentials or macrocredentials, including through recognition of prior learning

(4) Meets the standards required by relevant quality assurance

MC is often considered to be a tool for reskilling and upskilling, reflecting the economic and labour transformation that has taken place within the Fourth Industrial Revolution. Susskind (2020) pointed out three possible mismatches between supply and demand in the job markets during the Fourth Industrial Revolution:

(1) The skills mismatch, in which workers either do not possess the right skills or cannot adapt themselves quickly enough to do the new types of jobs.

(2) The identity mismatch, in which workers choose to be unemployed rather than take a low-paid, low-skilled job. Workers who leave the labour market for this reason often possess relatively higher credentials, such as an engineering and science degree that used to be a gateway to a stable job with relatively high social status. However, in the era of AI, potentially with fewer jobs available in the labour market, such a degree may no longer guarantee a high-paying job.

(3) The place mismatch, when even if there is demand in the labour market for a particular skill set, if a worker does not live in the specific country or region where that job demand exists, it may not be easy for them to gain employment that matches and makes use of their skills.

Lifelong learning programs can serve as effective tools to minimize skill mismatches (Chaudhari, Murphy, & Littlejohn, 2019). Informal learning modes have diversified in order to meet learners' needs and now can include online classes, hands-on workshops and mentoring and coaching (Ellis, Nunn & Avella, 2016). Furthermore, digital credentials, including MCs, play a critical role in minimizing identity mismatches (Ashizawa, 2023).

The main target of the users of MCs is not the traditional students seeking diplomas and degrees with full-time status. By their very nature, MCs are open to a wide range of learners at different stages of their education and lives. In particular, for workers and lifelong learners in the information technology and business sectors, MCs open up great opportunities for their reskilling and upskilling learning to be visibly recognized and lead to career development and financial rewards.

Concerning learners' point of views, Wang (2022) identifies three major benefits for learners:

(1) Microcredential programmes are more accessible and affordable for learners, especially those who would otherwise not have the opportunity to study for macrocredentials at conventional higher education institutions.

(2) They can help make higher education provision more efficient and relevant, especially when it comes to employment oriented and market-driven learning programmes. Small can mean agile, responsive and relevant.

(3) Thirdly, microcredentials make personalised and flexible learning possible. Learners can pick their microcredential programmes from different providers, learn at their own pace, accumulate their learning at credit banks and eventually claim their continuing professional development (CPD) credits and full qualifications.

There have been a number of previous studies that focused on stakeholders' perspectives (Steel, Louder, & Drager, 2022). Based on a literature review, it was found that employers have a strong tendency to believe Mcs will be instrumental in fulfiling their demands for specific criteria and requirements (Varadarajan, Koh, & Daniel, 2023). Both employers and learners expect MCs to have a certain level of stackability, in which each MC has the potential to help individuals utilize their learning outcomes for professional development in a flexible manner.

UNESCO and the search for common standards

Only a few quality assurance agencies in the Asia-Pacific have developed standards for the recognition of microcredentials. As a part of efforts to validate UNESCO's definition and alignment in Asia and the Pacific, UNESCO Bangkok and the Ministry of Education, Culture, Sports, Science and Technology (MEXT), convened a joint workshop in Osaka, Japan, on 24 August 2022 [1]. The audience that participated in this workshop (Plate 1) not only received the foremost information from OECD and UNESCO but also they had the chance to learn about the necessity of having guidelines and frameworks in order to utilize MCs effectively. Following the discussion at the joint workshop, UNESCO Bangkok initiated a project to collect a range of use cases on microcredentials, with a focus on their current status and recognition in Asia and the Pacific. The Korean Educational Development Institute (KEDI) also held the seminar on MC with ASEAN partners together with UNESCO Bangkok in October 2023 [2].

