



Guidelines for supporting foundation/bridging ākonga to use Generative Artificial Intelligence (Gen AI)

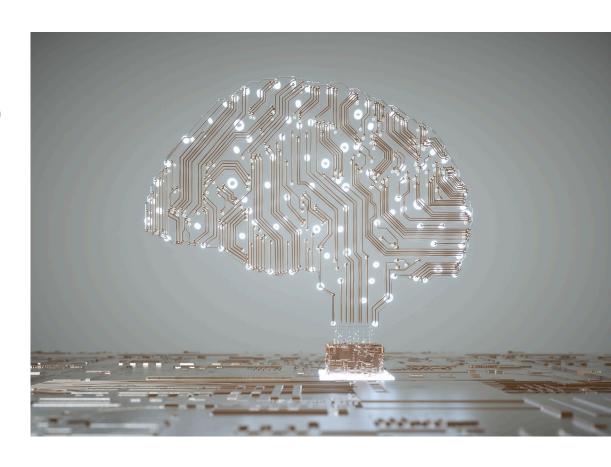
Ako Aotearoa AARIA 2024 project

Dr. Selena Chan, Dr. Amit Sarkar, Tricia Lewis, Rory Collins



Overview

- Project team
- Rationale for project (Selena)
- Examples of ako (Tricia/Rory)
- Al Ako chatbot (Amit)
- Project frameworks
- Guidelines (Selena)



Microsoft stock image

Project rationale



ACADEMIC LITERACIES ARE THE **FOUNDATION** TO LEARNING



AI LITERACIES ARE A SUB-SET OF ACADEMIC/INFORMATION LITERACIES



DIGITAL LITERACIES ALSO REQUIRED



AI MUST NOT REPLACE HUMAN LEARNING

Why humans need to 'learn by doing'

- Cognitive off loading vs Metacognitive laziness or Cognitive debt
- Learning to think requires meaningful effort and time
- Deliberate and repetitive practice required to attain expertise



Generated by Copilot using prompt – robots reading and learning with humans on phone

- Tacit knowledge only attained through long association with specialist knowledge and practice
- Embodied practice is a human trait

Fan, Y. et al. (2025). Beware of metacognitive laziness: Effects of generative artificial intelligence on learning motivation, processes, and performance. *British Journal of Educational Technology*, 56, 489–530. https://doi.org/10.1111/bjet.13544

Costa, C., & Murphy, M. (2025). Generative artificial intelligence in education: (what) are we thinking? *Learning, Media and Technology*, 1–12. https://doi.org/10.1080/17439884.2025.2518258

Kosmyna, N., et al.. (2025). Your brain on ChatGPT: Accumulation of cognitive debt when using an AI assistant for essay writing task. https://arxiv.org/pdf/2506.08872



Ako Al project

- Ākonga and kaiako from Ara (Tricia Lewis, Rory Collins, Stan Tawa, Manu Whata, Te Kurawhiti Hitchens), Hagley Learning Centre (Jo Fox, Robyn Peterson, Gisele Aynsley, Khadra Alazrak), and Otago Polytechnic (Judy Magee, Christine Beker)
- Tried out a range of Gen Al tools ChatGPT3.5; ChatGPT4.0; Gemini/Bard; Claude; Copilot; Grammarly.
- Used AI to fill roles as 'possibly engine', Socratic opponent, collaboration coach, co-designer, exploration tool, or storyteller'
- Perspectives collated to inform development of Ako AI a 'guide on the side' or 'learning buddy'
- Ako Al created- by Bachelor of Information Technology and Computing (BICT) third year students Chris Lotter and Alex Stewart with technical support from Dr. Amit Sarkar



Tricia and Rory's slides

Ako Al presentation | 26 August 2025

Brainstorming





I am writing an essay on the advantages and disadvantages of owning a pet. Can you give me some ideas?



Advantages	Disadvantages
Companionship & emotional support	Time-consuming
Encourages exercise & routine	Costly (food, vet, care)
Teaches responsibility	Limits travel & flexibility
Boosts social interaction	Allergies & health risks
Provides security	Potential property damage

Evaluate this answer.
What follow up prompt could you use?

Planning





My essay must have an introduction, four main body paragraphs, and a conclusion. Suggest a way to organise it.



