

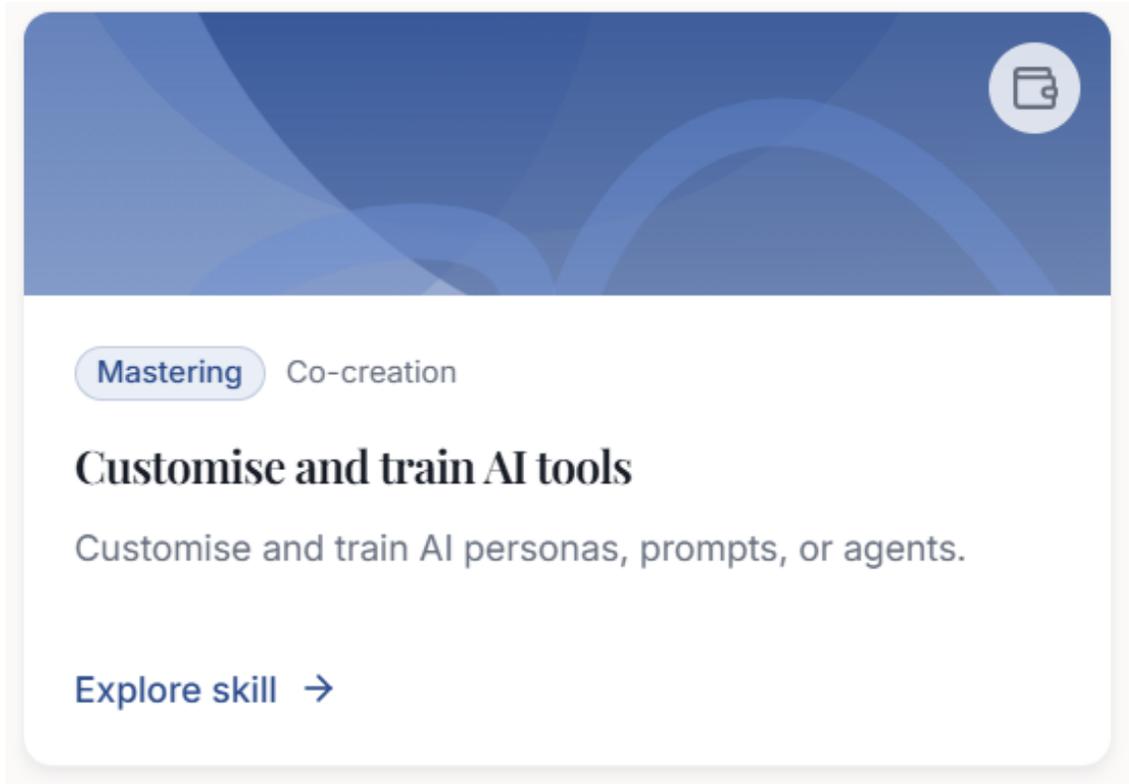
# Using AI to Generate Lesson Plans and Activity Ideas

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Generative AI Lab  
for Education

# Gen AI Skills Continuum



The screenshot shows a skill card with a blue header and a white body. The header has a document icon in the top right corner. The body contains the following text:

Mastering Co-creation

**Customise and train AI tools**

Customise and train AI personas, prompts, or agents.

Explore skill →

Using AI to generate lesson plans develops this skill because every time you adjust a prompt to get more useful output (specifying tone, role, context, or constraints) you are effectively customising how the AI behaves for your purpose.

Over time, this builds your capability to deliberately shape and train AI personas, prompts, or agents to work reliably within your specific teaching context.

Visit the Skills Continuum for more resources and tips related to this AI Capability:

<https://aiskillscontinuum.com/skill/customise-and-train-ai-tools>



# Using AI to Generate Lesson Plans and Activity ideas

## What Works Well

### **A useful starting point**

Quickly generates a scaffold to build from, not from scratch.

### **Supports differentiation**

Adapts content for different learner needs when prompted effectively.

### **Curriculum alignment**

Maps activities and objectives to frameworks, saving admin time.

## Know the Limitations

### **Pedagogical bias**

Chen et al. (2025) found AI plans predominantly promote teacher-centred classrooms with limited student agency.

### **No learner context**

AI has no knowledge of your cohort, their needs or relationships.

### **Generic by nature**

Without careful prompting, plans lack the creativity and relevance experienced educators bring.

## Tips for Educators

### **Start with a strong prompt**

Include learner context and explicitly request student-centred design.

### **Apply your pedagogical lens**

Evaluate output against adult learning principles (andragogy, UDL).

### **Treat it as a first draft**

Edit and personalise — you are the expert on your learners.

## What This Means for You

Be the pedagogical expert- don't let AI lead the design. Develop your knowledge of adult learner pedagogies, use clear and informed prompts, and treat AI output as a first draft, not a finished plan.

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# Example in Practice

Highly technical courses often cause students to feel overwhelmed. Dr. Khuong Nguyen from RMIT Vietnam used Val to design learning activities that he strategically placed into course delivery to scaffold student development.

Khuong's pedagogical expertise and Val's creative activity suggestions were a powerful example of human-AI collaboration. Instead of feeling overwhelmed, students were motivated to engage in dynamic learning tasks and developed a strong understanding of complex concepts.

