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| C:\Users\CESA\Downloads\image002.jpg | **COMMERCIAL EDUCATION SOCIETY OF AUSTRALIA****PERIODIC DISCUSSION PAPER No.50[[1]](#footnote-1)\*** | **May****2023** |

**MICRO-CREDENTIALS → μCERTIFICATES**

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**Introduction**

Micro-credentials of varying forms have been mentioned in these papers previously[[2]](#endnote-1) with mixed responses from readers. In many institutions, both academic and commercial, they are now evolving into more formal ‘micro-certificates’ or *μcertificates*. It is appropriate then to re-consider some of their emerging characteristics.

Some of the university μcertificates re stackable in the sense that they can be combined to be deemed equivalent in some way to a more formal certificate, or even diploma, and can be used as an entry into a pathway towards credit for a degree. In stacking them in this way the question arises about some sort of hierarchy among them in knowledge and skills taxonomies on the one hand, and their cognate inter-relationships on the other hand.

These μcertificates seem to be generally online as eLearning programs or conveniently located and timed laboratory sessions where access to highly specialised equipment is required as part of the teaching and learning process, particularly when they are offered in partnership with industry experts. The online offerings can be self-paced and often started at any time. They can thus readily address continuing professional development wants and needs, especially in rapidly surfacing areas. In my own fields of generalized nets and intuitionistic fuzz logic, an example of this is soft computing which provides quick solutions and a measure of precision to approximate models. An example of this is so-called artificial intelligence for which the human mind is the pattern (to offset our inclination to lazy or natural stupidity!). The algorithms are adaptive and learn from experimental data where traditional (hard) computing is built on mathematical models.[[3]](#endnote-2)

The purpose of this discussion paper is to tease out some of the salient features of what is a speedily changing landscape. This will be done by providing some recent examples.

**A European approach to micro-credentials**

Because of the apparent flexible and inclusive learning opportunities provided by micro-credentials, the Council of the European Union adopted a *Recommendation on a European approach to micro-credential for lifelong learning and employment* in June 2022. This was done to encourage the development and implementation of micro-credentials in the provision of an effective culture of lifelong learning in the professional and personal lives of citizens of the member state of the EU. However, without common standards ensuring their quality, transparency, cross-border comparability, recognition and portability, micro-credentials cannot reach their full potential.

Hence, the EU Council Recommendation aims to

* “enable individuals to acquire, update and improve the knowledge, skills and competences they need to thrive in an evolving labour market and society, to benefit fully from a socially fair recovery and just transitions to the green and digital economy and to be better equipped to deal with current and future challenges
* support the preparedness of micro-credential providers to enhance the quality, transparency and flexibility of their learning offer to empower individuals to forge personalised learning and career pathways
* foster inclusiveness, access and equal opportunities, and contribute to the achievement of resilience, social fairness and prosperity for all, in a context of demographic change and throughout all phases of economic cycles.”[[4]](#endnote-3)

The European approach to micro-credentials is actually a key component of the Commission’s vision to achieve a *European Education* Area by 2025. Micro-credentials also feature in the [European Pillar of Social Rights Action Plan](https://op.europa.eu/webpub/empl/european-pillar-of-social-rights/en/) (March 2021) and the [Commission Communication on achieving the European Education Area by 2025](https://education.ec.europa.eu/document/achieving-the-european-education-area-by-2025-communication) (September 2020).

**Examples**

Corporations, universities and colleges are unrolling micro-credentials and micro-certificates for different, but not incompatible, reasons: money and rapidly changing employment prospects. Thus, Dr Mordecai I. Brownlee, President of the Community College of Aurora in Colorado writes[[5]](#endnote-4): “Microcredentials are incremental qualifications that demonstrate skills, knowledge or experience in a specific subject area or capability … When building these innovative pathways, it is imperative for institutions of higher education to work in direct partnership with the industry partner …. Whether built as credit-bearing or non-credit pathways, microcredentials are by no means a substitute … However, systematic credentialing redesign is a necessary step toward America addressing its own workforce shortage.” Brownlee looks at the strengths and limitations of these novel pathways, some of which we have mentioned previously.

The following examples are mainly from the University of Melbourne; they are intended to show the extensive range of these micro-credentials currently on offer.

For teachers:

* Establishing the Virtual Classroom’
* Building Community in the Virtual Classroom
* Achieving 21st Century Outcomes in the Virtual Classroom
* Implementing Meaningful Assessment in the Virtual Classroom
* STEM Essentials Certificate
* Scientific Argumentation
* Scientific Inquiry
* Scientific Innovation
* Scientific Collaboration
* Scientific Thinking
* Scientific Literacy
* STEMscopesNGSS Essentials[[6]](#footnote-2)
* STEM Classroom
* NGSS Essentials

NISE’s[[7]](#footnote-3) free STEM portfolio claims to be the ideal place to showcase STEM teaching awards and recognitions. Each Micro Certificate appear on the NISE STEM portfolio, validating the participant’s efforts and commitment to improving one’s STEM teaching craft; furthermore, the STEM portfolio might earn recognition as an NISE graduate, engendering a connection between among NISE alumni to continue to grow personally and professionally. Digital badges from a portfolio can also be added to an email signature line, LinkedIn, and resumé.

