Co-Designing Micro-Creds for a Green Transition

Proposal prepared by the Young People's Sustainable Futures Lab[1], with Deakin University and UNESCO UNEVOC@RMIT University[2]

The Project

This 3-5 year action research project aims to o-design a series of micro-credentials for the green energy and construction industries with young people (16-24), schools, VET providers, community organisations, businesses unions, government, and infrastructure and construction industry stakeholders, a series of micro-credentials for Sustainable, Regenerative and Just Futures in Infrastructure and Construction (see Addendum 1). By engaging with these stakeholders in the development and implementation of these micro-credentials, we aim to foster new aspirations for developing skills and knowledge across different contexts around the globe (with a pilot project in Australia).

The Problem

One of the largest long-term risks to energy security is escalating extreme weather, driven by climate change. Australia, along with the rest of the world is increasingly experiencing the impact of extreme weather on power systems. The need for a green transition to solar energy, wind energy and hydroelectric energy and to more sustainable methods of construction have never been greater. This transition can only happen if there are the right people to deliver it. And in return it can offer immense opportunities for Australia and the world in terms of education, training, and career. But for the energy transition to succeed, it must be fair and just. This means making sure that no one is left behind.

In an era of increasing environmental consciousness, sustainability will be at the forefront of the construction industry's future. The green building market is projected by Mordor Intelligence (2024) to reach US$394.4 billion by 2028, growing by 9.73% annually. This adoption of sustainable practices, such as energy-efficient materials and renewable energy systems, can lead to significant cost saving for the construction industry. Companies in the construction industry are having difficulty attracting and retaining talented workers..As projects multiply and demands surge, industry players are grappling with the urgent need to secure skilled professionals who possess the expertise to shape and build sustainable infrastructure. Fostering

[1] https://youngpeoplesfutureslab.org
[2] https://youngpeoplesfutureslab.org/project/unesco-unevocrmit/

a culture of continuous learning is paramount. By promoting diversity and inclusion initiatives within the construction industry can attract a broader pool of talent and foster innovation and collaboration.

As the fossil fuel industry shifts from coal, oil and natural gas, former employees in these industries will need to be retrained to work in renewable energy. The global construction industry is also on the cusp of revolutionary transformation as the world's population continues to grow and societal demands shift to smarter and sustainable infrastructure and buildings. By embracing digital technologies, modern methods of construction and sustainability measures, the industry is poised to become more efficient, eco-friendly, and adaptable to changing demands.

The rapid development of these sectors pose the following challenges:

- Risks of skills shortages. Managers, engineers and technicians are currently in highest demand and vacant job positions are already difficult to fill.
- New skills needed from people working in or entering the industry, especially in digitalisation, ICT, robotics, Health and Safety.
- Harmonising training requirements and skills globally.

Why this project

Given these challenges, we propose the co-design of a series of micro-credentials to equip young people with green skills and knowledge.

The Concept

This research project is framed by the following urgent questions:

- How do we foster new aspirations and capabilities among young people in different contexts around the world to enable them to adapt and thrive amidst the transition to green skills and knowledge?
- How do we create broader access to learning opportunities for young people and communities worldwide to make the transition to green skills and knowledge?

The Purpose

Co-design with young people, schools, VET providers, community organisations, and infrastructure and construction industry stakeholders, a series of micro-credentials for Sustainable, Regenerative and Just Futures in Infrastructure and Construction (see Addendum 1).

Cohort 1	Available to all trainees and apprentices (n=TBC) employed under the Major Projects Skills Guarantee and Building Equality Policy
Cohort 2	Available to young people in VET (in schools Certificate 1 and 2) and Vocational Major (VM) in VCE courses in secondary schools (n=50). Approximately 100 young people/year. Managed by schools in order to open and develop sustainable, regenerative and just education, training and employment pathways into construction and infrastructure.[3]

Micro-creds

Micro-credentials or micro-creds are a relatively recent, digitally enabled, approach to the accreditation of skills development and training outcomes, often in usually non-accredited, informal or non-traditional training contexts

Australia's National Centre for Vocational Education Research (NCVER) recent report on An analysis of 'micro-credentials' in VET - suggests that micro-credentials can provide an important mechanism to deliver on the promise of innovation, flexibility, portability, co-design and place-based responses for young people's health and well-being, education, training and employment pathways, and sustainable, regenerative and just futures.

Alignment

Aligns with key aims and objectives of the Major Projects Skills Guarantee, and the Building Equality Policy – providing traineeships and apprenticeships and employing and promoting women in infrastructure and construction projects - to create and generate new forms of value for young people, trainees, apprentices, community and infrastructure and construction stakeholders.[4]

[3] https://www.vic.gov.au/vet-pathways-schools, https://www.vic.gov.au/vce-and-vce-vocational-major

[4] https://localjobsfirst.vic.gov.au/agency-guidance/major-project-skills-guarantee, https://www.vic.gov.au/building-equality-policy

The Process

Co-design process with young people, schools, Local Learning and Employment Networks, VET providers, and other Contractors to develop a suite of 3 or 4 micro-creds to create and capture new forms of value for sustainable, regenerative and just futures in construction and infrastructure. These could include, or draw on ideas such as the following:

- Exploring Regenerative Construction and Infrastructure;
- Diversity and Inclusion in Regenerative Construction and Infrastructure;
- Leadership and Ethical Innovation for Regenerative Construction and Infrastructure;
- Socio-Ecologies of Regenerative Construction and Infrastructure.