Student data portability and digital platform for MCs

Although MCs could theoretically be issued as paper-based documents, virtually all those MCs issued in Australia, New Zealand, European countries and North America are issued in digital forms. One of the critical questions is how MCs should be differentiated from other digital documents. In some countries, including Japan, where digital certificates are not commonly issued and paper documents are often required, it may be necessary to change regulations and institutional practices to enable the use of digital certificates.

There have been significant international efforts to create a common understanding and mutual recognition of digital certificates and transcripts. Since 2012, the Groningen

Source(s): This photo was provided by KUINS (2022)

Declaration Network (GDN) has been advocating for the value of digital credentials worldwide to ensure that student records such as qualifications, academic records and transcripts are managed in a common format and are accessible electronically through a secure and reliable network (Giralt & De Leeuw, 2013) (GDN, 2021). As of 2023, GDN has 86 signatories from more than 30 countries.

GDN (2021) has been addressing five definitional dimensions for microcredentials: learner autonomy, trust, a focus on learning outcomes, interoperability and portability. The GDN community emphasizes the importance of learner privacy and data protection, equity as well as transparent and responsible practices.

Digital credential systems have had a significant impact on foreign credential evaluation. Foremost technologies, including block chain, help reduce the time and human resources necessary to investigate the authenticity of those credentials (Ashizawa, 2023). Another important trend in credential recognition is a movement towards self-sovereignty identity (SSI). The concept of SSI allows each individual to be responsible for the overall management of their personal records, including academic credentials, legal documents and health records. In this model, all the learning achievement records, including MCs, can be stored online as verifiable credentials through SSI (Aydar, Ayvaz, & Cetin, 2019).

Section II: national initiatives to develop definitions, standards and recognition

The central policy question confronting national governments in relation to microcredentials is whether they should be incorporated into the formal education system or allowed to develop according to the desires of the myriad providers, learners and other bodies that may become involved in shaping them. There are a few elements to this process of formalization relating to differentiating the status of formal microcredentials from the many other short courses that will continue to be offered without such status. The key questions for policymakers are:

(1) Is there a formal definition of what is and what is not a "micro-credential"?

(2) Is recognition determined by a central authority or is left up to others to determine the value?

(3) Who will be able to offer recognised microcredentials – higher education providers, vocational education and training providers, industry?

(4) Will microcredentials' level and volume of credit be specified in relation to the national qualifications framework?

(5) How is the quality of recognised microcredentials ensured?

As the OECD (2023) observes, in order for MCs to live up to their potential in providing alternative pathways to accessing education, enhancing employability and promoting social inclusion, "policymakers need to make interventions to steer and support learners and providers" (p. 25). Within each country there is a diverse set of stakeholders involved in shaping the national response to MCs, typically including a range of government agencies (ministries responsible for universities, vocational education and employment as well as accreditation and quality assurance and credential recognition bodies) as well as various types of MC providers, employers and professional bodies.

The United States of America, consistent with its national government's minimal role in tertiary education governance, has so far chosen the path of least regulation (McGreal & Olcott, 2021). The U.S. Department of Education has no authority over university programmes and "certainly none outside of formal education in professional associations and private sector/agency oversight agencies". There, many competing formats, business models and recognition practices have been adopted by private companies, MOOC providers and badging start-ups and higher education providers. Higher education institutions, such as the State University of New York, are also actively facilitating the development of MCs for their learners [3]. The Federal government and state governments are basically not involved in the recognition and quality assurance of microcredentials. Instead, the value and validity of microcredentials are largely determined by the market mechanism, that is, by the learners, providers and employers themselves.

In most systems, though, governments appear keen to either incorporate microcredentials into the formal education system. As Lang (2023) observes, this is driven by a concern that "without common policy and practices, there is confusion about the value and role of micro-credentials in learning and employment by key stakeholders within the ecosystem, e.g. learners, employers and providers such as higher education institutions" (p. 5). In order to promote the rapid adoption of MCs, governments have undertaken several forms of regulation, including establishing official definitions and accreditation systems, mandating particular forms of quality assurance, attributing credit points, developing assessment standards and incorporating them into national qualification frameworks. The European Union has sought to formalise microcredentials in this way. In 2022, the Council of the European Union (EU) adopted a recommendation on a European approach to microcredentials for lifelong learning and employability. In this context, the emergence and development of microcredentials is seen as an objective to be set within the national and regional regulatory frameworks for education and employment. This requires consensus building among key stakeholders over time to reach agreements on a harmonised regional approach.

