Co-Designing AI Guidelines for Learners: Contexts, Principles, and Literacies

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Abstract: AI has become an integral component of learning contexts, so it is increasingly necessary for educators to provide context-specific guidelines to support learners in the responsible and effective use of AI. It is widely recognised that providing AI usage guidelines for learners is a contextual exercise, where the approach is unique to the type of learner and what they are studying, and as such, approaches need to be adapted. Not only is usage contextual, but so is the understanding and ability of students to apply these guidelines. As a result, co-design is recommended as a method to ensure that AI usage guidelines gain the necessary buy-in from all stakeholders and are designed in a supportive and comprehensible way. This paper argues that AI guidelines become meaningful only when a set of guiding principles is integrated with AI literacy and practice-based supports. This insight was developed from a co-design process involving a range of stakeholders from a predominantly online post-graduate educational institution in New Zealand. Over a period of nine months, students, staff, and external stakeholders engaged in an iterative process, using a range of methods including surveys, focus groups, and workshops, to design a set of effective guidelines around AI use. Specific insights included the difficulty of defining guidelines without first identifying a common set of principles, the value of aligning these principles to an AI literacy framework, and the need to supplement guidelines with further information and explanations of how guidelines may be applied in practice. The process also raised additional insights around the difficulties of defining guidelines through a consensus-building process - finding ways to make guidelines both discrete and comprehensive, and going beyond the skills aspects of AI literacy to encompass issues such as ethical practice and cultural awareness. This paper outlines the overall co-design process that was applied, the rationale for doing so, the methods used, the issues encountered and how they were resolved. It also provides the guidelines that were developed as an outcome of this process.

Keywords: AI Literacy; Co-Design; Guidelines; Postgraduate; Focus Group; Survey; Principles

1. Introduction

This article discusses the motivation and process for co-designing guidelines for the responsible use of AI in a postgraduate institution in New Zealand. A key assumption of this effort was that each educational context, subject, or discipline would interpret the appropriate uses of AI tools differently, taking a human-centred approach and shaped by the nature of the institution and the types of students who enrol (Fu & Weng, 2024). Therefore, it is unlikely that using generic guidelines from other contexts will provide an ideal framework for progress or ensure student buy-in to the process. It therefore follows that a collaborative and situated process, such as a co-design approach, is necessary to reflect the specific characteristics of the institution and its learning community with the development of guidelines involving a diverse range of stakeholders (Brandon et al, 2025). Applying a co-design process can result in transformative, rather than transactional, outcomes where students are more likely to follow the guidance provided (Ohio State University, n.d.). Students should not be bystanders in this process, as many are interested in opportunities to openly co-design their engagement with AI technologies (Cardona et al, 2023). Importantly, a set of guidelines openly co-designed with members of the student body is more likely to have success than one imposed from above by the institution.

Further, once created, guidelines must be actionable. This is not possible if learners lack the appropriate AI literacies to understand and follow them. Guidelines require specific literacies to reinforce learner agency with, rather than through, AI (Küçükuncular, 2025). AI guidelines and AI literacy are therefore fundamentally linked. Guidelines can support AI literacy development by turning abstract competencies into contextual applications (Sabatini et al, 2023), while AI literacy helps learners to interpret guidelines effectively. Guidance can then be operationalised through additional support materials (Funa & Gabay, 2025).

Good guidelines not only require transparency around use but should help learners understand educationally productive uses. The distinction between appropriate and inappropriate use should be explicit (Jin et al, 2025). Guidance should also focus less on integrity issues and more on the ethical and citizenship issues of AI use (Ghimire & Edwards, 2024). Centring values around fairness, transparency, cultural respect, disclosure, and

human-centred judgement helps learners understand that AI is a socio-technical issue, not simply a technical one (MacCallum, Parsons & Mohaghegh, 2026).

In summary, while many institutions create guidelines, there is often an assumption that learners have the appropriate literacies to interpret them, yet there is limited work examining how guidelines become actionable. Our research question was, therefore: How can AI guidelines be co-designed, so they become meaningful and usable within a specific educational context?

The contribution of this paper includes a process framework that captures how guidelines were scaffolded from principles and AI literacy and how they were expanded with practice support, providing insights into the complexities of co-designing AI guidance within a learning context.

