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Program on Skills, Credentials
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Nondegree Credentialing: A Global Issue

**A Report from the
Nondegree Credential Research Network**

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May 2021

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It has been said that “half of these credentials we know aren't any good — we just don't know which half.

We started discussing microcredentials about a year ago, and within one year, we saw an incredible change in attitude towards these credentials, including in the vocational education and training area. We have arrived at a point where governments are really open to it.

Although the COVID-19 pandemic recession has accelerated attention to microcredentials globally, there already was growing interest in nondegree credentials in the years leading to the recession among most nations due to changes in workforce needs.

We do observe, even in the past year, a huge amount of innovation and really positive policy development and very promising initiatives being carried out at the government level.

If the bachelor's degree is not standardized among nations, why would microcredentials, which are a much newer educational offering, be commonly defined? Microcredentials are in their infancy and are far more variable than what we see with a bachelor's degree.

INTRODUCTION

The Nondegree Credential Research Network (NCRN) is a project of the Program on Skills, Credentials and Workforce Policy housed within the George Washington Institute of Public Policy¹ the George Washington University.

In June 2019, the NCRN issued "What We Know About Nondegree Credentials: A Literature Scan." The report identified the strengths and limitations of research on nondegree credentials, and gaps scholars may be able to fill.

The literature scan focused on five types of nondegree credentials to frame the NCRN 's early attention: certificates, industry-awarded certifications, licenses, apprenticeships, and boot-camps. These five were selected because they existed at all levels of formal educational attainment and could be found in both educational and workforce training contexts. Other credential types such as badges and microcredentials were not included in the initial study but are currently under discussion as interest in nondegree credentials grows.

One of the major takeaways from discussions of the 2019 NCRN's report was that nondegree credentialing is a global issue and little is known in the U.S. about developments in other nations.

Accordingly, the NCRN invited experts from the Organisation for Economic Cooperation and Development (OECD) to present a webinar on international developments on April 22, 2021: "Microcredentials: The Race Between Innovation and Public Regulation." Nearly 60 U.S. researchers and practitioners in the nondegree credentialing area attended.

The webinar featured Thomas Weko, Senior Analyst in Education and Skills Directorate for the OECD, where he leads the work of the Higher Education Policy Team which includes reviewing higher education in East Asia, Latin America, and Europe. He was joined by Gillian Golden, policy analyst at the OECD where she is project lead for initiatives related to new data and evidence development such as the Education Policy Outlook project, Benchmarking Higher Education System Performance, and participates in country reviews. (See speaker backgrounds in Attachment A.)

This report summarizes the OECD presentation² in the voice of the presenters (summarized from the webinar transcript) and the robust question and answer period that followed. It also offers reflections on key takeaways, highlighting important issues for further discussions among U.S. researchers and practitioners and the OECD as nondegree credentialing – or microcredentialing as it is frequently known outside the U.S. – takes its place as a significant global issue.

¹ The Nondegree Credentials Research Network (NCRN) is a small, by-invitation group of leading researchers and key stakeholders (employers, policymakers, and providers of employment, training and certification). The purpose of the Network, supported by Lumina Foundation, is to clarify what is known about credentials such as certificates, certifications, apprenticeships, licenses, microcredentials – and their place in the broader credentialing ecosystem; determine what new research is needed; identify lessons learned in research and implications for policy and practice; and share findings with practitioners, policymakers, and other stakeholders.

² Slides from the webinar are available at: <https://gwipp.gwu.edu/non-degree-credentials-research-network-ncrn>

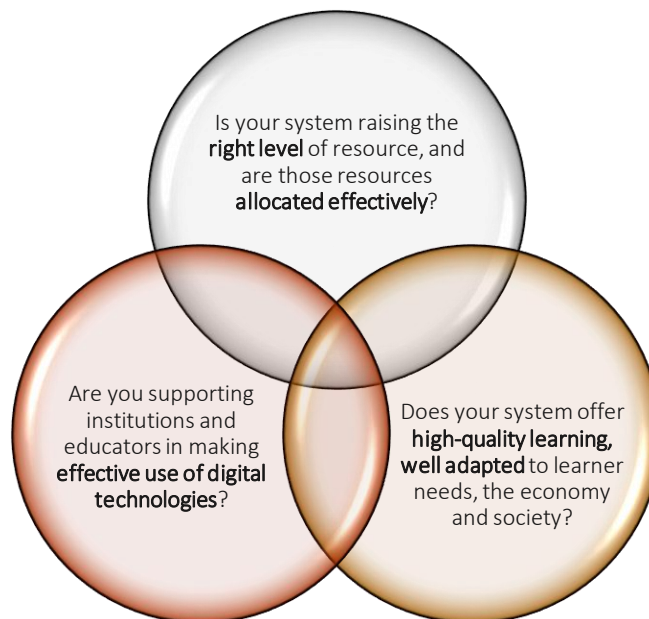
SUMMARY OF WEBINAR PRESENTATION

What is the OECD?