The East Asian economies, namely China, South Korea, Japan and Taiwan, have strong national oversight of labour markets and educational qualifications, while they have not developed the national qualification frameworks and systems seen in European countries and British Commonwealth countries such as Australia, New Zealand and Malaysia.

Many governments in the region have been actively supporting the development of suites of courses aimed at lifelong learners, but without conceptualizing these as microcredentials. Singapore, for example, introduced the SkillsFuture initiative in 2016. The core of the initiative is to promote and enhance lifelong learning through a formal integration of skills

with the needs of various industries (Fung, 2020). According to the SSG annual report, Singaporeans and Singapore companies are utilizing Skillsfuture movement well, and 560,000 individuals and 20,000 enterprises made use of SSG-supported training in 2022 (SSG, 2023). The SkillsFuture programme focuses on training for the needs of workplaces and its courses are not intended to result in credit towards academic qualifications.

Both South Korea and Thailand have introduced national academic credit banks, which are designed to allow students to more easily combine formal study from different types of providers and informal learning and have these count towards a formal qualification. South Korea's Academic Credit Bank System was developed in the late 1990s as a means of promoting the recognition by education providers of short courses and workplace learning in order to support lifelong learning and career development. More recently, the Thailand Ministry of Higher Education, Science, Research and Innovation (MHESI) has introduced a similar credit accumulation system for lifelong learning. The new National Credit Bank System (NCBS) promotes lifelong learning and the pilot project is expected to be launched in 2023. The participating universities are Chulalongkorn University, Thammsat University, Chiang Mai University and Rajamangala University of Technology Thanyaburi. In a few years, more than 150 universities nationwide are expected to participate in the programme (RMUTT, 2022).

Japan is also preparing a nationwide MC pilot project. The Japan Forum for Internationalization of Universities (JFIU) [4], the Japan Virtual Campus Steering Committee (JV-Campus) [5], created the Badge and Microcredential Expert Group of JV-Campus in April 2022. In June 2023, the Microcredential WG of Japan Massive Open Online Education Promotion Council (JMOOC) was established, and in August 2023, the Microcredential Joint Working Group (MCJWG) was established by JV-Campus and JMOOC. A "Draft Framework for Microcredentials" and a "Draft Guidelines for Issuing Digital Proof of Microcredentials with Digital Badges" have been prepared by this joint WG (MCJWG, 2023). The organizational structure of the working group can be identified in Figure 1. The Microcredential Joint Working Group considers an MC to be a focused record of learning outcomes that proves what a learner knows, understands or can do. In addition, learners' achievements will be assessed based on clearly defined standards, ensuring the quality of their education.

