

# Exploring Emerging Technologies in Language Learning: Examining the Role of Instructors, Learners, Content, and Technologies



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# RESEARCH STUDY PARTNERSHIP - MEET THE TEAM



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# Purpose

This research explores how virtual reality and generative AI can enhance English language learning for refugees and newcomers in Canada by creating authentic, confidence-building, and community-oriented learning experiences.



# Grounding Curriculum in Refugee & Newcomer Realities

**Objective:** Make English learning directly relevant to lived experiences.

- Designed for newcomers and refugees within 5 years of arrival (CLB 3–5)
- Emphasis on practical, situational communication for daily integration
- Built on empathy-based interviews:  
“If I was fluent in English, I would feel part of the community.”
- Themes selected from real settlement needs (health, banking, job search, community life)

**Key insight:** Language learning = community participation and confidence-building.



# Human-Centered Curriculum Design

## Guiding Principles:

- **Authenticity:** Scenarios mirror real newcomer challenges
- **Empowerment:** Activities promote self-expression and self-confidence
- **Cultural Relevance:** Content builds familiarity with Canadian norms

## Implementation:

Parallel curricula across VR, AI, and Standard classes ensured consistency and inclusivity.

Each mode used the same weekly modules but different engagement methods.



# Modules that Bridge Learning & Belonging

## Curriculum Modules:

- Introduction & Cuisines – *sharing identity through food*
- Canada Tour & Tourism – *cultural familiarization*
- Banking & Finances – *managing independence*
- Health & Wellbeing – *navigating healthcare*
- Employment – *writing resumes & mock interviews*

## Emerging Themes:

- *Community connection*
- *Practical learning*
- *Confidence*

## Quote:

*“Even when we put the VR on, I feel nobody is seeing me... it helps me speak.”*

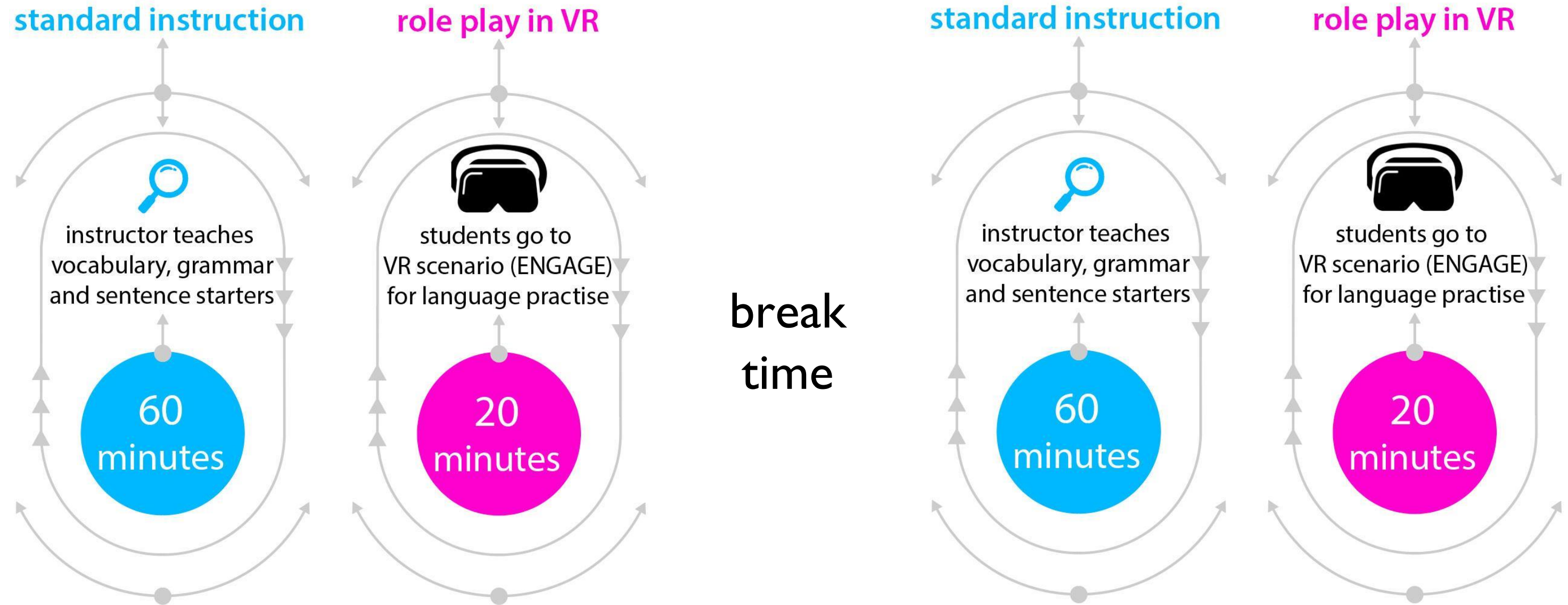
# Future of Language Learning for Newcomers

## Looking Ahead (10–15 years):

- Personalized AI tutors to adapt to linguistic and emotional needs
- Culturally intelligent systems integrating trauma-informed pedagogy
- Immersive hybrid classrooms connecting global newcomer communities
- Data-informed feedback loops improving curriculum in real time
- **Vision:** Technology as a bridge *not a barrier* to and belonging.



