IDLab - AIRO

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Adaptive Second Language Tutoring Using Generative AI and a Social Robot

Technology can help alleviate limited funding and a **shortage of teachers**.
Language learning is inherently social, and embodiment allows for **social interaction**.
Generative AI allows for **adaptation** of content and difficulty in real-time.

The resulting game

- Five images appear on a screen
- The robot says a description of one of the images in the foreign language
- The user chooses an image
- The correct and incorrect images remain, with the vocabulary word written above it

> *Los guantes son para mantener las manos calientes.*

Implementation
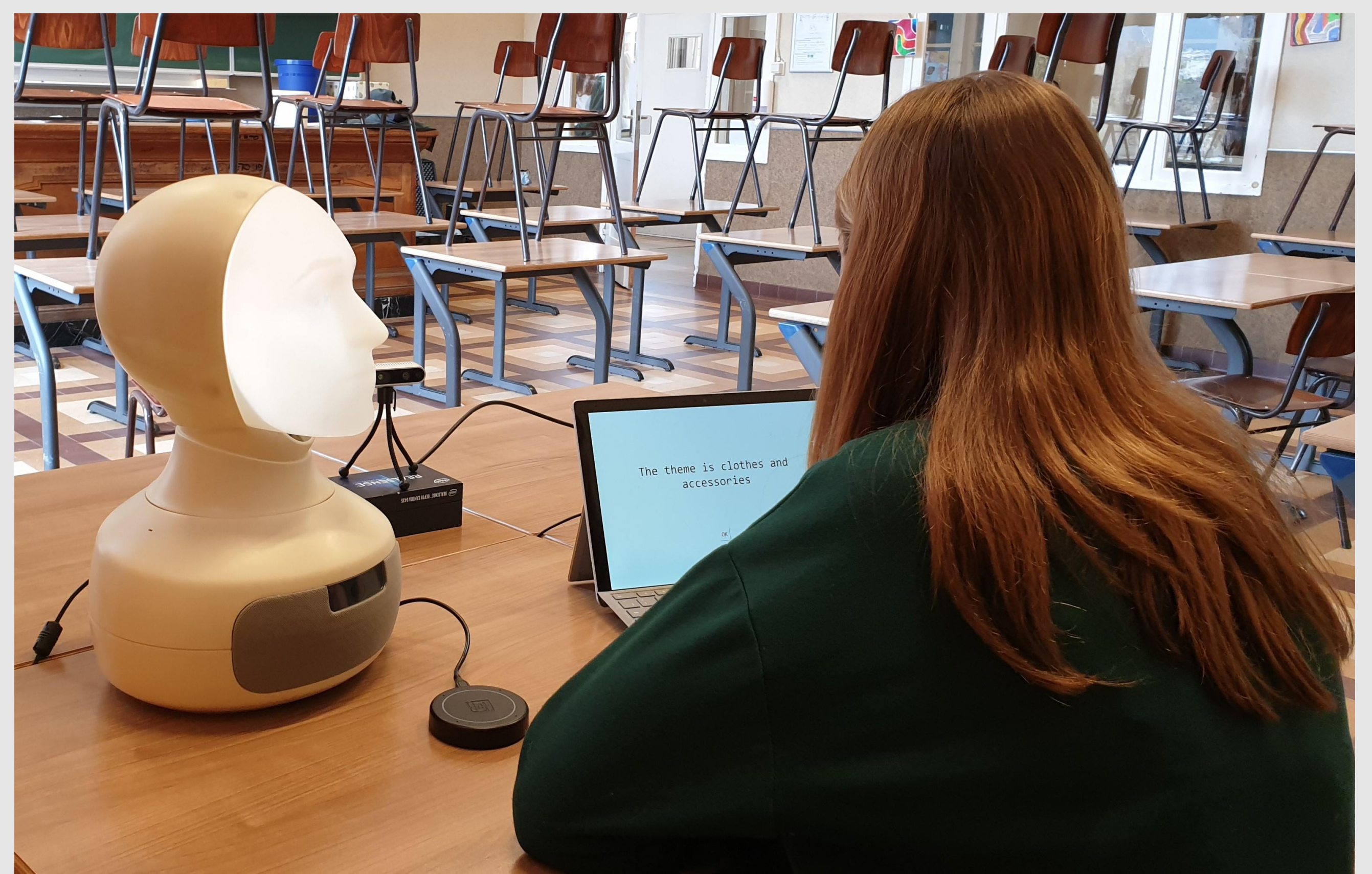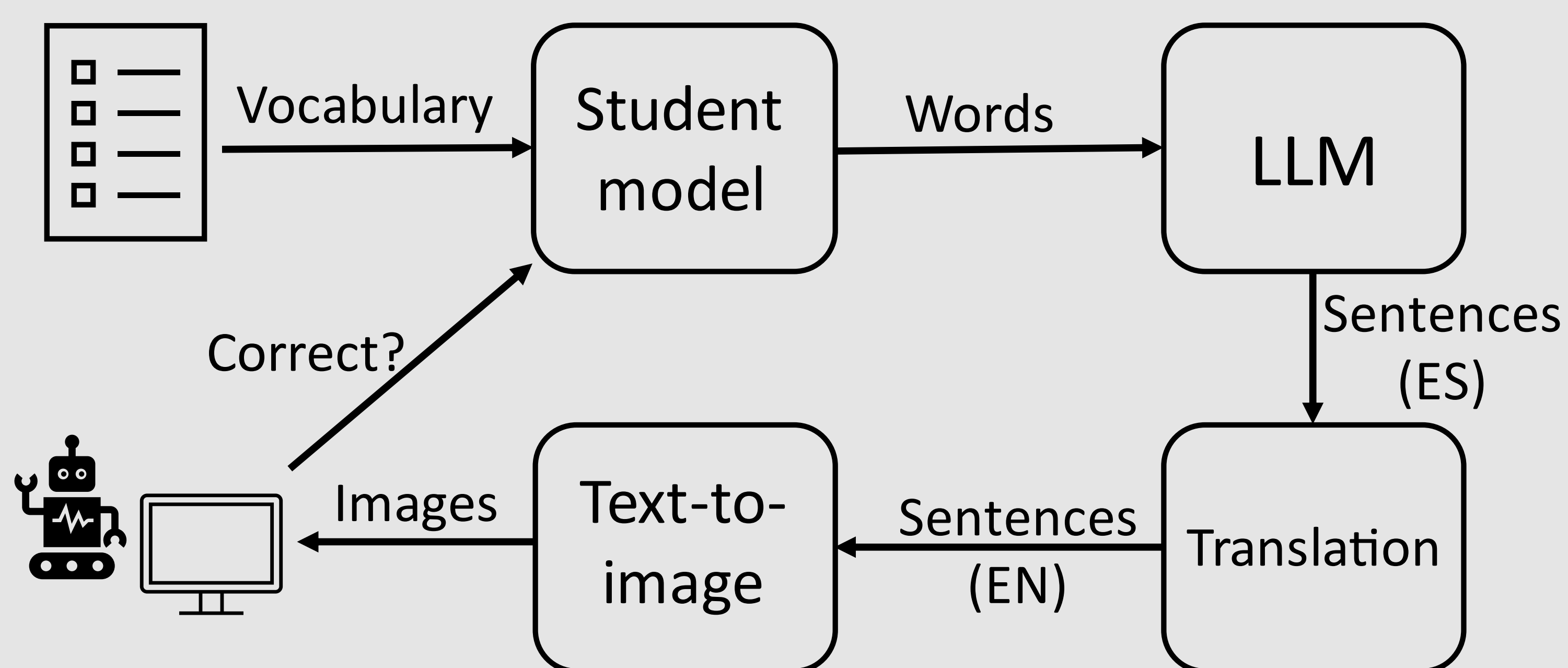
Results

- There is a significant increase in scores for all students
- No difference between robot and tablet group is found
- The quality of the generated data allows for learning, but improvements are possible

