



Hosted by

Harnessing AI to advance Education for Sustainable Development



CODESIGN ESD
AI COACH
LAUNCH



THE TEAM



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Professor Liz Price
Professor of Environmental
Education
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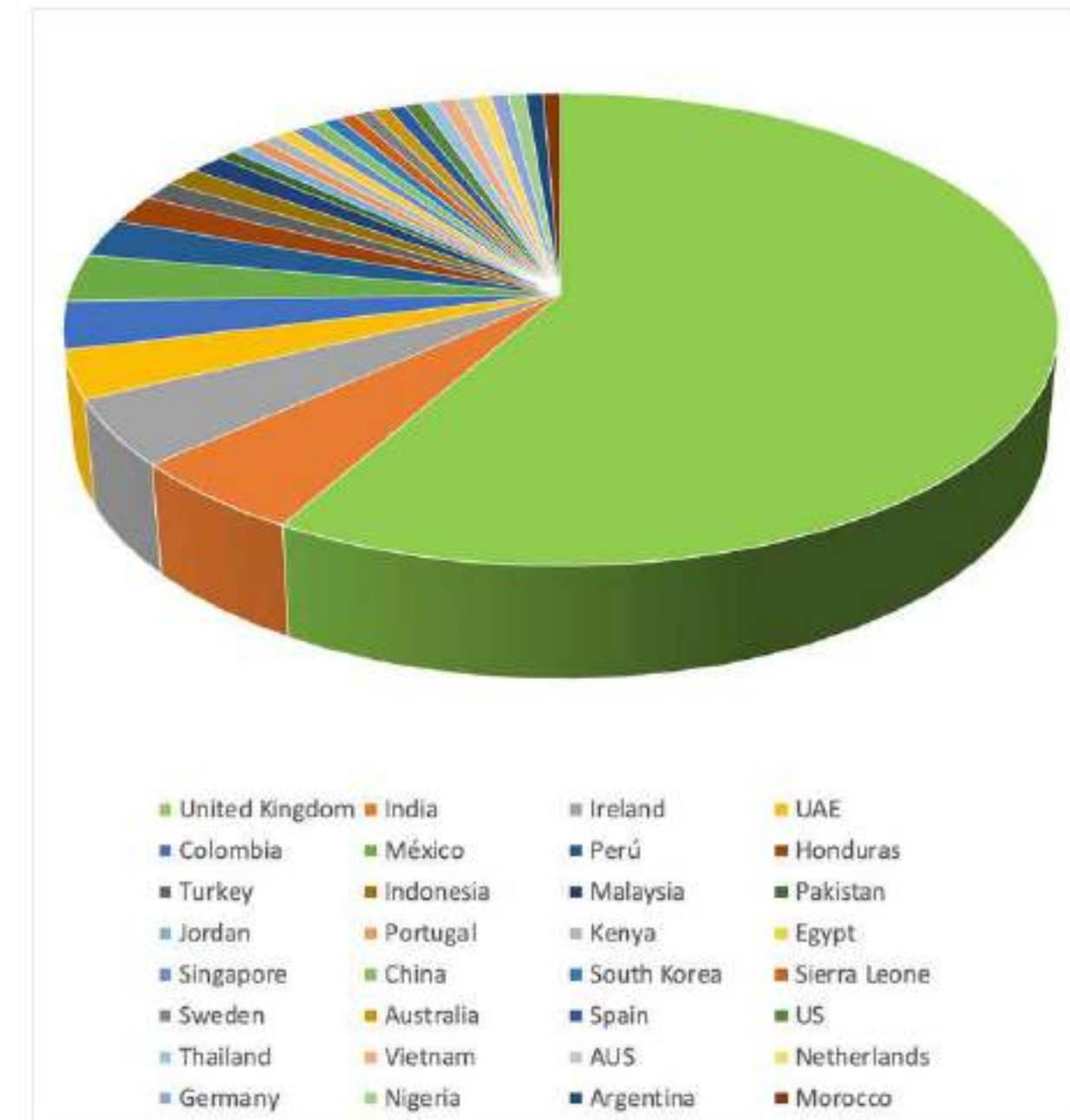
Dr D. Theresa Nicholson
Reader Higher Education and
Pedagogy
Manchester Metropolitan
University