The OECD is a 60-year-old intergovernmental organization.³ It provides a platform through which countries can share data analysis and best practices with one another. The OECD also engages in voluntary standards setting. It focuses on international surveys and assessments such as PISA⁴; a survey of adult skills; and international survey of teachers. The OECD works to “harmonize” a broad collection of international data, issue publications on education, and engage closely with education ministries across the world to conduct analyses of data policy and peer learning. The higher education policy team works directly with education ministries across the OECD and with non-member countries, on request.

An example of recent work is a major workshop with about 30 participating countries on a problem familiar to most OECD countries: Once governments collect information about the labor market outcomes of graduates, how can they get that information into the hands of learners so they actually make use of it? And how can that information be conveyed to higher education institutions so they'll use it to rethink and revise their offerings in ways attuned to working life and labor markets?

Type of Questions the OECD Asks Education Ministries⁵



³ Forerunner of the OECD was the Organisation for European Economic Co-operation (OEEC), formed to administer American and Canadian aid under the Marshall Plan for the reconstruction of Europe after World War II. The Convention transforming the OEEC into the OECD was signed in Paris in 1960 and entered into force in 1961. Since then, the OECD's mission has been to deliver greater well-being worldwide by advising governments on policies that support resilient, inclusive, and sustainable growth. Through evidence-based policy analysis and recommendations, standards, and global policy networks, including close collaboration with the G7 and G20, the OECD has helped advance reforms and multilateral solutions to global challenges spanning the public policy horizon.

⁴ PISA is the OECD's Programme for International Student Assessment. PISA measures 15-year-olds' ability to use their reading, mathematics and science knowledge and skills to meet real-life challenges.

⁵ OECD Slide 3.

Microcredentials

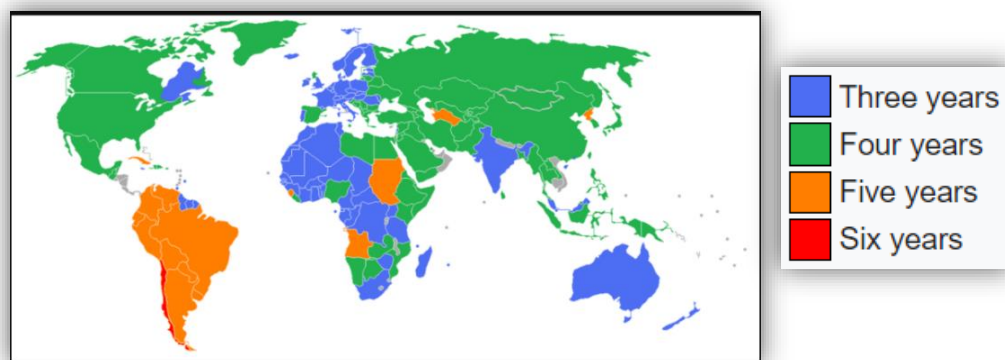
A recent focus of major concern among OECD member countries – from Australia to Finland – is microcredentials, Weko explained. “We started work a few years ago on microcredentials, and even in just two to three years, given the swiftness with which things are taking place in the field, that seems like ages ago.”

Although the COVID-19 pandemic recession has accelerated attention to microcredentials globally, there already was growing interest in nondegree credentials in the years leading to the recession among most nations due to changes in workforce needs. Weko noted: “One of the contributions the OECD made was a publication providing an overview of nondegree credential initiatives. Lumina Foundation assisted us to look at the U.S. states to see whether job-posting data would tell us whether its employers who are faced with the scarcity of traditional degree graduates, such as computer science graduates, would be using industry certifications to expand their search for potentially qualified workers. We found that the answer was yes.”

The OECD is continuing to work on microcredentials, especially in partnership with the European Commission (EC). The EC is undertaking extensive consultation to help underpin a European approach to microcredentials. The Council will come forward within the year with recommendations to address the widespread adoption of microcredentials across the European Union Member States. The OECD and others are providing analyses to inform this work. Though the work is only at the preliminary stages, some of the preliminary thinking was described at the webinar.

The first effort, Weko noted, is to identify what are microcredentials. “We might do best by lowering our expectations; i.e., expectations should be at the very low end. This is because there is no global standard definition of a microcredential. And this should not surprise us, because even something like the bachelor's degree, a much older educational qualification which operates within an elaborate structure of public regulation in most countries, has not even gone through a standardized process. So if the bachelor's degree is not standardized among nations, why would microcredentials, which are a much newer educational offering, be commonly defined?” Weko added, “Microcredentials are in their infancy and are far more variable than what we see with a bachelor's degree.”