⟹ **Learning was driven by the game, not the embodiment**
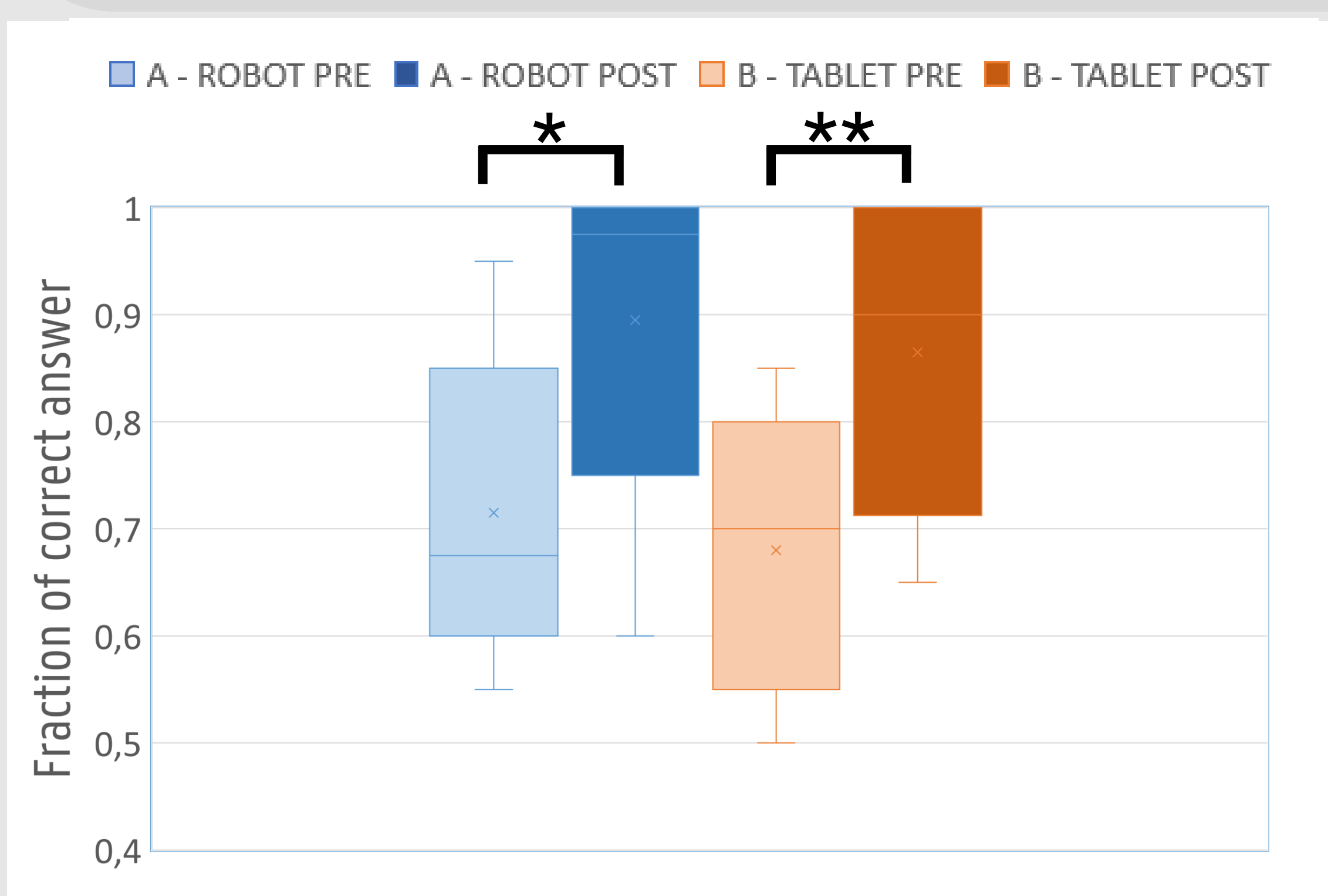
Distribution of scores on pre- and post-test of robot and tablet group

User Study

21 high school students

Dutch speaking

Ten minutes of practice

Pre- and post-test

Two groups: Furhat or tablet

Future work

Extending beyond vocabulary

More controlled generation

Open ended conversation

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