

Using AI as a simulation tool to enhance clinical reasoning in occupational therapy education

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February 11, 2026

Introduction

- Building clinical reasoning skills is difficult in class context.
 - Paper-based clinical vignette has important limits...
 - Simulated patients are complex/expensive... Until... artificial intelligence (AI)
- This study explored the potential of AI as an interactive simulation tool to foster clinical reasoning

Methodology

- Custom GPTs (Generative Pre-trained Transformer) were developed to simulate an hospitalised lady ("Ms B").
- Who is Ms B?
 - An old lady who felt at home and broke her hip.
 - She is now in geriatric rehabilitation unit.
- Mission #1: Work on a rehab plan;
- **Mission #2: Try to explain why she felt.**

- Students were invited to mobilized the critical thinking skills seen in class.

Methodology

- Students completed a questionnaire on:
 - Perception of the activity,
 - Experience using AI, and
 - UTAUT-2 framework (Unified Theory of Acceptance and Use of Technology): General acceptance of technologies. (Pagé et al., 2023; Venkatesh et al., 2012)
- Field notes were taken during the process.

Results

- For each step of the OT process, the students clicked on the provided link and interacted with the GPTs created.

I would like to learn more about you. Can you talk to me about your living environment?

Oh... my living environment... yes, of course.

I live alone, in a small town house, in the countryside not too far from Lausanne. It's quite quiet there, lots of fields and trees. The house has two floors. To go inside, there are a few steps... five, I think. There's no handrail, but I've managed all these years.

Upstairs is my bedroom and the shower. The toilets... there's one upstairs and one downstairs, which is convenient. The laundry, though, is in the basement, so there are more stairs for that. I used to go up and down without thinking about it. Now... well, it seems like a lot.

Hi everyone. We are here to talk about Ms B. We need discuss in order to improve our understanding of her situation. Is every one ok with that objective?

(Nurse speaking)

Yes, that sounds perfect. I think we all share the same goal—to support Ms. Bérénice as best we can during her rehabilitation. Please let us know how you'd like to proceed.



I suggest we go around the table. Would you like to start?

(Physiotherapist speaking)

Sure, I can start.

From a physiotherapy standpoint, Ms. Bérénice's condition is quite precarious. She is currently unable to perform transfers independently and struggles significantly just to get out of bed or stand up. Her tolerance for walking is very limited, and her balance is poor—stairs are completely out of the question at this point.



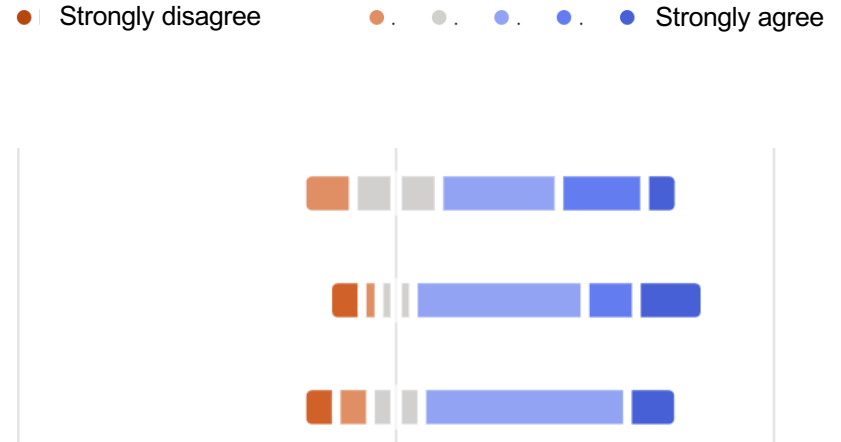


Results

- Participation: 33% (22/67) (2024) and 38% (29/77) (2025)
- Perception of the activity
 - Help you develop your clinical reasoning skills?
2024: 7,1/10 2025: 6,8/10
 - Pros :
 - High levels of engagement / fun and playful approach,
 - Strong perceived usefulness and realism.
 - Cons :
 - Limited number of interactions allowed by ChatGPT,
 - Occasional inconsistencies in the responses generated.

