



Scoping the integration of AI in adult tertiary education: An equitable and outcome-focused approach in Aotearoa New Zealand

Volume 1

Artificial intelligence (AI) in education
Key insights for educators from research and practice

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1 | Introduction

“This first volume serves as a foundational resource, framing AI in education as both an opportunity for transformation and a complex challenge that demands thoughtful, strategic adoption.” (pg. 53)

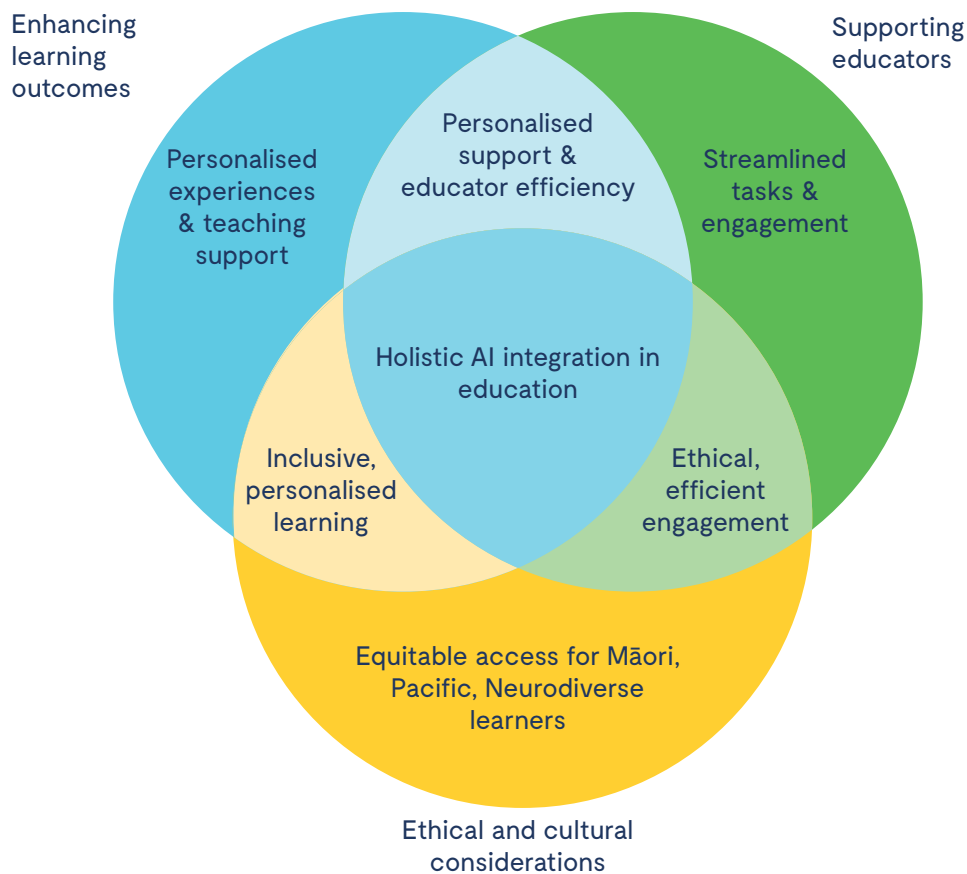
Introduction to the research project

The “AI in Education” initiative is a scoping project which provides a snapshot of how artificial intelligence (AI) technologies are currently being integrated into adult tertiary education in Aotearoa New Zealand as of year-end 2024. As a scoping study, this project outlines the current landscape, focusing on the challenges and opportunities AI presents for institutions such as Private Training Establishments (PTEs), Institutes of Technology and Polytechnics (ITPs), and universities.

The project has three main objectives. First, it evaluates AI’s potential to improve learning outcomes through personalised educational experiences and enhanced teaching practices. Second, it examines how AI can support educators by streamlining tasks and freeing time for direct student engagement. At the same time, many educators remain hesitant or uncertain about using AI tools. This hesitancy often stems from concerns about complexity, lack of confidence, and ethical unease—highlighting the need for support that meets educators where they are. Finally, it explores the ethical and cultural implications of AI use in education, with a focus on equitable access for Māori, Pacific, and neurodiverse ākonga.

While AI offers significant potential, it is not without risks and limitations. Generative systems can produce outputs that are inaccurate, misleading, or biased—a phenomenon often referred to as “hallucination.” These systems can also reflect the biases embedded in their training data, raising concerns around fairness, transparency, and cultural alignment. It is critical that educators, learners, and institutions remain aware of these limitations and apply a thoughtful, critical lens when integrating AI into educational contexts.

AI in Education project overview



This initial exploration, grounded in trials, surveys, and interviews conducted throughout 2024 (Smith & Grawe, 2024a; Smith & Grawe, 2024b), provides a foundational understanding of AI's potential in the tertiary education sector. While primarily focused on adult tertiary education, the findings are relevant across other educational contexts, including primary, secondary, and community-based education.

AI's adaptability positions it to support diverse learning needs across these settings. This snapshot of AI's role currently offers valuable insights into its transformative possibilities while highlighting areas for further research as the technology evolves.

This project was supported by Ako Aotearoa through the Ako Aotearoa Research and Innovation Agenda (AARIA). We acknowledge and appreciate the strategic investment made by Ako Aotearoa in advancing equity, innovation, and excellence in tertiary education across Aotearoa New Zealand.

Introduction to Volume 1 of this guide

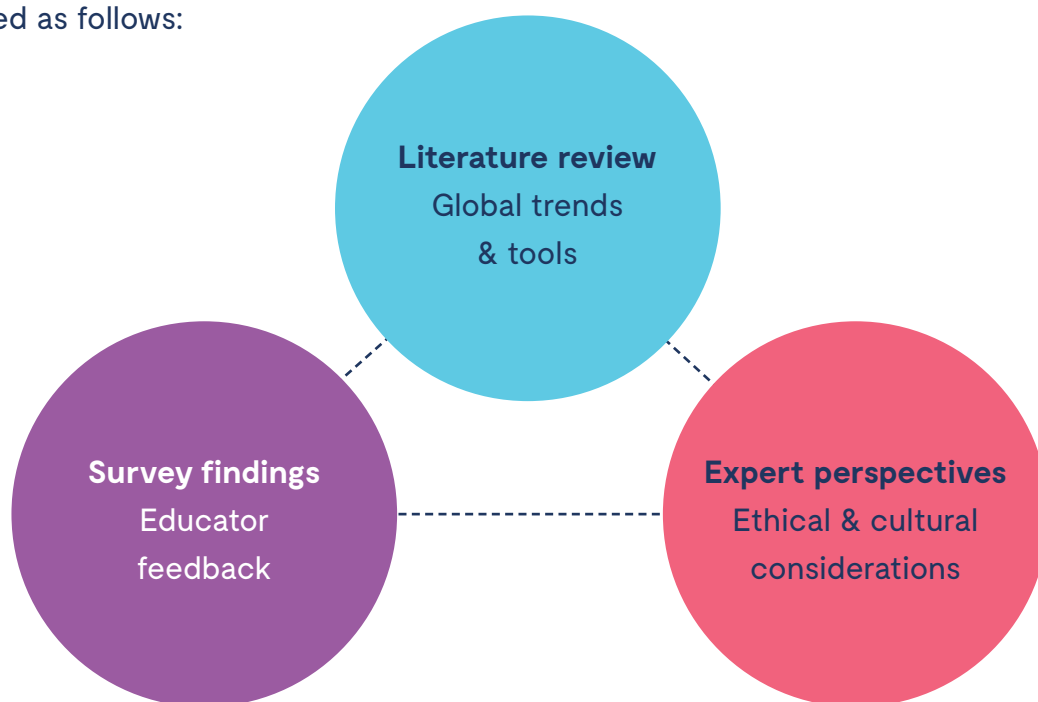
This guide, the first in a three-part series, provides educators, policymakers, and education leaders with a foundational understanding of AI's impact on education, drawn from the 2024 scoping project. *Volume 1: AI Insights for Educators* summarises the current state of AI integration, incorporating literature, research findings, and survey results to explore the theoretical and strategic implications of AI adoption in adult tertiary education.

In recent years, AI technologies such as ChatGPT, Microsoft CoPilot, and other generative systems, have rapidly advanced, attracting attention for their potential in educational contexts. However, many educators still ask: How can these tools be applied practically? This volume bridges that gap by explaining the technological foundations and exploring potential applications, while addressing challenges such as the need for professional development, data privacy, and algorithmic bias. By building this theoretical foundation, the guide equips educators to engage thoughtfully with AI as they prepare to integrate it into their teaching.

The guide also emphasises the unique cultural context of Aotearoa New Zealand, particularly the importance of cultural sensitivity and inclusivity for Māori and Pacific ākonga. As AI becomes more prominent in educational settings, it is essential that these technologies respect and reflect the diverse identities of all ākonga. Volume 1, therefore, offers educators the insights needed to approach AI integration responsibly and ethically within multicultural and diverse learning environments.

Preview of what is covered here

This guide provides a foundational understanding of AI in education, drawing on three key sources: a comprehensive literature review, survey findings from over 100 educators, and insights from AI experts. This structure balances theoretical insights with real-world perspectives and Aotearoa New Zealand-specific considerations. The volume is organised as follows:



Literature review

This section presents insights from an expert panel of AI professionals on the latest trends, challenges, and opportunities for AI in education:

- **Emerging AI Tools:** Experts highlighted adaptive learning platforms and AI-driven analytics as essential tools for personalisation and data-informed teaching.
- **Adoption Challenges:** Key barriers include technical limitations, insufficient professional development, and ethical concerns, particularly around data privacy and cultural representation.
- **Collaboration and Policy:** Experts emphasised the need for collaboration among educators, policymakers, and technologists to support ethical, inclusive, and effective AI use in education.
- **Opportunities for Efficiency and Access:** AI is viewed as a tool to enhance personalisation, improve accessibility, and streamline administrative tasks.

For a comprehensive review of current peer-reviewed literature, including cultural, ethical, and practical considerations in AI education, readers are encouraged to consult our full literature review available for download [here](#). This document underpins the thematic and strategic directions outlined in this guide.

Methodology

This scoping study draws on insights from two online surveys conducted between March and July 2024. One survey targeted educators in adult tertiary education, and the other was designed for AI experts working in education, technology, and policy fields.

A total of 104 educators participated, primarily from Aotearoa New Zealand, with respondents spanning a wide range of roles including kaiako/tutors, curriculum developers, managers, and administrators. The survey was distributed via professional networks, including LinkedIn and X (formerly Twitter), and participation was open to anyone with relevant experience. While the majority of respondents were based in the tertiary education sector, responses were accepted across various providers and settings, reflecting generalisable insights across the sector.

A second survey captured responses from 15 AI experts, recruited via snowball sampling through established networks. These individuals were recognised as experts due to their technical backgrounds in areas such as AI development, system design, and policy advising. Their contributions provided a broader systemic lens to complement the practical concerns raised by educators.

Both surveys were administered using Microsoft Forms and included a mix of closed and open-ended questions. While no follow-up interviews were conducted, informal conversations and follow-ups were used to validate emerging insights. Although efforts were made to gather a diverse range of voices, particularly from Māori, Pacific, and neurodiverse educators, representation across all demographic groups was not guaranteed and is acknowledged as a limitation of this study.

A full version of the survey findings, including detailed respondent data and comparative insights, is available for download [here](#).

Survey findings

This section presents data from the educator survey and expert insights, mirroring the themes in the literature review:

- **Technological Tools:** Educators' feedback on effective AI tools, challenges, and practical experiences.
- **Quality and Equity:** Perceived benefits of AI and equity-related concerns for diverse ākonga.
- **Empowering Educators:** Educators' reflections on how AI has influenced their workloads, teaching practices, and student engagement.
- **Cultural and Ethical Perspectives:** Views on AI's role in supporting culturally inclusive education and addressing ethical concerns.

Expert perspectives on AI trends and challenges

This section presents insights from an expert panel of AI professionals on the latest trends, challenges, and opportunities for AI in education:

- **Emerging AI Tools:** Experts highlighted adaptive learning platforms and AI-driven analytics as essential tools for personalisation and data-informed teaching.
- **Adoption Challenges:** Key barriers include technical limitations, insufficient professional development, and ethical concerns, particularly around data privacy and cultural representation.
- **Collaboration and Policy:** Experts emphasised the need for collaboration among educators, policymakers, and technologists to support ethical, inclusive, and effective AI use in education.
- **Opportunities for Efficiency and Access:** AI is viewed as a tool to enhance personalisation, improve accessibility, and streamline administrative tasks.

Māori and Pacific perspectives

Drawing on the literature and survey findings, this section explores AI integration from Māori and Pacific viewpoints, focusing on:

- **Culturally Relevant AI Tools:** The importance of developing AI systems that align with Māori and Pacific values and reflect cultural identities.
- **Support for Language and Cultural Revitalisation:** Opportunities for AI to aid in the revitalisation of *Te Reo Māori* and Pacific languages, fostering culturally responsive teaching practices.
- **Challenges and Potential:** Key challenges and opportunities for AI to enhance learning experiences while safeguarding cultural heritage and identity.

While Māori data sovereignty and Treaty-aligned governance are critical to the future of AI in Aotearoa, a full treatment of these issues lies beyond the scope of this initial project. However, these themes are acknowledged as foundational, and our approach

affirms the importance of culturally responsive frameworks aligned with Te Tiriti o Waitangi.

Together, these four sections establish the groundwork for *Volume 2: Practical AI Applications for Educators*, a guide offering actionable strategies and tools for integrating AI into teaching. This volume provides practical insights on overcoming AI hesitancy, crafting personalised learning experiences with ChatGPT, and leveraging generative AI for multimedia creation. By exploring these applications, it sets the stage for *Volume 3: Implications of AI in Education*, which focuses on leadership and governance.

Looking further ahead, Volume 3 builds on this foundation by addressing the broader challenges of leadership and governance in AI integration. It equips educators and administrators with practical steps to enhance operational efficiency, shape institutional policies, support professional development, and ensure equitable access. This final volume aims to guide education leaders in adopting AI responsibly, balancing innovation with cultural sensitivity, ethical integrity, and institutional readiness.