ChatGPT Access



<https://openai.com>

Registrations - Demographics



Our Story



2019

2020

2021

2022

2023

2024

2025

Learning Design
BOOTCAMP

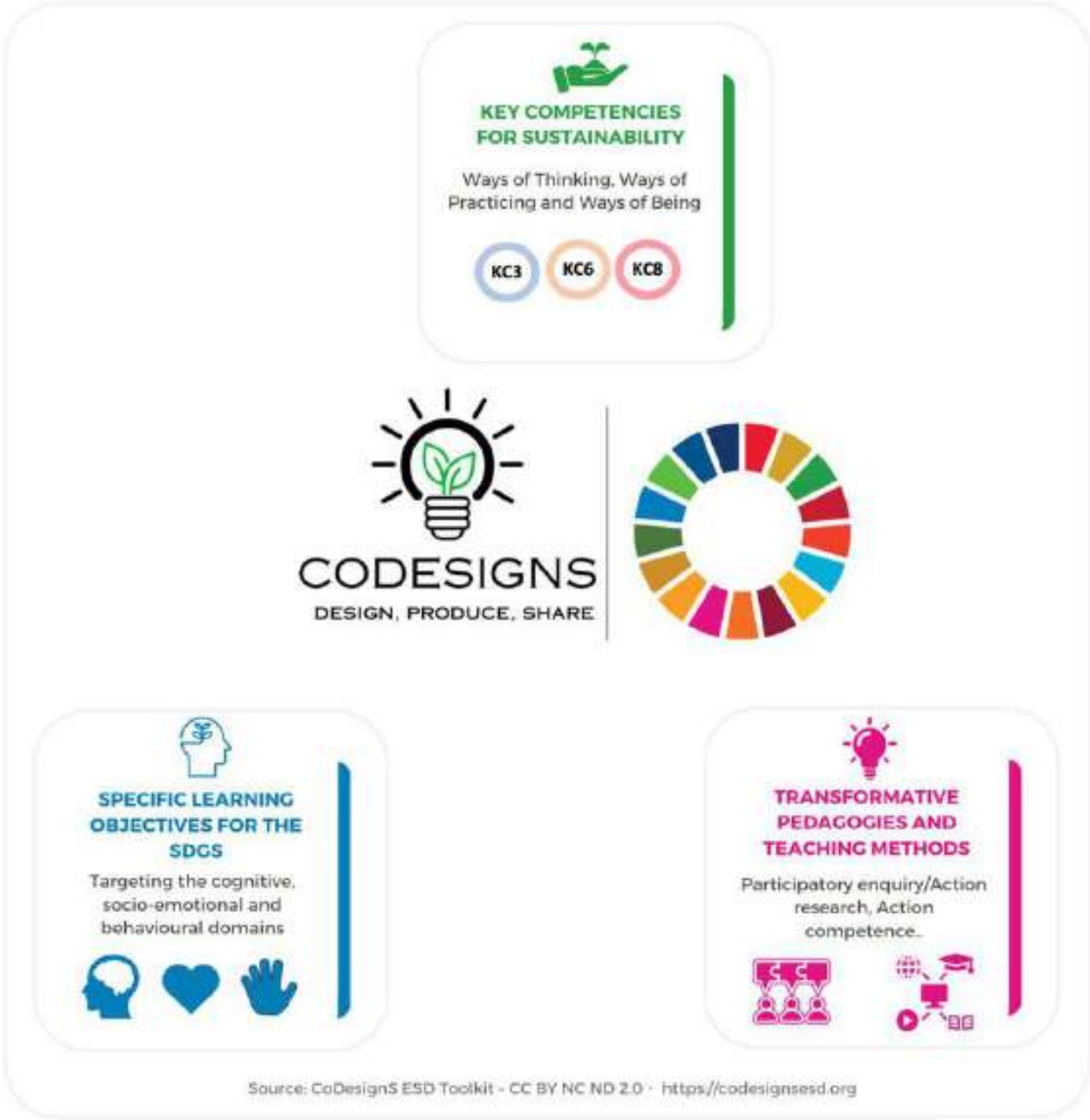
Learning Design
and ESD
BOOTCAMP



CoDesignS ESD Framework



CoDesignS ESD Framework



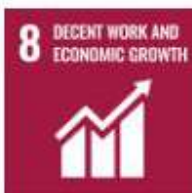
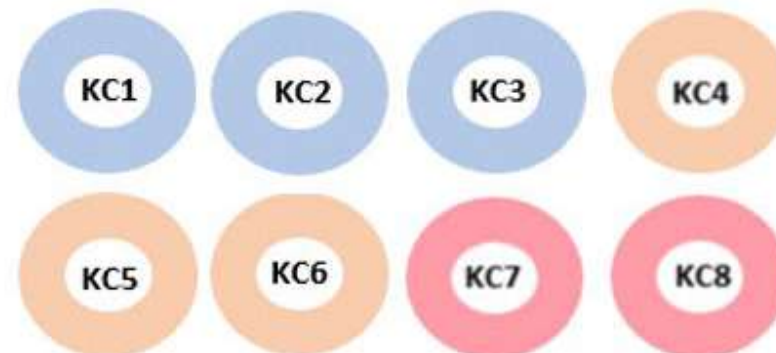
<https://codesignsesd.org/>