2. Literature Review

The rapid emergence of GenAI tools has prompted many educational institutions to develop guidelines for AI use in teaching, learning, and assessment. However, many institutional guidelines overlook significant issues in AI tool use, privacy, and transparency (Ghimire & Edwards, 2024) as well as equitable access (Jin et al, 2025), and even where such guidelines exist, students may be uncertain about their institution's policies (Baek, Tate and Warschauer, 2024). In addition, successful implementations of such guidelines require supporting processes to develop relevant AI literacies in staff and students (Funa & Gabay, 2025). Therefore, this study was grounded in a set of understandings about what constitutes AI literacy, which were then used to support a co-design process.

2.1 AI Literacy

For students to meaningfully participate in designing AI guidelines, they require a certain level of AI literacy. For example, they need to be aware of issues like bias, data privacy, and reliability, so they can usefully contribute to discussions. The concept of AI literacy began to emerge in literature in 2016 (e.g., Kandlhofer et al., 2016). These and subsequent researchers proposed a range of concepts and definitions, many of which were integrated in Long and Magerko's (2020) literature review, which proposed five AI literacy themes linked to a set of competencies and design considerations. This work preceded the widespread use of generative AI but was part of a growing awareness that AI literacy is a broad, interdisciplinary theme (Fadel et al., 2024). From an educational perspective, several recent AI literacy frameworks have been developed to provide an organised way of thinking about how someone might scaffold their learning about AI in the age of generative AI. These include two frameworks from UNESCO, one for teachers (Miao & Cukurova, 2024) and another for students (Miao & Shiohira, 2024), and a framework for primary and secondary education by the OECD and the European Union (2026), among others. One such framework, which caters for multiple levels of AI literacy with a focus on equality AI literacy, is the SAIL framework (MacCallum, Parsons & Mohaghegh, 2024; 2026). This is the framework applied in this study.

2.2 Co-design

Co-design is a broad family of research approaches where people collaborate to carry out a design task, with variations in politics, practices, and epistemology (Zamenopoulos & Alexiou, 2018). Given this range of variables, co-designing guidelines not only requires student participation but also a process for how co-design is structured, implemented, and evaluated (Ambrosetti et al., 2025). Part of this process involves managing power dynamics, so students' contributions carry weight. There are several dimensions to this; for example, co-design should involve more than one cycle of engagement with students to ensure their voice is heard in the final product (Smith, F. et al, 2024). Further, Fielding (2001) proposes a 'students as researchers' model, based on the principles and values of partnership, positive orientation, centrality of learning, equity and authenticity, quality assurance, and ensuring that reflection leads to action. However, it should also be noted that effective facilitation, support, and guidance from academic staff were identified as the most important enablers of effective co-design in a study on assessment design, so staff need to take responsibility for the overall process and outcomes (Smith, A. et al, 2024). Similarly, Roschelle et al. (2006) note that co-design is not a fully democratic process, because accountability and decision-making are ultimately the responsibility of those leading the project. In this study, drawing from the recommendations in the literature, a small steering group managed the co-design process, with significant input from a range of staff, but students were included in multiple stages of the process, and importantly had the final say, as the last stage of the process consisted of student workshops.

3. Methods

The research design for this study was a co-design approach, with methods selected to suit the context. Co-design is a participatory design strategy that actively involves stakeholders, based on the premise that people affected by design decisions should help make those decisions (Zelenko, Gomez & Kelly, 2021). Many methods can be used, including workshops, focus groups, observations, and interviews (Iniesto, Littlejohn & Charitonos, 2022). The methods used within this study were a combination of a survey, focus groups and workshops, partly planned, and partly improvised to respond to the evolving context.

Co-design was chosen as a suitable way to actively involve members of a learning community in shaping AI guidance that met the community's needs. The strength of co-design in this context was in bringing together a diverse group of learners and educators to create guidance relevant to all members while providing insights into the AI literacies required for its successful implementation. Figure 1 provides an overview of the full co-design process.