2 | Literature review summarised

“While current tools enhance certain aspects of learning, there is still much to be understood about how AI will influence the future of pedagogy...” (pg. 14).

Our research involved an extensive literature review of AI's integration into education, drawing from global studies, expert opinions, and practical examples. The full, detailed, version of the literature review is available for download [here](#).

This chapter provides a summarised version of the key findings from said review, focusing on the most relevant insights for tertiary educators. We aim to highlight the major technological advancements, the role of AI in enhancing educational quality and equity, how AI empowers educators, the importance of cultural sensitivity, ethical considerations, and future directions for AI in education.

By condensing the literature into this chapter, we focus on the practical implications of AI in education, specifically addressing the needs and interests of educators in Aotearoa New Zealand.

Technological advancements and AI tools

Artificial Intelligence (AI) is increasingly transforming education through various tools and platforms that enhance learning experiences and automate routine tasks. Historically, AI's role in education began with basic tools like grammar checkers and adaptive learning platforms, but it has now expanded to include more sophisticated applications such as chatbots, intelligent tutoring systems, and learning analytics.

One notable development is the creation of personalised learning systems that adapt content delivery based on ākonga' needs. Platforms like Knewton and DreamBox use real-time data to assess learner performance and provide customised lessons, improving both engagement and outcomes. These platforms help tailor instruction to different

learning styles and paces, allowing educators to focus on more complex aspects of teaching, such as critical thinking and problem-solving.

Another significant application is the use of AI-powered assessment tools. AI can now automate administrative tasks such as grading, enabling faster and more consistent feedback. For example, tools like Turnitin's Revision Assistant provide immediate feedback on writing assignments, supporting both educators and ākonga by reducing workload while maintaining quality.

Furthermore, predictive analytics tools can analyse large datasets to identify at-risk ākonga and suggest interventions early. By tracking patterns in student performance, these tools allow educators to make informed decisions, improving retention rates and learner success.

These advancements demonstrate that AI can support educational practices by simplifying repetitive tasks, enhancing learner engagement, and making real-time adaptations. However, as the technology evolves, it's important to critically evaluate both the opportunities and limitations of these tools in diverse educational settings.

Educational quality and equity

AI holds significant potential to improve educational quality by providing personalised learning experiences, streamlining assessments, and enhancing student engagement. However, it is critical to address whether AI can also contribute to equitable outcomes, ensuring that all ākonga benefit from these advancements, particularly those who have historically faced, and may continue to face, barriers to success.

One of AI's strengths is its ability to offer customised learning paths based on student performance. Tools like Coursera's machine learning algorithms help personalise course suggestions and tailor content delivery to each student's pace and skill level, ensuring ākonga receive the right support when they need it. This ability to personalise learning has been shown to improve engagement and retention, especially for ākonga who may struggle in traditional learning environments.

However, while AI can bridge some educational gaps, it also has the potential to widen others. Access to AI technologies is uneven, often leaving Māori, Pacific, rural, and neurodiverse ākonga at a disadvantage if these tools are not made universally accessible. Additionally, AI systems that are designed without considering cultural differences or diverse learning styles could inadvertently reinforce existing inequities. This is particularly important in Aotearoa New Zealand, where ensuring Te Tiriti o Waitangi principles are upheld means that AI must be designed and implemented in ways that honour Māori worldviews.

In this regard, AI can both enhance and challenge equity in education. Thoughtful implementation, with a focus on inclusivity, is required to ensure AI benefits all ākonga. As educators, understanding both the opportunities and limitations of AI in this context is crucial for achieving fair and equitable educational outcomes.

Empowering educators

AI tools are increasingly being adopted to support educators by automating routine tasks, enhancing lesson plans, and providing personalised feedback. These technologies not only reduce the administrative burden but also allow educators to focus on more meaningful aspects of teaching, such as student interaction and deeper learning.

One of the key areas where AI can empower educators is in automating time-consuming tasks like grading. AI-powered tools such as Grammarly and Gradescope can assess writing, code, or problem sets, providing feedback that is immediate and consistent. This frees up educators' time to focus on the qualitative aspects of learning, such as facilitating discussions or offering more nuanced support to ākonga.

Another significant benefit of AI is its ability to assist in lesson planning and content creation. Tools like Smart Sparrow or Century Tech help educators design adaptive lessons that adjust to student needs in real-time. These platforms offer suggestions based on data about student engagement and progress, helping educators tailor their teaching methods to ensure that all ākonga stay on track.

In addition, AI can support educators by offering personalised insights into student performance. Learning management systems integrated with AI, such as Canvas or Moodle, provide data analytics that help educators identify ākonga who may need extra help, ensuring that interventions are timely and targeted.

Overall, these tools have the potential to significantly enhance professional development, equipping educators with new methodologies and insights. As AI becomes more integrated into educational environments, educators who are open to these technologies can improve both their efficiency and effectiveness in the classroom.

Cultural sensitivity and inclusivity

Incorporating AI into education in Aotearoa New Zealand requires a deep understanding of the diverse cultural contexts in which learning occurs. AI tools must not only be technologically advanced but also culturally responsive, ensuring they reflect the unique perspectives of ākonga, particularly Māori and Pacific ākonga.

Cultural sensitivity in AI involves designing systems that respect Te Tiriti o Waitangi and recognise Mātauranga Māori (Māori knowledge). For example, AI tools used in education should reflect Māori worldviews and be capable of supporting Te Reo Māori in both content and interaction. There are growing efforts to develop AI that aligns with these values, ensuring that technology supports Māori ākonga in ways that are culturally affirming. Similarly, tools need to consider Pacific learning styles, which often emphasise communal knowledge-sharing and holistic approaches to education.

If AI is not designed with cultural inclusivity in mind, it risks perpetuating existing educational disparities. Algorithmic bias is a real concern, as AI systems trained on data that does not include diverse populations may fail to serve those populations effectively. For instance, an AI system that evaluates student performance based on Western models

of assessment might not capture the full range of skills and knowledge valued in Māori or Pacific communities.

To address these challenges, educators and AI developers must work collaboratively to create tools that are inclusive by design. This includes consulting with Māori and Pacific subject matter experts during the development process, to ensure that AI systems not only avoid bias but actively promote equitable outcomes for all ākonga. By doing so, AI can be a tool that supports the diverse needs of ākonga in Aotearoa, fostering inclusive educational environments.

Ethical considerations and implementation

As AI becomes more prevalent in education, several ethical concerns must be addressed to ensure its responsible use. These include issues related to data privacy, algorithmic bias, and the overall transparency of AI systems in educational settings. For educators, understanding these ethical challenges is key to implementing AI in ways that safeguard ākonga' rights and promote trust in the technology.

One of the primary concerns is data privacy. AI systems often rely on collecting and analysing large amounts of student data to function effectively, whether for personalising learning or predicting performance. Ensuring that this data is protected and used responsibly is critical. Educators and institutions must be aware of privacy regulations, such as the Privacy Act 2020 in Aotearoa New Zealand, and ensure that AI tools comply with these standards. Moreover, ākonga should be fully informed about how their data is being used and given the option to consent or opt out.

Another significant issue is algorithmic bias. AI systems are only as good as the data they are trained on. If that data lacks diversity or reflects societal biases, the AI will produce skewed or unfair results. This is particularly concerning in the context of Māori, Pacific, and neurodiverse ākonga, who may be disproportionately affected if AI systems are not designed with inclusivity in mind. Bias can manifest in various ways, such as inaccurately predicting student outcomes or offering biased feedback, leading to unequal educational opportunities.

Transparency is also a key ethical consideration. Educators and ākonga need to understand how AI systems make decisions, especially when those decisions impact learning outcomes. A lack of transparency can lead to a reliance on “black box” systems, where users trust AI without fully understanding its workings. This raises concerns about accountability, particularly if an AI tool produces an unfair or harmful result.

To mitigate these ethical risks, it is essential to adopt responsible AI practices. This includes conducting thorough ethical reviews, involving stakeholders in decision-making processes, and ensuring that AI systems are auditable and explainable. By prioritising ethics in the implementation of AI, educators can use these tools confidently, knowing they are enhancing education in a way that respects ākonga' rights and promotes fairness.

Impact analysis and future directions

The integration of AI in education has already begun to reshape teaching and learning, but its full potential is still emerging. Evaluating the impact of AI on current educational practices reveals both positive outcomes and areas that require further exploration.

In terms of immediate impact, AI tools are streamlining many administrative tasks, providing real-time feedback, and enhancing personalised learning. These advancements have improved efficiency for educators, allowing them to focus more on creative and interactive aspects of teaching. In addition, predictive analytics and data-driven insights have allowed institutions to track learner progress more effectively, identifying at-risk ākonga earlier and offering timely interventions.

However, the long-term impact of AI in education raises several questions. While current tools enhance certain aspects of learning, there is still much to be understood about how AI will influence the future of pedagogy, particularly as technologies become more autonomous. Will AI eventually take over tasks traditionally handled by educators, such as assessment and curriculum design? And if so, how will this reshape the role of educators in the classroom?

Future directions for AI in education will likely include more sophisticated adaptive learning platforms, which could fully personalise learning experiences for each student. These systems may eventually evolve into AI-driven tutors that provide in-depth support across subjects, adjusting in real-time to ākonga's strengths and weaknesses.

Another area of future growth is the potential for AI to enhance accessibility. AI tools that support assistive technologies could open education to more ākonga, including those with disabilities or those in remote locations. For instance, speech-to-text and natural language processing technologies are likely to improve, providing enhanced support for neurodiverse ākonga and those with literacy challenges.

Despite these promising developments, the future also holds challenges. Ensuring that AI technologies continue to promote equity and inclusivity will be critical, especially as AI systems become more deeply integrated into educational frameworks. Ongoing research and careful impact assessment will be necessary to ensure that AI continues to benefit all ākonga and that educators are prepared to adapt to its evolving role.

3 | Survey and results (summarised version)

“Collaboration should also extend to partnerships with AI developers, ensuring that tools are practical, culturally responsive, and aligned with educators’ needs.” (pg. 30)

The findings presented in this chapter are a summarised version of the key insights gathered from our comprehensive research on the integration of AI in adult tertiary education. The full, detailed report is available for download [here](#), where educators can explore the data and analysis in greater depth.

This chapter provides an accessible overview of the most relevant points, focusing on the experiences, perceptions, and practical considerations for educators in Aotearoa New Zealand. It highlights the demographics of participants, the types of AI tools used, the benefits and challenges of AI integration, and future needs as identified by educators. By condensing the findings, we aim to offer a clear and concise picture of AI’s current impact on the tertiary education sector.

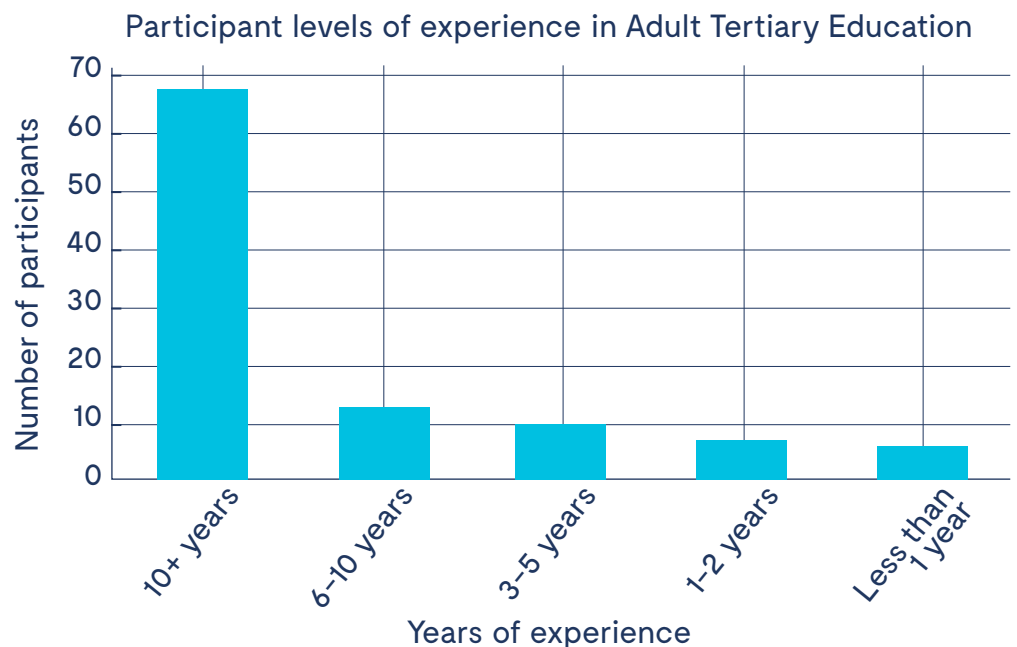
The demographic data collected in this research provides valuable insights into the participants’ backgrounds, teaching experiences, and familiarity with AI. This diversity reflects the broad range of educational settings and experiences in Aotearoa New Zealand’s adult tertiary education sector, where AI integration remains in its early stages but shows significant potential.

Demographic overview

Participant backgrounds

Participants in this study represented a wide range of educational institutions, including polytechnics, private training establishments (PTEs), wānanga, universities, and adult community education (ACE) providers. This diversity of institutional representation provides a broad perspective on how AI might be integrated across different teaching environments.

Most participants were highly experienced educators, with approximately 65% having over 10 years of experience in adult tertiary education. This extensive experience is essential, as it highlights the insights of educators who have a deep understanding of adult learning. Their perspectives are valuable in exploring how AI can be effectively integrated into teaching environments.