CoDesignS ESD FRAMEWORK 6 STEPS



Professional Geographer

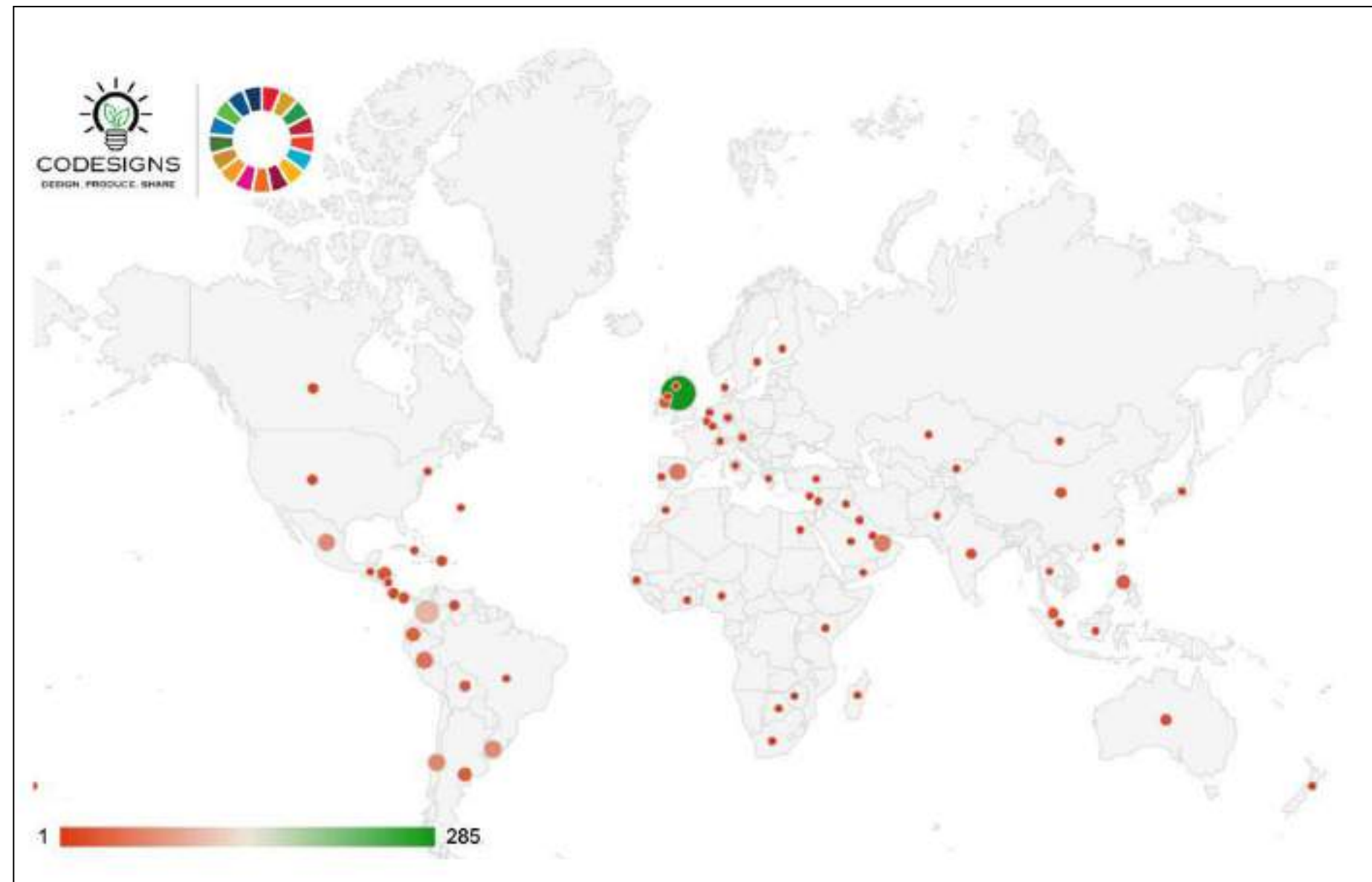


For collaborative enquiry and professional development skills

This is a core, 15-credit module delivered to all students on our Geography programmes (including Human and Physical). The overall aim is to equip learners with a range of academic, personal and professional skills and help establish their credentials as early career academics and global citizens.

- Students work in enquiry-based teams to research a global geographical challenge linked to the SDGs.
- Project topics cover a range of themes and vary according to recent global events and current priorities. Examples include lifecycle impacts of products and services, climate change impacts, global or regional implications of projected population growth, and food security.
- The module is supported by practical and skills development workshops, small group tutorials, and team-work study sessions.

Global CoDesignS ESD downloads



<https://codesignsesd.org/>



LEARNING DESIGN & ESD BOOTCAMP AUTUMN CALL

Friday, 24 October – Friday, 19 December 2025



800 million users
5.2 billion monthly
visits



>1.34 to 1.41°C since the
pre - industrial period



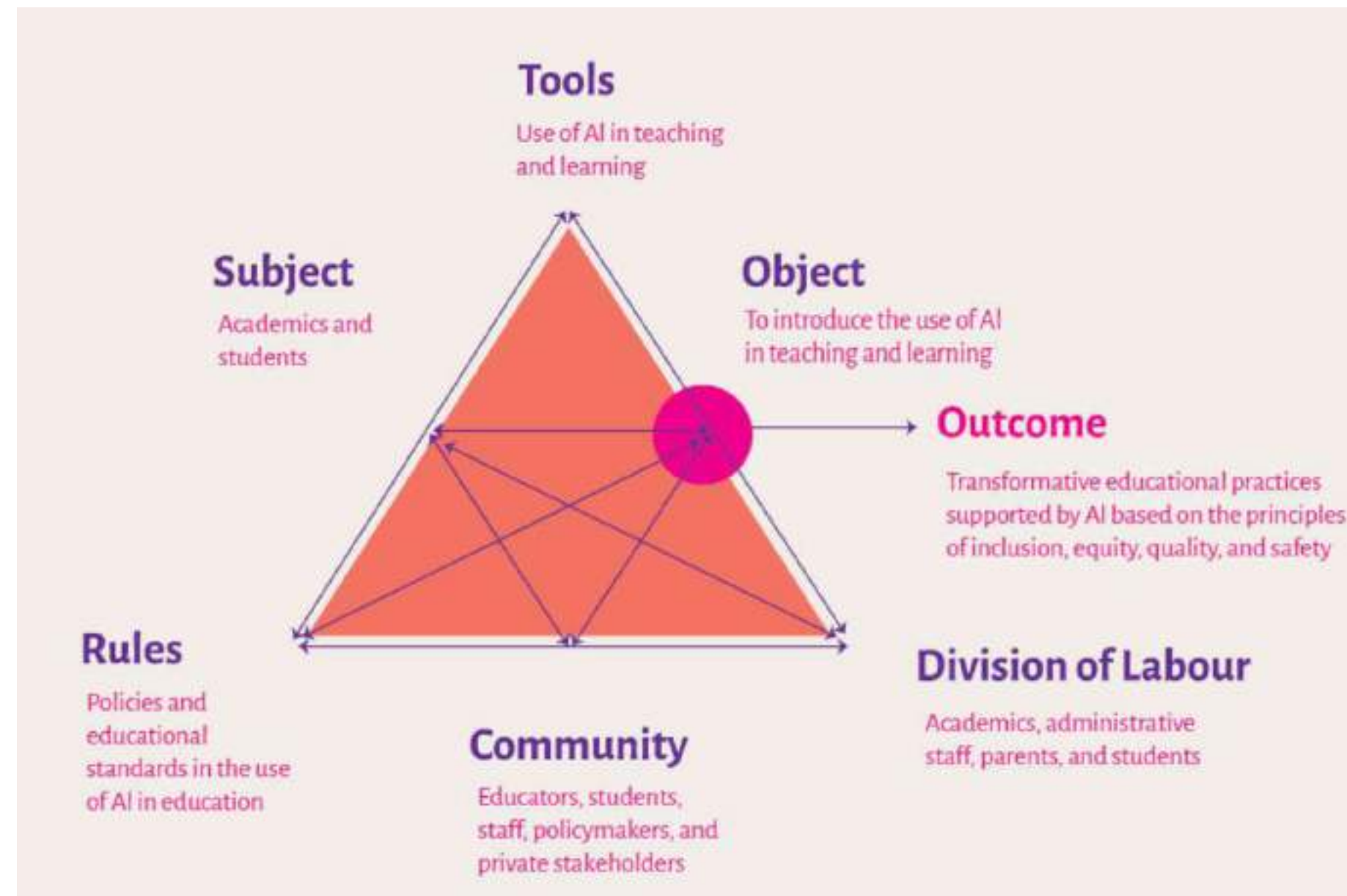
Harnessing AI to advance Education for Sustainable Development



