

# New Zealand Asset Management Learning Insights

Author: George Arthur Bowman, Flood Risk Asset Engineer

Workplace: Asset Management Ltd, New Zealand

Author: Mike Curry, Product Manager

Workplace: Āpōpō Infrastructure Asset Management Professional Incorporated, New Zealand

## Abstract

Āpōpō is the peak body for infrastructure asset management professionals in New Zealand. Facing a national workforce nearing retirement, with 1 in 3 asset managers due to retire within the next 15 years, Āpōpō launched a portfolio of online courses in 2018 to upskill the next generation of asset managers. Āpōpō has now created 28 courses aligned with the GFMAM Asset Management Landscape and the ISO 5500x suite of standards. Since launching, Āpōpō has awarded more than 6,000 micro-credentials.

Āpōpō has a focus on recognising indigenous knowledge of Māori, integrating principles throughout our guidelines and online learning material. This has resulted in something unique - a weaving together of international asset management principles and local cultural values. This paper explores the development, achievements, and lessons from the programme and reflects on the importance of contextualising international principles for local environments.

## Introduction

The infrastructure asset management sector in New Zealand faces a significant skills shortage. Research conducted in 2018 revealed that one in three public works professionals were expected to retire within 15 years [1]. This poses a dual challenge: attract new talent to the sector and equip existing professionals with the skills needed to meet evolving demands. Āpōpō, the professional body for infrastructure asset management in New Zealand, recognised the urgency of fostering a culture of continuous learning to address this gap.

In response, Āpōpō leveraged feedback from its members and stakeholders to conceive of the Digital Badge Programme. The Programme is a suite of short, modular online courses designed to meet the specific needs of asset managers. The name comes from the “digital badge”, or micro-credential, that is awarded on completion of each course.



Fig 1. Example digital badges

Each course aligns with international standards, such as the ISO 5500x suite, and the GFMAM Asset Management Landscape. However, what really makes the courses relevant to learners in New Zealand is the incorporation of principles from the indigenous Māori culture. This creates a uniquely New Zealand learning experience which match the learners’ lived experience.

This Programme aims to support learners in gaining practical, job-relevant knowledge while addressing the broader goal of workforce development.

## Development of the Āpōpō Digital Badge Programme

The Āpōpō Digital Badge Programme was conceived as a response to the pressing need for skills development within the asset management sector. Each course is modular, allowing learners to select the topics that address their specific knowledge gaps. With a duration of just 2-4 hours, these courses are designed to fit into the busy schedules of professionals.

Learners who complete a course earn a digital badge, a micro-credential that can be shared on social media and included in professional CVs.

The Programme's structure spans four levels of complexity: introductory, essential, advanced, and specialist. Topics range from foundational principles of asset management to advanced subjects such as carbon emission analysis, strategy, decision-making, and storytelling for infrastructure projects.



Fig 2. Āpōpō Digital Badge Framework

The design process involves rigorous needs analysis, with input from volunteer special interest groups and learner feedback, ensuring that each course is both relevant and impactful.

Scenario-based learning is a cornerstone of the Programme. For example, learners might assist a fictional operations manager at Āhuahua Council to navigate challenges in delivering infrastructure projects.

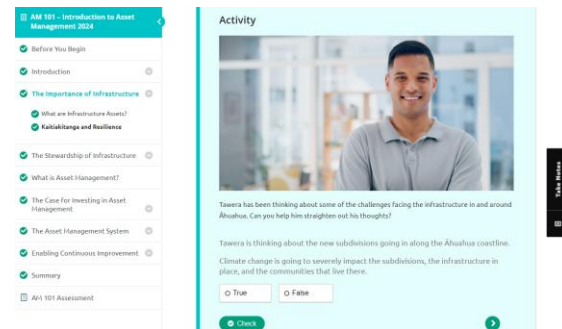


Fig 3. Example scenario from AM 101

This approach not only contextualises learning within real-world scenarios but also engages learners in problem-solving activities that reflect their professional environments.

