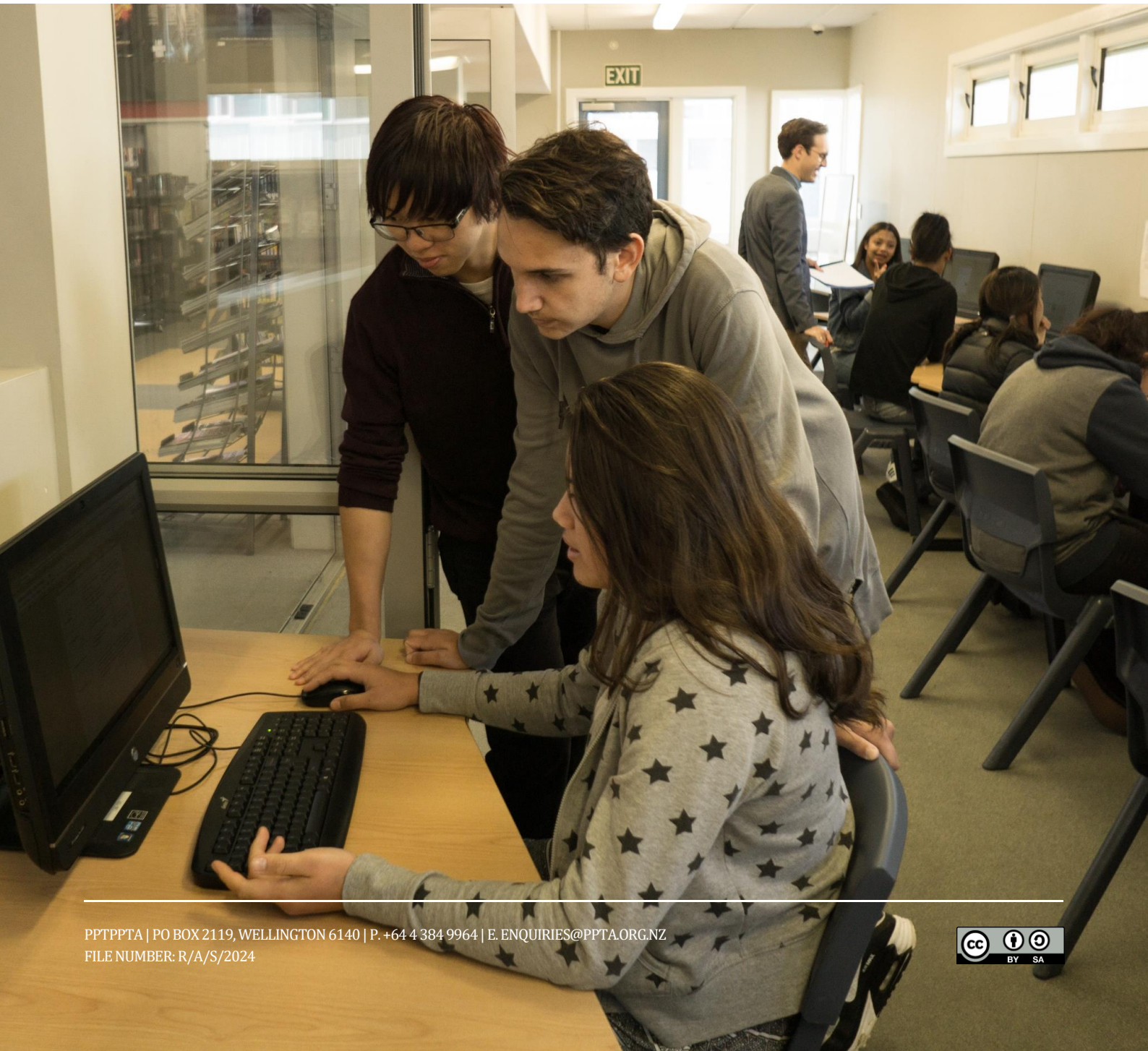
PPTA
Te Wehengarua

Examining the issue and uncovering next steps for Generative AI (GenAI) in New Zealand education

Briefing for Minister Stanford, June 2024



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Contents

Background

The International summit of the teaching profession was held in Singapore this year. It was clear from the summit that countries are grappling with similar issues across their systems. These issues are not unique to one country. Our strength is in working together.