CODESIGN S ESD
AI COACH



The Role of AI Shaping Educational Practices: An Activity System View



Source : Toro-Troconis (2025). 'The Role of AI Shaping Educational Practices: An Activity System View'. UNESCO MGIEP. BlueDot Magazine. Issue XVIII AI for Learner Flourishing. Retrieved from: <https://mgiep.unesco.org/the-bluedot>

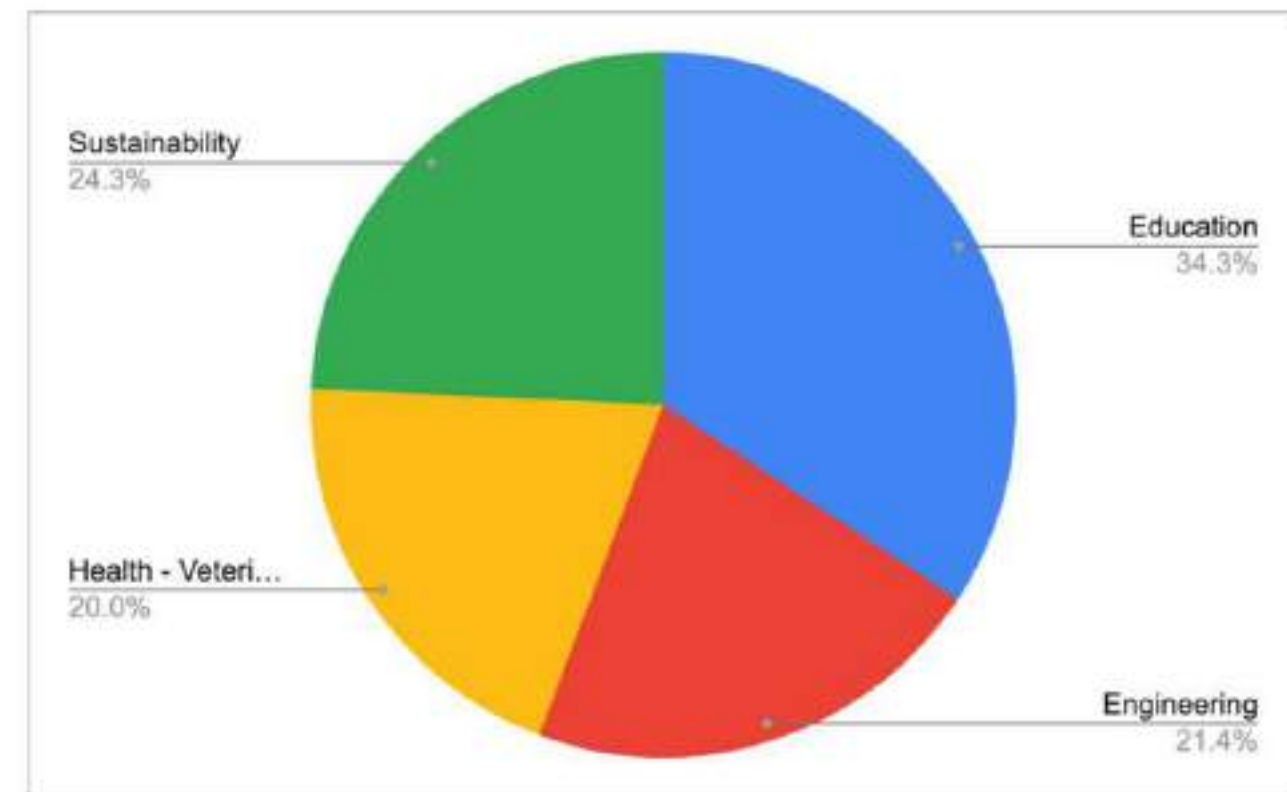
Methodology

- Workshop - University of Cambridge (April 2025): “Harnessing AI to Advance Education for Sustainable Development”.
- Research protocol approved by the Research Integrity and Ethics Committee at King’s College London (2024)

18 Participants



Disciplines represented



Toro-Troconis et. al (2025). Harnessing AI to Advance Education for Sustainable Development. [Manuscript in preparation]

Mixed method approach

Pre & Post Surveys



Focus Groups



Toro-Troconis et. al (2025). Harnessing AI to Advance Education for Sustainable Development. [Manuscript in preparation]

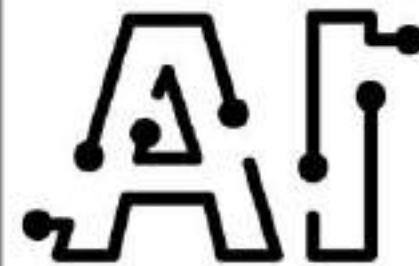
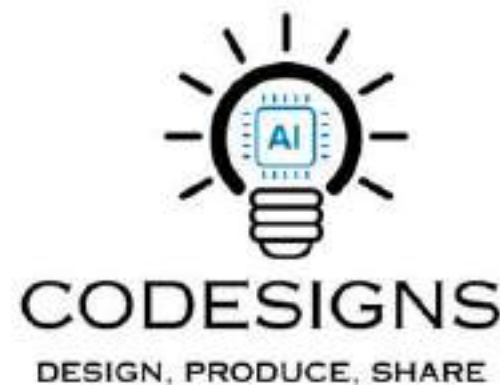
CoDesignS ESD & AI Frameworks and Coach



<https://tinyurl.com/4nj2f3u>



CODESIGN'S
ESD **AI COACH**



<https://tinyurl.com/2awvphxr>



<https://tinyurl.com/nhj3nf52>



CoDesignS AI Framework

The framework ensures that AI is used as a tool for **meaningful and equitable learning experiences**.