Owning a Pet – Advantages & Disadvantages

Introduction

Briefly introduce pet ownership and mention that it has both benefits and drawbacks.

Body Paragraphs

- 1. **Emotional & Social** Companionship, emotional support, and improved social interaction.
- 2. **Health & Lifestyle** Encourages exercise, builds routine, and teaches responsibility.
- 3. **Practical Issues** Time demands, financial costs, and limited travel flexibility.
- 4. **Health & Property** Allergies, health risks, and potential damage to belongings.

Conclusion

Summarise the key points and reflect on the overall impact of owning a pet.

Using AI for researching





You

I am writing an essay on the pros and cons of owning a pet. One of my paragraphs is about companionship and emotional benefits. Give me some reliable academic sources that could be used for this paragraph.

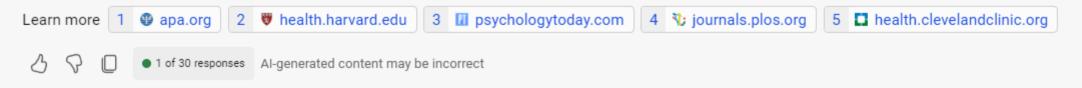
What do you expect Copilot to come back with?

Copilot

Here are some reliable academic sources that discuss the companionship and emotional benefits of owning a pet:

- 1. "Friends With Benefits: On the Positive Consequences of Pet Ownership" This study, published in the *Journal of Personality and Social Psychology*, explores how pets can provide significant social support, improve self-esteem, and help stave off negativity caused by social rejection 1.
- 2. **Harvard Health Blog** An article from Harvard Health discusses how pets can help create human-to-human friendships and provide social support, which are beneficial for long-term health 2.
- 3. "A Pet Could Boost Your Mental Health" A systematic review published by *Psychology Today* highlights 17 studies that found companion animals improve mental well-being, reduce loneliness, and provide emotional support.
- 4. "Depression, anxiety, and happiness in dog owners and potential dog owners" This study, published in *PLOS ONE*, found that pet ownership during the pandemic was associated with improved mood, reduced loneliness, and greater social support 4.
- 5. Cleveland Clinic Health A survey by the journal Aging & Mental Health found that pets provide companionship, a sense of purpose, and increased socialization, which can reduce loneliness 5.

These sources should provide a solid foundation for your paragraph on the emotional benefits of pet ownership. If you need more information or help with another part of your essay, feel free to ask!



Friends With Benefits: On the Positive Consequences of Pet Ownership

Allen R. McConnell Miami University

Tonya M. Shoda, Laura

Social support is critical for psychological at ingness in our lives. Human interactions ofte pets also fulfill one's social needs? Altho individuals facing significant life stressors, everyday people. Study 1 found in a communi (e.g., greater self-esteem, more exercise) and fearful attachment) measures. Study 2 asses enjoyed better well-being when their pets full complemented rather than competed with hu laboratory and experimentally demonstrated rejection. In summary, pets can serve as impsychological and physical benefits for their

Keywords: relationships, pets, social support

If you pick up a starving dog and make him prosperous, he will bite you. This is the principal difference between a dog and a m -Twain, Pudd'nhead W.

The Mark Twain quote above echoes the popular (and simil sexist) adage that a dog is "man's best friend." With over million dogs and 93 million cats in the United States alone (6 of U.S. households own a pet, with spending exceeding \$45 bill annually), it is clear that pets are both ubiquitous and imporentities (American Pet Products Association, 2011).1 Moreove is commonly assumed that pets can play a significant social rol people's lives. For example, lonely people are often advised to a dog or a cat to alleviate social isolation, and even U.S. Presic Harry Truman purportedly said, "If you want a friend in W4 May 6, 2015

HARVARD HEALTH BLOG

Pets can help their humans create friend Mi find social support



By Patrick J. Skerrett, Former Executive Editor, Harvard Health Publishing

 $\textbf{ARCHIVED CONTENT:} \ As a service to our readers, \textit{Harvard Health Publishing provides acces} \\ \textbf{U.S. households adopt} \textbf{\textit{References}} \\$ archived content. Please note the date each article was posted or last reviewed. No content of

regardless of date, should ever be used as a substitute for direct medical advice from your doctor or other qualified clinician.

