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## LARC AND THE HUMAN AND AI SANDWICH: APPROPRIATE USE OF AI FOR LEARNING

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# LARC AND THE HUMAN AND AI SANDWICH: APPROPRIATE USE OF AI FOR LEARNING

Emma Allen and Mairead Fountain

The emergence of generative AI (GenAI) is already reshaping education and industry, redefining the skills our ākonga need for their future. For vocational educators, the challenge of GenAI lies not just in teaching technical proficiency, but in supporting the development of the critical, ethical, and rhetorical literacies necessary for navigating AI's complex affordances. Traditional digital literacy models which prioritise functional competence are no longer sufficient. Generative AI is conversational, persuasive, and participatory. It demands a pedagogical response that is equally nuanced, reflexive, and human-centred.

As Learning and Teaching Specialists and kaiako supporting ākonga in the Postgraduate Certificate in Learning Design (PGCLD), we have encountered significant variation in how our cohorts approach GenAI: some with fear or ethical hesitation, others with uncritical enthusiasm. In response, we saw the need to support our learners to develop GenAI capabilities. This article presents the pedagogically grounded approach we developed and implemented, called LARC and the Human and AI Sandwich. The LARC framework (Learning, Articulation, Research, and Creation) contextualises these capabilities. Combined with the metaphor of a human-AI sandwich, active learning, and the UNESCO AI competency framework, LARC supports ākonga to engage with GenAI with confidence, integrity, and creativity. We aim to show how structured guidance, reflective questioning, and a healthy dose of metaphorical sandwich-making can transform tentative engagement into ethical, empowered use.

## CAPABILITY BUILDING IN A GENAI WORLD

Capability building with GenAI (for example, ChatGPT, Dall-E, Claude) requires a shift away from traditional digital literacy models. Rather than beginning with basic, functional skills, educators need to prioritise critical thinking. This inversion is necessary because GenAI is not a neutral tool; it converses, imitates, and often persuades, prompting users to engage with it rhetorically, not just functionally. We have observed first-hand that ākonga struggle with these new, necessary, rhetorical skills. Often experienced educators themselves, they struggle to develop an active, critical relationship with GenAI tools.

It became apparent that our context demanded a different approach to traditional digital capability building, grounded in human-centred principles and aligned with the polytechnic's goals of future-ready, applied learning. Here, we relate and evaluate our experience with building GenAI capability and confidence in ākonga in the PGCLD and offer an adaptable, pedagogically grounded framework for others to use in their context.

## THE CHALLENGE

It is no overstatement to say that the impact of GenAI on humanity has been compared to that of the steam engine or the internet; it has even been described as the main contributing factor to the "Fourth Industrial Revolution" (Schwab, 2025). As educators, we have a moral and professional obligation to our ākonga to act with

urgency to prepare them for their future careers within this new world. Employers will require graduates to have advanced skills in using the GenAI tools which are transforming their industries as much as they are currently transforming education.

Yet our sector, vocational education, has been slow to respond to these current and future needs. Kaiako and ākonga face an overwhelming range of ethical, pedagogical, and technical uncertainties. Institutions have been cautious; policy guidance has lagged behind the pace of innovation, leaving kaiako and ākonga unsure whether, or how, to engage with GenAI. In the absence of clear models for good practice, many of our ākonga fell into one of two traps: either ignoring GenAI entirely or using it with abandon without critical filters. For example, when marking the first three assignments in the programme, we found that four to five ākonga out of 20 had probable inappropriate GenAI input in at least one of their assignments, while many who could have benefited from its appropriate use avoided it altogether. Whether or not ākonga had used GenAI was ascertained firstly through our own experience in manually detecting AI-generated content, and then confirmed through Turnitin GenAI likelihood reports and conversations with ākonga. While the focus of this article is not on academic integrity, we believe that GenAI-capable and confident ākonga would be less likely to misuse GenAI and therefore be less at risk of academic integrity violations.