Results

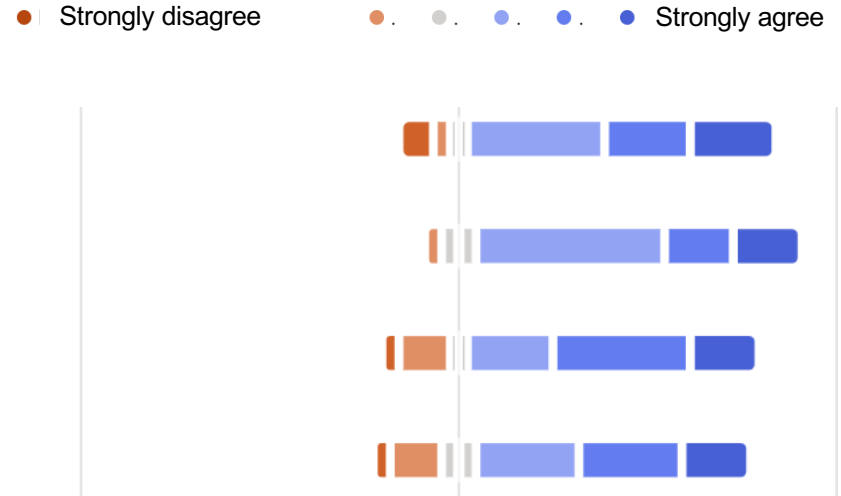
- UTAUT 2
 - Performance expectancy
 - Effort expectancy
 - Social influence
 - Facilitating conditions
 - Hedonic motivation
 - Price value
 - Habit
 - Behavioural intent



Results

- UTAUT 2

- Performance expectancy
- Effort expectancy
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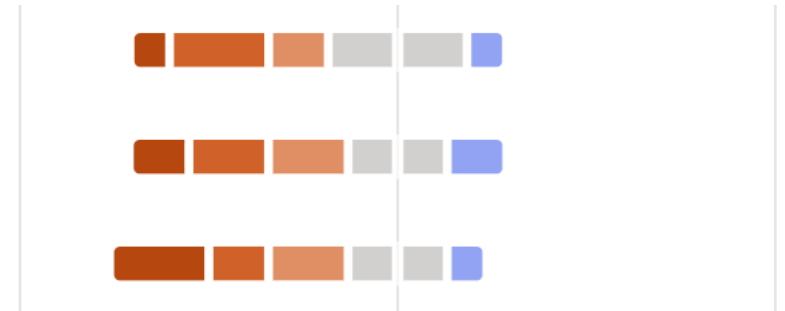


Results

- UTAUT 2

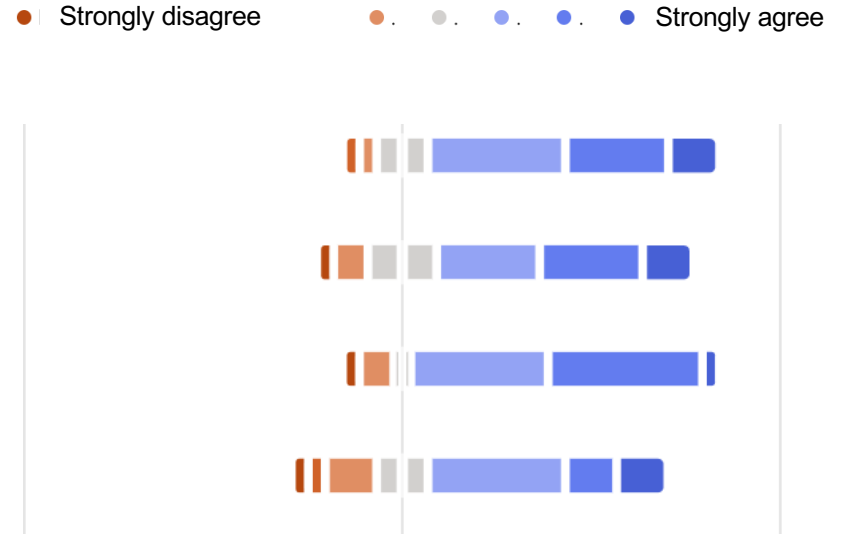
- Performance expectancy
- Effort expectancy
- **Social influence**
- Facilitating conditions
- Hedonic motivation
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● Strongly disagree ● ● ● ● ● Strongly agree



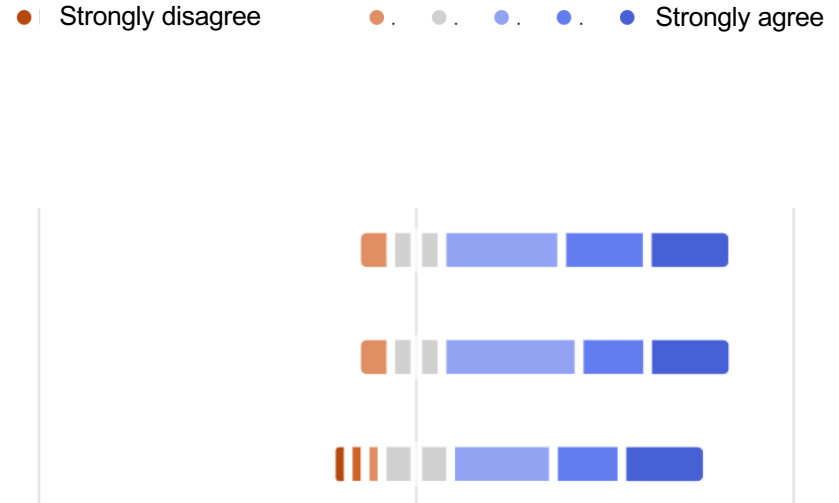
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Results