**Watch Dr Khuong use case here:**

<https://youtu.be/9bLsjB5Z184?si=SlfrfdVOYJZkojHf&t=2095>



# Prompting AI for Lesson Plans & Learning Activities

Use Bloom's Taxonomy verbs in your prompts to shape the level of thinking you want students to engage in

Remember

Understand

Apply

Analyse

Evaluate

Create

## Remember

"Generate a activity that asks students to **define**, **identify** and **list** key principles of [topic]..."

"Create a retrieval activity where students **recall** and **name** key concepts from [topic]..."

## Understand

"Design activities where students **explain**, **summarise** and **describe** the relationship between [concepts]..."

"Create a lesson where students **classify** and **give examples** of [topic] in practice..."

## Apply

"Design a lesson where students **use**, **demonstrate** and **solve** a problem related to [topic]..."

"Generate a scenario-based activity where students **apply** [concept] to a real-world situation..."

## Analyse

"Create activities where students **compare**, **examine** and **break down** the components of [topic]..."

"Design a case study where students **differentiate** between approaches and **investigate** causes..."

# Prompting AI for Lesson Plans & Learning Activities

*Higher order thinking tasks challenge students to make judgements, defend positions, and produce original work*

Remember

Understand

Apply

Analyse

Evaluate

Create

## Evaluate

"Design a task where students **critique**, **assess** and **judge** the effectiveness of [topic]..."

"Create a debate or discussion activity where students **justify** a position and **argue** for or against..."

"Generate a reflective activity where students **evaluate** their own learning and **appraise** the value of..."

## Create

"Design a project where students **produce**, **construct** and **design** something that demonstrates [topic]..."

"Create a task where students **develop** a plan, **formulate** a strategy, or **compose** a response to..."

"Generate a capstone activity where students **synthesise** learning across the course to **build**..."

## A Note on Prompting

The more specific your prompt, the stronger the output. Tell AI the level of thinking, the learner context, and the outcome you want, then review everything through your own pedagogical lens.

# Advanced Options: Creating Interactive Learning Experiences with AI

Confident with AI prompting? Try using it to build fully interactive, ready-to-use learning activities. Use your tool of choice and adapt these prompts as a starting point.



## Flashcard or Matching Game

Remember

Try this prompt:

"Build an interactive flashcard activity for [topic] where students match key terms to definitions, with a scoring system and retry option."



## Quiz or Knowledge Check

Understand

Try this prompt:

"Create an interactive web-based quiz on [topic] with multiple choice questions, instant feedback on each answer, and a final score."



## Escape Room Challenge

Apply

Try this prompt:

"Design an online escape room for [topic] where students solve a sequence of puzzles to unlock the final answer, with a storyline and debrief question at the end."



## Branching Scenario

Analyse

Evaluate

Try this prompt:

"Create a branching scenario where students play the role of [character], make decisions that lead to different outcomes based on [topic], and reflect at key decision points."

**AI can build it in minutes.** The harder question is whether it belongs in your classroom at all. Always lead with learning, not novelty.

# Prompting AI for Lesson Plans & Learning Activities: A SOLO Taxonomy Approach

Where Bloom's describes the type of thinking, SOLO describes the structure of understanding — how well a learner connects and integrates ideas. Use these prompts to design activities that move students toward deeper, more relational thinking.

## Prestructural

## Unistructural

## Multistructural

## Relational

## Extended Abstract

### Prestructural

*No real understanding yet*

"Generate a **diagnostic** activity to surface what students already think about [topic] — including common misconceptions to watch for."

"Create a **pre-learning** task that helps **identify gaps** in student understanding before teaching [topic]."

### Unistructural

*One relevant idea*

"Design an activity where students **identify** one key concept or **follow** a single step related to [topic]."

"Create a task where students **name, define** or **locate** one relevant idea from [topic]."

### Multistructural

*Several ideas — not yet connected*

"Design activities where students **describe, list** or **outline** several key aspects of [topic] without needing to connect them."

"Create a lesson where students **classify** or **match** multiple concepts from [topic] independently."

# Prompting AI for Lesson Plans & Learning Activities: A SOLO Taxonomy Approach

*The most powerful learning happens when students move from knowing several things to understanding how they connect — and then beyond, to generating new thinking.*

Prestructural

Unistructural

Multistructural

Relational

Extended Abstract

## Relational

*Ideas linked — parts relate to whole*

"Design a task where students **analyse, compare** and **explain** how different aspects of [topic] connect and influence each other."

"Create a case study where students **apply** their understanding of [topic] to explain an outcome or solve a problem."

"Generate a discussion activity where students **justify** a position by drawing on multiple connected ideas from [topic]."

## Extended Abstract

*Beyond the topic — new understanding*

"Design a task where students **theorise, generalise** or **hypothesise** beyond [topic] to a broader context or new situation."

"Create a project where students **reflect critically** on [topic] and **develop** an original argument, framework, or proposition."

"Generate a capstone activity where students **transfer** their understanding of [topic] to an unfamiliar real-world challenge."

### A Note on SOLO

SOLO reminds us that coverage isn't understanding. Use these prompts to design activities that move students from knowing facts about a topic to genuinely making sense of it — and beyond.