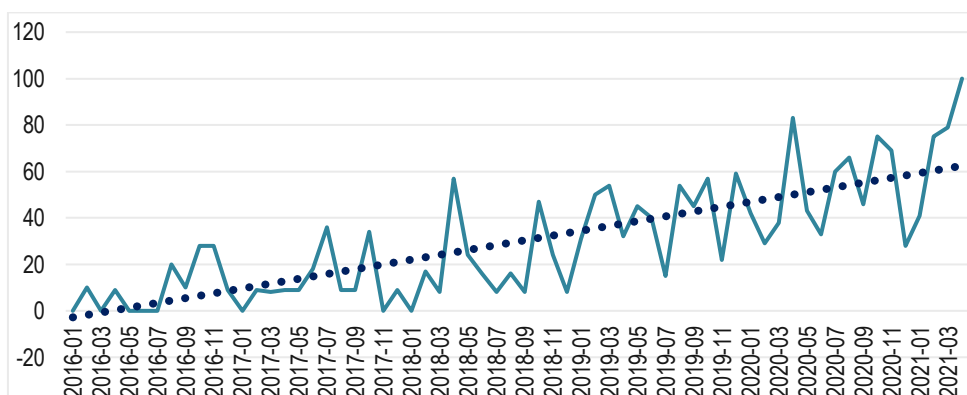
The Bachelor's Degree Is Not Standardized around the World⁶



⁶ OECD Slide 7.

A recent Google keyword search for the term, *microcredential*, shows a pronounced upward trend in the use of the term. “Even prior to COVID-19, there was certainly growing interest in recognition of the term,” noted Weko. “Further, based upon our discussions with governments across the OECD, in every capital across the OECD, there is a surge of interest and urgency surrounding flexible targeted education and training that can help countries reskill and upskill learners who were in jobs that are lost and jobs that are transformed by COVID and jobs that are frankly created because of it, as new industries flourish.”

Worldwide Google Searches for Microcredentials Shows Upward Trend⁷



The concern now is about the race underway in many countries among three key drivers:

- incredibly rapid innovation on the part of the higher education institutions
- a surge in learning platforms and training programs providing microcredentials
- a struggle on the part of governments to understand what's happening and to make use of microcredentials as a way of improving their education and training offerings.

Weko noted that we’re already witnessing in many locations in the U.S. and other nations a variety of credentials called by various names (stackable and not stackable) that are offered at the graduate level or at the undergraduate level, that bear credit and do not bear credit. And even within a single institution, you will find a wide range of things that travel under the name of *microcredential*. At some institutions, all of their nondegree offerings have been re-housed under an office of microcredentials. “If this is what is happening within institutions, what happens within an entire higher education system as we start looking across the OECD?”

“The bottom line is, there is an enormous flurry of offerings from individual institutions, and these are happening in Australia, Finland, and all over the world. They're being offered by learning platforms and not just the learning platforms many will recognize like Coursera, for example, but JMOOC which comes from Japan. Others across the world are also hosting microcredentials and there are many government-led initiatives in many nations such as ecampus in Ontario, Ireland’s Springboard+ upskilling initiative in higher education, and Swayam in India.”

These microcredential offerors include those outside higher education – the business firms, professional bodies, training firms, and vocational education institutions. These are occurring in competition with higher education institutions or in collaboration with higher education

⁷ OECD slide 8.

institutions. In the latter case, microcredentials are often embedded in the higher education curriculum.

Drilling down into microcredentialing

There is considerable variation in the scale of the duration of microcredential learning experiences which in the OECD countries are measured typically in credit hours. Weko noted, "What we can say with great confidence is a microcredential is more than zero credit hours but shorter than our shortest degree in most OECD countries. To put this in context, a postsecondary or tertiary qualification will be two years of study, whether that's a certificate in Portugal or associate degree in the Netherlands. The number of credit hours tightly targeted to training equates to a relatively smaller set of skills, with a very strong vocational orientation, in contrast to microcredentials offered at a much higher level with a different duration and different level of offer."