Pets can provide their owners with more than companionship. A new study shows they can also help create human-to-human friendships and social support, both of which are good for long-term health

That's old news to dog walkers, most of whom routinely meet neighbors, other dog walkers, or strangers on

A Pet Could Boost Your Mental Health

Research shows companion animals improve the well-being of adults and kids.

Posted February 26, 2021 | Reviewed by Lybi Ma







Source: cherryandbees/Add

American Pet Products

households owned a p

start of the pandemic, t



PLOS ONE

Depression, anxiety, and happiness in dog owners and potential dog owners during the COVID-19 pandemic in the United States

Francois Martin 💌, Katherine E. Bachert, LeAnn Snow, Hsiao-Wei Tu, Julien Belahbib, Sandra A. Lyn

Abstract

Major life events, such as the COVID-19 pandemic, affect psychological and physiological health. Social support, or the lack thereof, can modulate these effects. The context of the COVID-19 pandemic offered a unique opportunity to better understand how dogs may provide social support for their owners and buffer heightened symptoms of stress, anxiety and depression and contribute to happiness during a major global crisis. Participants (768 pet dog owners and 767 potential pet dog owners) answered an online survey, including validated depression, anxiety, happiness psychometric scales, attitude to and commitment towards pet, own a dog at the time of the survey but would be very or extremely interested in owning one in the future. Dog owners reported having significantly more social support available to them compared to potential dog owners, and their depression scores were also lower, compared to potential dog owners. There were no differences in anxiety and happiness scores between the In fact, pets can also give you significant — and sometimes surprising — health benefits. two groups. Dog owners had a significantly more positive attitude towards and commitment to pets. Taken together, our results suggest that dog ownership may have provided people with a stronger sense of social support, which in turn may have helped buffer some of the negative psychological impacts caused by the COVID-19 pandemic.

February 9, 2023 / Living Healthy / Wellness

The Health Benefits of Pets

They can provide social, physical, mental and emotional boosts!











There are very good reasons for people to get a pet - and not just because animals are cute!

Animals are "so much more than pets," says Molly Gross, CCLS, a certified child life specialist and facility dog handler

and perceived social support. Potential pet dog owners were defined as individuals who did no "They become like a member of your family. The term 'pet' doesn't encompass the meaning

Top health benefits of owning a pet

Stress relief

You've probably felt a rush of joy scrolling through social media and seeing cute pet photos

You then need to **read** these sources, **evaluate** their suitability, and make notes on their content for using later



You

Rewrite the following paragraph in simple language:

The rising awareness of the harms that "artificial intelligence" (AI) may cause for individuals, communities, and the planet (Acemoglu, 2021; Buolamwini and Gebru, 2018; Dhar, 2020; Noble, 2018; Tufekci, 2015) continues to manifest in some of the controversies surrounding Al. These are often subsumed by totalizing narratives about the wholesale remaking of society by Al. Within these frames, "participation" is offered as way to fix Al's exclusionary and harmful nature (Birhane et al., 2022; Sloane et al., 2022). The nascent field of Al participation spans from formalized approaches to Al governance and policy (such as the European Commission's "EU Al Alliance") to explorations of stakeholder participation in the design of Al systems (more akin to "co-design" in machine learning (Donia and Shaw, 2021)). The latter can be conceptual inquiries, for example via workshops at AI conferences like the International Conference on Machine Learning (Zhou et al., 2020), or more concrete, domain-specific design specifications, for example for humanitarian aid (Berditchevskaia et al., 2021). These interventions occur against the backdrop of long-held imaginations and beliefs about AI that circulate in society by way of collectively shared narratives. This article examines the relationship between these narratives, forms of AI participation, and the distribution of power vis-à-vis the Al controversy frame. It proposes that participation is an Al controversy that "unblackboxes" Al and considers the implications of this dynamic.

This is the full prompt submitted to ChatGPT 3.5, including the paragraph to simplify...