Before the rise of generative AI, fostering a culture of academic integrity through education, not punishment, was already recognised as more effective in reducing misconduct. Punitive measures alone do little to deter cheating or promote understanding (Janinovic et al., 2024). Furthermore, most ākonga do not intentionally deceive. For those who do, this can be for a variety of reasons, many of which do not always indicate intent to deceive and therefore deserve compassion (Eaton, 2023). Instead of punishing ākonga, raising awareness of academic integrity and involving them in discussions about policy helps build shared expectations and supports ākonga agency (Janinovic et al., 2024). This kind of collaborative, capability-focused approach inspired and laid the foundation for our work increasing ākonga understanding of GenAI to reduce both resistance to and over-reliance on these tools.

### REIMAGINING DIGITAL LITERACIES

Addressing digital literacy gaps through traditional 'software training' does not get anyone very far. However, Selber's (2004) seminal approach to digital multiliteracies is still a strong foundation, articulating the functional, critical, and rhetorical dimensions and seeking to create "active agents" of users (see Figure 1).

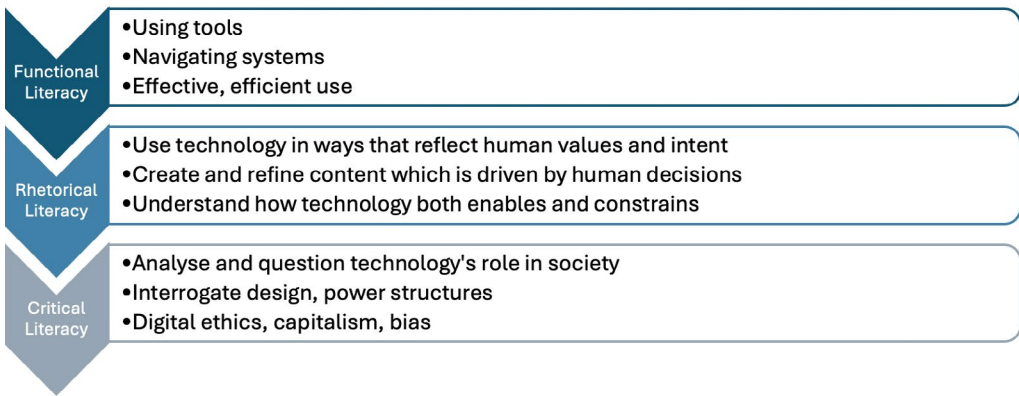


Figure 1. In Selber's (2004) model, functional literacy is achieved first; rhetorical and critical literacies are scaffolded from there (image based on Selber's (2004) framework).

In many educational contexts, efforts to develop digital literacy often start and stop at functional literacy because the technologies themselves require only one-way interaction from the user to the tool (for example, Learning Management Systems such as Moodle). Rhetorical literacy requires the user to understand the affordances (possible uses and limitations) of the technology and then to leverage these to augment human-centred goals. Rhetorical literacy requires the user to form a relationship with the tool but remain in control of the decision-making and centre human perspectives. The opportunity to develop rhetorical literacies is limited with non-AI digital tools outside of specialist software (for instance, Adobe's Creative Suite). Additionally, most organisations outsource critical literacies to specialist technical teams (such as IT or Education Technology). They bear the responsibility of evaluating the risks and benefits of new technologies, make judgements on their purpose, use, and adoption, and provide secure and appropriate access to organisational tools, absolving the average user from having to engage with critical digital literacy. Therefore, if critical or rhetorical digital literacies are considered, they are usually abstracted from the end-user's context and not integrated in any practical way into teaching or learning (Miao & Cukurova, 2024). Consequentially, we need to teach all of these dimensions in the contexts of ākonga in ways that give them agency (Bauer et al., 2025).