Figure 2 illustrates the measures and impacts of MCs. Project 1 and Project 5 have been implemented by the joint working group (MCJWG, 2023) [6]. Although this benefit map has not been officially approved by the working group yet, it has spawned an important
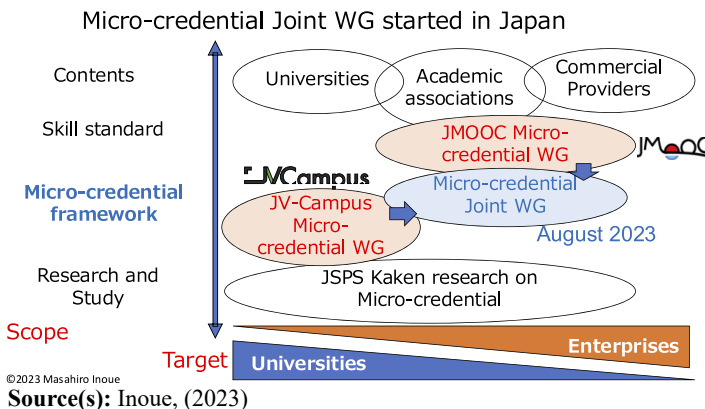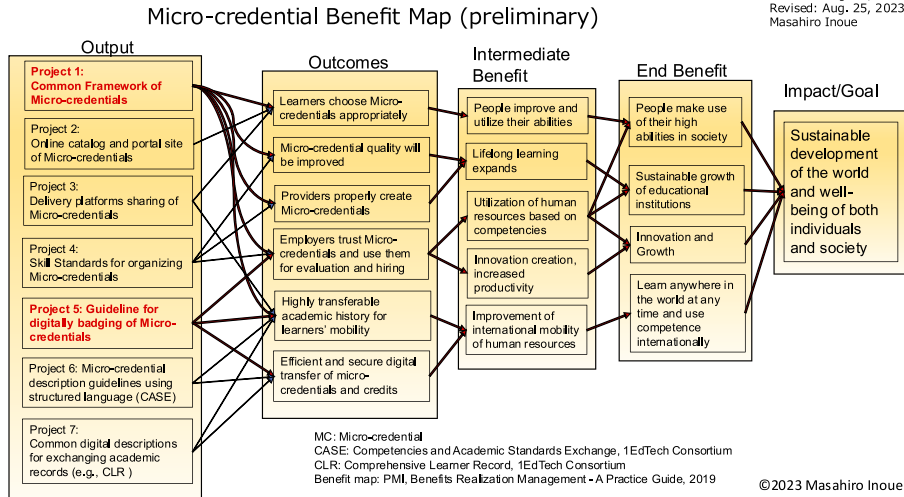

Micro-credential Joint WG started in Japan

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Source(s): Inoue, (2023)

Figure 1.
Structure of the Microcredential Joint Working Group

Micro-credential Benefit Map (preliminary)

Figure 2.
Microcredential
benefit map

MC: Micro-credential
CASE: Competencies and Academic Standards Exchange, 1EdTech Consortium
CLR: Comprehensive Learner Record, 1EdTech Consortium
Benefit map: PMI, Benefits Realization Management - A Practice Guide, 2019

Source(s): Inoue, (2023)

discussion about how to identify a road map for MCs in Japan. A goal of Project 1, as outlined in Figure 2, is to establish a common framework and Project 3 aims to set up guidelines for digital badges and microcredentials. The working group has created two draft documents: *Common Framework for Microcredentials* and *Guidelines for Digitally Badging of Microcredentials*. The common framework specifies the definition, framework, providers, descriptors and quality assurance of microcredentials, while the guideline identifies a way to establish a digital platform for microcredentials and digital badges. The joint working group plans to issue the first MC in Japan in 2024 as a pilot project.

Three British Commonwealth countries – Australia, New Zealand and Malaysia – have established national approaches to MCs linked to their existing qualifications frameworks.

In 2018, New Zealand became the first country in the region to incorporate MCs into a national system. The New Zealand Qualifications Authority (NZQA) developed a *Register of NZQA-approved Microcredentials*, which by mid-2022 included 17 MCs offered by universities and 249 offered by other tertiary education providers (NZQA, 2022). The NZQA undertakes a quality assurance process in relation to MCs offered by non-university providers before adding them to the register, whereas universities are granted the autonomy to undertake quality assurance internally. Each MC is aligned with a specific level in the New Zealand Qualifications Framework and has a specified number of credit points. A large majority of those developed so far sit at subbachelor level and most are between 5 and 20 credits (120 credit points is considered a full year of study). Government funding is available to students undertaking MCs that have been deemed eligible by the Tertiary Education Commission. By February 2022, 80 were eligible for funding and 6,000 students had been supported, with the largest number of those (1,390) having undertaken a forestry MC (NZQA, 2022).