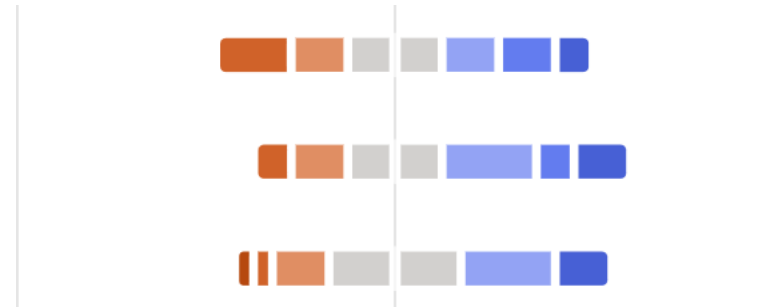
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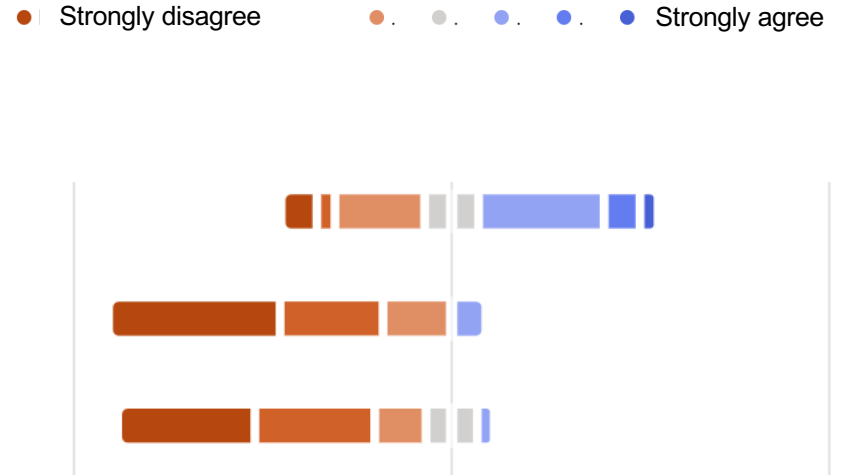
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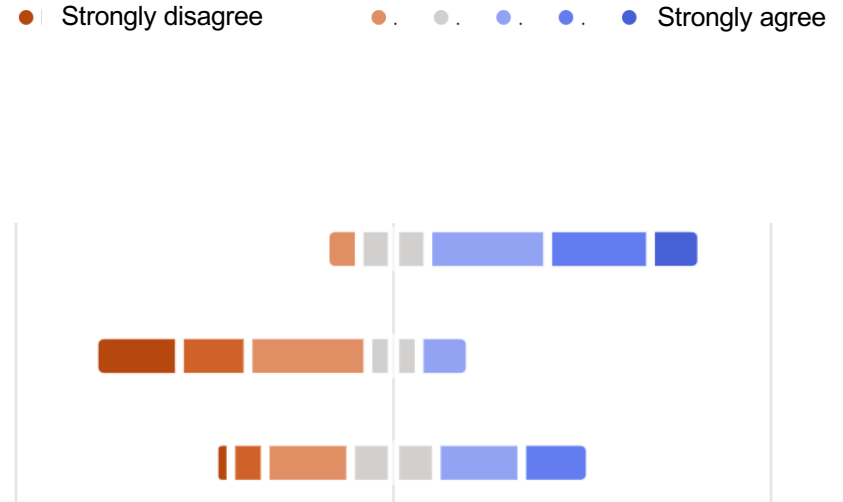
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Results

- Field notes : The ups and downs of the development of a GPT...
 - Ms B can mix up the steps of the OT process.
 - Information that disappears after being overwritten by AI.
 - Ms B that gives all the information she has... instead of waiting for questions.
 - Interactions with Ms B being blocked after a short period of time.
- Building GPTs can take a lot of time.

Conclusion

- Simulated AI clients can help bridge the gap between theoretical knowledge and practical application in class context.
- Our students are « AI ready ».
- AI can be a « playful » approach to develop clinical reasoning.
- Limits persist due to:
 - The limited number of interactions,
 - The contact remains artificial.
- It's another tool in class context.

Want to meet Ms. B ?

<https://bit.ly/3BRcCFt>



Thank you for your attention!

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