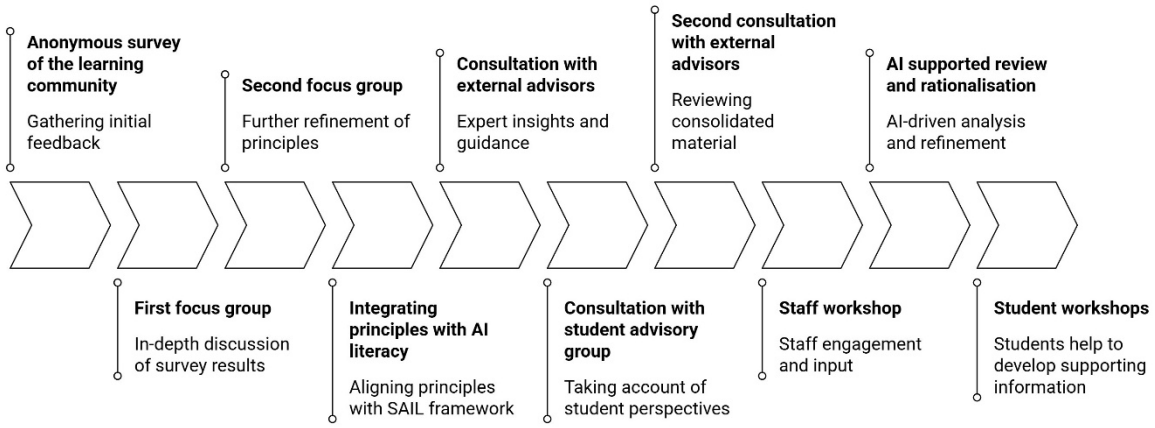


Figure 1: The co-design process

Table 1 shows the number of participants at each stage along with purposes and outputs. Although the number of survey responses (n=27) was small, the intent was not statistical generalisation but stakeholder-informed design. It also served as an invitation channel for focus group members. The two focus groups had the same members. The two student workshops were from different cohorts, mentored by the same five staff members.

Table 1: Participants, purposes, and outputs at each stage of the co-design process.

Stage	Participants	Purpose	Output
Survey	27	Baseline perceptions	Initial themes
Focus groups	12 (focus group 1) 12 (focus group 2)	Develop initial themes Expand the key ideas	Seven key ideas Ten principles, mapped to the SAIL framework
Stakeholders	21 (External stakeholders - two meetings) 8 (student advisory group)	Validate/refine	Eight refined principles, guideline development and structure of support materials Feedback on the level of detail and required support materials
Workshops	16 (Staff) 25 (Student group 1) + 5 staff mentors 27 (Student group 2) + 5 staff mentors	Develop final guidance	20 guidelines in five categories Explanations Example practices

4. Results

This section discusses the results of the co-design process, analysing the key findings under four themes.

4.1 Theme 1: Guidelines Emerge From Principles Rather Than Rules

Though we had expected to engage with creating guidelines early in the co-design process, the first focus group chose to engage in a more principles-based conversation. Rather than creating restrictions, they preferred to address the boundaries of AI use in learning, applying AI tools appropriately, and being transparent in AI usage. The group suggested that the goal should be to identify core principles that remain relevant across tools and contexts. From their discussion, we identified seven key ideas, some of which were principles-based (e.g., addressing ethical issues), while others were more practical and linked to theme 3.

> "*What are the key ideas about AI guidance that are essential?*" (from focus group 1 transcript)

The second focus group further developed the principles to include new ideas such as addressing digital divides and inclusion.

> "*Thinking, you know, a principles-based approach, rather than trying to come up with an exhaustive list to cover off every scenario*." (from focus group 2 transcript)

However, there were still some practical aspects in the proposed principles. These were factored out by the stakeholder groups, which created a set of 8 principles that provided the foundation for beginning to create specific guidelines. These principles stated that AI guidance should:

- Support AI literacy development
- Provide a common understanding of key concepts in AI
- Provide a strong foundation for the development of skills and competencies in AI
- Foster ethical awareness
- Embody cultural values
- Address digital divides and inclusion
- Preserve independent thinking
- Clearly define acceptable uses with practical examples

These principles were used as the structure for the guidelines that stakeholders, staff, and students began to expand with further explanations and example practices. During this process, it became apparent that the number of guidelines that had been proposed, at 27, was excessive. As workshop participants created further material, it came to light that there was significant overlap in the proposals, and we reduced the number of guidelines to 20, grouped in five categories derived from the original principles and AI literacies, but rationalised with a clearer focus.