Across the span of OECD member countries, Weko explained there are three emergent and distinct purposes to microcredentials: 1) employment and wage advancement; 2) educational advancement; and 3) enjoyment and personal growth. Notwithstanding the definitions and criteria of what microcredentials should contain, in practice we can find the lowest common denominator of shared characteristics: that they are learning opportunities that are smaller, more targeted, and more flexible than traditional degree programs.⁸

No common definition across the OECD but a lowest common denominator

- Smaller than those required for academic awards (time, credits)
- More targeted bundle of skills or study topics
- More flexible delivery than traditional higher education

A global scan of widely identified desirable microcredential attributes results in a far longer list than what common features exist in practice.⁹

Global Scan of Desired Microcredential Attributes with Top Three

- **Targeted (breadth) learning**
- **Outcomes assessed (using sectoral or national assessment)**
- **Located within National Qualifications**
- Rapid (duration)
- External assurance of programme or provider
- Employer role in credential design/approval
- Flexible (sequencing or timing)
- Portable (applicable to study programs in other higher education institutions)
- Wage and occupation reporting
- Stackable (within institution)
- Study load expressed in credits
- Self-sovereign digital identity (recipient) ownership, vendor, independence

⁸ Adapted from slide 13.

⁹ Adapted from slide 14.

And beneath that top three, Weko explained, are attributes such as targeted rapid duration and highly flexible offerings of education and training and many others. The list of priorities are “must-haves” that are features of a learning ecosystem depending upon what is trying to be accomplished with microcredentials.

For example, there are places in the world where microcredentials have principally an educational orientation focused on having credentials that are not just rapid, flexible, and targeted – but also a deep concern around the capacity of these things to be portable and to be stackable so that people can progress on an educational pathway towards an academic credential.

There's also an enormous emphasis around building an infrastructure that leads to comparability and trust – and an expectation that this infrastructure is going to require standardized credits that are located within a Qualification Framework¹⁰ through programs offered by assured providers with well documented learning outcomes.

In countries like New Zealand, where the focus of microcredentials has been around short-term job training courses, the architecture and the public policies put around the offer of microcredentials look very different from systems focused on more traditional degree programs.

Here, of course, learning outcomes and quality assurance will take on a different form than they do for academic credentials. Perhaps it's in the government registration of approved training providers, Weko noted, that we may see these different forms, rather than by higher education quality assurance bodies and learning outcomes documented by industry-based certifications that are set by firms (companies) and professional bodies rather than by educational institutions.

Critical priorities center around the role of employers in the development and approval of credentials, and wage and occupation reporting to provide some measure of accountability and performance measurement around these new credentials.

The challenge facing governments around the world is, what do you do if you want your microcredentials to meet both labor market demand and the learning needs of students, providing pathways to study that are more open and more flexible – and that allow people

¹⁰ Qualifications Frameworks – definitions and context:

- UNESCO and UNEVOC: ‘Structure into which accredited qualifications are placed ... to allow learners, training providers, and employers to gain information about broad equivalence of qualifications.’
- Wikipedia: ‘Formalized structure in which learning level descriptors and qualifications are used in order to understand learning outcomes ... allows for the ability to develop, assess, and improve quality education in a number of contexts. QFs are typically found at the national, regional, and international level. QFs emerged from two complementary education and training discourses in the late 1980s: the competence approach to vocational education, and shift to learning outcomes, embedded within broader concept of lifelong learning.’
- European Qualifications Framework: A translation tool to make national qualifications easier to understand and more comparable. The EQF (set up in 2008 / revised in 2017) seeks to support cross-border mobility of learners and workers, promote lifelong learning, and professional development across Europe. The EQF 8-level, learning outcomes-based framework for all types of qualifications helps improve transparency, comparability, and portability of people’s qualifications and makes it possible to compare qualifications from different countries and institutions. The EQF is closely linked to national QFs, so it can provide a comprehensive map of all types/levels of qualifications in Europe, which are increasingly accessible through qualification databases.

to pause to return to resume education and training and to update their education credentials and you also aim for them to have defensible and robust labor market outcomes? Then you may be finding yourself attempting to design a rather elaborate public policy architecture around the offer of microcredentials that includes all those things.

These are the characteristics that governments think they might want to build into policy around microcredentials and the characteristics they want them to have.

What is happening in a number of countries?

The OECD has been tracking developments, particularly over the last year due to the pandemic's impact on credentialing and economic recovery plans. The past year has been exceptional and the labor market has been disrupted on a scale that is historically unprecedented. Weko noted that "what we've seen in this particular disruption that wasn't so prominent in the initiatives that followed the great financial crisis and recession, is that in 2008-2009, many countries' governments moved to short targeted higher education programs as a means for upscaling and reskilling displaced workers."

"This we've observed to a much greater extent than in previous times," explained Gillian Golden. "And even though many programs were included in the very initial stimulus packages that were announced by countries as economies began to shut down, there's a real momentum. Perhaps the ground already had been laid before the crisis, and there was real momentum building behind the adoption of these shorter targeted higher education programs. But even before the pandemic, many countries had started to introduce some reforms aimed at integrating microcredentials into their systems. And policymakers are developing these initiatives from a range of different angles."