However, GenAI explicitly uses a rhetorical relationship; that is, rhetorical literacy is functional literacy. Further, if rhetorical literacy is successfully developed through a human-centred relationship rather than an AI-dependent one, the user will critique their own and GenAI's questions, responses, role, and decision-making. Thus, with sustained and deepening use of GenAI, rhetorical literacy drives critical literacy and vice versa (see Figure 2). To develop AI literacy therefore, specifically with generative AI in mind, we must approach this with an entirely different perspective than we do with non-AI digital tools, turning Selber's framework on its head.

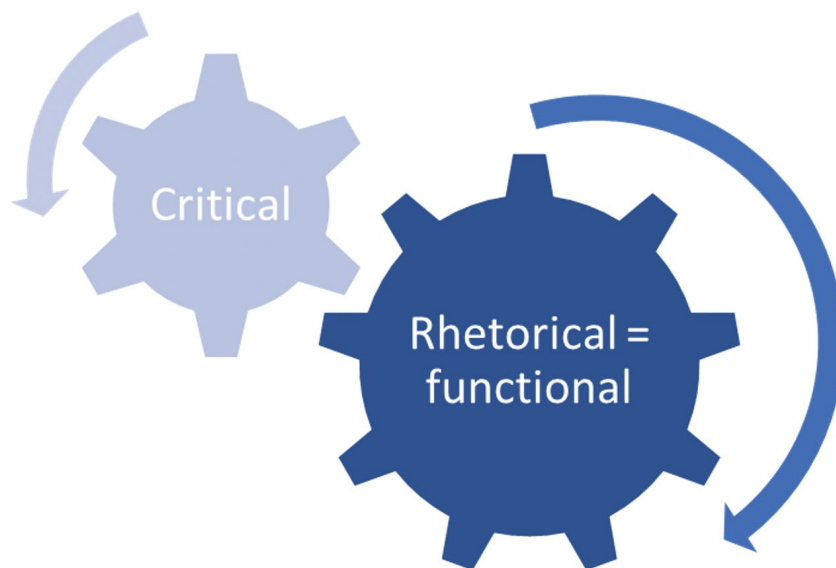


Figure 2. With GenAI, rhetorical literacy is functional literacy: driving, and being driven by, critical literacies as the human develops their relationship with the GenAI tool.

Puentedura's SAMR model of educational technology adoption (2018), provides a useful lens here. The model describes four levels of technology use: substitution, augmentation, modification, and redefinition. Substitution is the lowest level where a technology replaces an analogue task with no functional change, augmentation

where technology enhances the original task in some way (for example, efficiency), and modification where technology allows for the task to be significantly redesigned. Generative AI *immediately* invites us to consider his top tier of “redefinition,” in which “tech[nology] allows for the creation of new tasks, previously inconceivable” (Puentedura, 2018, slide 6). We are aiming to transform ākonga *perceptions* of GenAI use and, ultimately, give rise to a transformation of practise and capability to ensure their work- and industry-readiness. Yet, we observe many ākonga (and kaiako) approaching GenAI at the “substitution” level, most commonly as a substitute for a search engine or an editing tool; using it superficially to rephrase, summarise, or generate outputs. These are functional tasks that do not meaningfully engage with what GenAI could redefine, limiting the development of any higher-level literacies.

We identified our priority as needing to shift ākonga away from the traditional digital technology lens when considering GenAI. We wanted them to move away from the immediate need—the functional—to the longer-term critical and rhetorical dimensions of their relationship with generative AI. We aimed to take ākonga from Bloom’s (Anderson, 2001) levels of “understand” to “apply” *through* “creating”; we believed this would support ākonga to develop functional literacy *as a by-product* of developing critical and rhetorical literacy.