Equips educators to lead the **transformation of learning** in an increasingly digital world.

Provides a clear and structured approach to **embedding Artificial Intelligence (AI)** into curriculum design.



Empowers educators to **navigate the complexities of AI** integration in education with confidence and purpose.

The framework is organised into **six essential phases**, each designed to build a comprehensive understanding of AI and its applications within education. By progressing through these phases, educators gain the tools to confidently and responsibly incorporate AI into their practice.



CoDesignS AI Framework

Phase 1: What is AI?



This phase introduces the foundational concept of Artificial Intelligence, demystifying its definition and exploring its core characteristics. Educators will learn about the various types of AI including **machine learning** and **Generative AI** tools such as Large Language Models (LLMs). This foundational knowledge lays the groundwork for understanding how AI is developed and harnessed to support teaching and learning.

Phase 2: Machine Learning



Machine Learning (ML) is at the heart of modern AI systems. This phase explains how ML enables AI to analyse data, identify patterns, and make predictions or decisions. Educators will gain insight into how ML algorithms are trained and their pivotal role in powering AI tools used across various domains.

Phase 3: Ethics & Academic integrity



Ethical considerations are central to the responsible use of AI in education. This phase addresses critical issues such as **bias in AI outputs**, **data privacy**, and the potential impact of AI on **academic integrity**. This phase explores strategies to uphold ethical standards, mitigate risks of plagiarism, and promote a culture of fairness and inclusivity in AI-enabled learning environments.

Phase 4: AI teaching and learning competencies



Drawing on UNESCO's guidelines, this phase focuses on developing the competencies educators need to effectively integrate AI into teaching and learning. It emphasises the importance of digital literacy, critical thinking, and pedagogical innovation, ensuring that educators are well-prepared to harness AI's potential while aligning with global standards.

Phase 5: Prompt engineering



This phase introduces the concept of **prompt engineering**, a critical skill for effectively interacting with AI systems. Educators will learn how to craft precise, contextually relevant prompts to maximise the use of AI tools. The phase also explores the role of prompt design in getting outputs that align with specific teaching objectives introducing **CoDesignS ROCKS' Anatomy of a Prompt**. This phase also highlights the **sustainability** challenges of AI.

Phase 6: Applying Prompt Engineering for Teaching and Learning



The final phase focuses on applying prompt engineering to **improve teaching and assessment practices**, mapped to the **UNESCO AI Competency Framework for Teachers** across the five key aspects and three progression levels (Acquire, Deepen, Create).



<https://tinyurl.com/2awvphxr>

Think before you prompt: Reduce your AI carbon footprint with ROCKS



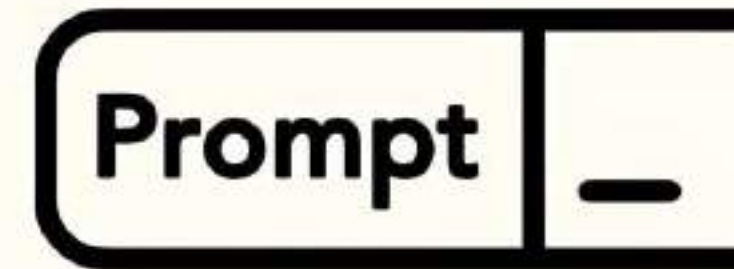
Source : Toro-Troconis (2025). 'Think before you prompt: Reduce your AI carbon footprint with ROCKS', #ALT Blog. 15 May: <https://tinyurl.com/4sr6mbj3>