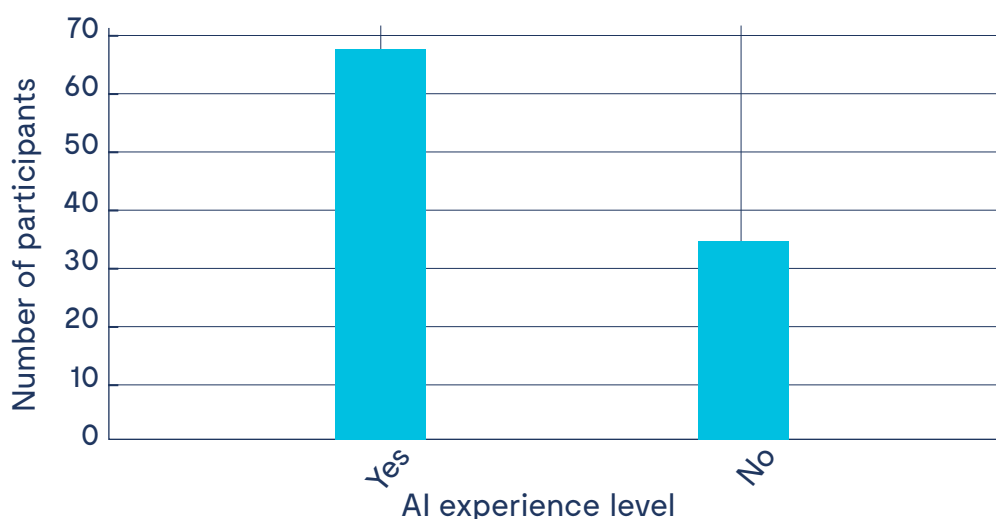
While specific subject areas were not explicitly listed in the survey data, the range of roles, including kaiako (teachers), managers, and administrators, suggests that participants came from various educational contexts. AI tools may be applied differently depending on the teaching context, and this variety in roles points to potential differences in how AI is used across disciplines.

Although the data does not directly confirm whether participants work with culturally diverse ākonga (such as Māori, Pacific, or neurodiverse ākonga), the importance of cultural inclusivity remains a key consideration for AI integration. Ensuring that AI tools are adaptable to the diverse needs of ākonga, particularly in Aotearoa New Zealand’s educational landscape, is critical to fostering inclusive learning environments.

Experience levels with AI

The data reveals that approximately 34% of participants reported having minimal or no experience with AI technologies. This highlights that while AI adoption in Aotearoa New Zealand's adult tertiary sector is still emerging, a significant portion of educators have already begun exploring AI's potential in their teaching environments. For many, the use of AI is still in the early stages, and educators are in the process of understanding how AI can be effectively implemented.

Participant experience with AI tools in teaching or administrative practices



Among those who have experimented with AI, the most-used tools were basic, such as automated grading systems, chatbots, and learning management systems (LMS) with AI-enhanced features like adaptive learning. Educators generally found these tools helpful for automating administrative tasks and providing immediate feedback to ākonga. However, their application remains supplementary rather than integral to core teaching activities.

There were noticeable differences in AI experience across different age groups and levels of technology confidence. Younger educators, particularly those who are already familiar with technology-enhanced learning (e.g., virtual classrooms or digital platforms), were more likely to experiment with AI. These educators saw AI as a natural extension of the digital tools they already use. In contrast, educators with over 20 years of experience tended to approach AI with greater caution, often citing concerns about the learning curve and the potential disruption to established teaching methods.

Diversity of ākonga

Given the sector's focus on equitable outcomes, the diversity of the ākonga who educators work with was a prominent theme in the research. Participants reported teaching a substantial number of Māori, Pacific, and neurodiverse ākonga, and many emphasised that AI tools need to be flexible enough to cater to these groups' needs. Features such as language support for Māori and Pacific ākonga and customisable learning paths for neurodiverse ākonga were seen as critical for ensuring inclusivity.

Educators highlighted the importance of developing AI tools that are not only easy to use but also adaptable to the specific cultural and educational requirements of their ākonga.

This focus on cultural inclusivity adds another layer of complexity to AI implementation, requiring developers and institutions to consider the unique learning environments in Aotearoa New Zealand's tertiary sector.

Summary

Overall, the demographic data reveals both broad interest in AI and a significant gap in practical experience. While educators are enthusiastic about AI's potential, there is a clear need for more professional development to build confidence and capability in using AI tools effectively. The findings suggest that successful AI integration will depend on providing educators with the training and resources needed to ensure AI tools can be adapted to diverse learning contexts and meet the needs of all ākonga, particularly those from culturally and educationally diverse backgrounds.

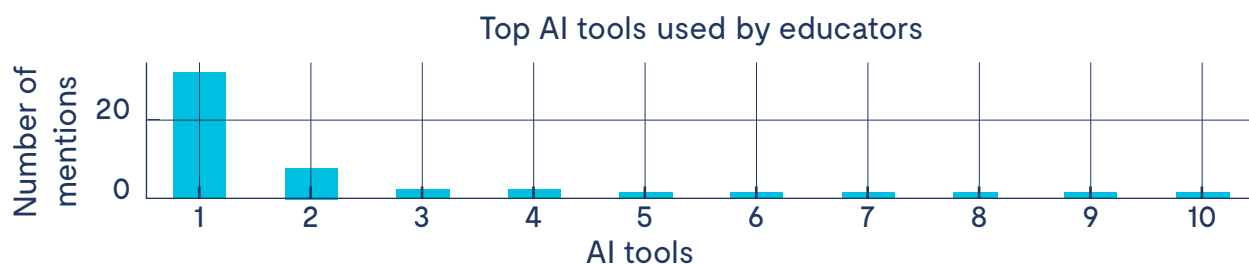
Types of AI tools used and educators' experiences

The research provides valuable insights into the range of AI tools that educators in Aotearoa New Zealand's adult tertiary sector have been using, along with their experiences and perceptions. Although AI adoption is still in its early stages, several tools have emerged as particularly useful for both teaching and administrative tasks. The feedback on these tools varies, reflecting both the potential and challenges AI presents in educational contexts.

Common AI tools used

Educators reported using a variety of AI tools, each offering unique applications for enhancing teaching efficiency, content generation, and assessment. The following are some of the most widely mentioned tools:

- **ChatGPT and other language models:** ChatGPT was the most frequently used tool, employed for generating content such as discussion prompts, summarising course materials, and brainstorming ideas for lessons. Educators valued its ability to reduce the time required to prepare content, especially for creative or adaptive tasks. However, they noted that ChatGPT occasionally produced inaccurate or overly simplistic information, making it more suitable for initial drafts rather than final material.
- **Microsoft CoPilot:** This tool helped educators automate repetitive tasks like drafting documents and emails or organising lesson plans. CoPilot was particularly appreciated for streamlining administrative tasks, freeing up time for more engaging teaching activities such as mentoring ākonga and providing personalised support.
- **Generative AI tools for visual content:** Tools like DALL-E were used by some educators to create visual aids for lessons. These tools showed potential for enhancing the learning experience by generating relevant images or graphics to explain complex concepts. However, many educators were still exploring their capabilities, so usage remains limited.
- **Other tools:** A few participants also mentioned using tools such **Grok**, **Perplexity AI**, and **Midjourney**, though their use was less common.



KEY

1 ChatGPT

2 Chat GPT; Microsoft CoPilot

3 ChatGPT; Grok; DALL-E

4 Microsoft CoPilot

5 ChatGPT; Canva; Quiz Generation; Google Bard/
Gemini

6 ChatGPT; Microsoft CoPilot; Google Bard/
Gemini; Perplexity AI; Claude

7 Microsoft CoPilot; ChatGPT; PDF tools

8 ChatGPT; Microsoft CoPilot; Adobe Express

9 ChatGPT; Google Bard/Gemini; Microsoft
CoPilot

10 ChatGPT; Perplexity AI; DALL-E

Educator feedback on AI tools

The feedback from educators revealed several recurring themes, highlighting both the benefits and challenges of integrating AI into teaching practices:

1. **Efficiency and timesaving:** AI tools were widely appreciated for their ability to **automate repetitive tasks**, significantly reducing the administrative burden on educators. ChatGPT and Microsoft CoPilot, for example, were praised for their ability to quickly generate content and manage tasks like email drafting, allowing educators to allocate more time to **interactive and student-focused activities**.
2. **Concerns about accuracy and appropriateness:** While AI tools like ChatGPT were helpful for content generation, educators expressed concerns about their **accuracy and reliability**. Some noted that AI-generated content could occasionally be inaccurate or too generic for advanced ākonga. Similarly, AI-powered feedback systems were sometimes seen as lacking depth in assessing more complex student work, such as essays or creative projects.
3. **Need for training and support:** A key theme in the feedback was the need for more professional development to help educators fully understand and integrate AI tools into their teaching. While tools like Microsoft CoPilot were relatively easy to use, more advanced tools like ChatGPT or DALL-E required additional training. Educators also expressed a desire for guidance on **ethical use of AI**, particularly around issues of data privacy and ensuring AI tools are culturally responsive.
4. **Balancing AI with human interaction:** Educators were cautious about over-relying on AI tools, emphasising that AI should be seen as a support mechanism rather than a replacement for **human interaction** in the classroom. There was broad agreement that while AI can assist with administrative and content tasks, the human elements of teaching – such as empathy, relationship-building, and critical thinking – remain irreplaceable.

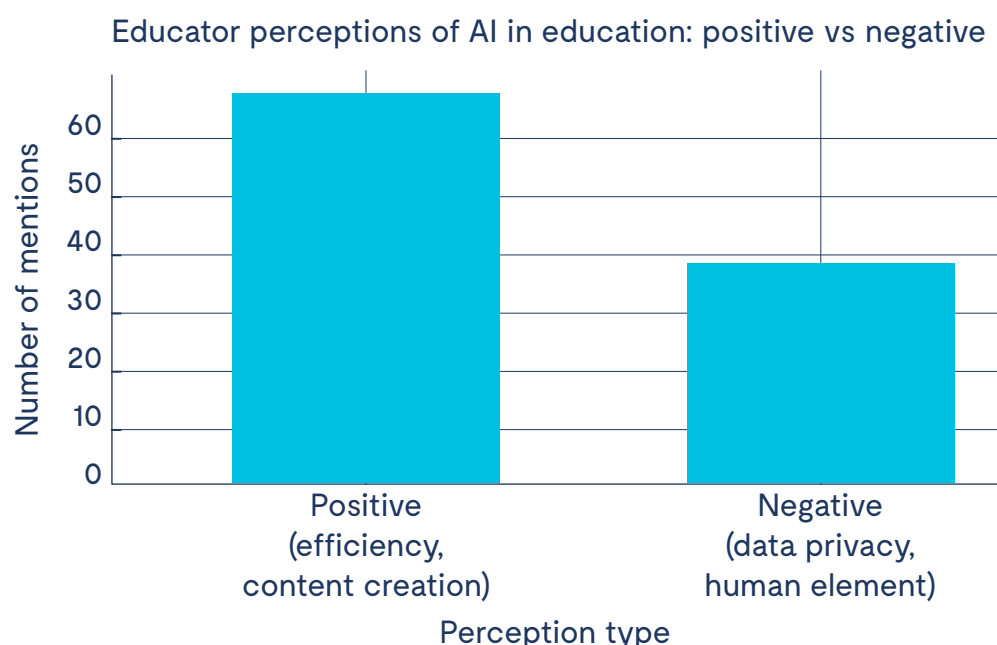
AI Tool	Key Strengths	Key Limitations
ChatGPT	Content generation, brainstorming, timesaving	Inaccuracy, overly simplistic for advanced work
Microsoft CoPilot	Automating repetitive tasks, organising lesson plans	Requires training, limited to administrative tasks
LMS Feedback Systems	Automated feedback for large classes, immediate responses	Lacks depth for subjective tasks like essays
DALL-E	Visual content creation, enhancing complex concepts	Limited familiarity, potential for inappropriate visuals

Overall experience

Educators' experiences with AI in education were largely positive, with many recognising the potential of AI tools to enhance both teaching and administrative efficiency. However, there was a clear need for ongoing support and training to ensure that AI tools are used effectively and ethically. As AI continues to evolve, educators will require continuous professional development to stay updated on the latest technologies and learn how to integrate them into their practice in ways that enhance the educational experience for all ākonga.

Perceptions of AI in education

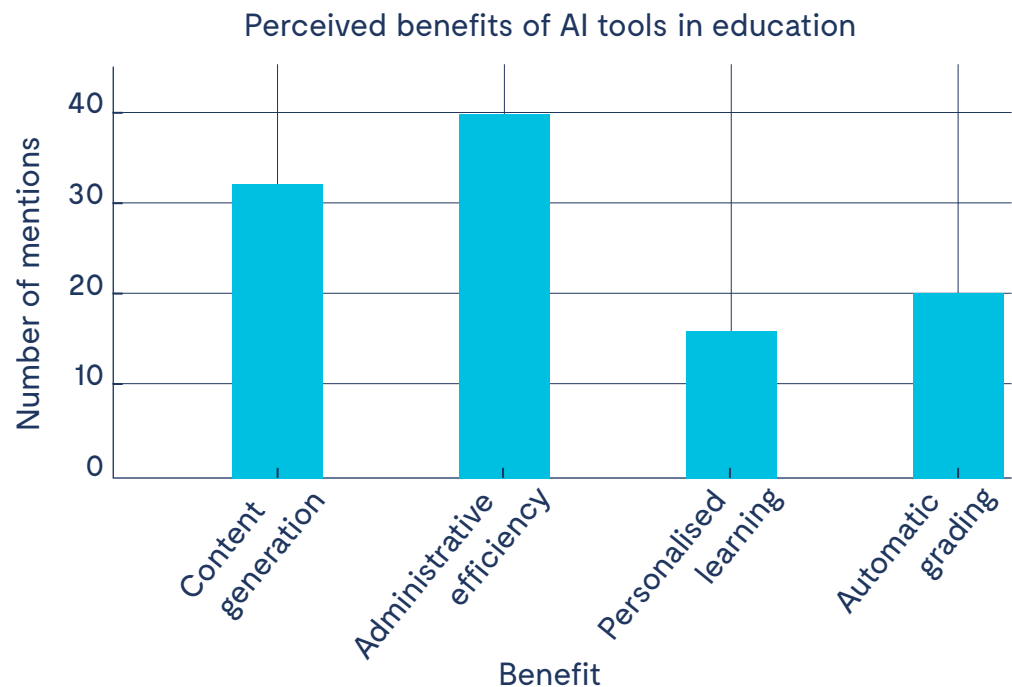
The research presents a diverse range of views from educators regarding the potential of AI in adult tertiary education. Their perceptions reflect both optimism and concern, shaped by their experiences with AI tools, institutional support, and awareness of AI's broader implications.