Soon after, in 2020, the Malaysian Qualifications Agency (MQA) issued guidelines for MCs, which build on previous work done by the MQA in relation to the formalisation of recognition of prior learning and massive open online courses (MOOCs) (MQA, 2020). Malaysia's model incorporates several principles in common with New Zealand, namely that MCs:

(1) Can be offered by any accredited tertiary education provider (i.e. both vocational education and training and university levels)

(2) Are aligned with a specific level in the national qualifications framework

(3) Have a specified volume of credit

(4) Are subject to approval by the national qualifications agency

The MQA has established a searchable database that includes details of hundreds of approved MCs, most of which are offered by universities and are subjects from existing academic programs that are available as standalone units of study. One objective of the Malaysian model is to allow students to gain entry to macrocredentials on the basis of having successfully completed microcredentials.

Curiously, the MQA guidelines state that students admitted to programmes on the basis of MCs must be older in order to graduate. For example, the stated normal age at graduation of a bachelor student is 22 years, whereas if they are admitted based on MCs, their graduation age should be 24, although this may be waived in exceptional cases. At master's level, the respective ages are 24 and 31 (MQA, 2020).

Australia was the third country in the region to develop a regulatory framework for MCs (DESE, 2021). The rationale was broadly similar, aiming to promote the rapid adoption of MCs and to formalize their alignment with national systems established for macroqualifications. The key definitional features of MCs are also consistent – short, industry-focused, assessed and quality assured. Like Malaysia, Australia has established an online portal that includes a large number of recognized MCs, https://www.microcredseeker. edu.au.

And yet, on three significant points, the Australian approach diverges from that taken by New Zealand and Malaysia. First, while the National Microcredentials Framework states that MCs may be parts of existing vocational education and training or higher education curriculum or assessed short courses offered by industry or professional bodies, the vehicle for formal recognition of MCs, the Microcred Seeker site, only includes MCs offered by Australian higher education providers registered with the Tertiary Education Quality and Standards Agency (TEQSA). Most universities in Australia already allow students to enrol in single subjects for credit, and some of these will now be branded as MCs. However, short courses are very well established in the vocational education and training sector, with 3.0 m students in 2022 enrolled in subjects not delivered as part of a nationally recognised program (NCVER, 2023). The vast majority of these vocational education and training subjects are offered by registered training organisations that are not registered with TEQSA, so they will continue to sit outside of the formal MC framework, in stark contrast with New Zealand, where most recognized MCs are offered by the vocational education and training sector. Similarly, the large number of short courses offered by industry and professional bodies, while technically meeting the Australian definition of MCs, are also not included in the online portal.

The second point of divergence from the New Zealand and Malaysian approaches is that Australian MCs do not have a specified level in the Australian Qualifications Framework (AQF). Instead, MCs use levels drawn from the Dreyfus model of skill acquisition – novice, advanced beginner, competent, proficient and expert – that are unconnected to the AQF. An earlier review of the AQF (Noonan et al., 2019) considered this issue and resolved not to include MCs in the AQF for several reasons, including the administrative burden and cost to regulators and providers of regulatory compliance involved in assessing their AQF. There was also a concern that a clear relationship between MCs and macrocredentials could be dangerous given the relative lack of regulation of MC providers by specifying a defined level,

with the report warning that "Shorter form credentials of uncertain quality could undermine the AQF and could be open to exploitation by unscrupulous providers" (Noonan *et al.*, 2019). Providers are able to specify the AQF level of the macrocredential that students who have completed the MC may receive credit towards (DESE, 2021).

The third difference is that, while UNESCO, New Zealand and Malaysia specify that MCs should have a defined volume of credit, the Australian system, like the United States of America, leaves this up to the discretion of the MC provider (Lang, 2023). This means decisions are made about the awarding of credit for completed MCs by whichever institution the student is seeking credit from. Australia may have been forced into this approach because there is no national standard for measuring credit points, as is the case in many other systems; a normal full-year study load might be counted as 50 credit points in one university and 120 in another.

