

Strengthening adaptive problem solving through Manako professional development

Introduction

Adaptive problem solving is the ability to flexibly and creatively find effective solutions to new and complex challenges.

Adaptive problem solving is essential for navigating the complexities of the modern world and is one of the assessment domains in the Programme for the International Assessment of Adult Competencies (PIAAC). The [PIAAC report](#), published in 2024, presents the current state of adults' skills in literacy, numeracy, and adaptive problem solving. The PIAAC report sees these skills as being “fundamental for personal, economic, and societal development. These key information-processing skills provide the foundation for access to employment, higher wages, learning, while enabling individuals to navigate the complexities of their personal and civic lives” (p.197).

For [Aotearoa New Zealand](#), 29% of adults scored at or below Level 1 proficiency in adaptive problem solving, and 7% scored at Level 4. Being at or below Level 1 means that simple problems can be solved involving a minimal number of steps. On average, there was no significant difference between genders.

This Briefing Paper highlights the role of the Manako programme in enhancing adaptive problem solving through professional development for tertiary education and vocational sector professionals.

The Manako programme: A framework for professional development

The [Manako programme](#) is provided by Ako Aotearoa, the National Centre for Tertiary Teaching Excellence and is designed to improve language, literacy and numeracy (LLN) education, and enhance cultural capability in the tertiary sector. It offers professional development opportunities to support educators in developing skills and knowledge to foster adaptive problem solving in their learners. Key components include:

- » **Language, Literacy, and Numeracy (LLN):** Training educators to strengthen foundational skills critical for learner success. Strong LLN skills are foundational to adaptive problem solving, as they enable learners to interpret complex information and respond flexibly to issues or situations.
- » **Cultural capability:** Enhancing educators' ability to create inclusive environments that respect and value diverse cultural backgrounds. Cultural capability fosters adaptive thinking by encouraging educators and learners to navigate and respond to diverse worldviews and expectations, essential in a globalised workforce.



- » **Learner agency**: Through integrating learner agency into professional development, educators become more adept at navigating and responding to the dynamic challenges of modern education. Learner agency is crucial for learners, encouraging self-directed learning and resilience. Developing learner agency enhances critical thinking, problem solving, and adaptability.
- » **Digital literacy and AI (Artificial Intelligence)**: Upskilling educators in supporting learners to integrate digital literacy skills and AI tools to enhance their ability to effectively navigate and solve problems in various contexts. Digital literacy ensures individuals can efficiently use technology to access, evaluate, and apply information. AI can provide personalised learning experiences and real-time feedback.

Professional development opportunities

The Manako programme offers a range of professional development opportunities tailored to the needs of tertiary education professionals:

- » **Workshops and webinars**: Interactive sessions that provide practical strategies for integrating adaptive problem solving into the curriculum, for example Learner Agency. A range of workshops cover topics such as critical thinking, problem-based learning, problem-solving strategies and culturally responsive teaching. Bespoke and personalised learning options are available for organisations, providing in-house, face-to-face or online, customised and contextualised professional development.
- » **Free Online courses**: Flexible, self-paced courses that allow educators to deepen their understanding of adaptive problem solving and its application in diverse educational settings.
- » **Communities of Practice**: Opportunities for educators to collaborate, share best practices, and learn from each other's experiences.
- » **Resource collections**: Access to a wealth of resources, including lesson plans, video clips, case studies, and research articles, that educators can use to enhance their teaching practices.

Aligning adaptive problem solving with professional development

Integrating adaptive problem solving into professional development can be achieved through the following strategies:

- » **Universal Design for Learning (UDL)**: Training educators to explore how UDL principles can support the creation of flexible and inclusive learning opportunities to meet the diverse needs of all learners. Designing for learner variability, and to minimise common barriers to learning, ensures that adaptive problem-solving tasks and activities are accessible to all learners.
- » **Reflective practices**: Meta-cognitive awareness is a cornerstone of adaptive problem solving. Through structured reflective cycles, educators can model reflective practice and cultivate this capacity in learners.
- » **Inclusive practices**: Providing educators with tools and techniques to create inclusive learning environments that support all learners, including neurodivergent learners, through UDL, neurodiversity-affirming, trauma-informed, and culturally responsive teaching approaches.



Conclusion:

The Manako programme's professional development opportunities are crucial for enhancing adaptive problem-solving skills in tertiary education. By equipping educators with the necessary tools and knowledge, their learners will be better prepared for the challenges of the modern world. In the context of Aotearoa New Zealand's declining scores for adaptive problem solving in the latest PIAAC survey – where nearly one in three adults perform at or below Level 1 – it is essential for policymakers and stakeholders to support these initiatives, fostering a more adaptable and resilient society.