Example used here is the opening paragraph of this article:

Sloane, M. (2024).
Controversies, contradiction, and "participation" in Al. *Big*Data & Society, 11(1)
https://doi.org/10.1177/2053951
7241235862

ChatGP

People are becoming more aware of the problems caused by artificial intelligence (Al) for individuals, communities, and the planet. Some controversies about AI suggest that it could completely change society. To address the exclusionary and harmful aspects of AI, people propose "participation" as a solution. This can involve formal approaches to governing AI, like the European Commission's "EU AI Alliance," or involving stakeholders in designing AI systems, similar to "co-design" in machine learning. These efforts can be discussions at AI conferences or specific design guidelines for areas like humanitarian aid. The article explores the connection between shared stories about AI, different ways people participate in AI, and who holds power in the AI debate. It suggests that participation is a controversial topic that helps reveal the inner workings of AI and discusses the implications of this.

You Rewrite the following paragraph in simple language:

The rising awareness of the harms that "artificial intelligence" (AI) may cause for individuals communities, and the planet (Acemoglu, 2021; Buolamwini and Gebru, 2018; Dhar, 2020; Noble, 2018: Tufekci, 2015) continues to manifest in some of the controversies surrounding Al. These are often subsumed by totalizing narratives about the wholesale remaking of society by Al. Within these frames, "participation" is offered as way to fix Al's exclusionary and harmful nature (Birhane et al., 2022; Sloane et al., 2022). The nascent field of Al participation spans from formalized approaches to Al governance and policy (such as the European Commission's "EU AI Alliance") to explorations of stakeholder participation in the esign of Al systems (more akin to "co-design" in machine learning (Donia and Shaw, 2021) The latter can be conceptual inquiries, for example via workshops at AI conferences like the International Conference on Machine Learning (Zhou et al., 2020), or more concrete. domain-specific design specifications, for example for humanitarian aid (Berditchevskaia e al., 2021). These interventions occur against the backdrop of long-held imaginations and beliefs about AI that circulate in society by way of collectively shared narratives. This article examines the relationship between these narratives, forms of Al participation, and the distribution of power vis-à-vis the Al controversy frame. It proposes that participation is an

... and this is the response it came back with.

Overall impression?

Strengths/weaknesses?

How useful is this simplified paragraph?



ChatGPT

People are becoming more aware of the problems caused by artificial intelligence (AI) for individuals, communities, and the planet. Some controversies about Al suggest that it could completely change society. To address the exclusionary and harmful aspects of Al, people propose "participation" as a solution. This can involve formal approaches to governing AI, like the European Commission's "EU AI Alliance," or involving stakeholders in designing AI systems, similar to "co-design" in machine learning. These efforts can be discussions at Al conferences or specific design guidelines for areas like humanitarian aid. The article explores the connection between shared stories about AI, different ways people participate in Al, and who holds power in the Al debate. It suggests that participation is a controversial topic that helps reveal the inner workings of AI and discusses the implications of this.

Writing feedback

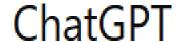




I am writing an academic paragraph. Give me feedback.

With the growing advances in AI technology companies and business are turned to it for a more effective and cost friendly approach replacing some man laboured jobs with AI to achieve the same result but should we rely on Ai to flood our networks and outsourcehuman input? (Brain, 2023)stats that how can we be sure that Ai integration reflects the best of human characterises and not the worst?" There is growing concern that when given a task that Ai can selfie learn and even expand on that task which then could bring up safety concerns.

What feedback would YOU give?





Give me feedback on language accuracy.

- 1. Use the right terms: Change informal or incorrect terms to the right ones. For instance, "selfie learn" should be "self-learn."
- 2. Fix punctuation and typos: Look out for any missing spaces like in "outsourcehuman" and make sure your punctuation is right, especially around things like citations (for example, (Brain, 2023)).
- 3. Use "AI" consistently: Make sure you use "AI" the same way throughout your paragraph. This helps keep things clear and looks more professional.
- 4. Check your grammar to make your points clearer. For example, "companies and businessareturned to it" should be "companies and businesses are turning to AI."

How useful is this feedback? Very useful!

How useful is this feedback?



Here's a revised version of your paragraph:

Businesses are increasingly turning to AI for cost-effective solutions, replacing some manual labor jobs to achieve the same results more efficiently. However, the reliance on Al raises ethical questions about whether these technologies truly embody the best human characteristics (Brain, 2023). Concerns also arise regarding AI's ability to learn and potentially expand on assigned tasks autonomously, which could pose safety risks. For example, in wildlife conservation, AI is being employed to help New Zealand become predator-free by 2025, demonstrating its potential for positive environmental impact. Yet, this integration necessitates rigorous oversight to ensure that AI's capabilities are not misused or detrimental to societal and ecological welfare.