Golden offered several examples that illustrate the different approaches that have been taken by policymakers:

- New Zealand — one of the first jurisdictions to actually begin evaluating and improving individual microcredential programs using their national quality assurance framework. They did that in 2018, so it wasn't in any way reactionary to the pandemic; it was something that they had already innovated on earlier on.
- Australia — debating whether to have a similar rollout of the microcredential program. The jury's still out on whether they're going to do that because there is a larger number of programs, and a larger administrative burden comes with that. Also, Australia is taking on many different types of initiatives – at the federal level and within the states.
- Canada — notable because this is the first we've seen of the development of online importance for learners. We know you can build all this infrastructure and develop all these offerings but it's fundamental to get this information into the hands of learners and it's a foundational step in starting to build trust and recognition of microcredentials among learners.

Then we can see also a range of different policy measures and observe a range of different pathways that policymakers are taking. For example, in the Netherlands, the Flemish community, and Belgium, they share an accreditation organization. And in those jurisdictions,

they share everything – a new accreditation organization and in just those jurisdictions, the institutions have delegated authority to quality assurance programs. So in that case, the institution's themselves have the ability to introduce these microcredential programs and credit them because of this delegated authority, since the accreditation basically happens at the institution rather than the program level.

A recent study in the Flemish community, for example, showed that already about half of the institutions have put in place internal quality assurance specifically for microcredentials. That is a promising development and even though Ireland has a similar system – having delegated authority for the public institutions – they instead have decided to develop their framework on a national level. So this is different from the Flemish approach working on developing a multi-campus microcredentials framework that will allow for the rollout across the system of credit-bearing quality, short microcredentials that are recognized as microcredentials by 2024.

Scotland has gone a step further. They have introduced a new funding mechanism that is integrated into their institutional funding program for upscaling and rescaling so it's become a part of the funding cycle in Scottish higher education.

There are a number of different policy approaches resulting from different policy visions, which in turn are driving these differences in microcredentials offered.

Going back to the earlier example of New Zealand and Ireland and the contrast between them, these countries are similar in size, population, and their higher education systems. But there are some striking differences in the characteristics of the offerings between these jurisdictions that come back to division and the historical context, Golden noted. In New Zealand, where there is a stronger tradition of private training providers, it was natural to offer programs at the tertiary level. This exists in Ireland as well, but to a lesser extent as a focus in the system. The New Zealand vision for microcredentials is that they should not in any way replicate the existing higher education offerings – that's a core principle of their vision for microcredentials and that is not really replicated in Ireland. There is not the same requirement that there should be no duplication of offerings, but only that the microcredentials should be very relevant to the labor market. What we see in Ireland is the opposite situation, where many of the microcredential programs are being delivered by traditional providers in the public sector.

Overall, the policy vision and the resulting offerings are very much shaped by national needs and national contexts. Golden summarized, "We do observe, even in the past year, a huge amount of innovation and really positive policy development and very promising initiatives being carried out at the government level with regard to microcredentials."

Challenges ahead associated with microcredentials

Weko noted that: "If microcredentials are going to work well as an instrument for employment-focused skill building and recognition, there are things that governments have to do, but they might not have at present in place. One of the big challenges that face higher education institutions in the development of microcredentials has to do with getting professions and employers engaged and getting that engagement right. The skills that have been building the program must be up to date and robust with respect to future developments."

For microcredentials with an explicitly vocational orientation there also needs to be monitoring of occupational and earnings outcomes. But many systems do not have microcredentials in their education record systems. This then does not allow linking to employment information systems that allow that kind of monitoring to take place.

There must be an appropriate system in countries to assure the quality of the providers and the microcredential programs. The recognized higher education quality assurance processes are, on balance, not fit for the purpose in doing that — there have to be other procedures for doing that.

There are some interesting developments in a few countries of public initiatives to communicate with learners about the microcredentials offered — for example, in Australia. However, Weko noted, “most of what governments tell learners and prospective students is about degree studies — not about microcredential programs.”

Governments have another problem to solve, which is devising funding for microcredentials. They need to think carefully about designing funding that is fit for purpose — for the kinds of learners and purposes that these microcredentials have. That may not look anything like traditional student aid systems.

For those countries focused on ensuring that microcredentials are a pathway to educational advancement, they have got a different set of problems to solve which are every bit as difficult — maybe more difficult — than those that the labor market actors are dealing with. So the challenge there is about building trust and understanding among educators, so that microcredentials achieve recognition and portability. We’re trying to do all this in a pretty tough environment, although governments routinely say they want microcredentials to have well documented learning outcomes.”

