

Good Enough to Talk To?

Perceived Usefulness and Social Confidence development in a GenAI Simulated Team Interaction Study

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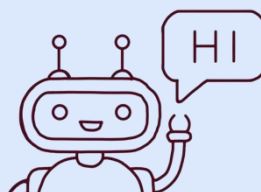
1. Introduction

- **Effective teamwork** is essential in aerospace engineering, particularly when resolving **disagreements** through **negotiation**.
- Providing **supervised practice** for these skills requires *significant university resources*.
- **Generative AI chatbots** are an *accessible and affordable* option.
- If students use them for practice, what impact will that have on other **skills** in their **professional life**?

2. Research Question

What are the consequences for communication skills that arise from the use of generative AI chatbots for practicing human-centered activities in aerospace engineering education?

- **SRQ1:** To what extent do students find the interaction with the chatbot **useful** for their tasks and skill refinement?
- **SRQ2:** To what extent do students feel the interaction enhanced their **social confidence** in future similar scenarios?
- **SRQ3:** To what extent do students feel that interacting with the chatbot **mimics an interaction with a real person**?

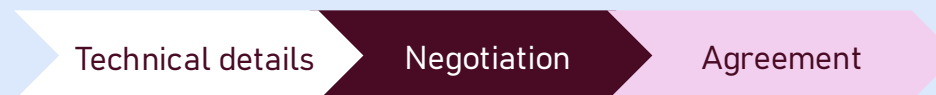


3. Methods

17 **participants** interacted with a **chatbot** that simulated a **scenario**. After the interaction, they were asked to fill in a **questionnaire**.

- **Participants** – students from Aerospace Engineering TU Delft
- **Chatbot** – ChatGPT-based, following a prompt designed to simulate a specific human-centered scenario
- **Scenario** – negotiation between two teammates on an engineering decision; the chatbot briefs the user of the technical context, then plays the role of the teammate negotiating towards a conclusion; the interaction ends when an agreement is reached
- **Questionnaire** – mixture of Likert-scale and open-ended questions, partially taken from validated tools (UTAUT2 and COLLES) and partially self-developed

Chatbot interaction timeline:



5. Conclusions and Future Work

- **Communication skills** remained tied to **real social experiences**
- **GenAI** – valued for **preparation, argument structuring, and new perspectives**.
– **not** perceived as **substitute** for real human interaction

Future work should focus on:

- Study the **long-term effects** of **repeated AI-based simulations** on *communication habits* and *professional expectations*.
- Add **automated feedback** on communication and negotiation performance.
- Evaluate the **reliability** and **educational value** of AI-generated feedback.

4. Results

→ **Useful for Tasks and Learning, but not Communication Practice**

- 65% positive attitudes → Easy to use & relevant.
- Excels for **work quantity**, **not work quality**.
- Low intention of **future use**

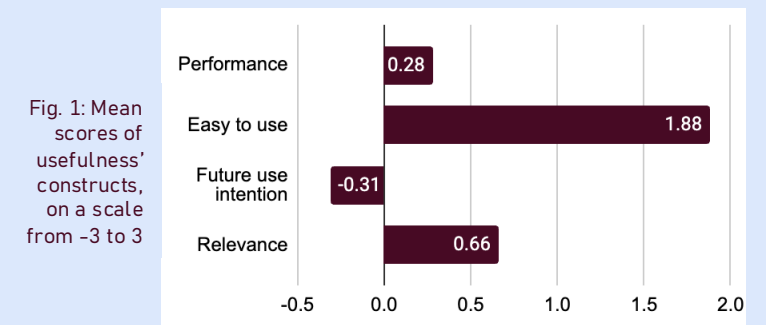


Fig. 1: Mean scores of usefulness constructs, on a scale from -3 to 3

→ **Communication Skills and Social Confidence**

- 41% reported **no improvement**.
- Social confidence remained positive
- Some participants feared **skill deterioration** with **repeated AI use**

“..it would numb the communication/interpersonal skills that are crucial in work and in life.”

- Several students expressed a sense of **fatigue with AI tools**, showing clear **defiance** and bias **against integrating** them into **educational activities**.

“Engineering projects do not need MORE AI, they need more group thinking.”

→ **Human-Likeness**

- AI lacked **emotions, empathy, and unpredictability**.
- **Human interaction** was considered **essential** for interpersonal training.