Positive perceptions

Many educators acknowledged the transformative potential of AI, particularly in areas such as content creation, automated assessment, and administrative efficiency. They saw AI as a powerful tool for enhancing teaching efficiency, allowing them to focus on more complex tasks that require human judgment, such as fostering critical thinking and mentoring ākonga. For example, tools like ChatGPT were recognised for their ability to quickly generate content, assist with repetitive administrative tasks, and streamline communication.

Additionally, educators appreciated AI’s role in improving their ability to manage large classes. AI tools were frequently praised for automating routine tasks like grading quizzes and assignments, enabling educators to redirect their attention to more student-centred teaching activities. While specific tools for adaptive learning were not widely mentioned, the overall sense was that AI could help support more personalised approaches by freeing up time for individual student interactions.



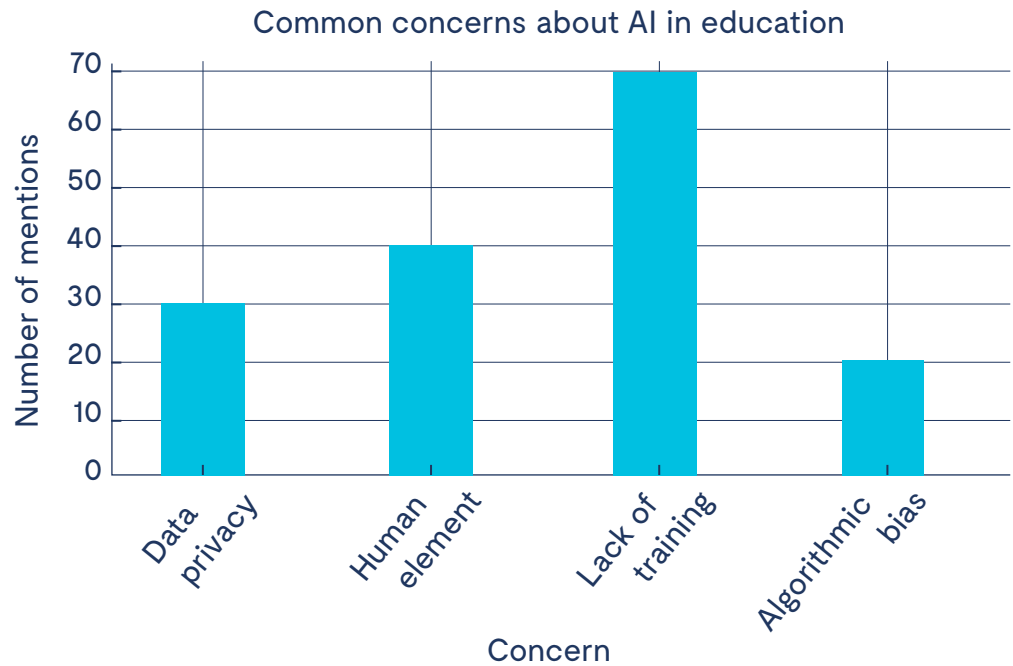
Negative perceptions and concerns

Despite the positive views, educators also voiced significant concerns about the integration of AI into education. One prominent issue was data privacy. Many educators were uncertain about how to safeguard student data in AI-driven systems and expressed concerns about the transparency of how AI systems process and utilise this data. Ethical considerations were raised, though specific concerns around algorithmic bias affecting certain groups, such as Māori, Pacific, or neurodiverse ākonga, were not directly mentioned.

Another major concern was the potential for AI to diminish the human element of teaching. Educators stressed that while AI can automate many tasks, it cannot replace the empathy, cultural responsiveness, and personal connection that are essential in education. They feared that over-reliance on AI could lead to depersonalised learning

experiences, where the focus shifts from fostering meaningful student-educator relationships to purely data-driven instruction.

Additionally, educators felt under-prepared for the challenges AI presents. Many participants reported a lack of sufficient AI training, which hindered their ability to effectively integrate AI into their teaching practices. This lack of preparedness was tied to institutional shortcomings in providing the necessary professional development and resources to equip educators with the skills to use AI responsibly.

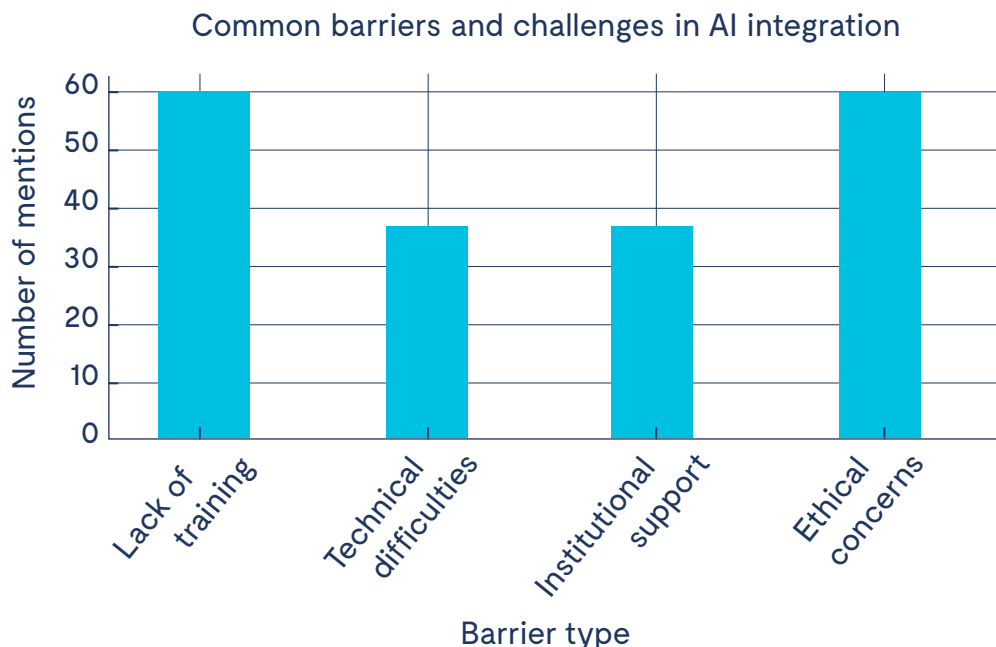


Balancing optimism and caution

Educators recognised AI’s potential to enhance education but tempered their enthusiasm with practical and ethical concerns. While they were eager to explore AI’s possibilities, many emphasised the need for robust training and clearer ethical guidelines to ensure that AI tools are implemented in ways that promote equitable outcomes for all ākonga. There was a strong call for ongoing professional development and support to help educators integrate AI effectively, as well as collaboration with AI developers to ensure these tools are culturally responsive and aligned with the diverse realities of teaching in Aotearoa New Zealand’s educational landscape.

Challenges and barriers in integrating AI tools

The integration of AI into adult tertiary education is not without its challenges. The findings from the research highlight several key barriers that educators face, ranging from lack of training to technical and institutional challenges. These barriers reflect both practical difficulties and deeper concerns about the role of AI in education.



Lack of training and professional development

A significant barrier identified by many educators is the lack of comprehensive training programmes to support AI integration. Educators frequently reported insufficient AI training, limiting their ability to use AI tools effectively in the classroom. This gap in knowledge leaves educators feeling under prepared, particularly when it comes to using AI in a way that is culturally responsive and inclusive of minority groups, such as Māori, Pacific, and neurodiverse ākonga.

Educators expressed a strong desire for professional development opportunities that would not only cover the technical aspects of AI but also address ethical concerns, such as how to protect student data and avoid algorithmic bias. Without adequate training, educators risk misusing AI tools or failing to exploit their full potential, which could compromise the quality of teaching.

Resistance to change

While there is excitement about the potential of AI, some educators expressed concerns about maintaining the human elements of teaching, particularly in tasks that require human judgment, such as student mentorship and personalised feedback. These educators emphasised the importance of balancing AI integration with the need to preserve the personal, relationship-focused aspects of education.

Technical difficulties and Institutional support

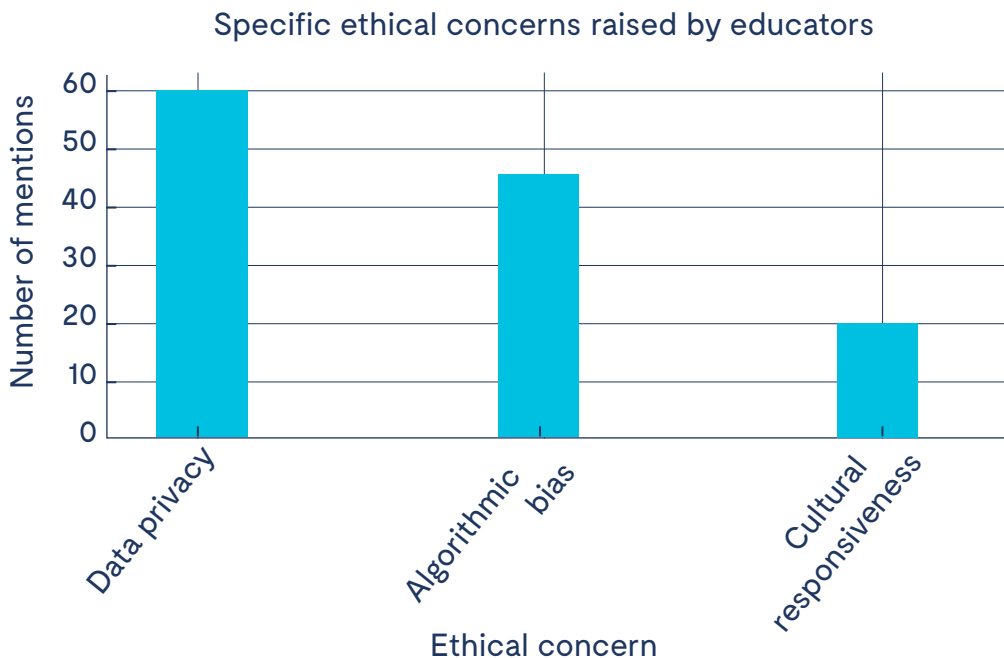
The research also found that technical difficulties, such as a lack of appropriate infrastructure and support, pose significant barriers to AI adoption. Many educators reported struggling with technical issues, such as poor internet connectivity, insufficient access to AI tools, or inadequate institutional support. These barriers make it difficult for educators to experiment with or fully adopt AI technologies in their teaching.

Institutions also play a critical role in facilitating or hindering AI integration. A common complaint was the lack of institutional commitment to investing in AI technologies and supporting educators through technical training and infrastructure improvements. Without this support, educators are left to navigate complex AI tools on their own, leading to frustration and, in some cases, abandonment of AI-driven initiatives.

Ethical and cultural concerns

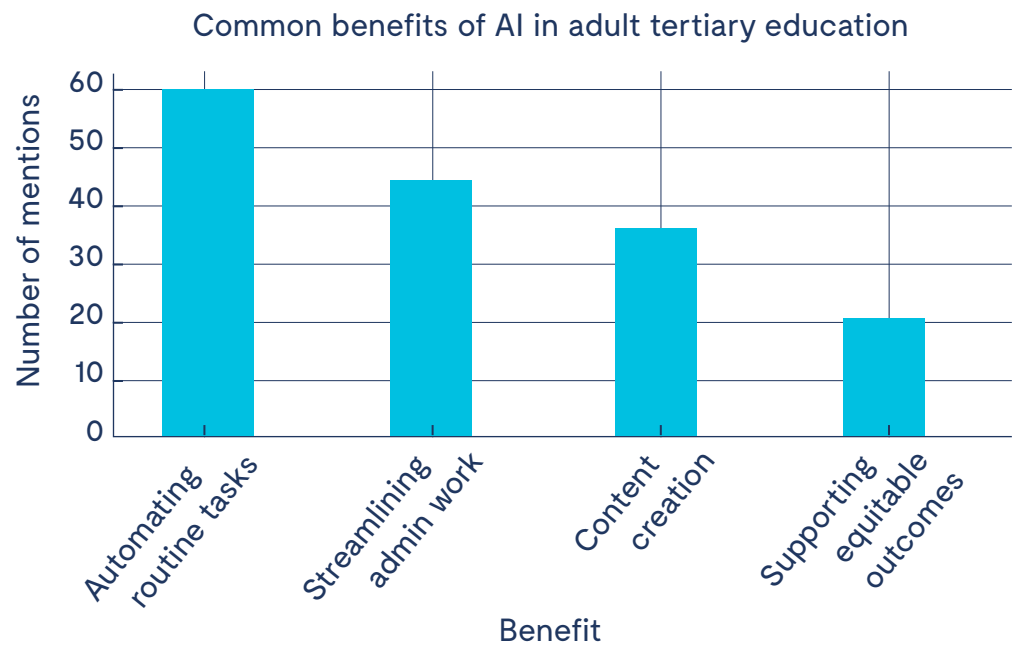
Educators highlighted a range of ethical concerns associated with AI integration. **59% of participants** expressed worries about data privacy and the risk of algorithmic bias in AI systems. These concerns are particularly relevant in Aotearoa New Zealand, where protecting the data of Māori and Pacific ākonga is a priority. Educators voiced uncertainty about how to ensure that AI tools are designed and implemented in ways that respect cultural sensitivities and avoid reinforcing existing biases.

Moreover, there was concern about the transparency of AI systems. Many educators felt that the algorithms driving AI tools are often “black boxes,” making it difficult to understand how decisions are made or how data is processed. This lack of transparency creates mistrust and hinders educators’ willingness to fully embrace AI.