UNESCO’s AI competency framework for students (Miao & Shiohira, 2024) integrates Bloom’s taxonomy with four “competency aspects” for ākonga: “a human-centred mindset, ethics of AI, AI techniques and applications, and AI system design” (Miao & Shiohira, 2024, p. 19). The framework aligns with Selber’s and Puentedura’s theories. Alongside an explicit acknowledgement that these skills must be scaffolded over time, it provides a strong, practical model for developing AI literacies. Three of the four UNESCO competency aspects (human-centred mindset, ethics of AI, and AI techniques and applications) are especially relevant to our ākonga, as are the first two levels of progression (“understand” and “apply”) (Miao & Shiohira, 2024, p. 19). At these intersections were six competencies we felt particularly important to develop in our ākonga (see Table 1):

- Human agency
- Human accountability
- Embodied ethics
- Safe and responsible use
- AI foundations
- Application skills.

Competency aspects	Progression levels		
	Understand	Apply	Create
Human-centred mindset	Human agency	Human accountability	Citizenship in the era of AI
Ethics of AI	Embodied ethics	Safe and responsible use	Ethics by design
AI techniques and applications	AI foundations	Application skills	Creating AI tools
AI system design	Problem scoping	Architecture design	Iteration and feedback loops

Table 1. UNESCO competency aspects and progression levels for ākonga. Highlighted in yellow are the six skills relevant to our ākonga (Miao & Shiohira, 2024, p. 19).

It is worth noting that the UNESCO “Create” progression level focuses on creating new AI tools, rather than creating through the use of current GenAI tools, which is how we have (re)interpreted this verb when discussing digital literacies.

## SOLVING CHALLENGES

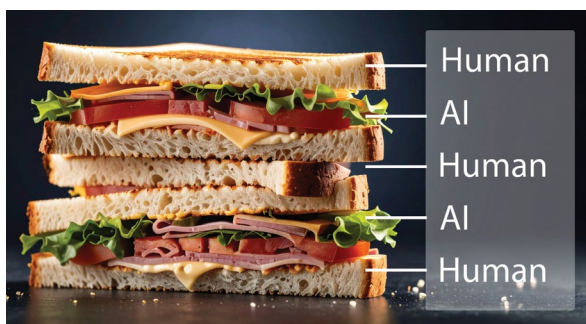
Having articulated the issues, framed our high-level approach, and set our overall competencies for our ākonga, our next step was to support them in their journey towards their transformation of practice. We sought out practical strategies which would suit our context and ākonga.

We started with a simple metaphor, the AI and human sandwich. The use of metaphors in education can be an effective way to anchor new learning in prior knowledge, the basis of a constructivist approach to ākonga-led knowledge creation (Bransford et al., 1999). Metaphors allow ākonga to recognise similarities and connections between their own experiences and unfamiliar concepts (Martinez et al., 2001). In our case, this metaphor enabled ākonga to visualise the layered interplay between human and AI, creating a concrete framework for structuring their emerging understanding of this collaborative practice.

The AI and human sandwich, as described by Jon Ippolito (n.d.), advocates for human-driven decision making in interactions with AI. His form of interaction “exploits the power of generative AI while also taking advantage of uniquely human capabilities” (Ippolito, n.d.). While his sandwich envisages GenAI as the bread and humans as the filling, other industry areas have reversed the metaphor to place GenAI as the filling instead. Harpreet Khurana (n.d.) from Russell Reynolds Associates uses the human sandwich metaphor to promote humanisation to avoid homogenisation. The analytical AI filling is sandwiched between human insight and human decision-making, combining human perspective and critical thinking; both things that have been suggested could be lost in the new era of GenAI use (Andriole, 2024).

Our preferred sandwich has human decision-making as the bread, as we feel this combination better supports building the UNESCO capabilities defined above. Initially, we used the simple “Human and AI sandwich” concept with our cohort but, in reality, the interplay between human and GenAI does not end with only two pieces of bread and one filling. It is a more complex back and forth between the two, where GenAI outputs can be interleaved with human nuance, experience, and creativity. In this way our metaphorical sandwich concept has grown as we have also grown in our understanding of how we can collaborate with GenAI in our professional lives. Currently, we have adapted our metaphor into that of a “Human and AI Club Sandwich” which better describes the rhetorical relationship we would like to encourage our ākonga to have with GenAI (see Figure 3). As our grasp of the true affordances of generative AI increases, our use of AI will become more complex. The emergence of new capabilities previously inconceivable will push our GenAI adoption into the “redefinition” category (Puentedura, 2018) which, in turn, will support the development of critical literacies.