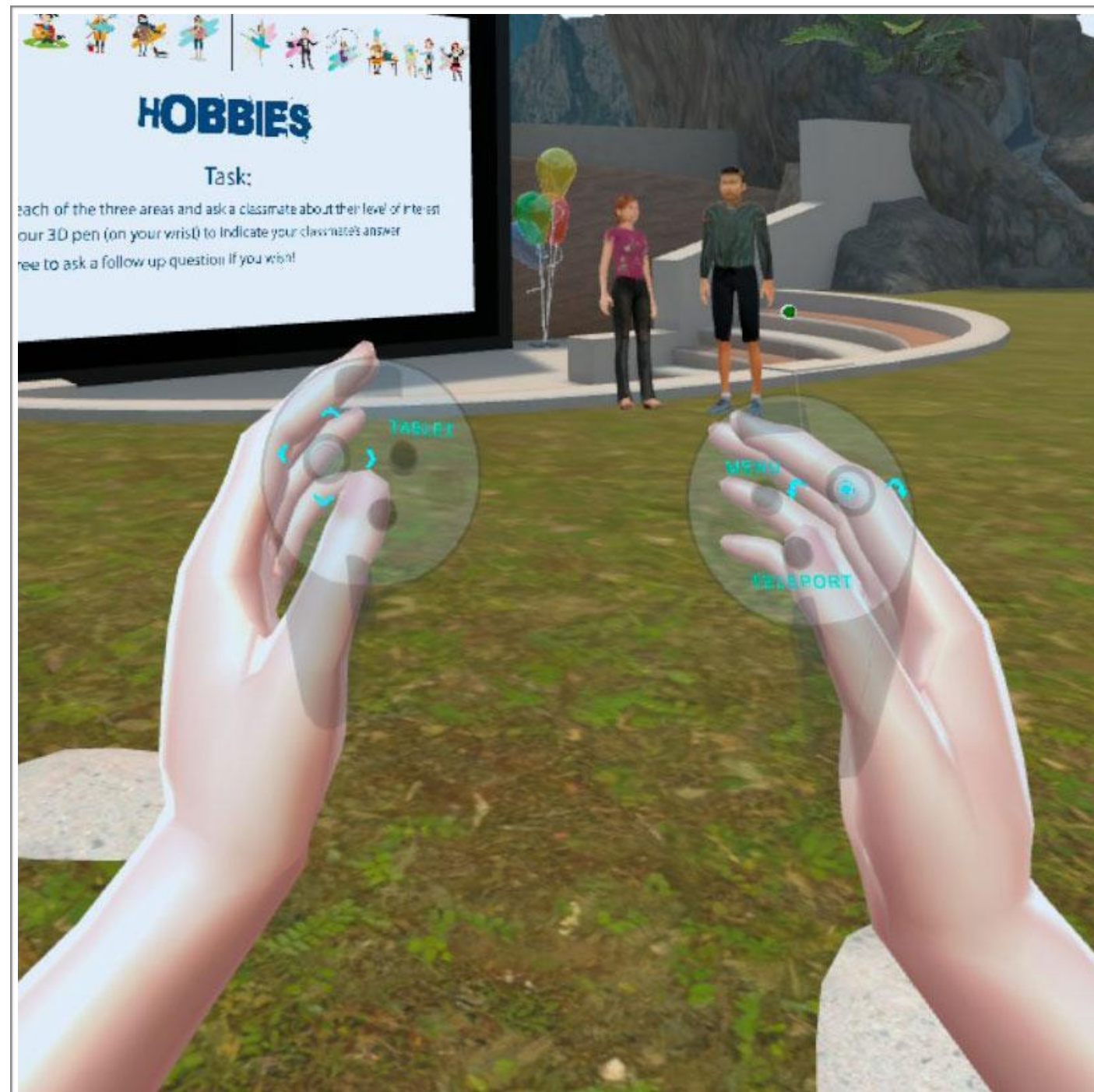
# METHODOLOGY



- TAKE-AWAYS:**
- ensure a task-based activity was taught in-person before going to a VR scenario
  - ensure more spacing among students wearing VR headsets and use of earphones