4.2 Theme 2: AI Literacy Assists Learners in Interpreting Guidelines

Survey findings related to AI literacy suggested that, while many respondents had a broad grounding in key literacies, more development was needed in areas such as awareness and understanding of the potential of AI's broader capabilities and limitations, and some clearly needed further AI literacy development

> "*I feel very out of my depth with AI and often unsure*" (from survey responses)

Developing this theme, the first focus group suggested that AI literacy could be supported as part of the guideline support materials. The second focus group then began to map each principle to selected AI literacies from the SAIL framework to support coherence between the principles and AI literacy development.

> "*Yeah, I mean, that is one of the key literacies, isn't it, is knowing when not to use AI?*" (from focus group 2 transcript)

This pairing of principles and literacies proved an essential scaffold to the creation of guidelines, used by the stakeholder groups to start developing specific guidelines. Aligned to AI literacies, the principles provided a clearer structure for the participants to suggest guidelines that sat within the principles. In essence, the principles gave an overall structure to the process, but the alignment of multiple AI literacies to each principle gave a concrete set of ideas from which specific guidelines could be developed.

4.3 Theme 3: Practice Support is Required for Implementation

From the initial survey, it was clear that respondents wanted details about how to use AI appropriately in specific contexts and requested specific use cases to help them clarify how to use AI tools in practice, and how to report AI tool usage in their work. Similar ideas were explored in the first focus group, which agreed that guidance should support students with clear recommendations, strategies, and practical examples for using AI in their learning contexts, with exemplars for reflective practice. Stakeholder consultation provided more detailed ideas for what practice support would be required, and a range of possible support materials was suggested.

> "*Would it be useful to have a view of emerging uses to support [the] principles and/or provide examples throughout?*" (from external stakeholder transcript)

It became clear that each guideline would require further explanation, alongside examples of how to put that guideline into practice. Subsequently, the student advisory group emphasised that these materials should give students opportunities to develop their AI literacy through hands-on activities. So, the expectation that students would put guidelines into practice would be supported by specific tasks that they could perform to demonstrate their capabilities in following those guidelines.

> "*Progressing the development of specific use cases/exemplars (and how-to guides) so we can give students more specific guidance*." (from external stakeholder shared document comments)

At this point, the requirement was well established, and the workshops provided the opportunity for participants to record in detail what the additional explanations of each guideline would be and what example practices would be associated with them.

> "*e.g., If using Chat GPT, do a comparative analysis with other tools (Claude, Grok, etc.) and evaluate the differences in the output. Note gaps and limitations*." (from staff workshop notes)

4.4 Theme 4: Co-Design Revealed Limitations of Guideline-Centred Approaches

From the first focus group onwards, it became evident that a guidelines-first approach would not be an effective strategy. None of the participants felt able to suggest specific guidelines at this stage but wanted to focus on identifying core principles that remain relevant across tools and contexts. Rather than starting with restrictions, the group wanted to focus on ethical and educational values. This continued into the second focus group, where no specific guidelines were suggested.

> "*Principle-based rather than, you know, a list of X, Y, and Z, and I won't do this, and I will do that*." (from focus group 2 transcript)

This changed the direction of the subsequent stages, where the principles were refined further and aligned to specific AI literacies to provide the necessary scaffold for guidelines to be developed. This was a clear finding of our study, that a principles-first approach is needed, followed by alignment with AI literacies, with guideline development following once these are in place.

4.5 Results Summary

Across all themes, participants consistently identified a progression from principles to literacies and finally to guidelines supported by practical examples. These relationships informed the simple process framework shown in Figure 2. Principles, aligned with AI literacies, provided a frame within which guidelines could be created, which, like all scaffolds, began to fall away as we reached the latter part of the process, distilled into categories and guidelines.