Figure 3. The Human and AI Club Sandwich metaphor illustrates the interleaving of GenAI and human nuance, experience, and creativity. Sandwich image created by Firefly.



## THE LARC FRAMEWORK

Any metaphor runs the risk of being overly simplistic, especially if it is not backed up with further detail and explicit examples. Its strengths lie in big picture thinking and in cross-disciplinary and multi-level customisation, adaptable enough to suit any subject area. AI/human collaboration is still such a new concept, so far outside our previous frames of reference, that general metaphors do the work of paving the way for more complex and specific guidance. The human sandwich metaphor lays the essential base for the conceptualisation of appropriate and successful interactions between our ākonga and GenAI.

After we introduced our class to the human and AI sandwich metaphor, we observed that this was not sufficient for our ākonga. They required more structure and guidance in making informed decisions about their GenAI use. We received question such as: “But how do I *know* if it’s an appropriate use?” or “Why can’t I use it like that?” These types of questions made sense to us, as the metaphor was only meant to support the understanding of how to frame interactions with GenAI, rather than to provide guidance on how those interactions should occur.

To further build on this and to promote the level of rhetorical and critical literacy that we aimed for, we set out to encourage the development of “active agents” of our ākonga as described by Selber (2004). That is, learners who critically and deliberately shape their interactions with technology, not just passively consume it. We felt a series of questions would prompt ākonga to engage their critical thinking processes and encourage them to question their current relationship with GenAI. The affordances of GenAI are so broad that shaping any set of questions that would be relevant to all potential affordance areas was problematic. Consequently, we divided our thinking into four areas of common GenAI use: learning, articulation, research, and creation, forming the acronym LARC. Like metaphors, acronyms are effective memory enhancing strategies, making learning more memorable, accessible, and ultimately more enjoyable for ākonga as well (Stalder, 2005).

Keeping the six UNESCO competencies in mind, we created our prompting questions in our LARC framework. Each question in the LARC framework bridges multiple competencies in the UNESCO competency framework. The first framework section, learning, is mapped against the competencies in Table 2 as an example of their multi-facdedness.

## TEACHING LARC

To promote engagement with our lesson on the LARC framework, we decided to use a series of case studies to ground the learning in a real-world context and leverage the benefits of an active learning model. According to Chickering and Gamson (1987, p. 4), “learning is not a spectator sport”; ākonga must “... apply it to their daily lives. They must make what they learn part of themselves.” Creating authentic learning experiences in which ākonga actively participate provides that meaningful link to personal experience and answers the question from ākonga: “how do I do this?” Case studies have the added benefit of providing the human element and connection to a fictional, but relatable situation which encourages ākonga to see past their own preconceptions and fixed ideas (Hughes et al., 2022).

Each of the four case studies we authored (with help from GenAI) were focused on a separate aspect of the LARC framework (see Figure 4). Combined with a corresponding set of prompting questions, they formed the central activity of our lesson plan. Keeping in mind that our context is a postgraduate level course, our case studies were deliberately difficult to untangle, designed to prompt a robust discussion. Ākonga were randomly assigned into MS Teams breakout rooms, each dedicated to one of four aspects of LARC. The groups were given 15 minutes to discuss the case study before being recalled to the main meeting room to present their findings.