Not useful: You are being assessed on language accuracy so this is unethical. (2024 view)



Action taken

- Assessment design- two lane approach
 - Non-Al literacy checked in a supervised assessment
 - AI literacy included in unsupervised assessment.
 Reduced marks for language
- Identified need for an AI tool that coaches but does not rewrite

Reflection Option A: ChatGPT conversation

- 1. Open <u>ChatGPT</u> and begin a new chat.
- 2. Copy and paste the following prompt, then complete the chat:

I am a student in a tertiary bridging course called Developing Literacy Skills. For an assessment, I am required to reflect on my participation with learning activities over the past few weeks. I need you to ask me the following reflection questions, one at a time. For each, I want you to ask me one or more personalised follow-up questions based on my response, then after I have answered them adequately (i.e., given a detailed and thought-out response), move on to the next reflection question from the set of three provided. Do not ask excessive follow-up questions; one or two is likely to be sufficient. The reflection questions are: (1) How well have you engaged with the resources on MyAra and Moodle to support your learning? (2) What can you recall about the techniques of public speaking? (3) What have you done so far to prepare for the presentation, and are you on track?

3. Share your chat using the button in the top-right corner and paste the link here:

Note: Instructions for Reflection Option B are provided on the next page.

Personal tutor

Prompt: Explain cell structure to me in simple terms.



Cells are tiny building blocks of life, with parts that each have specific jobs:

- Cell Membrane: Controls what goes in and out.
- Nucleus: Holds DNA, the instructions for the cell.
- Mitochondria: Produces energy.
- Ribosomes: Make proteins.
- Cytoplasm: Jelly-like substance that fills the cell.

In plants, there are also **chloroplasts** (which make energy from sunlight) and a **cell wall** (which gives structure). Each part works together to keep the cell functioning.

Explain Mitochondria in more detail.



Mitochondria are the cell's "powerhouses," generating most of its energy through **cellular respiration**. They use oxygen and nutrients, like glucose, to produce **ATP** (energy molecules) that power cellular activities.

Key Features:

- 1. **Structure**: They have a double membrane. The inner membrane has folds called **cristae** to maximize energy production. Inside is the **matrix**, which contains enzymes, DNA, and ribosomes.
- 2. **Unique DNA**: Mitochondria have their own DNA, inherited from the mother, allowing them to function somewhat independently within the cell.
- 3. **Energy Process**: Cellular respiration has stages (like the Krebs cycle and Electron Transport Chain) that produce ATP.

Mitochondria are essential for energy, cell health, and some inherited traits.

Prompt: Test my knowledge of cell structure. Ask me ten questions, one at a time, and evaluate my answers.



Great! Let's begin testing your knowledge of cell structure. Please answer the first question, and I'll evaluate it for you.

Question 1:

What is the function of the cell membrane?

The cell membrane controls what goes in and out of the cell.



Correct! The cell membrane does indeed control what goes in and out, acting like a protective barrier.

Question 2:

What is the main role of the nucleus in a cell?

The main role of the nucleus is to make proteins.



Not quite. The main role of the **nucleus** is to store the cell's DNA, which contains the instructions for making proteins and controlling cell activities. The **ribosomes** are responsible for making proteins, based on instructions from the DNA.

No worries, let's keep going!

Question 3:

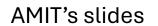


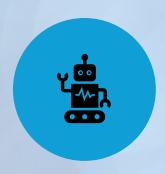
What part of the cell is responsible for making proteins?

ribasomes



Correct! Ribosomes are indeed responsible for making proteins in the cell. However, it looks like you made a spelling mistake. The correct spelling is **ribosomes**. Great job on the answer, though!





Artificial intelligence (AI) enables machines to learn from data and recognize patterns in it, to perform tasks more efficiently and effectively. AI works in five steps:



Input: Data is collected from various sources. This data is then sorted into categories.



Processing: The AI sorts and deciphers the data using patterns it has been programmed to learn until it recognizes similar patterns in the data.