### Innovative Approach and Learning Principles

The Programme's design draws heavily on adult learning theories, including Malcolm Knowles' principles of andragogy [2] and Cathy Moore's "action mapping" approach [3]. Courses are learner-centred, encouraging active participation and problem-solving rather than passive consumption of information. The use of scenario-based activities helps learners apply their knowledge in practical contexts.

Inspired by Cathy Moore we often put the activity first, requiring the learner to bring their previous knowledge, intuition and common sense to the scenario, learning by doing and sometimes making mistakes – but learning from those mistakes.

Each course begins with questions inspired by Te Whare Tapa Whā, a Māori model of well-being, which encourages learners to consider their holistic readiness to learn - from their social support and mental well-being to their physical and spiritual health.

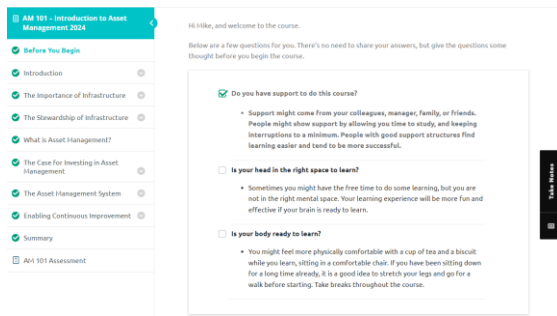


Fig 4. Applying Te Whare Tapa Whā, a Māori model of well-being, at the start of the course

A unique feature of the Programme is how the international principles of asset management are woven together with te ao Māori (the Māori worldview). The principles of te ao Māori enrich the learning material with cultural context and values that resonate with New Zealand learners. For example, the value of tikanga (customary practices) informs the structure and delivery of the courses, ensuring that learners feel supported and valued throughout their learning journey. Tikanga is also part of the realistic scenarios, which reminds learners of its appropriate application in the real world.

Or, as one learner phrased it, it reveals the magic: *“One of the first online courses that spoke to me and revealed all the magic. I am now so very excited to delve more in to AM. This is what the course does. It feeds my curiosity and I want more.”*

Integrating the wisdom of the indigenous people of Aotearoa (New Zealand) involved an organisation-wide recognition of the value of that wisdom in infrastructure asset management. We began by articulating how the principles of te ao Māori (the Māori world view) might be demonstrated day-to-day, which led to the realisation that many of the principles were already a part of our work!

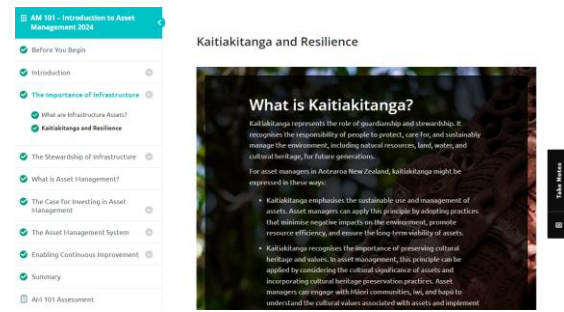


Fig 5. A principle of te ao Māori woven into the course material

The process of thinking complexly changed our awareness of – and attitude towards – the principles of te ao Māori, which is now filtering through our other work: awards, guidance material, social gatherings, etc.

In the context of the Digital Badge Programme, this local contextualisation provides an opportunity for learners to see their values reflected in the material. One learner said *“I loved this. [This is] a great way to practically apply Te Whare Tapa Whā.”*

### Achievements

Since its launch in 2019, the Āpōpō Digital Badge Programme has awarded more than 6,600 micro-credentials to learners from 21 countries – mostly from New Zealand, Australia, and the Pacific. This international reach highlights the Programme’s relevance and effectiveness in addressing the skills gap within the infrastructure asset management sector.