Three Commitments for Aotearoa were made at the summit;

1. Develop a framework in partnership with stakeholders for the responsible and ethical use of generative AI in education.
2. All partners work together to create a long-term policy on aspiring and in-service principal development.
3. All partners work together to strengthen the provision of ITE to address barriers to the attraction and retention of teachers.

This briefing establishes a starting point and key recommendations for recommendation one.

Developing a framework in partnership with stakeholders for the responsible and ethical use of generative AI in education.

The PPTA Te Whengarua accepts that there are potential opportunities and risks of teaching with these technologies. It questions system and process readiness for the appropriate use of GenAI tools that can enhance teaching and learning outcomes; and emphasises the need for development of workforce and data capability.

Recommendations

PPTA Te Wehengarua recommends that the coalition government:

Within the education system

1. Commits to equity in learning and ensures the digital divide in our education system is addressed.
2. Provides appropriate and timely professional learning for teachers to build their capacity and knowledge of generative AI.
3. Prioritises policy direction and advice, particularly the evaluation of the quality, usefulness, and relevance of digital tools and technologies used in our school.
4. Develops a standard or endorsement system for schools, so they are guided on technology to trust.
5. Contracts education technology providers to work with schools to develop technology with a NZ focus, fit for NCEA, suitable for a four-term year and demonstrating cultural competency.

Whole of system

1. Develops a whole of system approach to this global issue, providing appropriate regulation and governance.
2. Develops cross-party consensus to provide regulatory online environment and global governance for the Internet. Including safety by design, transparency and an independent regulator.
3. Addresses issues with mis/ disinformation through requiring technology suppliers' incorporate detection mechanisms as a condition of release for technology programmes.
4. Funds further research that increases our collective understanding of the impacts of these technologies.

The Australian Model

The Australian Framework for Generative Artificial Intelligence (AI) in Schools (2023) was profiled at the summit. It provides guidance on understanding, using and responding to AI in Australian school-based education. It also recognises that there are opportunities and risks in these technologies.

The NZ government would have ideals comparable to the Australian framework - to guide the responsible and ethical use of generative AI tools in ways that benefit students, schools, and society.

We would want similar education outcomes:

- Appropriate use of GenAI tools that enhance teaching and learning outcomes.
- Ethical practices: safe, responsible and ethical use of GenAI tools.
- Equity and inclusion: generative AI tools used in ways that are fair, accessible and inclusive of all.

NZ would also want to recognise the opportunities of this technology, while noting the importance of wellbeing, privacy, security and safety.

The Australian framework acknowledges the role of indigenous community partnerships and expert reviews however advice is limited.

Considerations for a New Zealand framework

PPTA Te Wehengarua and experts we have worked with believe that responsibilities in relation to mātauranga Māori (Māori knowledge), mana (authority and power) and the exercise of tikanga Māori (Māori law) need to be strong and this should be reflected in an Aotearoa/ New Zealand framework.

An Aotearoa/ New Zealand framework should be 'child first' and ensure that the impact of these technologies on young people is at the fore and the rights and privacy of young people are addressed. The Privacy Foundation of NZ[1] has found privacy issues in the rollout of education software, including lack of oversight in decisions about educational software, commercial use of children's personal information (currently could be used for commercial purposes) and consent.

Children and their parents have no real choice of educational software used in schools and like the Privacy Foundation, PPTA believes, educational software should contain privacy safeguards by design. PPTA Te Wehengarua would like to see the framework explicit that digital technologies in our schools are used to support an education based on human interaction. Digital technology cannot be a substitute for this.

An Aotearoa/ New Zealand Framework should not put the onus on schools and teachers to do high stakes work for which they may not be qualified (risk assessments), nor have time or funding to complete. The existing workloads, and complexity of GenAI mean there should be no expectation for NZ teachers to become GenAI technological experts.