Outcomes: The AI can then use those patterns to predict outcomes.



Adjustments: If the data sets are considered a "fail," Al learns from that mistake, and the process is repeated again under different conditions.



Assessments: In this way, AI is constantly learning and improving.

Discriminative technique



Classify

Discriminative model (classify as a dog or a cat)



Generative technique

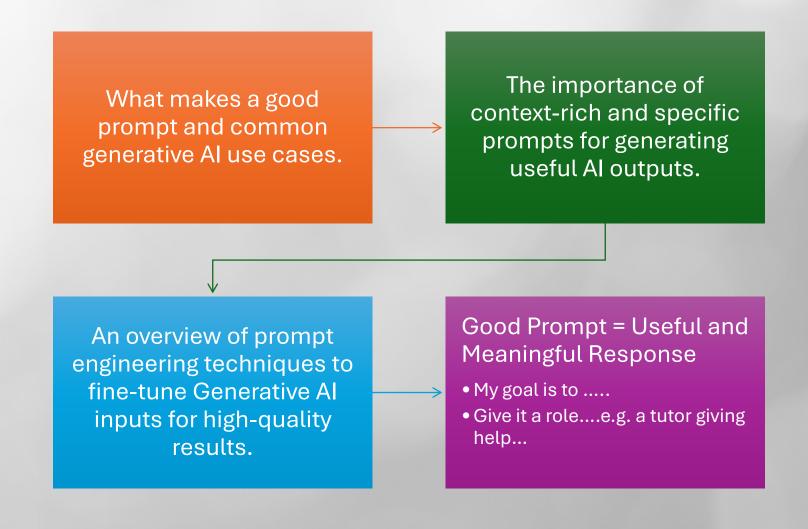


Generate

Generative model (generate dog image)



Prompting Skills....1



Prompting Skills....2

3. Role - as a tutor can you help students to find the use of DISTINCT command in SQL with examples and exercises. Also, without providing direct answer can you please help them to do the exercises. provide help and teach them how to understand the concept but avoid giving them direct answer

4. Give an example output....

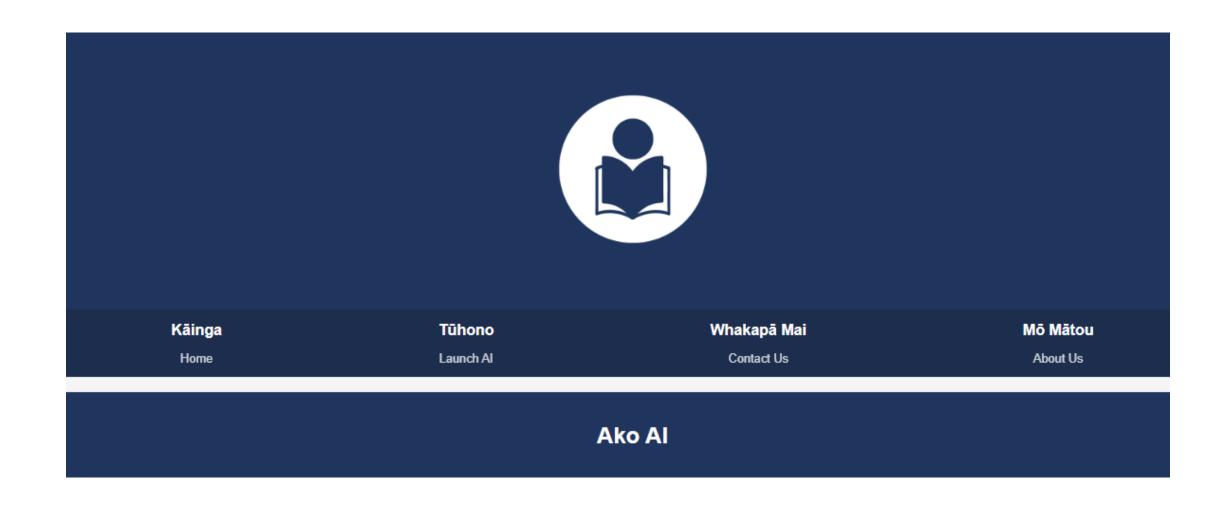
5. Iterate and refine – great job, but refine your answer to put more emphasis on x and y.