Phase 5: Prompt Engineering



Prompt engineering – Example

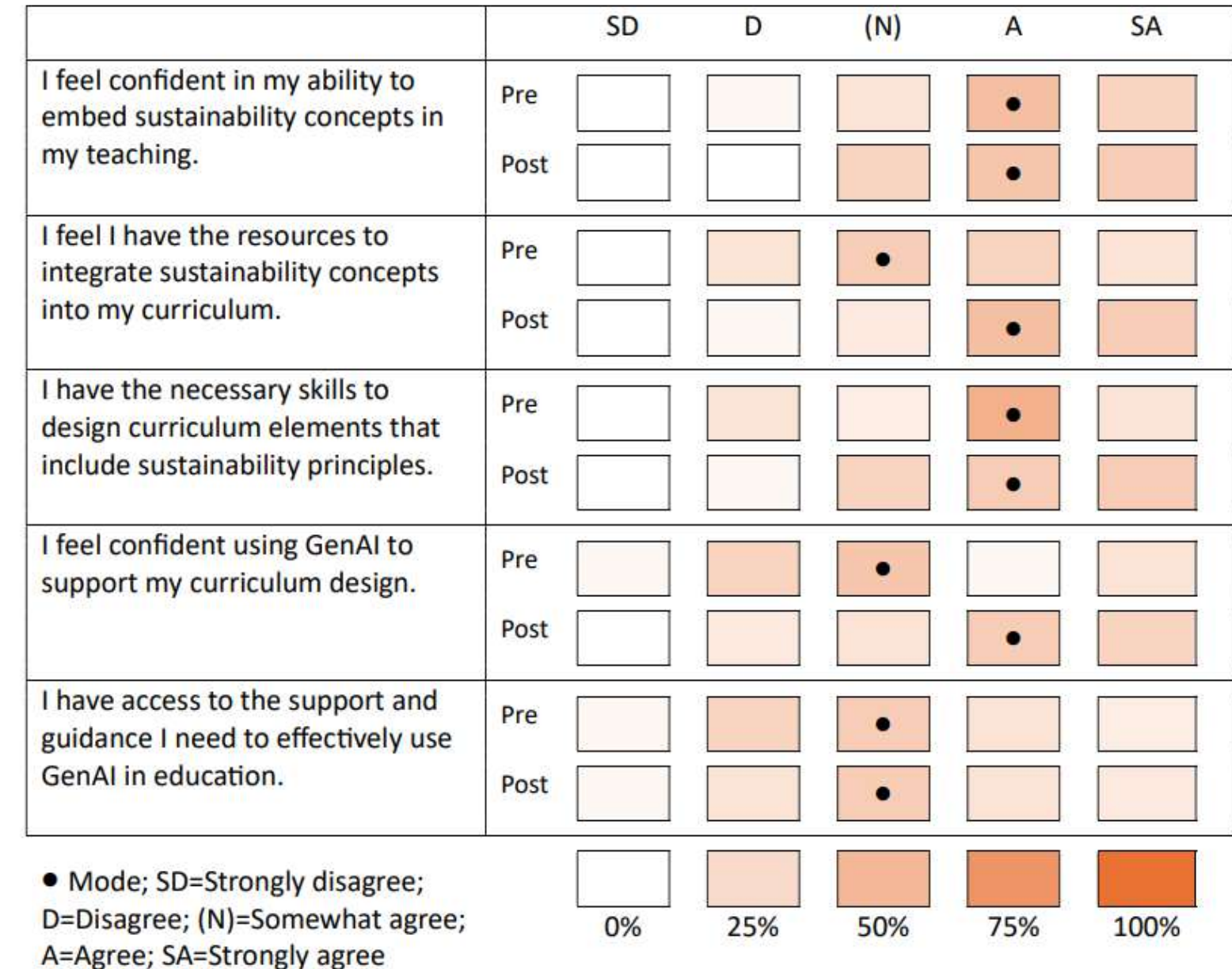
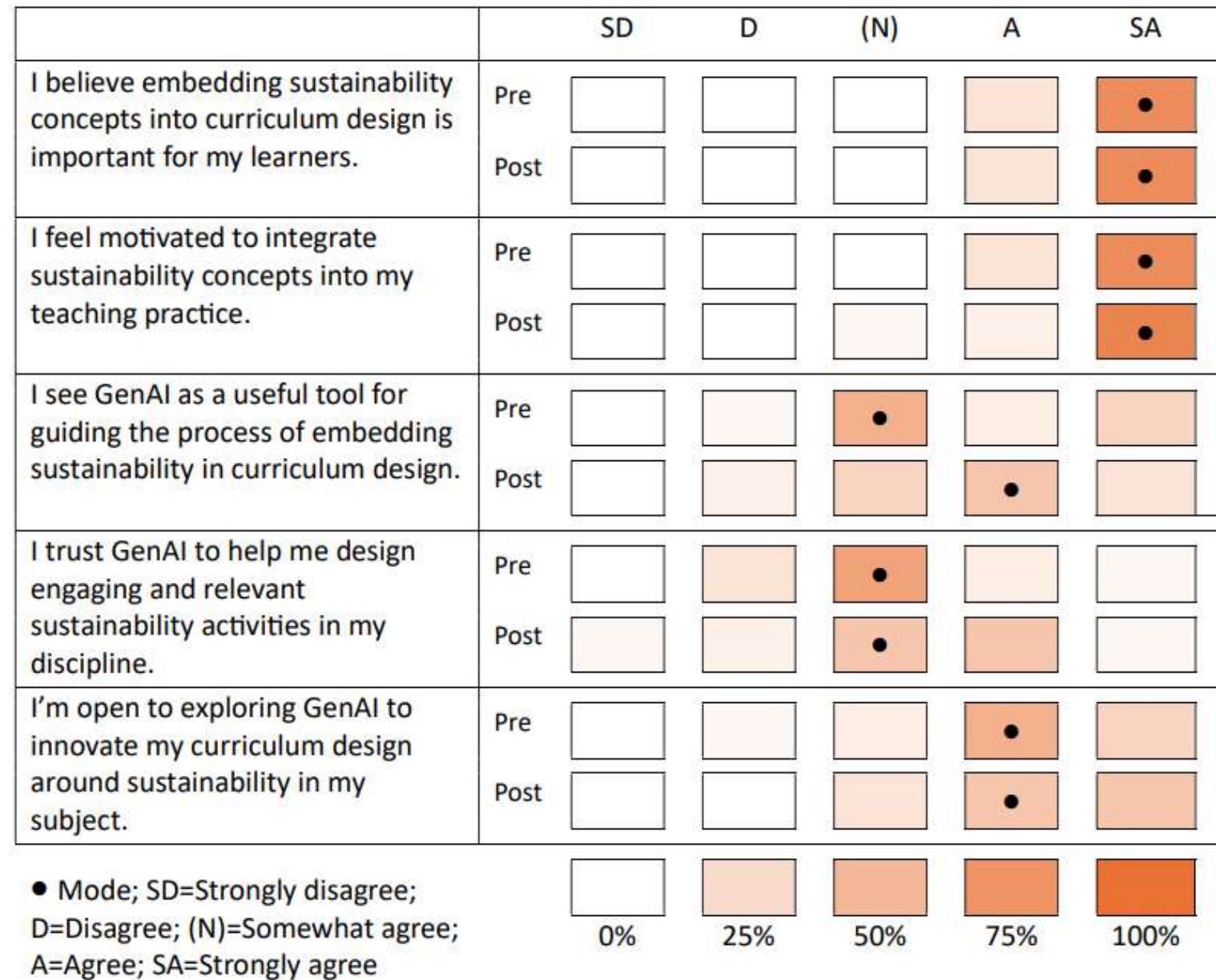
Prompt:



"I am a University Faculty Member developing an assessment rubric for a capstone project in environmental science (**Role**). My objective is to create a clear and fair rubric that evaluates students' ability to research, analyse, and present solutions to real-world environmental challenges (**Objective**). The audience is senior undergraduate students completing their final projects (**Community**). The rubric should be detailed and transparent, with criteria that are specific, measurable, and aligned with the learning outcomes of the course (**Key**). Please structure the output as a rubric table with categories such as Research Quality, Critical Analysis, Solution Feasibility, Presentation Skills, and Collaboration, along with performance descriptors for each level (e.g., Excellent, Good, Satisfactory, Needs Improvement) (**Shape**)."