Section III: implication for international mobility and recognition in the Asia and Pacific region

The Asia–Pacific region has a large share of the world's students and workforce. At the same time, the quality of education and training and the recognition of their credentials are very diverse and not well connected across the region. Student mobility in the Asia–Pacific region developed over many decades, during which time processes for the international recognition of macrocredentials were established. In the later decades of the last century, steadily growing numbers of students from Asia travelling to North America, Europe and Australia. In the 2010s, there has been an increase in intra-regional student mobility, with more East Asian students studying in the immediate region, in particular Japan, Malaysia, Singapore and Thailand, which have actively promoted themselves to international students from the region.

Strict border controls during the COVID-19 pandemic in many countries, together with geopolitical tensions, drastically changed the landscape. However, the governments of the countries in the region have already reopened national borders and rushed to restore and even expand student mobility. For example, the Japanese government has set a national goal of hosting 400,000 international students and sending 500,000 Japanese students abroad by 2033 (Osaki Exum, 2023). International students in major destination countries worldwide are set to return to or exceed 2019 levels by 2023.

As the higher education participation rate has grown across the region, with steady improvements in quality, the incentive to study abroad has shifted from the shortage of study places to the international study experience for both professional and personal development. In the case of Japan, the acceptance of international students is shifting more to the graduate level, which can offer professional and academic programs in both Japanese and English. The number of Japanese students undertaking degrees abroad has been declining since 2004, while the number of Japanese students studying abroad on a short-term basis, mostly arranged by affiliated Japanese universities, has been steadily increasing since that time (Hoshino & Iwaki, 2017).

The experience of studying abroad with macro-credentialed degrees and diplomas comes with some costs and risks for learners seeking international recognition. National authorities and higher education institutions are making sincere efforts to develop quality assurance mechanisms, but challenges remain, particularly in the recognition of overseas professional qualifications and transnational education. For example, joint degree arrangements offered by Japanese universities in collaboration with international partners are legally possible but require extensive administrative procedures to obtain national approval. The job market in Japan does not necessarily recognize the added value of a joint degree compared to the record of international study experience in general.

As a result, students can easily find themselves without an effective way to demonstrate their achievements through their international study experience.

Cross-border online degrees have struggled to attract students, even as domestic online education has grown rapidly in many countries (Ziguras, 2018). A number of large countries in the region, including Indonesia and Vietnam, do not recognise overseas qualifications that have been delivered online, even though those governments are encouraging online delivery by national universities (Ziguras, 2021a, b). During the COVID-19 pandemic, when many students were prevented from studying abroad due to border closures or were forced to return home from overseas, those governments agreed to temporarily recognise online study but reinstated bans on recognition once borders reopened (Tao, 2023).

So how might MCs impact student mobility and cross-border online provision of education? It is clear that some professionals travel abroad to undertake a wide variety of short courses, from executive education courses offered by universities to internal workplace training delivered at a different branch of a multinational corporation. The scale and characteristics of this type of mobility are very poorly understood. One reason we know so little about this group is that short-term learners typically travel on tourist visas, or visa-free, so they are not recorded in international student statistics, which are normally drawn from student visa data. Another issue is that governments rarely collect data on short courses, let alone the nationality of participants. With the development of national MC frameworks, it is likely that some of these short courses will be formalised and embedded within national recognition systems. As MC frameworks are developed in more systems, more learners will seek to have MCs obtained overseas recognised for employment or educational purposes back home.

From the beginning, MCs have been closely related to the expansion of online and digital delivery of educational content. Online short courses have been growing in popularity for decades, most famously through MOOCs (Ziguras, 2016). As discussed earlier, the popularity of short courses never translated into full credentials. However, cross-border education delivery has been given a significant boost with the rapid spread of online media use during the pandemic. In addition to (including nano) campuses and programme-based cross-border education delivery, online student participation in regular classes through emergency distance learning and hybrid classes became commonplace. Learners today are now far more familiar with video conferencing, on-demand delivery of recorded lectures and the use of online courseware and learning management systems.

