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Using AI in teaching and learning: Human-centred Principles and Applications

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Overall framework – AI literacy



AI literacy is a concept and a set of practices that empowers users to make decisions on using AI ethically and effectively.

AI literacy involves:

- Recognising what AI is and understanding its capabilities and limitations,
- critically evaluating AI technologies before, during and after using it,
- And being able to use it safely, responsibly and effectively.

(Ng et al 2021)

AI competency framework for teachers



AI competency framework for teachers | UNESCO

AI has transformed the traditional teacher–student relationship into a teacher–AI–student dynamic.

The framework identifies the knowledge, skills, and values teachers must master in the age of AI and empower them to use these technological tools in their teaching practices in a safe, effective and ethical manner.

AI competency framework for teachers



AI competency framework for teachers | UNESCO



Table 1. The AI competency framework high-level structure: aspects and progression levels

Aspects	Progression		
	Acquire	Deepen	Create
1. Human-centred mindset	Human agency	Human accountability	Social responsibility
2. Ethics of AI	Ethical principles	Safe and responsible use	Co-creating ethical rules
3. AI foundations and applications	Basic AI techniques and applications	Application skills	Creating with AI
4. AI pedagogy	AI-assisted teaching	AI-pedagogy integration	AI-enhanced pedagogical transformation
5. AI for professional development	AI enabling lifelong professional learning	AI to enhance organizational learning	AI to support professional transformation

AI competency framework for teachers



A human-centred approach



While AI offers opportunities to support teachers in both teaching as well as in the management of learning processes, meaningful interactions between teachers and students and human flourishing should remain at the centre of the educational experience.

Teachers have control over HOW they approach AI in their use: is AI used as a tool? An assistant? A collaborator? A content creator? How we approach AI has impact on our relationship with it, what kinds of tasks we require it to do, and over time how it impacts on our work as educators.



Claims of what AI can do improve and enhance inclusive teaching and learning:

- **Increased reach:** Some students find it difficult to come to school for various reasons. AI can support studying from home as learners can ask the tools questions instead of waiting for a reply from the teacher.
- **Greater inclusivity:** Teachers can easily adapt activities for students with different needs and abilities. For example, they can simplify instructions for those with dyslexia.
- **More resources:** You can adapt resources to cater to different learning styles more easily. AI can help you caption videos, convert speech to text, or visualise text as images to enhance understanding.
- **Personalisation:** AI's ability to tailor content and delivery to their specific needs, thereby breaking down barriers to learning and fostering a more inclusive educational atmosphere

Human-centred approach to use AI



Increased reach: AI can support studying from home as learners can ask the AI tools questions instead of waiting for a reply from the teacher.

Human-centred approach:

How can teachers make sure students are not using AI to generate their homework but using it to support their learning?

- **AI literacy:** show students how to use AI responsibly.
- **Critical thinking:** ask students to reflect on the example answers generated by AI
- **Prompt engineering:** teach students how to write appropriate questions to prob AI to assist students' learning.
- **Checking students' understanding** later.



Homework task:

Write a Haiku poem on the topic of nature

AI can be an attempting tool for some students to cheat.

Write a haiku related to the topic of nature

✱ Answer

Certainly! Here's a nature-themed haiku:

Whispering green leaves
Sunlight dances on the stream
Peace in every breeze

Homework task:

Write a Haiku poem on the topic of nature



Show students how they can use AI to help them learn to write a haiku.



Edit text

I'm a high school student who wants to learn about writing a haiku poem. Can you act as a tutor to show me the steps and guide me to write a haiku poem.

◆ It's awesome you want to learn about haikus! They're a really cool and accessible form of poetry. As your tutor, I'll guide you through the steps to writing your own.

What is a Haiku?

First off, let's get the basics down. A haiku is a short poem that originated in Japan. It traditionally focuses on nature and aims to capture a single moment or observation. The most important rule to remember is its structure:

- **First line:** 5 syllables
- **Second line:** 7 syllables
- **Third line:** 5 syllables

That's a total of 17 syllables across three lines.

Step 1: Find Your Inspiration – Focus on Nature

Haikus are deeply connected to nature. Think about something specific you've observed outdoors. It could be anything!

- A tiny ant carrying a crumb
- The way sunlight hits a leaf
- The sound of rain
- A bird singing
- A flower blooming

Your turn: Close your eyes for a moment and think about a nature scene or a specific natural element that recently caught your attention. What comes to mind? Don't worry about writing it yet, just identify the inspiration.



Homework task: Write a Haiku poem on the topic of nature

**Assessing students'
understandings of
haiku (e.g. doing a
quiz in class)**

**Checking their
drafts of haiku
poems to see the
steps they took**

**Testing their
learning by asking
them to write a
haiku in class**

**Asking students
about haiku poems
generated by AI**

**Using haiku poems
as part of the next
stage teaching and
learning**

What about pedagogical impact?

While AI offers a lot of benefits and potentially can transform teaching and learning experiences and outcomes, there are a number of pedagogical impact students, educators and experts have drawn our attentions to:

Human interactions - the inclusion of AI is likely to change and impact on human interactions with over-reliance on AI may reduce meaningful interactions which are essential for learning, building relationships and developing social understandings.



What about pedagogical impact?

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Creativity - there are a number of areas the use of AI can impact on creativity such as critical and divergent thinking. While AI can be a powerful tool to enable students to explore more ideas, there is a risk that over relying on AI can stifle students' own creative development.



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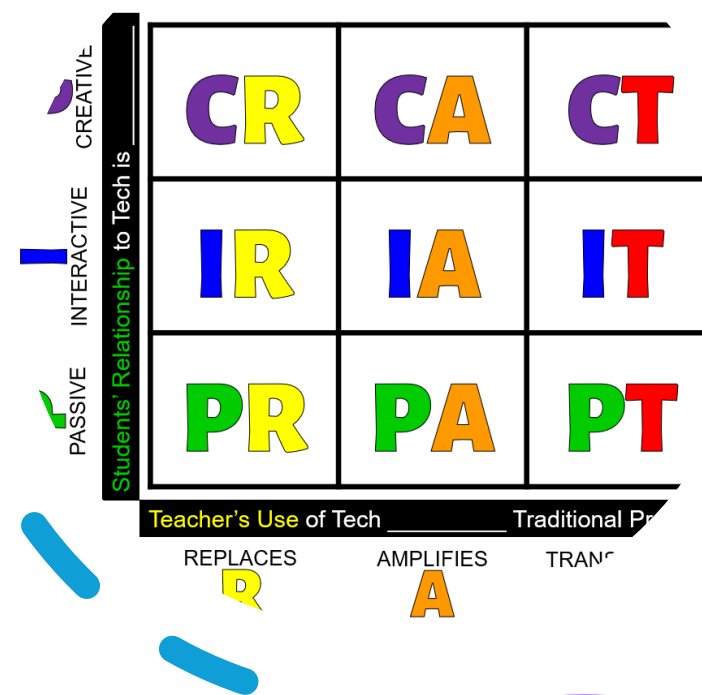
Fundamental skills development - Relying on AI for tasks like reading, writing and numeracy can limit the development of these foundational skills for individual learners.



Conclusion

Remember - interaction and collaboration between teachers and learners is at the core of education

- As most of the popular AI tools used by students and teachers are NOT designed for educational purposes, teachers need to be mindful about the potential impact and implications of using these tools in teaching and learning.
- Using frameworks as a guide when planning, using and evaluating the use of AI in teaching and learning
- Peer learning can be a powerful way to share experiences, critique practices, developing knowledge about developments of AI in education.



AI competency framework
for teachers