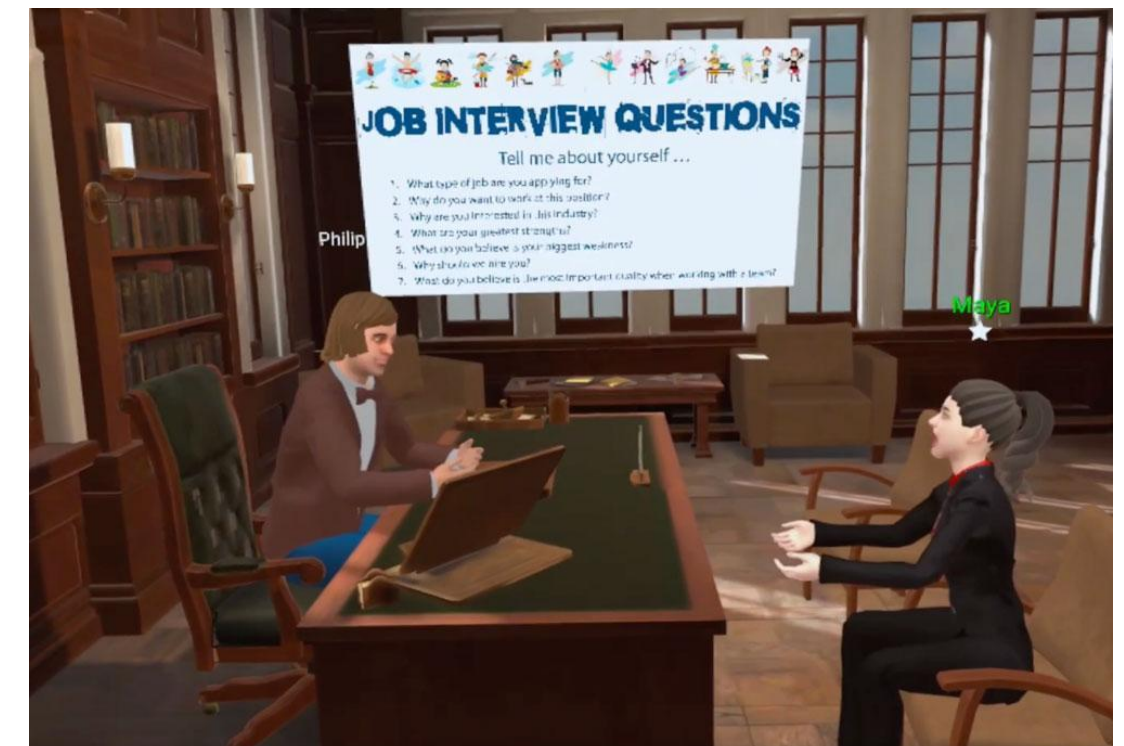
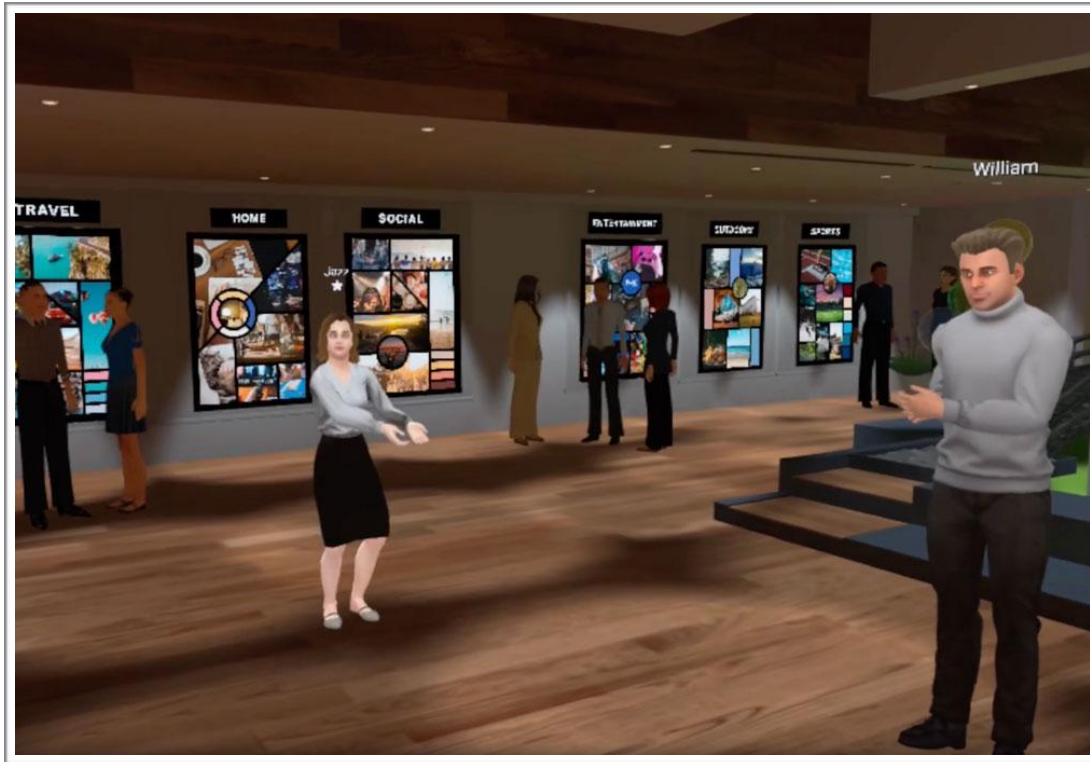
Figure: Classes were taught in large active learning classrooms with smart boards and other tech.