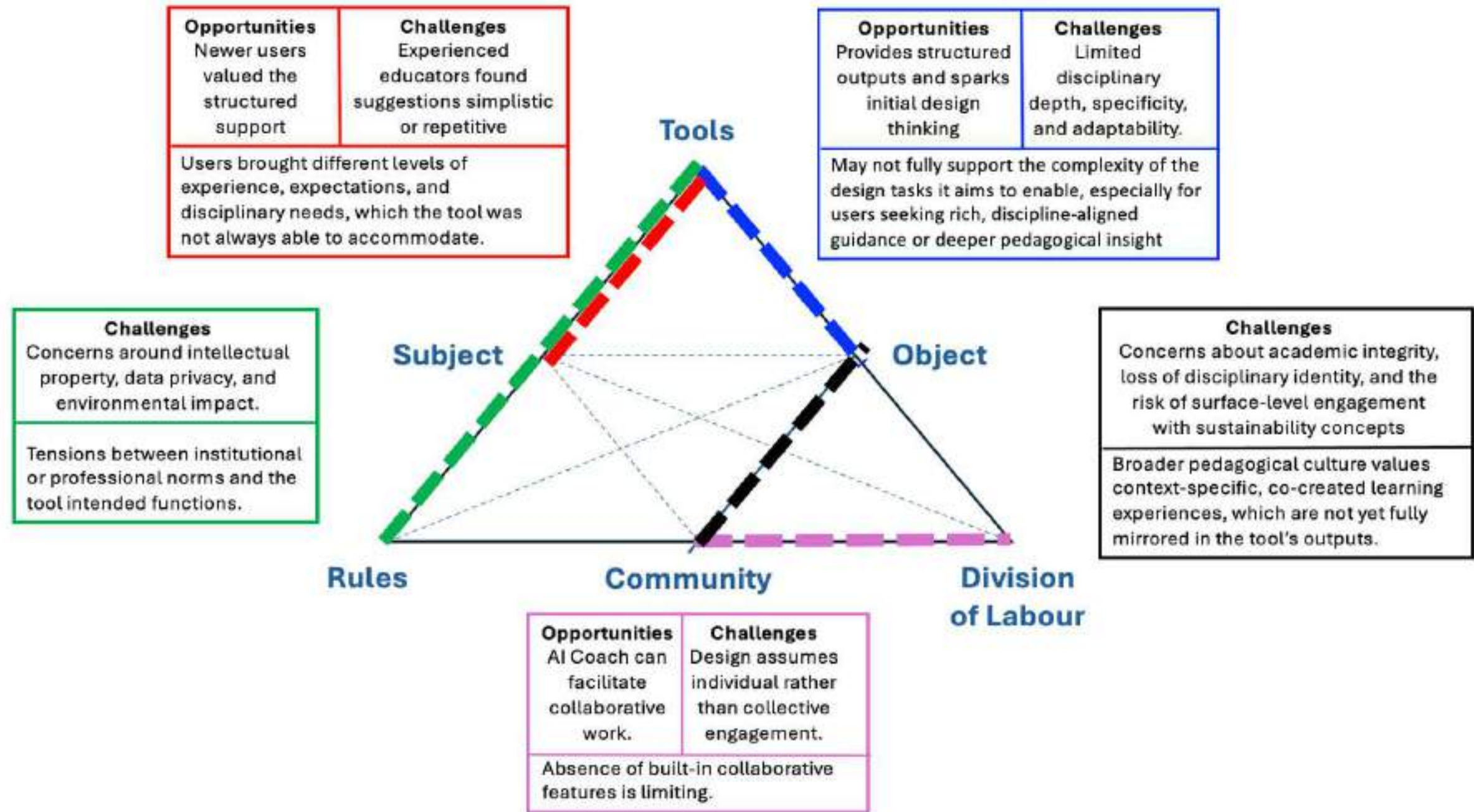
Source : CoDesignS AI Framework (2024) <https://tinyurl.com/2awvphxr>

Findings - Surveys



Toro-Troconis et. al (2025). Harnessing AI to Advance Education for Sustainable Development. [Manuscript in preparation]

Key Findings



Toro-Troconis et. al (2025). Harnessing AI to Advance Education for Sustainable Development. [Manuscript in preparation]

Recommendations



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ESD AI COACH

- Introduce the CoDesignS ESD AI Coach as part of a supported and collaborative learning experience, rather than as a standalone tool.
- Its primary value lies in its ability to act as a catalyst for idea generation.
- The CoDesignS ESD AI Coach should be integrated into learning environments where users have access to ongoing guidance and expertise—particularly from sustainability and curriculum design specialists.