PPTA supports the development of an Aotearoa/ New Zealand framework done in consultation with unions, teachers, students, industry, academics, and parent and school representative bodies from all sectors.

Within the Education System

Recommendation 1: Equity in learning – no digital divide

The digital divide must be bridged. Inequitable device/ internet access and/ or reliability needs attention. We need to be honest and acknowledge that there is an existing digital divide related to basic technological access (to hardware, software and connectivity) that means that students will not have equitable experiences of generative AI from the outset. The increased costs of digital readiness for schools will also not be equitable across the motu and will be felt differently depending on the affluence or location of the community.

To ensure equitable access to the benefits of AI in education, targeted policies and initiatives are needed to bridge the digital divide and promote inclusivity. This includes investments in affordable broadband access, comprehensive training programs for digital literacy, and collaborations between government, schools, universities, and industry

EdTech NZ sees a role in enabling and supporting digital equity. PPTA Te Wehengarua fully supports its recommendation that the government fund basic digital equipment and internet access.[2]

[1] https://www.privacyfoundation.nz
[2] https://Aotearoa-EdTech-Report-2021

Professor Rebecca Eynon (2020)[3] highlights that we will not fix structural inequality by giving all students a laptop and that we also need to focus on people's agency. She found that those who are better off, with more stable jobs and with a stronger education back-ground, tend to be more likely use the Internet for lifelong learning and that younger, higher SES groups, report higher levels of digital skills and report more benefits from learning online. This has implications for practice and/or policy, and we should not be overly focused on individual solutions, such as digital skills, and need to consider wider social structures.

Recommendation 2: Professional learning - Resourcing teachers to build their capacity and knowledge through provision of appropriate and timely PLD

PPTA Te Wehengarua considers that the provision of quality professional learning for teachers is vital. EdTechNZ also has a goal to improve access to and content of PLD for digital upskilling of teachers,[4] with both organisations calling for increased PLD funding. EdtechNZ consider that they have much to offer in this area.

Feedback to the PPTA from MOE is that there is 'no one out there' to provide PLD that enables teachers to make the best use of GenAI. We have however worked with some experts in this area, who have provided PLD to schools on GenAI and are interested in developing this further:

- Simon McCallum (VUW School of Engineering and Computer Science)
- Ali Knott (VUW School of Engineering and Computer Science)

PPTA has sought views from members as to PLD possibilities in GenAI technology and how best to learn this. It will be no surprise that there are diverse ability levels in knowledge and use of digital technologies in the classrooms across the motu and PLD would therefore need to be varied also.

Microsoft advice for successful uptake of new learning is a campaign when initiative is launched, training, and space for continued learning and knowledge sharing as GenAI tools become part of everyday life. We believe this would be valuable to consider when developing PLD for teachers

As noted to the Australian government by McKnight and Furze (2023) acknowledging teachers' expertise is important and we need to ensure teachers' roles are not downgraded as AI use becomes more common. Teachers are experts in more than just subject matter. They are experts in how to teach various disciplines and in their students' and communities' needs.[5]

Recommendation 3: Ministry of Education policy direction and advice

It is important we use the opportunities provided by edtech, rather than edtech using us. However, in NZ education, there is a paucity of systems and processes to guide schools in the use of digital technologies, particularly GenAI.

UNESCO has recently warned,[6] *the speed at which generative AI technologies are being integrated into education systems in the absence of checks, rules or regulations, is astonishing.*

[3] Eynon, Rebecca, 2020/10/01, *Lifelong learning and the Internet: Who benefits most from learning online?,* 52, DO10.1111/bjet.13041, British Journal of Educational Technology

[4] https://Aotearoa-EdTech-Report-2021

[5] https://australia-has-its-first-framework-for-ai-use-in-schools-but-we-need-to-proceed-with-caution

[6] https://unesdoc.unesco.org/ark:/48223/pf0000385877

Schools need to know that the digital tools and technologies used are of good quality, useful and relevant to improving teaching and learning. Currently there is no avenue for a school to be able to verify this. We believe the MOE needs to provide policy direction and advice in this area. We want to know that schools are getting the best and safest merchandise, when they spend their limited resourcing on digital products.