Weko: “I think all of us understand that comparable, reliable, and valid assessments of learning outcomes in higher education are not well developed. But to the extent they are well developed in areas like the assessment of licensed and regulated professions set by other bodies (for example, nursing or accountancy examinations), there are some areas in which assessments of learning outcomes can lead to high levels of confidence and trust in understanding the skills required and learning. I think it's fair to say, the quality assurance processes as conventionally organized in countries — that could be accreditation in the U.S. or quality assurance agencies recognized by inquiry in Europe. Whatever they do, they do not necessarily generate high levels of confidence in student level learning outcomes — and if they do generate confidence, they generate that confidence fairly locally, not broadly so that when someone from Romania is presenting educational quality agents or microcredentials in the Netherlands, it's difficult to extend trust to that distance.”

Weko explained, “A problem we've also seen in discussions with educators in Europe is the Anglo-conception of education among institutions in places like Germany and France. There is concern that a completed education should be a plan and coherent process — and its desegregation and fragmentation (through microcredentialing) put the integrity of the learning experience at risk.”

That creates an element of reluctance in addition to the difficulties faced around the assurance of quality and the documentation of learning outcomes.

“It’s a long road ahead and different countries are starting in very different places,” Weko summarized. “There is the example of a country like Ireland that has a strong foundation on which to build microcredentials – but other countries have no foundation. We should have in mind some patience and the problems of trust in recognition that exists among mobile learners even in traditional degree-level education. When we bring up new kinds of educational credentials, why should we expect them to be exempt from the challenges traditional credentials face? In fact, one could think about the problems of trust in recognition surrounding microcredentials as perhaps a subset of a set of wider problems we face in gaining trust in recognition of learning experiences within higher education systems.”

Concluding Weko’s and Golden’s presentations, NCRN members raised several questions.

SUMMARY OF QUESTION/ANSWER SESSION

The following pages contain a summary of the question-and-answer session that followed the presentation.¹¹

Q: Do you have some examples of how different countries are approaching data collection, especially when working with private providers of credentials?

A: Across Europe, there are increasing efforts to improve the data available for tracking graduates more generally, and assessing their labor market outcomes. OECD and other international organisations of course, have various surveys.

There is also growing interest in using administrative data so the trend there is quite similar to the postsecondary employment outcomes’ projects going on in the U.S. where there is interest in using administrative data to track graduates.

On the extent to which these efforts will be able to be extended to microcredentials, much will depend on how the learners are treated or classified by the institution. For example, in cases like learning platforms, often the learner is not enrolled as a student in the provider institution so we don’t have the same relationship in terms of being able to monitor completion and outcomes.

If governments are going to pay for something, they have to know what they’re getting as governments move into the subsidy of providers or consumers of microcredentials as opposed to fee-based microcredentials which are commonplace in the U.S. The OECD is undertaking a fixed-response policy survey of its membership next year. We’ll have a module within that on microcredentialing – what credential policies are put in place by governments? So we will have a lot more information on what governments are doing next year.

Q: Do we think there is a real need for an international standard regarding what a microcredential is, and should there be a focus on competencies? It appears that, unless we are competency-oriented, we don’t even know how learning units can really be stacked.

¹¹The Q and A have been edited for clarity, from a machine-based transcript of the discussion.

- A:** There's certainly a lot of narrative around the documentation of learning outcomes. What we need to decide is what are realistic proxies for competency and skill acquisition – and what that would mean for people who are participating in these learning units.

Employment vocational outcomes obviously have proxies like occupation and earnings after you educate for that. On the education side of the house, you would look to see whether people are advancing in their studies and at least as a first cut, because we don't have shared vision and practice around competencies – at least governments would need to put these in place. These include some ways of monitoring whether people who are participating in these programs are having those kinds of learning progression and learning outcomes through the educational pathways – and then the employment and occupational outcomes that are promised. It has been said that “half of these credentials we know aren't any good – we just don't know which half.”

Q: How are you using the word, *portability*, for these microcredentials? How could they not be portable?

- A:** Portability speaks to whether a learner can take what they've earned and take that somewhere else – have all the learning acquired and the credit accumulated recognized by another institution and apply that towards a program. And that's by no means just relevant to short-term credentials, but to all credentials including degrees.

Q: Is *portable* different from *stackable*?

- A:** *Stackability* could refer to recognition of credit at the same institution or same program. For example, the learner could be at a polytechnic institution in Canada and take initial training and learning experiences and apply them within the institution to a higher-level degree program. The *portability* problem is a different problem to solve. It requires achieving a measure of trust and comparability across different institutions.