Benefits and opportunities of AI in adult tertiary education

The findings from the study highlight several benefits and opportunities that AI can offer in adult tertiary education. Educators identified areas where AI has already begun to make a positive impact, particularly in enhancing teaching efficiency and streamlining administrative tasks. While personalised learning and early identification of at-risk ākonga were not explicitly mentioned, there are still valuable insights into how AI tools are benefiting educators in practice.

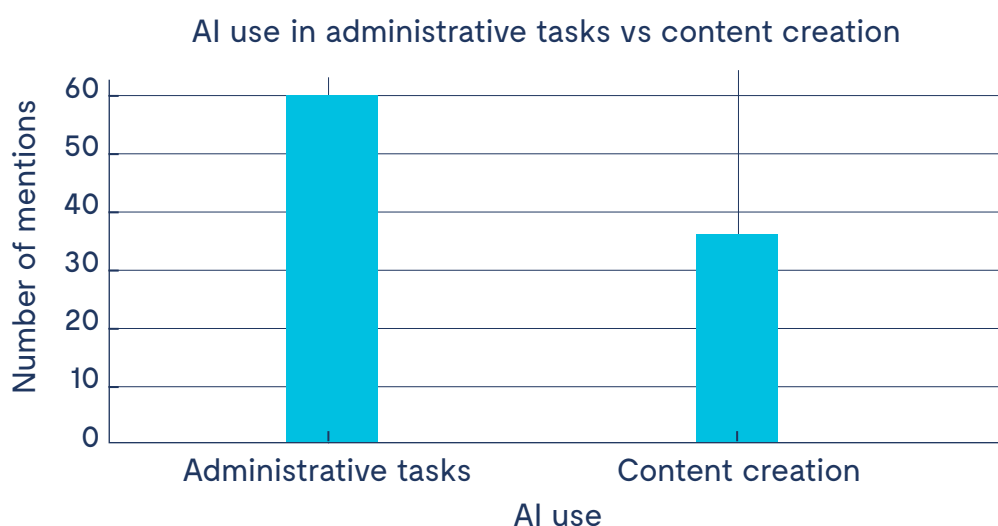


Success in automating routine tasks

Although personalised learning was not specifically highlighted, educators did report the success of AI in automating routine tasks. This included automating assessment tasks such as grading quizzes and assignments, which helped reduce workload and allowed for quicker feedback to ākonga. By automating repetitive tasks, AI enables educators to spend more time on student-centred activities, such as mentoring and personalised teaching.

Content creation and innovation

AI has also become a valuable tool for content creation, helping educators generate course materials, presentations, and assessments more efficiently. Tools like ChatGPT and DALL-E have been used to produce text-based content and create visual aids, enriching the learning environment. This ability to quickly generate content has been a game-changer for educators, particularly those working under tight deadlines. It allows them to focus on the pedagogical quality of their lessons while relying on AI to handle content production.



Efficiency and time savings

One of the most significant benefits of AI reported by educators is its ability to streamline administrative tasks. AI-powered tools have been widely adopted to automate repetitive tasks like grading quizzes, providing standardised feedback, and answering frequently asked student questions. This has enabled educators to focus on more complex responsibilities, such as student mentorship and curriculum development. AI has also proven especially useful in managing large classes by automating grading and communication tasks, allowing educators to allocate more time to student-centred and interactive learning.

Supporting equitable educational outcomes

Although AI's potential to promote equitable outcomes was not a prominent theme in the study, educators acknowledged the importance of ensuring that AI tools are culturally responsive. The potential for AI to adjust to diverse learning needs, particularly through tools that provide feedback or adapt content, was seen as a possible avenue for supporting ākonga from various backgrounds. AI's ability to deliver materials in different formats, such as text-to-speech or translation services, also holds promise for improving accessibility for ākonga with disabilities or those learning in a second language.

Looking ahead: Future opportunities

While the study participants did not mention specific future innovations like predictive modelling or real-time analytics, educators expressed optimism about the broader potential of AI to continue improving teaching and learning. AI tools that can provide more efficient assessments and feedback, and that enhance student autonomy by offering real-time insights into their learning, are viewed as promising areas for growth. These tools have the potential to empower ākonga to take more control over their educational journeys.

Educational impact of AI on student learning and engagement

The research highlights both the promising and nuanced impacts of AI on student learning and engagement in adult tertiary education. While a subset of educators noted increased engagement following AI integration, the majority reported no significant change. Despite this, AI tools are widely seen as offering potential for more personalised learning experiences and efficient instructional methods. However, the impact of these tools appears to vary across different educational contexts, suggesting a need for targeted implementation strategies to realise AI's full potential in diverse learning environments.

Impact on student performance

AI's potential to enhance personalised learning experiences is widely recognised as a promising benefit that may support improved student performance over time. Although real-time analysis and tailored content offer theoretical advantages, educators expressed cautious optimism regarding AI's current impact on reducing educational disparities. Several respondents highlighted the benefits of automated feedback, noting that rapid feedback loops can empower ākonga to take greater ownership of their learning. However, not all educators felt that AI has fully met these aspirations, emphasising the need for continued refinement to ensure equitable support and timely interventions for all ākonga. Additionally, concerns were raised about potential algorithmic bias, particularly in the representation of Māori, Pacific, and neurodiverse ākonga.

Engagement in learning

AI's potential to enhance student engagement is acknowledged, though direct observations of increased active learning behaviours were limited among respondents. AI-driven tools, such as chatbots and virtual assistants, offer a promising avenue for dynamic interaction with course materials – providing instant responses, suggesting resources, and creating conversational environments. However, educators in this survey reported limited firsthand experience with these tools. Similarly, while AI-enhanced visual and interactive content could be beneficial for ākonga who struggle with text-heavy formats, further implementation and research is needed to assess its actual impact on student autonomy and sustained engagement, particularly in complex subject areas.

Challenges in engagement

Despite AI's benefits, some educators expressed concerns that it may inadvertently encourage a more passive learning environment. While AI tools can enhance efficiency and provide personalised support, a few respondents noted a potential risk of ākonga relying too heavily on AI-generated content, potentially hindering the development of critical thinking and problem-solving skills. This raises an important question for AI integration: how can these tools be implemented in ways that support, rather than replace, independent thinking and active learning?

Long-term educational impact

Looking toward the future, educators see AI as playing an essential role in supporting data-driven teaching practices that better address individual student needs. By using AI-generated insights, instructional decisions can be tailored to enhance learner outcomes, particularly for ākonga who may need additional support. However, to fully realise these benefits, respondents emphasised the importance of ongoing professional development and careful implementation strategies. This approach is essential to ensure that AI tools enrich the educational experience and avoid any unintended detriments.

Future needs and resources for AI integration

As AI becomes more prevalent in adult tertiary education, educators have identified key future needs and resources that will be essential for effectively integrating AI tools into their teaching practices. The research underscores the necessity for targeted professional development, robust institutional support, and clear ethical frameworks to guide AI use in education.

Need for comprehensive AI training

A prominent theme from the findings is the need for ongoing professional development to help educators build their capacity to use AI effectively. Many educators reported insufficient training, limiting their ability to integrate AI into their teaching. This gap spans both technical skills – how to operate AI tools – and pedagogical insights on how AI can enhance instructional practices.

Educators expressed a desire for training programs that cover not only the operational aspects of AI but also methods for using these technologies to foster student engagement and personalise learning experiences. Additionally, respondents emphasised the importance of AI literacy that extends beyond the classroom, equipping educators to critically assess AI outputs and ensure responsible, ethical use in educational decision-making.

Access to ethical and culturally responsive AI frameworks

Another critical need identified by educators is the development of ethical guidelines and frameworks for AI use. A significant portion of respondents expressed concerns about data privacy and the potential for algorithmic bias, particularly in the representation of Māori, Pacific, and neurodiverse ākonga. This underscores a pressing need for resources that guide educators in safeguarding student data and ensuring that AI tools are culturally inclusive.

The findings highlight that AI must be implemented in a way that respects the cultural values of ākonga in Aotearoa New Zealand, particularly regarding data sovereignty and the protection of indigenous data. Educators called for transparent AI systems that allow them to understand how algorithms function and how student data is processed and used.

Institutional support and infrastructure

For successful AI integration, educators also emphasised the need for stronger institutional support and access to adequate infrastructure. Many reported technical challenges, such as unreliable internet access or limited resources, which hinder their ability to effectively use AI tools. To address these barriers, institutions need to invest in up-to-date technological infrastructure that supports AI usage, including reliable internet, modern hardware, and compatible software.

Additionally, educators highlighted the importance of ongoing technical support as they implement AI tools in their classrooms. This includes regular updates on emerging technologies, assistance with troubleshooting, and a supportive environment where educators feel empowered to experiment with AI applications without fear of failure.

Collaboration and peer learning

Educators highlighted the importance of collaboration and peer learning as integral components of professional development in AI integration. They expressed a strong desire for networks where educators can share experiences, best practices, and challenges related to AI in education. Such collaborative networks could empower educators to learn from one another and adapt successful strategies to their unique teaching contexts.

Collaboration should also extend to partnerships with AI developers, ensuring that tools are practical, culturally responsive, and aligned with educators' needs. Educators expressed interest in being actively involved in the development process, providing feedback that ensures AI tools are user-friendly and designed with actual classroom realities in mind.

Concluding thoughts on the findings

The successful integration of AI into adult tertiary education will depend on addressing critical needs identified by educators: comprehensive training, ethical frameworks, and robust institutional support. By focusing on these areas, educators can confidently adopt AI tools that enhance teaching and learning while safeguarding the diverse cultural contexts of ākonga in Aotearoa New Zealand. Meeting these needs will help ensure that AI serves as a supportive tool in education, fostering both equity and engagement across varied learning environments.

4 | Expert perspectives on AI trends and challenges

“To effectively address the challenges of AI adoption, experts emphasise the importance of structured support and targeted training programmes.” (pg. 36)

As artificial intelligence (AI) progresses, its transformative potential in education, especially within adult tertiary environments, is increasingly apparent. This chapter presents insights from experts on AI’s current and future role in education, with a focus on emerging tools, integration challenges, ethical implications, and strategic recommendations for effective implementation. Experts highlight the value of AI technologies, including adaptive learning platforms and AI-generated content, for personalising education and enhancing data-driven teaching. However, they also identify critical obstacles, such as knowledge gaps, digital literacy issues, and ethical concerns, underscoring the need for foundational training and institutional support.

The collaboration among educators, developers, and policymakers is pivotal, with experts calling for clear ethical policies and ongoing discussions to foster responsible AI use in education. By cultivating a culture of experimentation, adaptability, and preparedness, educational institutions can harness AI’s potential to support diverse learning needs, equipping ākonga for a rapidly evolving educational landscape.

Emerging AI tools

As AI technology advances, experts are increasingly identifying specific tools that show potential for transforming educational practices. Leading innovations in this area include adaptive learning platforms and AI-driven educational content, both of which have the capability to personalise learning experiences and support data-informed teaching.

Adaptive learning platforms

Adaptive learning platforms are designed to dynamically adjust educational content, pacing, and difficulty based on each learner's progress and individual needs. These systems utilise advanced algorithms to analyse student data, such as learning speed, comprehension levels, and engagement. By interpreting this data in real time, adaptive platforms can tailor learning experiences, offering additional resources for ākonga who need more support while providing advanced content for those ready to progress further. Experts believe that this degree of customisation has the potential to significantly improve learning outcomes, making education more accessible and responsive to individual learner needs.

For educators, adaptive learning platforms offer valuable insights into student performance and progress. These tools enable teachers to monitor real-time data, identifying areas where ākonga are either struggling or excelling. Such insights allow for timely interventions and support that cater to diverse learning requirements within a single classroom or course. Experts envision this personalised approach helping bridge gaps for ākonga who might otherwise fall behind, while also providing challenges for those who are ready to move forward.

AI-powered educational content

The development of AI-powered content creation tools offers another promising opportunity to transform educational resources. These tools can automate the production of materials that align with specific learning objectives, student proficiency levels, or even unique learning styles. For instance, an AI-powered tool might generate multiple versions of a lesson or assessment, each customised to meet varied student needs from visual aids to detailed, text-based explanations. Additionally, many AI-driven content tools can provide real-time feedback to ākonga, a feature that can enhance engagement and motivation by offering immediate insights into their progress.

Experts see AI-powered content as a means of extending educators' reach, enabling them to produce diverse, high-quality resources efficiently. This capability is especially valuable in diverse educational settings, where customisable content can be adapted to multiple languages or presented in culturally responsive formats. In this way, AI-powered content tools have the potential to foster inclusivity, making learning more accessible to ākonga from varied backgrounds.

The anticipated impact on personalisation and data-informed teaching

The integration of adaptive learning platforms and AI-generated content is anticipated to reshape education by enabling a level of personalisation previously unattainable. These tools facilitate data-informed teaching, where educators can make strategic decisions based on real-time analytics about student needs, progress, and areas for improvement. This approach not only enhances teaching efficacy but also promotes a more learner-centred educational model, particularly suited to adult tertiary education.

By utilising these technologies, educators can shift from broad, one-size-fits-all instruction to targeted support, devoting more time to addressing specific learning gaps rather than general content delivery. Experts suggest that such personalisation could lead to more inclusive and adaptable educational environments, allowing each student's learning experience to reflect their individual pace, style, and needs.

However, experts also caution that realising the full benefits of these AI tools requires significant support and training for educators. Without foundational knowledge and resources, educators may struggle to adopt and integrate these tools effectively. Therefore, institutions are encouraged to prioritise professional development and create robust support systems to facilitate AI adoption. Through such measures, the shift towards personalised, data-driven teaching can ultimately contribute to improved learning outcomes, increased engagement, and a more flexible approach to education.

Adoption challenges

While AI offers considerable promise for educational enhancement, experts highlight several challenges that must be addressed to facilitate its successful adoption. Key obstacles include a lack of understanding of AI among educators, digital literacy gaps, and concerns over the readiness of educational institutions to integrate AI technologies effectively.