Recommendation 4: Develops a standard or endorsement system for schools, so they are guided on technology to trust

MOE needs to take responsibility to develop a standard or endorsement system that would be useful for schools, knowing what technology to trust. Currently agreements (with Microsoft and Google) have been negotiated by the Ministry of Education and the schools simply adhere to them.

The Privacy Foundation[7] point out that there appears to be no policy that covers privacy in online teaching and learning and the MOE does not complete any specific checks for privacy risks and compliance with the Privacy Act 2020. There should be a screening mechanism to ensure the educational software is safe for children.

Spending on education software in New Zealand 2020 was $173.6 million and is set to reach $319 million by 2025. EdTechNZ suggests the need for a national edtech strategy to coordinate collective efforts to improve educational outcomes through the application of technology and innovation and the development of a more centralised procurement model.[8]

PPTA Te Wehengarua knows that all schools in Aotearoa-New Zealand are not equal in their digital capability or capacity and so, support to make strategic procurement decisions would benefit many as could improving channels for EdTech vendors to collaborate with teachers.

Teachers are concerned to ensure in the age of GenAI that we have authentic assessment. NZQA has responsibility for ensuring the rigor and validity of our national qualifications in the increasing use of digital tools and technology.

We need governments around the world to be shaping what and how technology is used in classrooms to ensure high quality, safe products and avoid being caught by surprise.

Recommendation 5: Technology with a NZ focus

Secondary teachers want digital technology that is fit for NCEA, suits a four-term year and demonstrates cultural competency.

The Edtech industry in NZ is an important export earner[9] however find it easier to sell products overseas and the difficulties they experience accessing schools in NZ suggests some centralisation could be useful. There should be good communication between teachers, students, AI researchers, educational policymakers and AI regulators on technology available, and what is on the way.

[7] https://www.privacyfoundation.nz

[8] https://Aotearoa-EdTech-Report-2021

[9] NZ-education-technology-poised-to-become-major-industry.htm

There are ethical implications, copyright, theft of artist work, use of data without permission, relationships - young people need to be cautious with machines that aim to have a relationship with them e.g. MyAI. Teaching students AI literacy is critical if we are to equip students for their future. Students need to know how and when to use AI, how not to use it, how to critically analyse it. This has implications for the curriculum.

Whole of system recommendations

The government needs to provide appropriate regulation and governance to this global issue inclusive of issues with:

- the rights and privacy of young people
- protection of Māori taonga,
- closing the digital divide

We need cross-party consensus to provide a regulatory online environment and global governance for the Internet. We need safety by design, transparency and an independent regulator.

We need to address issues with mis/disinformation through demanding technology suppliers have detection mechanisms as a condition of release for technology programmes. An automated detector for LLM-generated content would be useful.

Responsibilities in relation to mātauranga Māori (Māori knowledge), mana (authority and power) and the exercise of tikanga Māori (Māori law) need to be strong. McKnight and Fruze (2023) suggest "we need an honest stance on generative AI – and to be clear that generative AI is biased."[10] The whiteness of its 'voice' means there are inherent problems in requiring students to use or rely on it.

[10] https://eveningreport.nz/2023/12/04/australia-has-its-first-framework-for-ai-use-in-schools

Research that increases our collective understanding of the impacts of these technologies

The government should fund further research that increases our collective understanding of the impacts of these technologies. There is little research demonstrating the benefits of generative AI use in education. In fact, a recent UNESCO report[11] confirmed there is little evidence of any improvement to learning from the use of digital technology in classrooms over decades.

We need more evidence - the use of technology does not automatically improve teaching and learning. McKnight points out that we do have research showing the harms of algorithms and that there is long-standing research demonstrating the dangers of chatbots and their capacity to harm human creativity and critical thinking.[12]

[11] https://www.unesco.org/gem-report/en/technology

[12] ELIZA—a computer program for the study of natural language communication between man and machine (acm.org)