Q: One of the bigger problems is for people to understand what they've got - when you have a large variety of microcredentials. Credentials are supposed to get you somewhere and if, you have so many of them, won't you confuse employers and confuse the learners? You might argue that the market will sort it out, and some credentials will start getting traction with employers and learners. I don't hear a whole lot of interaction with employers in the development of these and would have that would be something important if you were trying to have an impact on upgrading skills.

- A:** I fully agree with your first point. In an incredibly crowded space, where there are not shared meanings, there's a serious risk of little understanding of what credentials mean – microcredentials and others. You must have reliable meaning, a fully understood trusted signal, or else you do not have a coherent, understandable system and money is wasted – either public money or the learner's own money. If we look at what is happening in a country like New Zealand, they have solved this - but as a small country with a tightly controlled education and training system, in which microcredentials are comprehensively listed in a government website, each set within a national qualification framework, and subject to an annual government review and approval process.

Regarding the question about employers and how education and training providers interact with employers in the creation of the microcredentials, in some countries they

have been very diligent about demanding close employer participation and have actually achieved this. We see this in countries that have strong training models. In Ontario, for example, they have a microcredential pilot program in which the credentials are co-developed with employers..

In some other countries, employer engagement is done more indirectly like in the Irish case which requires that the credentials must have labor market relevance but the assessment of relevance is based on analysis by skills-forecasting and anticipation units, which is where the employer input comes in.

Polytechnic institutions in Portugal are in some respects like American community colleges - in that they have a very close relationship to local employer communities. There, too, there are clear examples of polytechnics working in close partnership with employers in the development of short, flexible training credentials. .

These are anecdotal examples, of course. The OECD will be working to develop more systematic evidence.

Q: In the half dozen most technology intense regions of the U.S. (for example, Stanford, Berkeley, University of Washington, University of California-San Diego, Boston/Harvard/MIT), we're seeing a proliferation of microcredentials related to STEM careers. And some of them are driving people into mid-level technical skills, but most are post-baccalaureate focused – in other words, getting people ready for work. We're talking about hundreds of thousands of enrollments a year in these microcredentials. The validity of these credentials is tied to the high level of industry involvement and collaboration with research faculty in the curriculum development. So they have huge currency and they translate into high levels of regional employment. The big issue is the portability because they're highly regionally-specific but from a research point of view, there may be some lessons or some principles of practice. That can inform this much broader questioning, a question of microcredentials at the national or international level. What are the incentives to make improvements with regard to the definition of microcredentials and supportive educational and data practices? For example, open badges have been around for over 10 years and they're booming. They are issued broadly globally but are not integrated into our social strategies for equity and social mobility. How do we get better in this regard?

A: Earlier we hypothesized that when governments start paying for things, they have to impose order because it's very hard to convince your Finance Ministry that you want to spend a few billion Euros on something but you don't know what it is – and you don't know what it's achieving. That may drive some measure of standardization, at least if not global, certainly within a national system and perhaps it will extend to the European Union and on other regional bases.

Concerning the role of microcredentials in regional skills systems: we are aware of non-degree credentials in the technology-intensive regions. In one of our OECD papers, we used the Burning Glass data from the State of Washington to see whether employers and their job postings are looking at nondegree credentials or using nondegree credentials as a way of looking for skilled IT workers beyond computer science graduates. It is pretty clear that people who have a foundational knowledge in related disciplines (like physics or chemistry) can make transitions to IT occupations if you have

an underlying skill set and can augment that with something that looks like a shorter-term qualification like a microcredential.

As you point out, there may be an issue with how far these qualifications can travel or reliably signal competence. Are we actually building “islands of trust in an ocean of skepticism?” There are only a couple of MIT’s in the world. If we want credentialing to work, it has to work for everybody, not just MIT graduates. If you want this to work more than 100 miles from Pike Place Market in Seattle, then you have to put policy around this so that’s the challenge from a public policy perspective.

Q: Might there be a role for researchers to activate governments and others – and point the way towards some kind of a framework or standard? Maybe there is an opportunity for leadership here rather than waiting? The platform for standard setting might be the various policies adopted by states and suggested by foundations or researchers and initiatives at the federal level too – and Workcred and ANSI and ISO.

A: This is an important area for further discussion. This is an area in which we may wish to collaborate more, to enable learning more about what is going on in so many different nations.

Q: A particular issue for us in the U.S. is maintaining equity and avoiding further stratification. Some individuals seek low-cost programs leading directly to entry-level employment or tracking to a limited career and, meanwhile, you have privileged students who are going to seek the bachelor's degree. One of the most promising solutions is to embed the microcredentials into degree programs; that kind of dissolves that stratification but it is a pressing concern.