Knowledge and understanding of AI

One of the primary barriers identified by experts is the general lack of understanding regarding how AI technologies function and how they can be applied within educational settings. Many educators may not be familiar with AI's technical aspects or how these tools can align with their teaching objectives. This knowledge gap can undermine educators' confidence in using AI and prevent them from recognising its potential benefits in improving learning outcomes.

Experts note that AI integration extends beyond merely adopting new tools; it requires a shift in mindset, where educators view technology as a collaborative teaching partner. Without foundational knowledge, educators may feel overwhelmed or even sceptical, perceiving AI as a complex system that is challenging to control or fully understand. To address this, experts recommend introductory training that covers AI concepts, capabilities, and ethical considerations, equipping educators to approach AI with informed confidence and curiosity.

Digital literacy and skills gaps

Beyond understanding AI itself, digital literacy gaps among educators can hinder effective AI adoption. Digital literacy encompasses not only basic technology skills but also the ability to critically and responsibly engage with digital tools. For educators without a strong background in these skills, adopting AI tools – particularly those involving complex algorithms or data interpretation – can feel daunting and inaccessible.

Experts stress the importance of structured professional development programmes focusing on digital literacy, which should extend beyond “how-to” guides to include adaptable mindsets regarding evolving technology. By closing these skills gaps, institutions can empower educators to employ AI tools in ways that enhance their teaching methods, allowing them to feel supported rather than burdened by new technologies.

Technical infrastructure and institutional readiness

Technical limitations, such as inadequate infrastructure and resources, are also significant barriers to AI adoption. Many institutions may lack the necessary infrastructure to support AI tools, including reliable internet access, modern devices, and robust data management systems. Without these foundational elements, AI tools may perform inconsistently or be partially unusable, limiting their potential benefits.

Experts underscore the importance of institutional readiness, encompassing both infrastructure and organisational support. To integrate AI effectively, institutions must invest in updated technological resources and provide ongoing technical support. Additionally, fostering a culture that encourages experimentation and minimises fear of technology-related setbacks can create an environment conducive to AI adoption. In such a supportive culture, educators are more likely to embrace AI as a resourceful tool rather than perceiving it as an added burden.

Ethical and privacy concerns

Ethical considerations, especially around data privacy and algorithmic bias, pose additional challenges to AI adoption in education. Educators and institutions are increasingly mindful of the ethical implications associated with AI, particularly in terms of data collection, storage, and usage. Experts note that without clear policies and guidelines, educators may hesitate to adopt AI due to uncertainties about data security and ethical practices, which are especially pertinent in diverse educational contexts where fairness and representation are critical.

Data privacy and security

Data privacy is a primary concern, as AI systems often require substantial data collection to personalise learning experiences and offer real-time insights. This data may include sensitive student information such as learning habits, academic performance, and behavioural patterns. While this information is valuable for creating personalised educational experiences, gathering it also raises significant privacy risks.

Experts recommend the development of transparent ethical guidelines that detail best practices for data privacy, including data encryption, secure storage, and clear access policies. Institutions are encouraged to inform ākonga and educators about how their data will be collected, used, and protected, fostering trust in AI tools. By establishing rigorous data security protocols, institutions can help alleviate privacy concerns and promote responsible AI use.

Algorithmic bias and inclusivity

Algorithmic bias is another ethical challenge that arises when AI systems unintentionally favour certain groups or individuals over others due to biases in the underlying data. For instance, if an AI tool is primarily trained on data from a specific demographic, it may struggle to provide relevant or accurate responses for ākonga from different backgrounds. Such biases can perpetuate existing educational inequalities, disadvantaging under-represented or marginalised groups.

Experts suggest that AI systems be trained on diverse and representative datasets to minimise bias and improve inclusivity. In addition, regular audits of AI algorithms can help identify and mitigate any emerging biases, ensuring fair and equitable outcomes for all ākonga. Developing inclusive AI tools requires collaboration with diverse stakeholders, including ākonga, educators, and community representatives, to better understand and address the unique needs of all learner demographics.

Building trust through transparent policies and inclusive practices

To address these ethical concerns, institutions must engage educators in discussions about responsible AI use and the ethical guidelines governing data and algorithmic practices. Involving educators in these conversations not only builds trust but also empowers them to advocate for ethical standards that reflect the values of the educational community.

By establishing transparent, ethical guidelines and promoting inclusivity, institutions can create a supportive environment for AI adoption, where educators and ākonga feel confident AI tools are used responsibly and align with educational values. Experts believe that by directly addressing privacy and bias concerns, institutions can foster greater acceptance of AI technologies, ultimately supporting a fair and equitable learning environment.

Overcoming adoption challenges through support and training

To effectively address the challenges of AI adoption, experts emphasise the importance of structured support and targeted training programmes. Institutions should prioritise resources that help educators understand AI's role in the classroom and guide them through both practical and ethical aspects of its use. Importantly, support should be ongoing, adapting to advancements in AI technology and evolving educator needs.

Structured training and professional development

Experts recommend foundational training as a critical first step to equip educators with the necessary skills and knowledge to incorporate AI into their teaching. This training should cover AI concepts, practical applications, and ethical considerations, providing educators with a comprehensive understanding that builds confidence and curiosity. Ongoing professional development opportunities, such as workshops, peer-learning groups, and online courses, can further strengthen educators' digital literacy and adaptability, ensuring they remain updated on AI advancements and best practices.

Digital literacy is a particular focus, as many educators may feel intimidated by AI's technical demands. Training programmes that focus on both the "how-to" and "why" of AI tools can help educators create a mindset that values adaptability in the face of rapidly evolving technology. By fostering digital literacy, institutions can empower educators to engage critically and effectively with AI, making them feel more supported and less burdened by new technologies.

Institutional support and infrastructure

Beyond training, institutional support is essential for AI integration. Experts stress that institutions must invest in reliable technical infrastructure, such as internet access, modern devices, and data management systems, to fully realise AI's potential. Continuous

practical support for educators, such as IT assistance and troubleshooting resources, can also help prevent technical setbacks from derailing AI initiatives.

Fostering a culture of experimentation within the institution is equally important. Educators should feel encouraged to try new AI tools and teaching approaches without fear of failure, as this exploratory attitude promotes learning and innovation. By creating a supportive environment where educators have the freedom to experiment and adjust their methods, institutions can build confidence and resilience in AI adoption. This experimental mindset can help educators explore AI's possibilities and discover practical applications for their classrooms.

Collaborative networks and communities of practice

Experts advocate for creating collaborative networks where educators can share their experiences, challenges, and strategies related to AI integration. By building communities of practice, institutions provide educators with peer support and collective knowledge, which are invaluable for overcoming common barriers to AI adoption. Regular forums, online platforms, or professional networks can facilitate these exchanges, enabling educators to discuss successes, troubleshoot issues, and exchange best practices for AI in education.

Through shared experiences, educators can benefit from a wider range of insights and approaches to AI integration, reinforcing a mindset of continuous improvement and mutual support. Institutions that cultivate these networks, where educators can rely on each other as they navigate the challenges and opportunities of AI, help establish a stronger foundation for AI adoption.

Creating ethical and transparent guidelines

Finally, transparent and ethical guidelines for AI use can alleviate many educators' concerns. Clear policies on data privacy, algorithmic fairness, and inclusivity can reassure educators that AI is being used responsibly. By involving educators in discussions about these guidelines, institutions can foster trust and reduce apprehension around AI's impact.

Institutions that establish and communicate these ethical standards can help create a shared understanding of AI's role in education. This collaborative approach, combined with continuous training and a strong support system, provides educators with the confidence and resources to adopt AI in a way that enhances, rather than disrupts, the learning environment.

Collaboration and policy

Experts emphasise that successful AI integration in education relies on strong collaboration between educators, policymakers, and technology developers. These cooperative efforts, combined with clear policy guidelines, are crucial for ensuring that AI is used ethically, responsibly, and effectively in educational settings. By fostering alignment among stakeholders, AI can become a valuable tool for educators and ākonga, rather than a source of uncertainty or concern.

The role of collaboration among key stakeholders

Effective AI adoption requires input from various stakeholders, each bringing unique insights that contribute to a holistic approach:

- **Educators** bring practical knowledge of classroom dynamics and student needs, ensuring that AI tools are tailored to real-world educational applications.
- **AI developers** offer the technical expertise to design efficient, reliable, and ethically mindful tools. Their collaboration with educators enables them to refine these tools so they align more closely with educational objectives.
- **Policymakers** establish the regulatory framework that guides responsible AI use, setting standards that ensure AI technology is safe, fair, and accessible across diverse learning environments.

Experts argue that collaboration among these groups fosters AI tools that are user-friendly, purpose-driven, and ethically sound. By facilitating regular discussions and feedback loops, all stakeholders can anticipate and address ethical concerns, building trust in AI's role in education and reinforcing a shared commitment to ethical implementation.

Policy development for ethical and inclusive AI

Clear, well-defined policies are fundamental to supporting the ethical and inclusive use of AI in education. Experts emphasise that policies should focus on core ethical principles, including data privacy, inclusivity, and accountability, to create a protective framework for both ākonga and educators. When institutions have established policies, they can offer educators clear guidelines that instil confidence in AI's responsible use.

Experts recommend that AI policies in education should:

- **Protect student data privacy** by establishing clear rules on data collection, storage, and use, building trust in AI tools by preventing misuse of sensitive information.
- **Promote inclusivity** by addressing algorithmic biases and ensuring AI tools represent all student demographics fairly, especially marginalised groups who may face disparities in educational access and outcomes.
- **Define accountability measures** for AI developers and institutions, providing transparency on how algorithms function and ensuring that AI systems remain open to scrutiny and evaluation.

These policies serve as a bridge for educators, clarifying the standards they must follow and offering a consistent reference for ethical AI usage. By implementing comprehensive, transparent guidelines, policymakers can foster a safe environment for AI experimentation and integration, alleviating fears around data privacy or bias and creating a more open attitude toward AI's educational potential.

Support for research and development in AI for education

Experts highlight the importance of research and development (R&D) in AI for education as essential for fostering innovation that benefits ākonga. Investment in educational R&D enables institutions to explore new AI applications, develop culturally responsive tools, and advance pedagogical strategies that align with diverse student needs.

R&D efforts should prioritise:

- **Evaluating AI's impact on learning outcomes** to understand how AI tools influence student engagement, retention, and performance across varied learning environments.
- **Developing culturally responsive AI** that respects diversity and adapts to different learning contexts, allowing for personalised learning that is inclusive of all backgrounds.
- **Identifying best practices for AI integration** so educators can apply AI tools effectively in their classrooms, maximising benefits while minimising potential disruptions.

Experts argue that focused R&D efforts can reveal AI's full potential in education, enabling data-driven decisions that ensure AI tools support rather than replace essential teaching practices. By fostering a research-oriented culture, institutions can make informed choices about which AI strategies and tools will best serve their unique educational contexts.

Creating channels for ongoing dialogue

Experts emphasise that AI in education requires sustained communication among stakeholders. As AI continues to evolve, open dialogue allows for the adaptation of policies and tools to meet new challenges and educational needs. Regular interaction among educators, developers, and policymakers also enables continuous feedback on AI's impact and alignment with educational goals.

This dialogue can be facilitated through:

- **Professional networks and conferences** where stakeholders share experiences, challenges, and successes in AI implementation.
- **Institutional feedback mechanisms** that allow educators to report their experiences and observations on AI tools, enabling iterative improvements and targeted support.
- **Public forums and discussions** where diverse voices, including ākonga and community members, contribute to a broader conversation on AI's future in education.

Experts believe that by fostering and maintaining these communication channels, the educational sector can keep pace with AI advancements, address emerging issues, and ensure that AI remains a supportive asset in education rather than a disruptive force.

Building trust through transparent policies and collaborative efforts

At the heart of successful AI integration is building trust among all stakeholders. Clear policies and active collaboration demonstrate an institutional commitment to ethical AI use, reducing resistance and promoting acceptance among educators and ākonga alike. This trust-building approach encourages educators to view AI as a tool that complements and enhances teaching, rather than as an external imposition.

Experts envision a future where AI becomes a fully integrated component of the educational landscape, aligning with institutional values and goals to support meaningful student outcomes. Through a combination of collaborative policymaking, ongoing research, and open communication, AI can be harnessed in ways that promote equitable, inclusive, and effective learning experiences for all.

Opportunities for experimentation and preparedness

As AI technologies continue to evolve, experts encourage educators and institutions to approach AI integration with a mindset of experimentation and preparedness. Rather than focusing exclusively on immediate improvements in efficiency or learning outcomes, experts recommend exploring AI's broader potential in education and proactively preparing for its growing role. By fostering an environment of curiosity, adaptability, and openness to change, educators and institutions can maximise AI's transformative potential in education.

Embracing experimentation in AI integration

Experts advocate for an experimental approach to AI, where educators view AI tools as an opportunity to try new teaching methods and strategies. This mindset enables educators to explore AI's capabilities without the pressure of immediate success, allowing them to discover how different tools can enhance learning, streamline administrative tasks, and engage ākonga in unique ways. Experimenting with AI in various classroom settings helps educators identify effective applications and refine their approaches over time.

An experimental approach is essential as AI technologies are still relatively new and rapidly changing. Experts believe that when educators feel encouraged to test new tools, monitor outcomes, and adjust practices based on their findings, they will be better positioned to integrate AI meaningfully. Importantly, institutions should cultivate a safe space for experimentation, where educators feel supported to explore AI without fear of failure. This support can build confidence, drive innovation, and strengthen AI integration within the educational community.

Preparing for AI's growing role in education

Experts highlight the importance of preparing educators and institutions for AI's long-term role in education. This preparation involves not only understanding AI technology but also fostering a mindset that embraces continuous learning and adaptability. Since AI is expected to keep evolving, educators must be ready to integrate new advancements thoughtfully and critically, assessing how best to incorporate these tools to serve diverse student needs.