As the above discussion of national approaches illustrates, there remains a significant diversity of approaches to assigning the level and volume of credit to MCs. Where students have completed recognised MCs in New Zealand or Malaysia that have a specified academic level and number of credit points, it should be relatively simple for education providers in other systems to consider recognition. But for MCs obtained in most other systems, it is very difficult to see how they could be recognised across borders.

Section IV. Assuring mutual recognition – Tokyo Convention and MCs

One way to establish a cross-border recognition system for MCs is to work with existing international networks for foreign credential evaluation (FCE). In this section, we look into a possible scenario for utilizing a UNESCO regional and global initiative to create standards and guidelines for recognition of FCE, which aims to facilitate international academic mobility and promote the right of individuals to have their higher education qualifications evaluated in a fair, transparent and nondiscriminatory manner. The UNESCO initiative has led to a series of regional recognition conventions over several decades, including Latin America (1974), Europe (1979), Africa (1981) and the Asia–Pacific (1983). A major milestone in UNESCO's work in this area was the entry into force in 2023 of the first *Global Convention on the Recognition of Qualifications Concerning Higher Education*.

The Asia–Pacific Regional Convention on the Recognition of Qualifications in Higher Education (hereafter, the Tokyo Convention) entered into force in 2018. Like other UNESCO conventions, the agreement's initial impact has fallen short of its aspirations (Teter, 2023). For example, as of October 2023, no country in South-East Asia has ratified the Tokyo Convention on Qualifications Recognition. However, the Tokyo Convention provides a framework for expanding academic recognition in three ways, which may help mutual recognition of MCs in Asia and the Pacific (Ashizawa, 2023):

(1) Nontraditional modes of learning, such as homeschooling and online learning, including MOOCS and other competency-based learning (CBL). Current trends in lifelong learning have led to some creative approaches as to how higher education institutions can offer academic credits for those who use CBL (ACE, 2015). In addition, if these nontraditional credentials, including MCs, are recognized, it will encourage cross-border mobility of students and skilled labour.

(2) Recognition of partial studies. Such recognition will increase the possibility that microcredentials are recognized as a part of a credential, reflecting new trends in digitalized credential modes, such as the digital badge.

(3) Ways to recognize knowledge and skills based on prior learning, which includes non-formal learning.

MCs are vital tools to represent the knowledge and skills gained through these non-traditional modes of learning. Furthermore, by accumulating MCs, students and professionals alike can continuously benefit from the ability to prove their learning outcomes.

In October 2021, the Third Session of the Tokyo Convention Committee, organized by UNESCO Bangkok, discussed how to further the effective use of the Tokyo Recognition Convention, including focusing more on the recognition of nontraditional learning and MCs in Asia and the Pacific. The committee identified the value of MCs, which assure cross-border mobility of student and skilled labour and "ultimately help to achieve the SDGs" (UNESCO Bangkok, 2021) [7].

In parallel with UNESCO's efforts to expand recognition of academic qualifications across the region, many professional licensing and accreditation bodies have been working to facilitate the international mobility of professionals. The "place mismatch" of skills has been a major driver of mobility for those who plan to work and study overseas. While individuals are often motivated to move to places where skills are in high demand, their ability to move is often frustrated if their academic background, professional licensing, prior work experience and other credentials are not recognized fairly, accurately and efficiently by a receiving country (Hawthorne, 2013). And because MCs are likely to become integrated into the continuing professional development requirements across a wide range of occupations, agreements between professional licensing and accreditation bodies to recognize each other's MCs also have the potential to have a significant impact on the international delivery of MCs.