 More general examples include:

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| [Construction, heritage, and the built environment](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/construction-heritage-and-the-built-environment): Equip yourself with practical knowledge of urban design, architecture, and building construction.[Contemporary education](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/contemporary-education): Learn evidence-based teaching strategies and explore emerging classroom technologies.[Creative thinking, effective communication, and design](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/creative-thinking-effective-communication-and-design): Acquire the skills to truly stand out, influence others, and positively impact your workplace.[Cultural, ethical, and emotional awareness](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/cultural-ethical-and-emotional-awareness): Improve your decision-making capabilities and enhance your cultural awareness.[Data, technology, and digital transformation](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/data-technology-and-digital-transformation): Gain high-demand skills in technology to improve digital competencies in your organisation.[Health, wellbeing, and medical innovation](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/health-wellbeing-and-medical-innovation): Learn clinical, interpersonal, and digital skills you can quickly apply in the health sector.[Leadership, management, and change](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/leadership-management-and-change): Lead, manage, and collaborate effectively in new and evolving work environments.[Public policy, security, and crisis mitigation](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/public-policy-security-and-crisis-mitigation): Develop your skills in public policymaking and learn to respond decisively to cyber threats and crisis situations.[Sustainable practices](https://study.unimelb.edu.au/study-with-us/professional-development/micro-credentials/sustainable-practices): Gain practical, industry-aligned sustainability skills you can implement in your organisation. |

**Stackable Micros**

A micro-credential or micro-certificate is said to be “stackable” when it belongs to a series of related micro-credentials, which, when completed, constitute a path to a higher-level certification. How this can be done is a separate issue.

Some want the regulators to step in, while others want the buyer to have a say, depending on their career or personal goals. After all, the rate of progress in these ‘snackable’ micros is determined by the buyer, even though some of them when stacked could have industry value, if only because of their currency, particularly when the participants have had access to highly specialised industry equipment which may not be yet available even in the best endowed universities.

These credentials can open doors to new career opportunities in a rapidly changing world. Thus, the University of Melbourne says on its website that “We are exploring the emerging use of micro-credentials as a means of certifying attainment of smaller and more specific elements of learning than are attested to by a degree. Micro-credentials are being put to a number of uses that are forcing higher education institutions to think carefully about the value of their traditional assessment and credentialing practice and, indeed, how they are enacting this practice.”

Perhaps, Bloom’s taxonomy combined with Maslow’s levels might provide a means to indicate levels, but the quantitative summary may actually deter some participants. A specific example might look more like the following:

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| **Micro-credentials/Micro-certificates:*** NSW TAFE: *Certificate III Business*: Competent
* NSW Legal Practitioners Admission Board: *Legal Institutions*: Pass
* LinkLearn REI: *Queensland law, practice & procedure*: Statement of Attainment
* Commercial Education Society of Australia: *Associate Membership*: Criteria
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These are not stackable in a quantitative sense, but they indicate a developing capability in pertinent skills for employment for in the real estate profession for this person who has been searching advertisements in the media. Of course, the person would have to support a job application with the certificates of proof with their lists of the individual units of competency on the transcripts.

**Conclusion**

Given the numbers of universities and companies which are now offering “micros” in one form or another, they seem to be filling a gap in the market. As Boud and Jorre de St Jorre point out in their ‘Provocation’: “the current move to micro-credentials has exposed the embarrassing fact that despite quite explicit legislation, it is often not clear how current qualifications meet basic standards”[[8]](#endnote-5). This opens up the whole discussion and debate about standards and levels of achievement in the wider educational context.

**References**

1. **\* These papers are for internal discussion within CESA on topics related to the CESA Mission.** [↑](#footnote-ref-1)
2. Shannon, A.G. 2019. Micro-credentialling. *Commercial Education Society of Australia Periodic Discussion Paper,* No.10, October.. [↑](#endnote-ref-1)
3. Sotirova, Evdokia, Anthony Shannon and Krassimir Atanassov [foreword by Janusz Kasprzyk]. 2022. *The modelling of university processes by intuitionistic evaluations.* Newcastle upon Tyne, UK: Cambridge Scholars Publishing [ISBN (10): 1-5275-8886-6; ISBN (13): 978-1-5275-8886-8]. [↑](#endnote-ref-2)
4. https://www.europeansources.info/record/council-recommendation-on-a-european-approach-to-micro-credentials-for-lifelong-learning-and-employability/. [↑](#endnote-ref-3)
5. Brownlee, Mordecai I. 2023. The Power of Microcredentials and America’s Higher Education Dilemma. *EdSurge*. March 23. [↑](#endnote-ref-4)
6. NGSS: Next Generation Science Standards [↑](#footnote-ref-2)
7. NISE: National Informal STEM Education Network [↑](#footnote-ref-3)
8. Boud, David and Trina Jorre de St Jorre. 2021. The move to micro-credentials exposes the deficiencies of existing credentials. *The Journal of Teaching and Learning for Graduate Employability.* 12 (1): 18-20. [↑](#endnote-ref-5)