Preparation includes equipping educators with the skills to evaluate AI tools based on educational value, relevance to learning objectives, and student needs. Rather than feeling obligated to adopt every new AI development, educators should be encouraged to make informed decisions about which tools are most suitable for their specific teaching contexts. Experts suggest that institutions provide resources and training to help educators critically assess AI technologies, along with ongoing professional development to keep them informed of AI advancements and best practices.

Openness to change and adaptability

Preparedness also involves cultivating an openness to change. Experts recognise that integrating AI may require re-evaluating traditional teaching methods and embracing more flexible, adaptive approaches. This adaptability applies not only to adopting new tools but also to rethinking the underlying educational strategies and goals that AI can support.

For example, adaptive learning approaches enabled by AI allow for personalised content and pacing, based on each learner's needs. Experts see adaptability as essential to successful AI adoption, enabling educators to respond dynamically to student feedback, engagement levels, and performance data. Institutions that encourage an adaptable culture can better integrate AI, using it to enhance educational outcomes rather than simply adding it to existing practices.

Building a supportive culture for AI experimentation

A supportive institutional culture is vital for fostering a mindset of experimentation with AI tools. Experts stress that institutions should provide educators with the necessary resources, technical support, and peer networks to encourage exploration. By building a collaborative environment, institutions help educators overcome initial hesitations and engage with AI confidently, knowing they have institutional backing and resources available.

Peer learning is also essential in this culture of experimentation. By sharing experiences, best practices, and insights on AI integration, educators can learn from each other, fostering a sense of mutual support and continuous improvement. Institutions that create forums for knowledge-sharing and encourage collaboration among educators cultivate a more effective and enthusiastic approach to AI in education.

The path to long-term AI preparedness

Finally, experts recommend viewing AI adoption as a long-term commitment. Rather than considering AI as a temporary solution or a one-time upgrade, institutions should recognise it as a transformative force that will continue to evolve. A long-term perspective encourages institutions to refine their AI strategies regularly, plan for future developments, and stay informed about AI research and applications.

Experts envision a future where institutions routinely adapt their teaching methods in response to AI insights, aligning with the latest advancements to better meet student needs. By preparing for AI's evolving role with a forward-looking approach, institutions and educators can integrate AI effectively over time, fostering an environment where AI supports both teaching practices and student learning in meaningful, lasting ways.

5 | Māori and Pacific perspectives

“For Aotearoa New Zealand, a key consideration is how to develop AI that is not only effective but also culturally grounded and inclusive.” (pg. 46)

The integration of Artificial Intelligence (AI) in education presents an unprecedented opportunity to acknowledge and reflect the cultural values of Aotearoa New Zealand’s diverse communities, particularly Māori and Pacific ākonga. Both groups share vital aspirations for cultural inclusivity, linguistic representation, and equitable access to AI-powered resources.

For Māori, as tangata whenua (the indigenous people) and partners under Te Tiriti o Waitangi (the Treaty of Waitangi), a unique partnership with the Crown offers them a role in decisions that impact national educational and technological advancements. Pacific communities, although not Treaty partners, contribute significantly to Aotearoa New Zealand’s cultural fabric and bring essential values to the AI landscape that deserve recognition and respect.

Understanding Māori and Pacific perspectives on AI integration involves recognising shared themes alongside distinct priorities for each community. These considerations are crucial for developing AI tools that align with each community’s cultural values, support data sovereignty, and foster equitable access to education for all.

Shared themes: Relevant to both Māori and Pacific perspectives

Cultural sensitivity and inclusivity

Both Māori and Pacific communities emphasise the importance of cultural relevance in AI systems, advocating for AI tools that reflect their languages, values, and distinct cultural identities. There is a shared priority for AI systems to be designed without biases that could misrepresent or exclude cultural narratives, ensuring that these tools resonate authentically within each community.

Equity in AI access and digital literacy

Concerns about digital literacy and equitable access to AI resources are shared across both communities, especially given the potential barriers faced by ākonga in remote or under-resourced areas. Addressing these disparities is essential to ensure that Māori and Pacific ākonga can benefit equally from AI-enhanced education, regardless of geographical or socio-economic factors.

Community and stakeholder involvement

Māori and Pacific communities advocate for AI design processes that actively engage educators, cultural experts, and community leaders. Collaborative involvement from the early stages of AI development is vital for creating culturally relevant tools that genuinely support the educational aspirations and values of these communities.

Key shared questions

To effectively integrate Māori and Pacific perspectives into AI systems, it is essential to consider foundational questions that address inclusivity, ethical safeguards, and collaborative approaches. These questions serve as a framework for guiding AI developers, educators, and policymakers in creating tools that respect and reflect the cultural values of both Māori and Pacific communities. By addressing these issues, AI systems can be better aligned with the educational needs and identities of these groups, promoting an inclusive and culturally responsive approach to AI in education.

Culturally inclusive AI design and implementation

- What practices can ensure that AI tools involve Māori and Pacific cultures, supporting ākonga' identities and fostering inclusivity within educational spaces?

Ethics and data privacy

- How can data privacy frameworks be tailored to protect the cultural significance of Māori and Pacific data, while addressing potential biases that could perpetuate historical inequities?

Collaboration across stakeholders

- What models of collaboration are most effective for integrating Māori and Pacific perspectives in the AI design process, ensuring that AI tools reflect the values and needs of these communities?

Māori-specific themes: Treaty partnership and indigenous sovereignty

For Māori, AI systems must go beyond general inclusivity to align with the principles of *Te Tiriti o Waitangi* (the Treaty of Waitangi), honouring Māori rights to partnership, protection, and participation. This partnership approach requires careful attention to both data sovereignty and the unique values that form *Te Ao Māori* (the Māori worldview).

Te Tiriti o Waitangi and Māori data sovereignty

In Aotearoa, AI systems must move beyond generic inclusivity frameworks and directly align with the principles of *Te Tiriti o Waitangi*—honouring Māori rights to partnership, protection, and participation. Māori data sovereignty asserts the right of Māori to control how their data is collected, accessed, stored, and used. This requires Māori involvement not only as users or subjects, but as active *kaitiaki* (guardians) in the design and governance of AI systems.

Alignment with Te Ao Māori

To reflect *Te Ao Māori* (the Māori worldview), AI tools should embed indigenous knowledge systems and values in authentic and non-tokenistic ways. This includes the use of *Te Reo Māori*, design considerations that resonate with cultural identity, and the application of values like *whanaungatanga* (relationships), *manaakitanga* (hospitality), and *kaitiakitanga* (guardianship). These principles are not just cultural add-ons—they are essential to building trust and relevance for Māori ākonga and kaiako in AI-enhanced learning environments.

Pacific-specific themes: Cultural identity and community needs

Pacific communities in Aotearoa New Zealand have a strong focus on cultural inclusivity and representation in education. As *tangata Tiriti* (people of the Treaty) and Pacific neighbours connected through our shared Moana (Pacific Ocean), they contribute unique perspectives that enrich Aotearoa New Zealand's diverse educational landscape. For Pacific communities, AI integration priorities include the representation of Pacific languages, respect for community structures, and alignment with Pacific values and identity.

Representation and linguistic inclusivity

Pacific communities emphasise the need for AI systems that support linguistic diversity and accurately represent Pacific languages and dialects. This inclusivity strengthens cultural identity and allows ākonga to see their backgrounds and languages reflected in educational AI tools, enhancing both relevance and engagement.

Community-based AI design

AI tools for Pacific ākonga should be developed with community engagement at the forefront. This includes respecting cultural hierarchies and involving Pacific community leaders, educators, and families in the design process. By aligning with community values, AI tools can better serve the educational and cultural needs of Pacific ākonga, fostering a sense of belonging and respect.

Integrating Te Ao Māori in AI education: A wharehui-inspired framework

As Artificial Intelligence (AI) rapidly transforms educational technology, it presents opportunities to enhance learning and streamline administrative processes. However, this shift brings with it critical questions about inclusivity, cultural sensitivity, and ethics within the educational context. For Aotearoa New Zealand, a key consideration is how to develop AI that is not only effective but also culturally grounded and inclusive.

Te Ao Māori – the Māori worldview – provides a foundational framework for such an approach. Rooted in values like *whanaungatanga* (relationships), *manaakitanga* (hospitality), *wairuatanga* (spirituality), *aroha* (love), and *kaitiakitanga* (guardianship), *Te Ao Māori* offers a pathway for creating AI-enhanced educational environments that honour Māori cultural values. Using the *Wharehui* (Māori meeting house) as a metaphor, this framework symbolises a balanced and culturally rich approach to AI in education, where technology and cultural values coexist and reinforce one another.

Learning from Canada's framework

While Māori cultural values are unique, insights from global approaches to AI in education can still offer useful parallels. For instance, Canada's AI framework (Contact North, n.d.) for post-secondary education emphasises ethical, inclusive, and human-centred AI principles, including transparency, accountability, and sustainability. These core principles form a solid foundation but could be further enhanced by a culturally specific dimension which would resonate deeply with ākonga and educators in Aotearoa New Zealand. Here is where *Te Ao Māori* provides a richer, culturally nuanced approach that prioritises Māori values and practices within AI systems in education.

Enriching AI education with Te Ao Māori values

Incorporating *Te Ao Māori* values into an AI framework for education creates a pathway toward a more holistic, inclusive, and ethically sound approach. Each of these values adds depth, transforming AI from a functional tool into one that fosters meaningful connections, respects cultural identity, and enhances personal and community well-being.

— Whanaungatanga (Relationships)

Central to *Te Ao Māori*, *whanaungatanga* underscores the importance of relationships and collective identity. AI systems in education could reflect this by fostering collaborative environments which connect ākonga, teachers, and communities. AI-powered group learning spaces or interactive community forums could nurture these connections.

- **Manaakitanga (Hospitality and Kindness)**
Manaakitanga goes beyond empathy, reflecting an active commitment to honouring the *mana* (dignity) of others. AI tools should embody this by offering supportive, personalised experiences that respect each student's background, beliefs, and needs. More than just human-centric, *manaakitanga* brings a level of kindness and cultural respect to AI.
- **Wairuatanga (Spirituality)**
 Recognising *wairuatanga* entails respecting spirituality and a connection to something greater. AI systems can reflect this by including Māori language options and embedding Māori cultural elements within learning materials. Such integration honours the spiritual dimension of indigenous language and knowledge, enriching the educational experience with cultural relevance.
- **Aroha (Love and Compassion)**
 AI guided by *aroha* prioritises the well-being of ākonga and educators alike. This involves ethical data practices that respect ākonga's privacy and dignity. Developing AI tools with privacy safeguards and transparency reflects 'love through action,' protecting the rights and dignity of individuals.
- **Kaitiakitanga (Guardianship)**
Kaitiakitanga aligns with sustainability and responsibility, advocating for the protection of resources for future generations. AI developed under this principle would be environmentally conscious, with institutions acting as guardians to ensure these tools remain sustainable and benefit all ākonga.
- **Tino Rangatiratanga (Self-Determination)**
 AI should serve as an empowering tool, enhancing student and educator agency rather than limiting it. *Tino rangatiratanga* upholds the principle of self-determination, ensuring that AI supports personalised learning paths and respects Māori ākonga's right to make choices that align with their goals and identities.
- **Taonga Tuku Iho (Cultural Heritage)**
 AI in education should respect and celebrate Māori cultural heritage, embedding Māori pedagogies and knowledge systems into its content. This commitment means AI becomes a channel through which cultural values and histories are honoured and shared, enriching the learning experience.

The Wharenuī metaphor: A culturally grounded vision for AI in education

The *Wharenuī* — the Māori meeting house—serves as a powerful metaphor for integrating *Te Ao Māori* values into AI systems for education. Each structural element of the *Wharenuī* can represent a guiding principle, offering a holistic approach where technological advancement and cultural integrity coexist. This outline illustrates how *Wharenuī* elements might symbolise culturally aligned AI, inviting further exploration by experts in Māori culture and AI.

- **Foundation (Tāhuhu, Ridgepole) – Ethical AI and Sustainability:** The ridgepole, which supports the structure of the *Wharenuī*, symbolises the ethical and sustainable practices that serve as the foundation of a culturally sensitive AI system. This element underscores the importance of aligning AI with Māori values at its core.

- **Front Wall (Tāhūhū, Main Post) – Whanaungatanga (Relationships):** The main post at the *Wharenuī* entrance, representing connection and community, could inspire AI design that nurtures *whanaungatanga* by fostering relationships among ākonga, educators, and institutions.
- **Side Walls (Heke, Rafters) – Manaakitanga (Kindness) and Aroha (Love):** The rafters that hold up the *Wharenuī* symbolise *manaakitanga* and *aroha*, guiding AI to foster kindness, compassion, and respect in educational spaces, honouring each student's unique learning journey.
- **Internal Carvings – Wairuatanga (Spirituality) and Taonga Tuku Iho (Cultural Heritage)**
The intricate carvings within the *Wharenuī* embody spirituality and cultural heritage. AI inspired by these elements could include Māori language and cultural expressions, honouring Māori identity within the learning environment.
- **Windows and Vents – Transparency and Accountability:** Representing openness, windows and vents allow transparency and accountability within AI. They symbolise the need for AI systems to communicate clearly about data use and decision-making processes, building trust with ākonga and educators.
- **Floor (Papa, Earth Mother) – Kaitiakitanga (Guardianship):** The floor grounds all activities, symbolising *kaitiakitanga* or guardianship. AI systems designed with this principle can support sustainability and ethical responsibility, aligning with Māori values of resource protection.
- **Tukutuku Panels – Tino Rangatiratanga (Self-Determination):** The woven *tukutuku* panels represent self-determination. AI systems designed with *tino rangatiratanga* respect learner autonomy, empowering ākonga and educators to make meaningful choices within their educational experiences.

Concluding reflections: An emerging vision for culturally enriched AI in education

Incorporating *Te Ao Māori* values into AI design for education offers a culturally resonant and ethically promising pathway that merits further exploration. By embedding Māori principles into AI systems, these tools could transform from mere educational aids to rich mediums that honour cultural identity and foster holistic learning experiences. This framework provides an initial foundation, inviting refinement and expansion by experts in Māori culture, educational technology, and ethics.

