UNIVERSITY OF AMSTERDAM

THE NEXT BEST THING?

The use of ChatGPT in Transdisciplinary Education

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01 INTRODUCTION

This study explores whether a customized large language model (CLLM), such as ChatGPT, can simulate non-academic perspectives in transdisciplinary education, where real-life stakeholder engagement is often limited. The aim is to support perspective-taking and co-operation by reducing barriers like availability, time pressure, and trust.

02 OBJECTIVE

- To investigate how non-academic voices can be meaningfully and feasibly included in transdisciplinary higher education.
- To explore whether a CLLM can simulate diverse perspectives and enhance student learning experiences.
- To evaluate the effectiveness of two different CLLM-based interventions in course settings resembling soft versus inclusive transdisciplinarity (Balsiger 2015).

03 BACKGROUND

Challenges in transdisciplinary education:
- Limited stakeholder access
- Unequal voice representation
- Time pressure and response fatigue
- Expectation management
- Difficulty building trust

Simulation (AI & non-AI) use in education reveals:
- Simulation supports problem definition and solving skills
- AI can lead to bias
- Shallow AI personas reduce authenticity
- Prompt quality & retrieval augmentation is important

(see for example Chernikova et al.(2020); Mobjörk (2010); Xu (2025); Zhou et al (2025))

04 METHODOLOGY

- Using **Educational Design Research**, two experiments were conducted in Bachelor courses at the UvA.
- Students interacted with ChatGPT-based personas or a Critical Review Panel (CRP) bot.
- These interventions were evaluated through student feedback and assessed for e.g. educational value, feasibility, and viability based on the McKenney & Reeves framework.

05 RESULTS

Exp 1: Personas (inclusive transdisciplinarity course)
Students found personas one-dimensional and unrealistic. Retrieval-augmented personas yielded better responses than more general personas.

Exp 2: CRP (soft transdisciplinarity course)
The CRP bot yielded more positive and nuanced feedback from students, encouraged critical thinking, but still risked echoing input or resorted to hallucinating when data was insufficient.

Key insights:
CLLM can be useful in a soft transdisciplinary course setting with more narrowly defined stakeholders & less in an inclusive transdisciplinary course setting with a high variety of social actors.

06 CONCLUSION

1. ChatGPT can simulate stakeholder perspectives, but only when it leads to high authenticity.
2. Creating these stakeholder perspectives can be time-consuming for lecturers and in some cases replace students' research efforts.
3. CLLMs are best used as an additional tool for narrow stakeholder interaction, not a replacement.
4. Further refinement of AI personas and prompts is needed to meet the pedagogical goals of inclusive transdisciplinary education.

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This research is funded by UvA Teaching & Learning Centres (TLC) and part of the Education Research Fellows Programme. See **tlc.uva.nl/fellows**.

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