As each case study was deliberated, the ensuing discussions and presentations surpassed our expectations. Some further prompting questions from us steered the conversations along the path of appropriate uses of GenAI but,

on the whole, ākonga managed to arrive at a consensus about each scenario. At the conclusion of the discussion, we then offered several supplementary ways the scenario character might have interacted with GenAI more appropriately, and these in turn sparked more discussion (see Figure 4). While kaiako facilitated in terms of questioning, ākonga used their own critical reasoning and judgement to co-construct a class kawa for appropriate and inappropriate AI use. This highlighted for us that both ākonga and kaiako already have these critical reasoning skills; our role is to help them apply those capabilities in new and emerging contexts.

Ataahua - AI for Learning

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Appropriate or inappropriate...

Ataahua - AI for Lear...

Braden - AI for Artic...

Charlotte - AI for Re...

Desi - AI for Creation



Ataahua is studying educational leadership and policy in a postgraduate program. She has a background in early childhood education but is unfamiliar with policy analysis. To bridge this gap, Ataahua uses [AskYourPDF](#) to explain core concepts of policy analysis and also uses Microsoft CoPilot to draft an outline for how these ideas could be applied in an early childhood education context. After reviewing the AI's suggestions, she tweaks some sections but leaves the structure and key examples unchanged. She feels the AI's output helped her connect two disciplines in ways she hadn't thought of on her own.

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**Questions to ask yourself:**

- Is this an appropriate use of AI for learning?
- Should Ataahua rely on AI for interdisciplinary integration?
- To what extent can we accept AI's role in her learning if it helped her generate connections she wouldn't have made independently?
- Is Ataahua avoiding the hard work of learning or using AI to support her learning?

### [Click here to view some insights](#)

Using AI as an out of hours virtual tutor to help you understand something is an excellent use of the technology. However, using AI outputs in your work with only minor "tweaks" is not.

Whether or not Ataahua is avoiding learning or supporting her learning will depend on what kinds of questions she is asking and how she is using the output of the AI.

While wholly incorrect answers are unlikely, one risk is that AI may provide answers or insights which are off-track of what Ataahua is supposed to be learning in her course. It's important not to use AI as a replacement for your kaiako, but rather to support you to understand what your kaiako are teaching you.

**Instead of asking AI to explain policy analysis to you...** Try pasting in some text from an approved resource and asking AI to rephrase it in simpler language.

**Instead of using AI like a search engine...** Try uploading an approved resource and asking AI to be a "socratic tutor to help me learn about [insert subject here]".

**Instead of asking AI to generate examples for you...** Try asking AI to generate *one* worked example to illustrate a concept. Then use this to support you in generating your own example for your work.

Figure 4. An example case study including alternative ways to interact with GenAI in relation to the scenario.



LARC Framework		Prompting Questions	UNESCO Competency
L	Learning	<ul style="list-style-type: none"> <li>Do I critically evaluate the information provided by AI, or do I accept it without question?</li> </ul>	Human agency Human accountability Safe and responsible use AI foundations
		<ul style="list-style-type: none"> <li>Am I using AI to build on my understanding, or am I relying on it to learn for me?</li> </ul>	Human agency Human accountability Safe and responsible use AI foundations Embodied ethics
		<ul style="list-style-type: none"> <li>How can I incorporate my own analysis or perspective into what the AI has suggested?</li> </ul>	Human accountability Safe and responsible use AI foundations Embodied ethics
		<ul style="list-style-type: none"> <li>Have I cross-referenced the AI's outputs with credible academic sources?</li> </ul>	Human accountability Safe and responsible use AI foundations Embodied ethics Application skills
A	Articulation	<ul style="list-style-type: none"> <li>Does AI assist me in expressing my ideas more clearly, or is it substituting for my original voice?</li> <li>Am I using AI to refine my work, or am I allowing it to generate content with minimal input from me?</li> <li>If someone asked me to explain my work without AI, could I confidently do so?</li> <li>How have I ensured that the AI-assisted sections align with the academic integrity policies?</li> </ul>	
R	Research	<ul style="list-style-type: none"> <li>Have I reviewed and validated the AI-suggested sources and themes independently?</li> <li>Is AI helping me identify diverse and credible sources, or is it narrowing my research scope?</li> <li>Am I relying on AI to analyse resources and, if so, do I understand the underlying methodologies?</li> <li>Does my work clearly demonstrate my own analytical thinking and synthesis of ideas?</li> </ul>	
C	Creation	<ul style="list-style-type: none"> <li>Is AI serving as a tool to enhance my creative process, or is it driving the creative output entirely?</li> <li>Do I incorporate personal insights and originality into AI-assisted creations?</li> <li>Can I explain the rationale behind the creative choices made, including those suggested by AI?</li> <li>Have I transparently acknowledged the role AI played in the creation process?</li> </ul>	