Outcomes and Outputs

Produce a suite of micro-creds to create and capture new forms of social, cultural and economic value for young people, communities and stakeholders.

Add different 'forms of value' to existing competency-based VET certificates, courses, units, traineeships and apprenticeships.

Provide training opportunities for 100+ VET and vocational major (VM) students and trainees and apprentices to develop new capabilities, attitudes, values and ways of acting to promote sustainable, regenerative and just futures in infrastructure and construction.

Provide stakeholders/funders with the opportunity to further enhance its profile and practices for sustainable, regenerative and just futures in infrastructure and construction.

Deakin and RMIT team bring background IP and micro-cred model, retain research related IP generated in project, and 'ownership' of micro-creds.

The micro-creds produced in the project can be used under license by stakeholders/funders in other infrastructure and construction contexts (with continued free access keys to future trainees and apprentices).

Key Project Impact and Outcomes

- A series of multi-level gamified and digitally badged micro-credentials for young people
- A web-based platform/smartphone app to deliver courses
- The digital architecture to support a global program of micro-credentials for the green transition of skills and knowledge.

How Project Outcomes Can Contribute to Stakeholder Priorities

- Increased green skills and knowledge for young people equipping them for future employment and livelihood opportunities
- Enhanced aspirations for young people
- The cultivation of ethical innovation and co-design practices
- Ongoing action research evaluations and impact reports to inform existing and future programs
- Broader access to learning opportunities for young people and communities worldwide.

Schedule

Year	Activities	Price (approx.)
Year 1	R&D. Processes of Co-design – surveys, interviews, focus groups, 'learning design'. Value creation and capture – what forms of value are to be created and captured in micro-cred, and how can value and impact be captured in this project space. Undertaken by Deakin and RMIT staff, Project manager/research fellow: VET, impact evaluation, learning design and design thinking consultants. Micro-creds to be developed and located on platform base (Badgr[5]).	$300-325k
Year 2	Action research cycles: Implementation, review, redesign, impact evaluation	$200-215k
Year 3	Action research cycles: Implementation, review, redesign, impact evaluation	$180-200k
Year 4	Action research cycles: Implementation, review, redesign, impact evaluation	$180-200k

[5] For example, see the following project: 'Micro-Credential for Diversity and Inclusion for Neurodiverse Young People in Whittlesea'

Addendum 1: Young People and Micro-creds for Regenerative Futures

Creating and Capturing Shared Social, Cultural and Economic Value for Young People and their Communities.

In the context of what the UN and the EU have called a 'Code Red' for humanity, or a state of 'permacrisis', the Young People's Sustainable Future Lab (YPSFL), as part of the Code Red Alliance for Young People, is developing a program of applied research to co-design a series of micro-credentials (micro-creds) for sustainable, regenerative, and just futures in different places.

Micro-credentials (micro-creds) are a relatively recent, digitally enabled, approach to the accreditation of value creation and capability development - often in usually non-accredited, informal or non-traditional training contexts (see, *Looking into the Future*, BCA 2018, Learning Vault 2020).

Drawing on a more detailed account of the program here, micro-creds can provide an innovative mechanism for creating and capturing shared social, cultural and economic value for young people and their communities, through:

- *Capabilities* - what skills, capabilities and forms of 'value' do communities want young people to develop (which currently go unrecognised and/or are not delivered in formal education systems)?
- *Activities* - what existing or new activities will enable these capabilities to be developed?
- *Evidence* - what forms of evidence - video, creative - can be gathered to attest to the 'value' created?
- *Accreditation* - how can this value be accredited to create trust in the micro-cred?

The YPSFL and Code Red Alliance imagines:

- Involving young people as stakeholders in their own future
- Developing processes of co-design for ethical innovation (innovation that is *Responsible, Inclusive, Disruptive and Engaged* - Rickards and Steele 2019)
- Developing a suite of place-based, digitally networked micro-creds for regenerative futures:
- Using the affordances of platform enabled 'digital badges' to signal, locally and globally, the value created through micro-creds

Micro-creds for sustainable, regenerative and just futures can be developed to be:

- *Flexible* - developed outside of, or where no qualifications frameworks exist.
- *Co-designed* - with communities, partner organisations and young people.
- *Innovative* - ethical
- *Place-based* - creating and capturing shared social, cultural and economic value for young people and communities that is globally connected.
- *Portable* - value that is generated in place and is translatable to other places and for other purposes.
- *Platform enabled* - digital badges that are housed on a platform to be digitally available anywhere.

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