A: The European Commission is very concerned about this. We know there are all kinds of debates taking place in the U.S. about short-term credentials related to the equity issues. There is a real concern that that non-degree credentials do not simply lead to jobs that have a rather low career growth trajectory and small prospects for wage gain. It would be interesting to organize a dialogue between the U.S. and Europe on this point.

Q: Microcredentials have to be a plus for all people, not a consolation prize. Have you seen any work that microcredentials were actually more focused on experiential learning or work-based learning?

A: The closest we've observed is some of the microcredentials related to competency-based degrees. In some teacher training and also during the onset of the pandemic, we noticed that in some cases, more hands-on microcredentials programs replaced defining stages of professional practice for some healthcare workers. But in general, a very large share of microcredentials are offered online and so that naturally limits the extent to which that type of pedagogy is possible.

In the European way of looking at microcredentials, *employability* is an important element. But we really try to integrate the element of *flexibility* of learning pathways and *inclusion* in developing microcredentials. The European Universities initiative provides a way for higher education institutions in Europe to work very closely together, and one of them is very focused on microcredentials.. And they're also very focused on the involvement of their wider ecosystem, including companies and practical knowledge,

work-based learning, etc. Indeed, healthcare and engineering seem to be areas where microcredentials frequently pop up, for example in the Scandinavian countries. There are already very advanced discussions about that in Sweden and Denmark in particular.

The term *microcredentials* is totally unknown in most parts of Europe. We're now having a public consultation, which has been translated into all European languages. The EC gets this question from almost all translators: What do you mean by credentials? The biggest advantage in Europe is probably having the European credit transfer and accumulation system which helps us also solve some of the stability issues; and also can support portability between countries and between higher education and vocational education and training. We started discussing microcredentials about a year ago, and within one year, we saw an incredible change in attitude towards these credentials, including in the vocational education and training area. We have arrived at a point where governments are really open to it.

KEY TAKEAWAYS

There are several key takeaways from the OECD presentation and the Q and A discussion:

- There is high interest among U.S. researchers in what is happening in microcredentialing outside the U.S.
- There are many different approaches in national policy-setting and the resulting offerings of microcredentials by higher education institutions. These variations make it difficult – and will continue to make it difficult – to standardize definitions and data elements around microcredentials.
- Investments and regulatory incentives by governments, especially in microcredentials are growing in other nations. The U.S. is behind in both investments and regulatory incentives.
- Many nations are actively engaged in reforms around credentialing – to recognize the value and importance of alternative credentials or microcredentials within an incremental credentialing system. These reforms (for example, adding nondegree credentials to Qualifications Frameworks) are happening faster in many nations than the U.S.
- The growing focus on microcredentials is not likely to go away given economic recovery expected post-pandemic and future of work developments. Microcredentials are expected to be a major component of postsecondary education going forward, especially in key industry sectors such as Information Technology, business, cybersecurity, advanced manufacturing, and healthcare.

NEXT STEPS

The important conversation shared by the OECD representatives and U.S. researchers and data users underscore the importance of sharing intel among nations, and the need to establish systematic opportunities for this. This should include sharing reports prepared

among the nations, holding meetings and conferences to share information, exploring the shared use of databases outside the typical nation's reach, and developing a common set of terms by which to discuss credentialing to enable cross-national discussions.

The NCRN and the OECD agreed to explore next steps to share information about microcredentialing in the interest of better serving our nations' needs to strengthen our talent development systems.

ATTACHMENT A: OECD SPEAKERS

Thomas Weko is a Senior Analyst in Education and Skills Directorate of the Organisation for Economic Cooperation and Development (OECD), where he leads the work of the Higher Education Policy Team. He has carried out reviews of higher education in East Asia, Latin America, and Europe. Prior to re-joining the OECD in 2015, he served as Research Manager for Higher Education at the American Institutes for Research; Director of the Policy Planning and Studies Service in the US Department of Education; and Associate Commissioner for Postsecondary, Adult, and Career Education at the (US) National Center for Education Statistics. He has also served as a senior analyst for the US Government Accountability Office (GAO) and the Washington State Higher Education Coordinating Board.

Gillian Golden is a policy analyst in the Higher Education Policy Team of the Organisation for Economic Cooperation and Development. She currently is the project lead for initiatives related to new data and evidence development. In her five years at the OECD, she has worked on the Education Policy Outlook project, led the OECD project on Benchmarking Higher Education System Performance and has participated in a number of country reviews. Prior to joining the OECD, Gillian worked as a government statistician in the Irish Department of Education and Skills, with responsibilities for planning and managing large-scale data collections, publication of official education statistics and forecasting.