

STEAM 教育知識增益系列：

人工智能驅動產品開發的實踐 – 從意念構思到虛擬原型製作（新辦）

STEAM Education Enriching Knowledge Series:

AI-driven Product Development in Practice – From Idea to Virtual Prototyping (New)

Introduction

AI-DRIVEN PRODUCT DEVELOPMENT IN PRACTICE



<https://tsttechnology.io/blog/best-practices-ai-driven-product-development>

Why this matters for STEAM education at schools?

- Integrated knowledge & skills
- Authentic product context
- Problem-solving & creativity
- Responsible use of AI



From design-and-make to AI-assisted development



Reflection supports the next iteration of design improvement!

- ❖ The design-and-make cycle remains the core of learning.
- ❖ AI tools help students plan, visualise and prototype more quickly, but students still make the key design decisions and apply related design and make skills.

Role of AI tools and human input

AI tools assist : *AI proposes — humans decide.*

Gemini

Product planning & research

Vizcom

Concept visuals from sketches

Hunyuan 3D

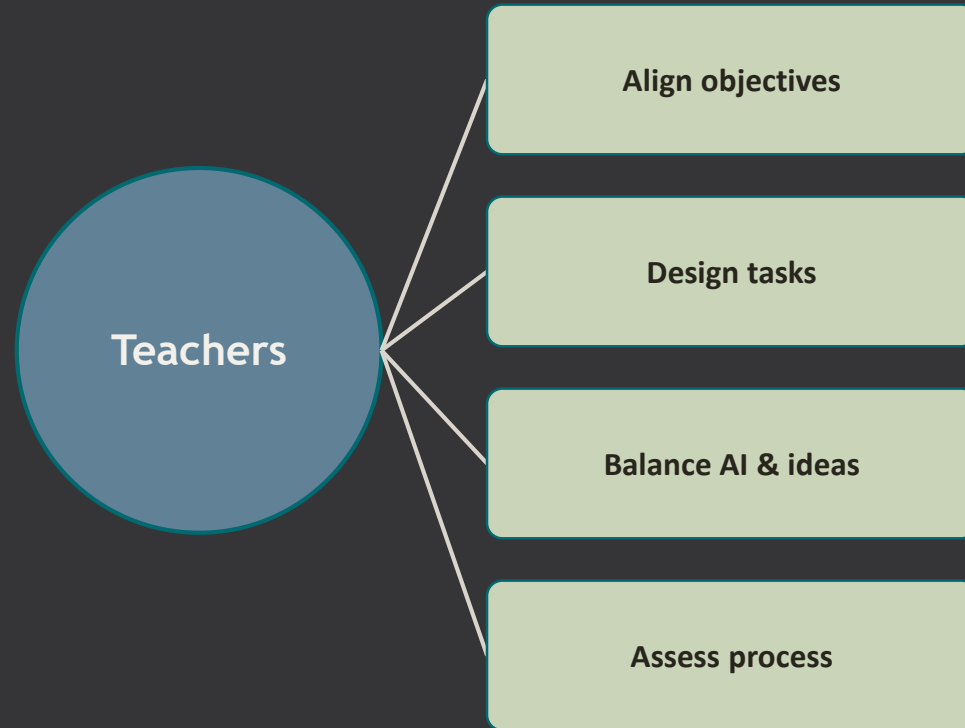
Virtual 3D prototyping

*Teacher & student judgement

- **Select** — choose the best AI suggestions
- **Refine** — adapt outputs to the real need
- **Evaluate** — test feasibility, safety, ethics
- **Create** — add original ideas & making skills



Teachers' role and curriculum planning

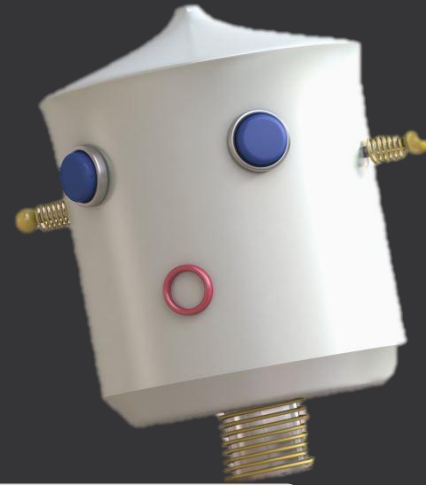


In curriculum planning

- Align with **learning objectives**
- Design **meaningful, open tasks**
- Balance AI output with **students' own ideas** and practical skills
- Assess the **process and reflection**, not only the product

School practice example: "Smart Classroom Helper"

A class identifies a real need — a device that reminds students to switch off lights, fans and devices when a classroom is empty.



1

Identify a need

Spot a school problem worth solving.

2

Plan with AI

Use Gemini to scope features & users.

3

Sketch & model

Draw and build cardboard mock-ups.

4

2D → 3D concept

Vizcom visuals, then Hunyuan 3D model.

5

Reflect

Feasibility, safety & ethics review.

Thank You!