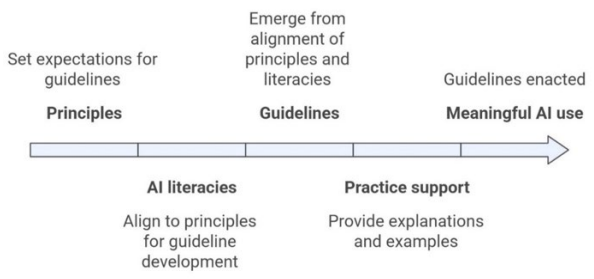


Figure 2: Framework of the co-design process

4.6 The Guidelines

The final set of 20 guidelines is organised into the following five categories:

Category 1: Understanding AI in Your Learning Context - Foundational literacy about what AI is and how it is used

Category 2: Using AI Purposefully in Learning - Practical, intentional, academically aligned use of AI

Category 3: Safe and Transparent Use of AI - Using AI with integrity, privacy, and safety

Category 4: Ethical Use of AI - Avoiding risks, misconduct, and negative impacts

Category 5: AI, Cultural Awareness, and Inclusion - Cultural perspectives, data sovereignty, and equity

As previously discussed, the co-design process revealed that the guidelines alone are not enough to ensure they are followed. As a result, each guideline in the material published to students consists of three parts:

- Guideline: a statement of the guideline itself
- Further Explanation: an explanation of what issues the guideline is addressing and why it matters
- Example Practice for Students: a concrete suggestion for how the guideline can be met/demonstrated

The full set of guidelines is listed below. The key focus of each guideline is highlighted in bold text. The further explanations and example practices for students are not included here.

Category 1. Understanding AI in Your Learning Context

1. Familiarise yourself with the **capabilities, strengths, and limitations of different AI tools**, and consider how these can affect their outputs and your learning.
2. Understand **how AI is defined and used in your learning context**, and stay informed about good practices shared by staff and students.
3. Stay informed about **how AI is affecting organisations and industries** related to your studies and reflect this understanding in your work.
4. Recognise that **AI outputs can vary and may be biased, inconsistent or inaccurate**, and apply critical judgment when interpreting or using them in your academic work.

Category 2. Using AI Purposefully in Learning

1. Use AI as one component of your overall digital literacy, and **consider whether AI is the best choice for a task** before using it for learning or assessment.
2. Decide where AI can add value to your learning goals and **choose tools that align with the requirements of your learning activity** or assessment.
3. When using AI for research, **verify the accuracy and credibility of any information AI** provides by triangulating its outputs with primary sources.
4. Review AI-supported work carefully to ensure the final product **reflects your own independent thinking, voice, and perspective**.

Category 3. Safe and Transparent Use of AI

1 **Follow any programme-specific guidance** or staff instructions on acceptable AI use provided in addition to these guidelines
2 Acknowledge and **describe your use of AI transparently and accurately**, citing the sources of any AI-created content, and how AI tools have been used.
3 Identify the privacy and security policies and risks of AI tools and **use safe practices** to protect yourself and your data.
4 Take opportunities to **provide reliable source materials** for AI tools to work from when it is safe, appropriate, and permitted to do so.

Category 4. Ethical Use of AI

1 **Check AI-generated content for possible bias** and seek to mitigate this through your own critical use.
2 **Never upload personal identifiable information** or commercially sensitive data from your research or workplace into open/public AI models.
3 **Avoid using AI to plagiarise**, mislead, or cause harm.

4 **Avoid unnecessary or excessive use of AI** resources to minimise environmental impacts.

Category 5. AI, Cultural Awareness, and Inclusion

1. Recognise that the cultural assumptions and value systems built into **AI systems may omit or misrepresent Indigenous knowledge** and verify and supplement such content with appropriate sources.
2. **Respect data sovereignty** and avoid uploading culturally sensitive or restricted material into AI systems.
3. Prompt AI tools to **explicitly consider cultural perspectives** and content in their responses.
4. **Use AI in ways that support inclusivity** and avoid tool or data use that might disadvantage others

5. Discussion

This study set out to co-design AI guidelines for a specific higher education context. However, a central insight was not simply the development of guidelines, but a clearer understanding of the conditions required for such guidance to be meaningful and usable in practice.

Our initial expectation was that co-design would lead directly to the development of guidelines. It quickly became evident that guidelines are difficult to construct in contexts where both understanding and practice are still developing. This suggests that guideline development in emerging technological contexts like AI may require a shift from a guideline-first approach to more principle-based approaches.