Table 2. LARC framework with prompting questions. The first section (Learning) has been mapped to UNESCO competencies.

## OBSERVATIONS FROM THE LARC LESSON

The LARC lesson was run during the third course in the PGCLD Learning Technologies for Learning Design in 2024, between the third and fourth assessment due dates. As described above, for the first three assignments, about 25 percent of ākonga had inappropriately used GenAI. After our intervention, for the next three assignments, we observed only one submission with probable inappropriate GenAI use. Almost all ākonga were being transparent in declaring their use of GenAI.

Our anecdotal findings were an increase in the level of confidence in our ākonga, both with how they were using GenAI and in their openness about this usage. The overall result was the beginning of an ongoing positive relationship with GenAI and the courage to explore the affordances of a human and AI relationship.

Rhetorical literacy requires forming a constructive relationship with GenAI which was our explicit goal. However, unexpectedly, we observed a sense of relief and easing of a former reserve around GenAI expressed by some ākonga. Some of these behavioural and attitude differences could be attributed to their rising relational trust. Relational trust | Te whakawhirinaki hangarau with digital technology is described by Rosina Merry (2022) “as the extent to which kaiako and taura trust that technology will have a positive influence on their teaching and learning” (p. 17). Relational trust enables a three-way relationship between technology, ākonga, and kaiako: trust in the value of the technology, trust in the use of the technology, and trust in its overall positive impact on the learning environment. Other aspects of relational trust also contribute to the creation of a positive relationship, such as ākonga accountability, kaiako competence, and knowledge of the affordances and limitations of the technology. A rise in relational trust means an increased interaction with the technology, solidifying the burgeoning constructive relationship (rhetorical literacy) that we had set out to encourage in the first place. Moreover, a rise in relational trust empowers ākonga in their own learning. The human and AI sandwich and the LARC framework contextualise and structure interactions with a nebulous unknown entity, connecting it to the recognised world, reframing the scary into the trusted familiar, and providing tools to use in future exploration of human and AI relationships.

## CONCLUSION

The LARC and Human and AI Sandwich approach helped our ākonga move from uncertainty to agency, and from surface use to deeper critical engagement with GenAI. By foregrounding rhetorical literacy and integrating reflective questions across the domains of learning, articulation, research, and creation, we have started to create shared definitions and a structure for appropriate use. The result was a positive shift in transparency, capability, and relational trust. Ākonga reported not only a better understanding of how to use GenAI but also a sense of relief: our framework had made some of the unknown tangible and navigable, and as a result they felt more confident in their own critical digital literacy.

Still, challenges remain. There is a fine line between utilising GenAI's affordances and crossing into academic misconduct. Our model provides scaffolding, not prescriptions, and is not a substitute for ongoing dialogue about ethics, authorship, and institutional values. We continue to refine our approach, embedding LARC into course orientation, assessment, and future plans for staff development. Next steps include training other educators to adapt the framework to their contexts. As we collectively explore what it means to teach and learn in partnership with GenAI, our commitment is to keep human perspectives, insight, and critical thinking as the bread that holds the sandwich together; foundational and irreplaceable.

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