CoDesignS AI Coach DEMO



CoDesignS ESD AI Coach DEMO

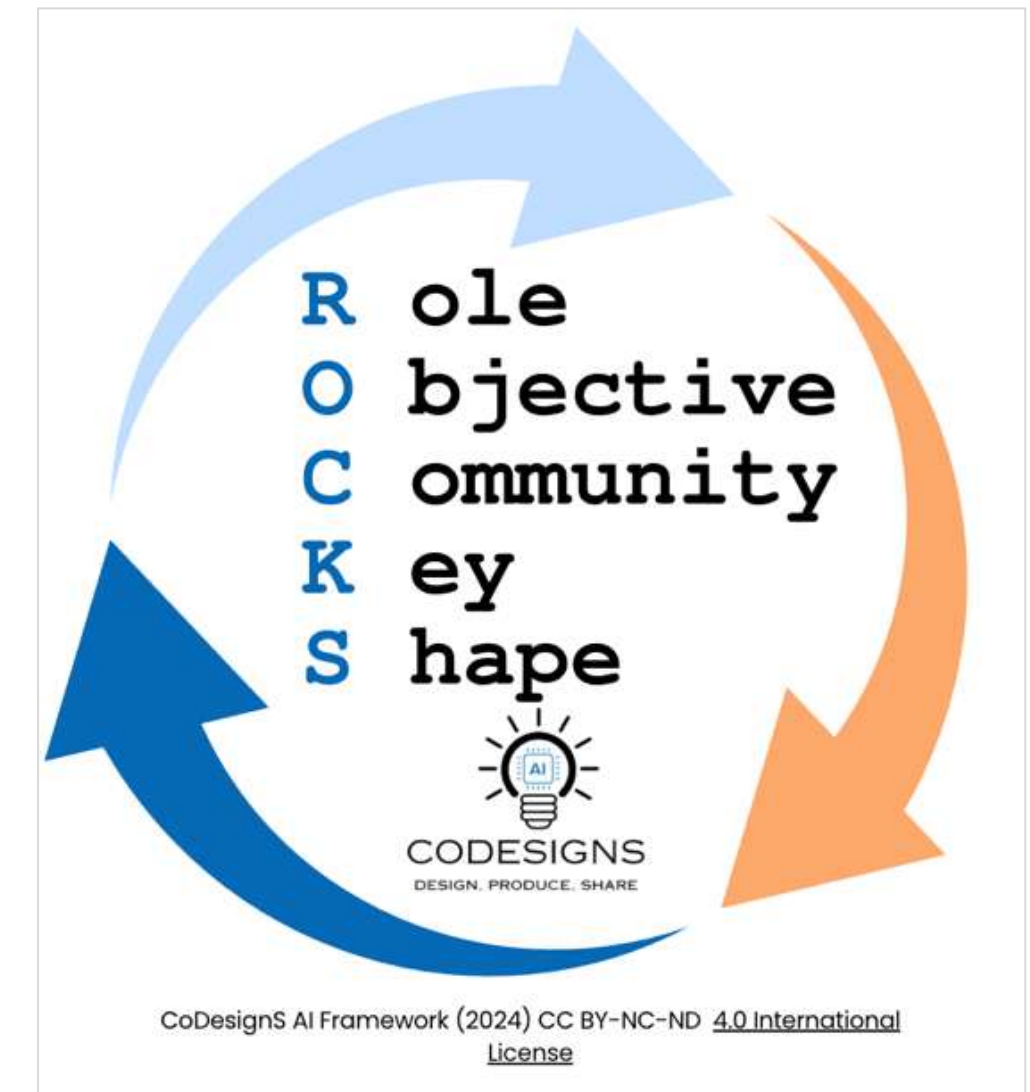
Role: Define your role (e.g. 'I am a curriculum designer')

Objective: State the intended goal of the interaction

Community: Specify audience, provide background and context

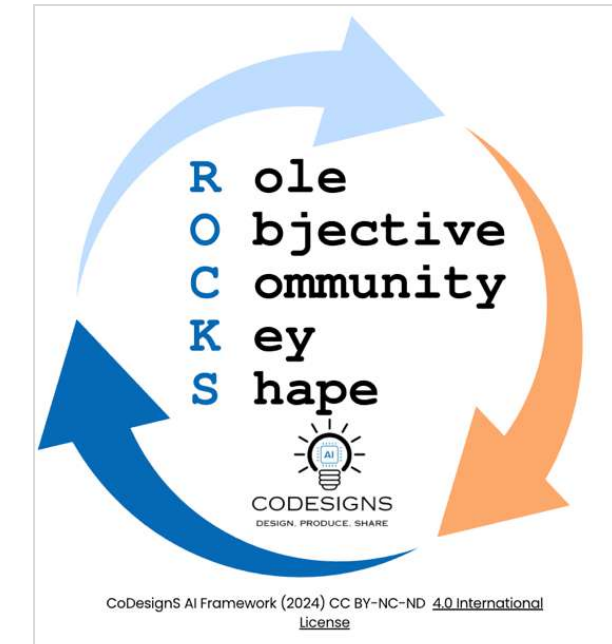
Key: Specify the tone or style domain or expertise required

Shape: Note the desired format of the output



CoDesignS ESD AI Coach DEMO

Role: Define your role
Objective: State the intended goal of the interaction
Community: Specify audience, provide background and context
Key: Specify the tone or style domain or expertise required
Shape: Note the desired format of the output



I am a lecturer in English Literature in the UK.

I would like a classroom-based learning activity lasting 2h that helps embed education for sustainable development in a module on 20th century British literature.

The activity is aimed at second year undergraduates specialising in English Literature, and I would like it to educate them about the relevance of sustainability and the sustainable development goals, and how these can help enhance their skills for future career pathways linked to their discipline.

Please use an academic but student-friendly tone.

Provide this as a written step-by-step, ready-to-use activity (lesson plan style), and include timings, any necessary worksheets, source details, and materials.

CoDesignS ESD AI Coach DEMO



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CoDesignS ESD AI Coach DEMO Using ROCKS Prompt Method

LINK: [CoDesignS ESD AI Coach Demo Using ROCKS Prompt Method](#)



CoDesignS AI Coach Activity



Access to ChatGPT



<https://openai.com/>



CODESIGN S ESD **AI COACH ACTIVITY**



<https://tinyurl.com/4xxn8rz2>

Q&A





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LAUNCH

Thank you

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TIME FOR A
BREAK