This aligns with critiques of policy-first approaches in digital contexts. Policy often assumes stable practices and shared understanding, but in rapidly evolving technological environments, it can be challenging for educators to take control of change (Selwyn, 2024). Instead, learners and educators operate within a "capability gap", where expectations of appropriate behaviour outpace individuals' ability to respond (Wang et al, 2026, p. 140). The co-design process made this tension visible. While AI literacies were intentionally integrated, they initially acted more as a scaffold for discussion than a direct pathway to guideline development. Participants frequently moved away from specifics and instead engaged in broader conversations about learning, ethics, and practice. Although these discussions did not immediately produce guidelines, they did surface how AI was being used within the institution, providing the necessary foundation from which guidance could later be derived.

A key insight emerging from this process is that guidelines are inherently interpretive rather than prescriptive. Participants emphasised the need for flexibility across contexts, tools, and disciplines, reinforcing that technology is inherently "unruly" and cannot be fully defined by a set of rules. Instead, effective engagement with it depends on social learning (Wynne, 1988). This interpretive nature places significant demands on learners and leads to a central finding of this study: AI guidelines are only actionable when accompanied by sufficiently supported AI literacy to interpret and apply them.

Across all stages of the co-design process, participants consistently identified the need for supporting materials, examples, and opportunities for practice, reinforcing that guidelines alone are insufficient. This emphasises the knowledge, critical thinking, and ethical awareness required to navigate complex digital environments (Miao & Shiohira, 2024).

Importantly, this insight emerged through the co-design process itself. Participants were able to articulate challenges and expectations but struggled to translate these into formalised guidelines without first engaging in discussions about capability, understanding, and practice. This highlights a key methodological contribution: co-design does not simply generate better guidelines; it reveals the limitations of guideline-centric approaches. In this case, it exposed that guidelines, when developed in isolation, are structurally incomplete.

As a result, this study emphasises the importance of a capability-informed approach, which can be conceptualised as a three-part structure:

- Guidelines – articulating principles, expectations, values, and boundaries
- AI literacy – enabling learners to interpret and apply these guidelines
- Practice-based supports – providing examples, activities, and opportunities for applied practice

This integrated model aligns with emerging perspectives in AI literacy, which emphasise not only understanding how AI works, but also developing the capacity to critically evaluate it, and use it responsibly (MacCallum, Parsons & Mohaghegh, 2026). The guidelines developed from this study - comprising a guideline statement,

explanation, and example of practice - reflect this insight. They acknowledge that understanding cannot be assumed, and that guidance must be accompanied by mechanisms that support interpretation and application.

Finally, this study highlights the value of co-design as a process for navigating emerging educational challenges. Co-designing AI guidelines is ineffective when constrained by a narrow, predefined focus. Instead, it requires openness to divergent, iterative, and sometimes messy conversations, where stakeholders explore not only what guidance should look like, but what is required to make it meaningful. In this process, researchers must follow the directions of stakeholder inquiry and translate diverse forms of input into coherent outputs, drawing on professional judgement to bridge the gap between discussion and design.

6. Conclusion, Limitations and Future Work

6.1 Limitations of the Study

The study is based in a single institution, engaging a small subset of the members of the stakeholder groups that may be impacted by changes to the institution's AI guidelines. Additionally, those stakeholders engaged in the co-design were self-selecting. It is possible that the reflections on co-design discussed in the paper are not representative of other learning communities inside or outside the institution. However, it is suggested that the processes and principles applied in this study may be informative for other institutions engaging in similar co-design processes with their own stakeholder groups. While the outcomes may be different, the process and underlying principles may be similar.

6.2 Future Work

The creation and application of AI guidelines is seen as an ongoing process that will need to be continually revisited as the features, capabilities, and challenges of AI tools continue to evolve. In addition, while guidelines support learners and staff, policies are also required by institutions for a range of reasons, but ultimately to manage risk, to ensure that AI is trustworthy and used for good (Ally & Mishra, 2024). Therefore, policy needs to be developed from the same principles as the guidelines.

Ethics Declaration

The research design was submitted to the academyEX institutional ethics committee and received approval on 17th April 2025 (approval number aex.staff.2025.02).

AI Declaration

Napkin was used to create the two figures. ChatGPT was used to provide a critical review of the draft article. After author revisions, it provided a further critical review that was used to help refine the submitted version.

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