- Chain of Thought (CoT) Prompting
- get better results on more complex tasks that require reasoning before responding.
- I went to the market and bought 10 apples. I gave 2 apples to the neighbour and 2 to the repairman. I then went and bought 5 more apples and ate 1. How many apples did I remain with? Don't give a direct answer, remember you are a tutor and will help student to get the correct answer. Let's think step by step.

Demo

- AkoAl
- https://akoai.pythonanywhere.com/ako_ai_l1/

Ako Al



Guidelines for introducing and integrating Gen Al (foundation/bridging programmes)

Al literacies are essential

Al literacies are specific to level of learning/ discipline or subject

Al literacies must be scaffolded

Al tools must match level of learning

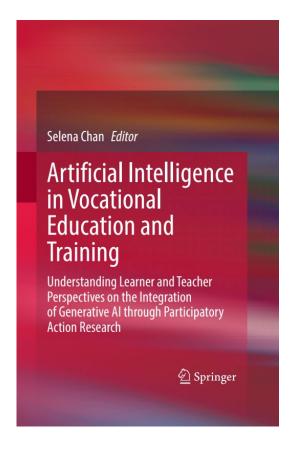
Clear institutional guidelines and policies on AI use must be available

	Emerging (Level 2)	Developing (Level 3)	Proficient (Level 4)	Expert (Level 5-7)
	SAIL - informed	empowered	engaged	Active participant
Understanding AI and Its Applications: Introduce students to AI basics, various technologies like machine learning, and real- world applications, setting a foundation for understanding AI's impact. (SAIL – know and understand AI)	Recognise the basic concepts of Al and its presence in everyday technology.	Explain AI technologies, such as machine learning.	Apply AI tools to support and improve academic tasks.	Analyse and discuss the broader impacts of Al on academia and beyond.
	Describe the simple functions Al performs, like automating repetitive tasks.	Discuss the role of AI in enhancing learning and academic productivity.	Evaluate the effectiveness and limitations of AI in academic settings.	Innovate or contribute to the development of AI applications that enhance complex academic activities.
Critical and Ethical Evaluation of AI: Equip students with the skills to critically assess AI technologies and their outputs, emphasising	Recognise the importance of critically assessing AI technologies.	Identify biases in Al outputs.	Evaluate the accuracy and reliability of Al-generated information.	Discuss the critical the broader ethical issues of AI technologies.
the recognition of biases, ethical implications, and the accuracy of Al-generated information. Foster robust critical thinking to ensure responsible and effective integration of Al into their academic work. (SAIL – evaluate Al)	Explain basic concepts of biases and ethical concerns related to AI.	Discuss ethical implications of using Al in academic settings.	Apply critical thinking to assess the ethical use of AI in academic work.	Critically review ethical guidelines for Al use in academia.
	Recognise the specific AI issues on indigenous data.	Discuss the implications of AI on indigenous data and language.	Discuss relevant issues on Al's impact on indigenous data and language.	Apply understanding of the effect of AI on indigenous data to aspects of academic work.
Practical Skills for Using AI Tools: Provide hands-on experience with AI tools relevant to academic skills. This could include training on how to use AI for research, such as data analysis tools, AI-based writing assistants, and AI-driven study aids. Ensure students understand how to leverage these tools to enhance their learning and research capabilities.	Attain basic familiarity with AI tools relevant to academic tasks.	Use specific AI tools for academic research and writing.	Apply AI tools independently to enhance research quality and learning efficiency.	Rationalise the selection and use of AI tools for academic enhancements.
	Identify how AI can assist in simplifying and automating routine academic processes.	Integrate appropriate AI tools into daily study practices effectively.	Critically assess the effectiveness of AI tools in supporting academic goals.	Utilise advanced AI tools and techniques for academic tasks.

Al competencies and progressions framework for academic skills



(SAIL - use and apply AI)



Ngā mihi

Dr. Selena Chan

Ara Institute of Canterbury / Te Pūkenga

Selena.Chan@ara.ac.nz

blogging at:-

http://mportfolios.blogspot.com





https://ako.ac.nz/knowledge-centre/guidelines-for-using-ai-to-improve-foundation-literacy