Within the Asia–Pacific region, APEC has been leading efforts to expand the recognition of professional licensure and qualifications. It has developed the APEC Inventory of Mutual Recognition Agreements for Professional Qualifications and Licensure, which provides information on over 200 agreements that involve at least one of the 21 APEC member economies (Ziguras, 2021c). There is considerable effort underway among a number of governments within the region to support licensing and accreditation bodies to improve international recognition through greater collaboration, use of digital tools and learning from the experience of professions, such as engineering, that have developed sophisticated and effective recognition frameworks (Howorth, 2023). There is an opportunity for the

development of MCs that are able to contribute to continuing professional development requirements in a number of countries where mutual recognition agreements are in place.

Conclusion

In order to establish a common understanding of MCs, it is also desirable to design microcredentials systematically and to share and accumulate them nationally and internationally. In order to efficiently and correctly implement such operations with digital data, it is necessary to clearly define the roles of pedagogy and digital technology and then, to build a system and have the parties involved collaborate. For the systematic and organized promotion of MCs, it is essential to establish a national framework of MCs and international cooperation. In addition, it is necessary to develop a comprehensive learner record (CLR) or credit bank system where microcredentials and credits are accumulated in digital data and linked to degrees or used as a lifelong learning history as public policies.

For the recognition of foreign qualifications through cross-border mobility of students, teachers and programmes, both face-to-face and online, official recognition of both the countries associated by the learners and the countries associated by the education providers is required in principle. What is needed now in the Asia–Pacific region is the development of regional platforms for enhanced discussion, common understanding and the sharing of experiences with different approaches. Learners would clearly benefit from greater international portability of MCs so that they can undertake a wider variety of online courses from their home country or travel to undertake short courses abroad. In particular, the role of the international platform based on the Tokyo Recognition Convention is essential. As of June 2023, 12 countries had ratified the Tokyo Convention, and each country has a National Information Centre (NIC) to provide and exchange information regarding credential recognition. The network of those NICs will have a key role in promoting a common understanding of MCs [8].

In addition, establishing the National Qualifications Framework (NQF) is desirable if the country does not have one yet. It is quite effective to have NQF in order to be able to refer to learning outcomes and competencies and to correspond to skill standards in different areas of study. This will enable the classification of MCs into levels and their international use and, at the same time, facilitate the exchange between higher education, vocational education and the labour market.

Through these efforts, regional cooperation at different levels (global, regional and national) and the involvement of different stakeholders (universities and tertiary education institutions, regional, national and local governments, industry, professional associations and, most importantly, learners) can be promoted.

Notes

1. See the MEXT home page. https://www.mext.go.jp/en/policy/education/highered/title02/detail02/sdetail02/mext_00033.html (accessed 31 January 2024)

2. The seminar was held as UNESCO-KEDI Asia–Pacific Regional Policy Seminar 2023, "Micro-credentials: Driving Innovation in ASEAN Higher Education". Please wee the following site. https://www.unesco.org/en/articles/unesco-kedi-asia-pacific-regional-policy-seminar-2023 (accessed 31 January 2024)

3. State University of New York (SUNY) offers 530 MCs as of January 2024. https://www.suny.edu/microcredentials/microlist/(accessed 24 January 2024)

4. JFIU was established in September 2021 with the goal of strengthening global educational activities and encouraging cooperation among universities in Japan. Main members of JFIU are recipients of government grants and good practices exercised by those grantees are shared with other universities through the JFIU platform.

5. As part of the JFIU program, the Japan Virtual (JV) Campus was started in 2021. JV-Campus aims to provide an online platform to all the universities in Japan in order to share educational content and methodologies.

6. This benefit map was created by one of the working group members, Professor Masahiro Inoue of Keio University.

7. Author (Shingo Ashizawa) has been participating in Tokyo Convention Committee as Advisor to MEXT (the Ministry of Education, Culture, Sports, Science and Technology) and served as a President of Committee at Third Session in 2021.

8. As a network of those NICs, the Asia–Pacific Network of National Information Centres (APNNIC) was established at the Second Session of the Tokyo Convention Committee in September 2019. For more detail, please see the URL below. https://apnnic.net/

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