The Programme’s success is underscored by its recognition at the 2023 New Zealand Association of Training and Development Awards, where it won “Best Online Learning Project.” Metrics demonstrate its impact: 74.5% of learners who complete the introductory course, AM 101 – Introduction to Asset Management, continue their learning journey within the Programme. Learner evaluations reveal that 95% of participants can apply their new knowledge to their daily work responsibilities.

Testimonials from learners further illustrate the Programme’s impact. One participant noted, *“The digital badges have helped me to build a strong background knowledge in asset management, almost like the building blocks of an asset management programme. When I joined my current team, I had experience in many related areas, but these courses have filled in the gaps.”*

#### Lessons Learned and Future Directions

The development and implementation of the Digital Badge Programme has not been without challenges. Limited resources and external disruptions, such as Covid-19 and sector reforms, have impacted the pace of course development. However, these constraints have driven Āpōpō to explore innovative approaches, such as revenue-sharing partnerships and collaborations with corporate sponsors, to maximise resources.

One significant lesson has been the importance of engaging subject matter experts early and consistently. Their expertise not only ensures the technical accuracy of the content but also adds credibility and depth to the learning material. Āpōpō has collaborated with more than 38 subject matter experts which has been instrumental in maintaining the Programme’s high standards.

Looking ahead, Āpōpō plans to expand the range of topics covered by the Programme and introduce additional support mechanisms, such as 1:1 mentoring and online communities of practice. These initiatives aim to deepen engagement and provide learners with opportunities for collaborative growth.

Given the opportunity to present this paper at the 8<sup>th</sup> World Congress of Maintenance and Asset Management, I would like to focus on:

1. How the Programme addresses local workforce development
2. How the course design uses simple but effective prompts to encourage active participation
3. The value we have gained from weaving together international principles and local cultural context.

#### Conclusion

The Āpōpō Digital Badge Programme exemplifies how targeted, culturally contextualised learning can address critical workforce challenges. By aligning international standards with local values and delivering content in an accessible, modular format, the Programme supports learners in developing the skills needed to excel in infrastructure asset management. As Āpōpō continues to evolve the Programme, its commitment to fostering a culture of continuous learning will remain central to its mission.

#### References

- [1] Waugh, R, “New Zealand Engineering Skills Shortage”. 2019
- [2] Knowles, M, "The Adult Learner: A Neglected Species". Houston: Gulf Publishing Company. 1973.
- [3] Moore, C, "Map It - The Hands-On Guide to Strategic Training Design". Montesa Press. 2017.

#### Acknowledgements

The Āpōpō Digital Badge Programme is the result of many hours of effort from staff and subject matter experts, many of whom have volunteered countless hours over the years. We recognise and appreciate their efforts.

#### Author Bio

Mike Curry is the Product Manager at Āpōpō, leading the development of industry-aligned learning resources and

accreditation programmes for infrastructure asset managers in Aotearoa New Zealand. With a background in professional development and digital products, he is responsible for the Āpōpō portfolio of online courses, the Āpōpō Guide, and the organisation's evolving certification pathways. Mike has worked exclusively for non-profits since 2010 and is passionate about realising value for community organisations by creating high-quality resources that make a practical and meaningful difference.

E: [mike.curry@apopo.co.nz](mailto:mike.curry@apopo.co.nz)

T: +64 272799366

LinkedIn: Mike Curry

Address: Upper Hutt, New Zealand

George Arthur Bowman is a Member of Engineering New Zealand and joined the Board of Āpōpō in 2021. George has been working in New Zealand since immigrating in 2017. George specialises in infrastructure asset management, specifically flood risk asset management. George is Director of Asset BowManagement Ltd, operating since 2019, providing professional services to local government across New Zealand.

E: [George@assetbowmanagement.com](mailto:George@assetbowmanagement.com)

T: +64 212267122

LinkedIn: George Arthur Bowman

Address: Wellington, New Zealand