Additionally, this approach raises essential questions around the ownership and guardianship of *mātauranga* (knowledge) within AI. Further exploration is needed to develop protocols that protect indigenous knowledge, ensuring it remains under the guardianship of the communities it represents. Through this thoughtful integration of Māori perspectives, Aotearoa New Zealand has the opportunity to contribute to a diverse ecosystem of culturally grounded AI tools, shaping a future that values and reflects a plurality of voices beyond dominant global paradigms.

Exploring AI tools in Pacific contexts: Opportunities, challenges, cultural considerations

As artificial intelligence (AI) continues to integrate into educational and social systems, its role within Pacific communities presents both promising opportunities and complex challenges. Recent discussions among Pacific educators and experts (Grawe, Sauni, Smith, & Tanielu-Ulberg, 2024) highlight the importance of AI tools that are culturally respectful, sensitive to Pacific languages, and designed to minimise biases that could misrepresent Pacific identities.

Cultural appropriateness and alignment with Pacific values

A major priority for Pacific communities is that AI be culturally appropriate and free from biases that might dilute or misrepresent their identities. AI systems should be trained with specific cultural contexts in mind, allowing them to recognise unique markers such as language and practices. This approach helps avoid generalisations that risk stereotyping or overshadowing the diversity within Pacific cultures. The concept of *Lagona* – a Samoan term describing an intuitive, almost “sixth sense” approach to understanding, felt deeply in the *pito* (the core of one’s being) and recognised as a learning pedagogy – was highlighted as a significant aspect of Pacific values. Incorporating such cultural concepts into AI could enhance its resonance with Pacific users, allowing for richer, more meaningful applications.

Educational potential: Supporting literacy, critical thinking, and efficiency

AI tools like ChatGPT offer substantial potential to enhance literacy and critical thinking among Pacific ākonga. By helping users articulate perspectives and engage with content, AI supports confidence-building and self-expression in Pacific contexts. Teaching critical thinking through a Pacific lens also fosters cultural connection, deepening ākonga’s ties to their identities.

AI tools can also support community educators, such as Sunday school teachers and church leaders, who often work in voluntary roles. Customised, culturally contextualised AI applications can ease the preparation process, making educational content more accessible and relevant to Pacific ākonga and their communities.

Community-led and alternative education models

Participants emphasised the need for community-led and alternative education models aligned with Pacific values. Inspired by global examples, they discussed the potential for Pacific-oriented university models or community-based educational projects focused on accessibility, sustainability, and cultural relevance. Such models could leverage AI to support productivity, literacy, and culturally specific learning, creating spaces where Pacific knowledge and values are central to educational progress.

Ethics, representation, and environmental responsibility

Pacific communities raised key ethical and environmental concerns about AI, particularly around sustainability. The energy demands of AI pose challenges, as many Pacific communities are acutely aware of climate impact. Balancing AI's educational benefits with environmental responsibility is therefore essential.

Ethical considerations also include accurate representation and cultural narrative control. Participants stressed the importance of involving Pacific cultural experts in AI development to ensure that AI-generated content reflects authentic Pacific perspectives, rather than external interpretations. This involvement promotes transparency, allowing Pacific communities to retain control over their cultural narratives.

Customisation for specific Pacific applications

There is strong interest in customising AI applications to suit Pacific communities, from educational resources to event planning. Such customisation would produce AI tools that not only accurately reflect Pacific cultural identity but also resonate with the community's unique values and needs. By developing tailored GPT models, Pacific communities could engage with AI on their own terms, creating resources that align with Pacific knowledge frameworks.

Conclusion: A vision for culturally driven AI in Pacific communities

The future of AI in Pacific contexts lies in culturally driven, community-led approaches that honour and evolve Pacific knowledge systems. A vision for Pacific AI places collaboration and respect for cultural values at the forefront, ensuring alignment with the unique identities and aspirations of Pacific communities. By supporting educational and societal advancement in ways that uphold cultural integrity, this approach offers AI tools the potential to become trusted resources that reflect and promote the richness of Pacific heritage. Ultimately, such culturally aligned AI systems not only enhance learning but also affirm and preserve Pacific values, ensuring these tools resonate authentically within Pacific communities.

6 | Where to from here?

“For AI to serve as an equitable educational tool, it must be developed and implemented with cultural sensitivity, ethical integrity, and a commitment to accessibility.” (pg. 54)

Summary of ground covered

As the first volume in the AI Insights for Educators series, Volume 1 offers an in-depth exploration of artificial intelligence’s (AI) evolving role in education, with a focus on Aotearoa New Zealand’s diverse tertiary sector. Throughout the chapters, we have examined both the opportunities and challenges that AI presents, particularly in balancing technological innovation with cultural inclusivity and ethical responsibility. This summary revisits each of the key topics covered, providing a concise reflection on the foundational insights established.

Literature review findings on AI advancements and tools

The literature review delved into global advancements in AI tools and technologies applicable to education, covering everything from adaptive learning platforms to predictive analytics. It highlighted how these tools enhance personalised learning, increase student engagement, and improve administrative efficiency. However, the review also underscored the importance of adopting AI responsibly, with a focus on equitable and culturally sensitive practices, especially for Māori, Pacific, and neurodiverse ākonga. The literature establishes AI’s potential as a transformative technology while emphasising the ethical and cultural responsibilities that come with its integration.

Survey insights into educator experiences

Survey responses from over 100 educators offered valuable perspectives on the realities of AI integration in the classroom. While educators appreciated AI's potential to support personalised learning and streamline administrative tasks, they also encountered persistent barriers such as technical issues, limited training, and concerns around data privacy and algorithmic bias. The survey findings underscore the need for professional development, peer support, and institutional resources to help educators effectively adopt AI and realise its potential in varied educational contexts.

Expert perspectives on ethical challenges and collaboration needs

Insights from AI experts highlighted the ethical, operational, and policy-related challenges associated with AI in education. Experts advocated for robust ethical guidelines, especially in areas such as data privacy, transparency, and algorithmic fairness. They also called for cross-sector collaboration among educators, policymakers, and technologists to foster responsible and effective AI use. These insights emphasise the need for collaborative infrastructure and frameworks that ensure AI's role in education remains innovative, inclusive, and ethically grounded.

Māori and Pacific perspectives on culturally responsive AI

In recognition of Aotearoa New Zealand's unique cultural context, this volume included specific perspectives from Māori and Pacific communities, stressing the importance of culturally responsive AI that respects Māori and Pacific values. The discussion explored how AI can support language preservation, reflect cultural identities, and encourage community involvement in its development. The chapter also examined the opportunities for AI to aid in language revitalisation and emphasised the need for tools that honour the distinct knowledge systems and cultural values of these communities. These insights reinforce AI's potential as an inclusive force, provided it is designed with cultural awareness and sensitivity.

Value of Volume 1

This first volume serves as a foundational resource, framing AI in education as both an opportunity for transformation and a complex challenge that demands thoughtful, strategic adoption. By engaging with AI's theoretical and strategic dimensions, educators and leaders are better positioned to approach AI with readiness, sensitivity, and responsibility.

Developing a robust understanding of AI's broader implications is crucial before delving into the hands-on applications and practical strategies that will be explored in *Volume 2: Practical AI Applications for Educators*. As we close this volume, the integration of AI in education must be approached with intentionality and cultural awareness, equipping educators to make informed, responsible decisions about how best to incorporate AI into their teaching practices.

Concluding thoughts

Reflections on progress and themes

As we conclude Volume 1, it becomes clear that AI offers both significant promise and complex challenges for educators and ākonga across Aotearoa New Zealand. This volume has explored AI's potential to personalise learning, streamline administrative tasks, and introduce tools for culturally responsive teaching. Yet, integrating AI into education is far from straightforward, as it requires a careful balance between leveraging benefits and addressing ethical and cultural risks.

The potential benefits of AI in education are substantial. Adaptive learning systems powered by AI, for instance, offer the possibility of highly personalised learning experiences that cater to individual learning speeds and styles. Additionally, tools such as automated grading and digital assistants can reduce administrative workloads, freeing educators to focus on interactive and student-centred activities.

Perhaps equally compelling is AI's capacity to support culturally responsive teaching practices, which is especially pertinent in Aotearoa New Zealand's diverse educational landscape. AI can play a meaningful role in supporting Māori and Pacific identities by aiding language preservation and fostering culturally aligned pedagogies.

However, these advances also bring notable challenges. Many educators face technical barriers, such as limited access to AI tools and inadequate infrastructure. A pronounced gap in training and support leaves many feeling under-prepared to integrate AI effectively into their teaching. Moreover, ethical concerns around data privacy, algorithmic bias, and the need for transparent AI decision-making underscore the importance of a responsible approach – especially within the unique cultural context of Aotearoa New Zealand.

These reflections highlight the need for a thoughtful, intentional approach to AI in education, one that respects the identities, values, and needs of all ākonga. For AI to serve as an equitable educational tool, it must be developed and implemented with cultural sensitivity, ethical integrity, and a commitment to accessibility.

Educator reflections and mindset

As we prepare for the practical applications outlined in Volume 2, educators are encouraged to adopt a mindset of adaptability, openness, and continuous learning. The journey toward effective AI integration requires not only technical proficiency but also a strong commitment to cultural competence. Educators will need to embrace the learning curve that comes with new AI tools while remaining mindful of how these tools impact their teaching practices and the diverse backgrounds of their students.

Key reminders for educators include:

- **Ongoing Learning:** AI is an evolving field, and staying updated on the latest developments is essential. Whether through professional development, collaborative networks, or self-directed learning, educators must commit to continual skill-building in both AI functionality and ethical applications.
- **Collaborative Practices:** Given AI's complexity, collaboration with peers, technology experts, and community leaders is invaluable. By sharing experiences and insights, educators can build a holistic understanding of AI's potential and its challenges, fostering a collaborative approach to responsible integration.
- **Commitment to Equitable and Ethical AI:** AI in education must prioritise fairness and inclusivity. Educators play a vital role in advocating for ethical standards in AI use, covering data privacy, transparency, and culturally responsive applications. A commitment to equitable and ethical AI ensures that the technology serves all ākonga fairly, supporting their growth without compromising their identities or rights.

As we look ahead to Volume 2, educators are invited to approach AI with both curiosity and caution, ready to explore its practical applications while honouring the cultural, ethical, and educational values foundational to Aotearoa New Zealand's learning communities. By fostering a balanced perspective – one that embraces AI's potential while acknowledging its limitations – educators can play an active role in shaping a responsible and inclusive future for AI in education.

Future directions

Practical steps for moving forward

As we transition from the foundational insights of Volume 1 to the hands-on strategies in *Volume 2: Practical AI Applications for Educators*, there are several practical steps that educators can take now to prepare for effective AI integration. These steps encourage educators to build both technical skills and ethical awareness, fostering a balanced approach that will enrich the AI learning experience.

Expanding AI knowledge through professional development

Engaging in professional development specific to AI in education is essential for building confidence and competence. Opportunities such as online courses, workshops, and seminars can provide a solid foundation in AI basics, covering both ethical and cultural dimensions and practical tools for educational settings. Additionally, connecting with professional networks or local organisations that support AI literacy can offer educators valuable resources and a supportive community of peers with shared goals.

Testing small-scale AI applications

To gain hands-on experience, educators might start by experimenting with accessible, user-friendly AI tools. Tools like ChatGPT can assist with lesson planning, content generation, and student feedback, while adaptive platforms provide insights into personalised learning. By testing these tools on a small scale, educators can explore how AI supports their teaching objectives and gradually build familiarity with the technology in a manageable, low-stakes context. These initial experiments offer valuable insights that can inform more comprehensive AI integration efforts in the future.

Engaging in peer discussions on ethical and cultural dimensions

Open discussions with peers on the ethical and cultural implications of AI are crucial for cultivating a thoughtful, reflective approach to AI in education. Educators are encouraged to create or join groups dedicated to exploring AI's ethical impact, considering aspects like data privacy, algorithmic fairness, and culturally responsive applications. Engaging in these conversations allows educators to share insights, voice concerns, and build a shared understanding of how to implement AI in ways that respect the diverse identities and needs of their students.

Emerging trends to watch

To set the stage for Volume 2's focus on practical applications, it is helpful to consider several emerging trends in AI that are likely to shape educational practices in the near future. These trends reflect both technological advancements and evolving policy landscapes, offering educators a glimpse into developments that may soon enhance or influence their work.

Advancements in adaptive AI for personalised learning

Adaptive AI tools are becoming increasingly sophisticated, enabling highly personalised learning experiences that respond in real-time to individual student needs. These platforms can analyse student performance, engagement, and preferences to deliver tailored content, creating a dynamic and responsive learning environment. Educators can look forward to more intuitive, flexible adaptive systems that support diverse learning styles and paces, helping students thrive in ways that traditional methods may not achieve.

Increased accessibility of AI tools for inclusive education

One promising development in AI is the increased accessibility of tools designed to support inclusive education. AI applications are advancing in areas such as language support, assistive technologies for neurodiverse ākonga, and tools that enhance cultural inclusivity. As these technologies evolve, educators can expect AI to play an even stronger role in making learning accessible to all students, including those who may face barriers in traditional educational environments.

Collaborative policy frameworks for ethical AI

As AI's presence in education grows, so does the need for clear, collaborative policies that guide its responsible use. Policymakers, educators, and AI developers are working together to create frameworks that address key ethical issues like data privacy, algorithmic fairness, and transparency. Educators must stay informed about policy updates impacting AI in education, as these frameworks will play a crucial role in shaping how AI tools are designed, implemented, and evaluated. Understanding these evolving policies empowers educators to make informed choices that align with ethical standards and educational best practices.

By staying informed about these trends and taking proactive steps to deepen their AI knowledge, educators can approach the practical guidance in Volume 2 with confidence. This next volume will delve into specific strategies and applications, providing the hands-on support needed to effectively integrate AI into educational settings. As the AI landscape continues to evolve, educators equipped with both foundational knowledge and practical skills will be well-positioned to harness AI's potential in impactful and inclusive ways.

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