**Left image:** button guidance on the hand controllers for movement/teleport



**Right image:** button guidance on the wrist menu for audio, post-it notes, 3D pen, and whiteboard



# PARTICIPANT REFLECTIONS

"Actually the VR experience is very different from the traditional classes (LINC and ESL) that I have joined in the past. Learning the language in a more fun and interactive way is very helpful to improve language skills. I think this (VR) is what we need to practice the language in reality ... real life... For example being in the shopping mall, bank , and coffee shop. If I can say in the VR there is more hands on to learn the language. It is a very interesting experience!" - Student

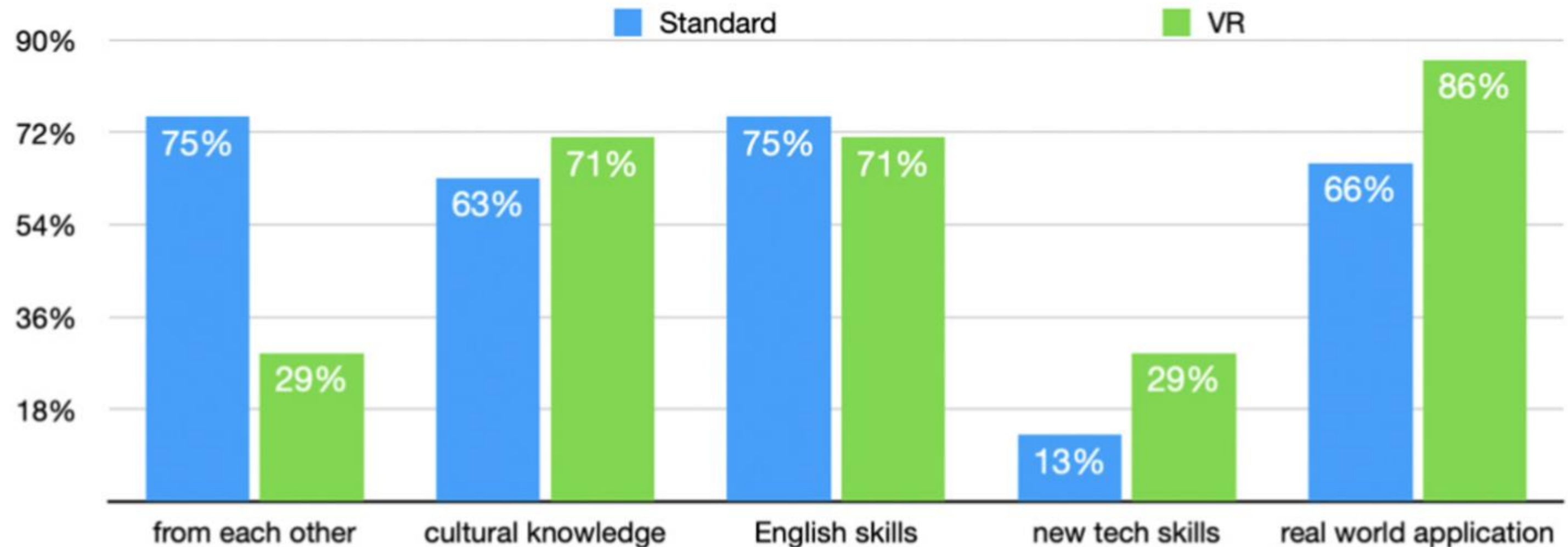
**"I don't feel nervous speaking in English in the virtual world because I just disappear. When I talk, I'm not afraid to make mistakes anymore. I just feel more confident."**

- Student

"I really loved teaching in the VR scenarios. The students were engaged and excited, and there was lots of opportunity to practise language in real-world situations. "

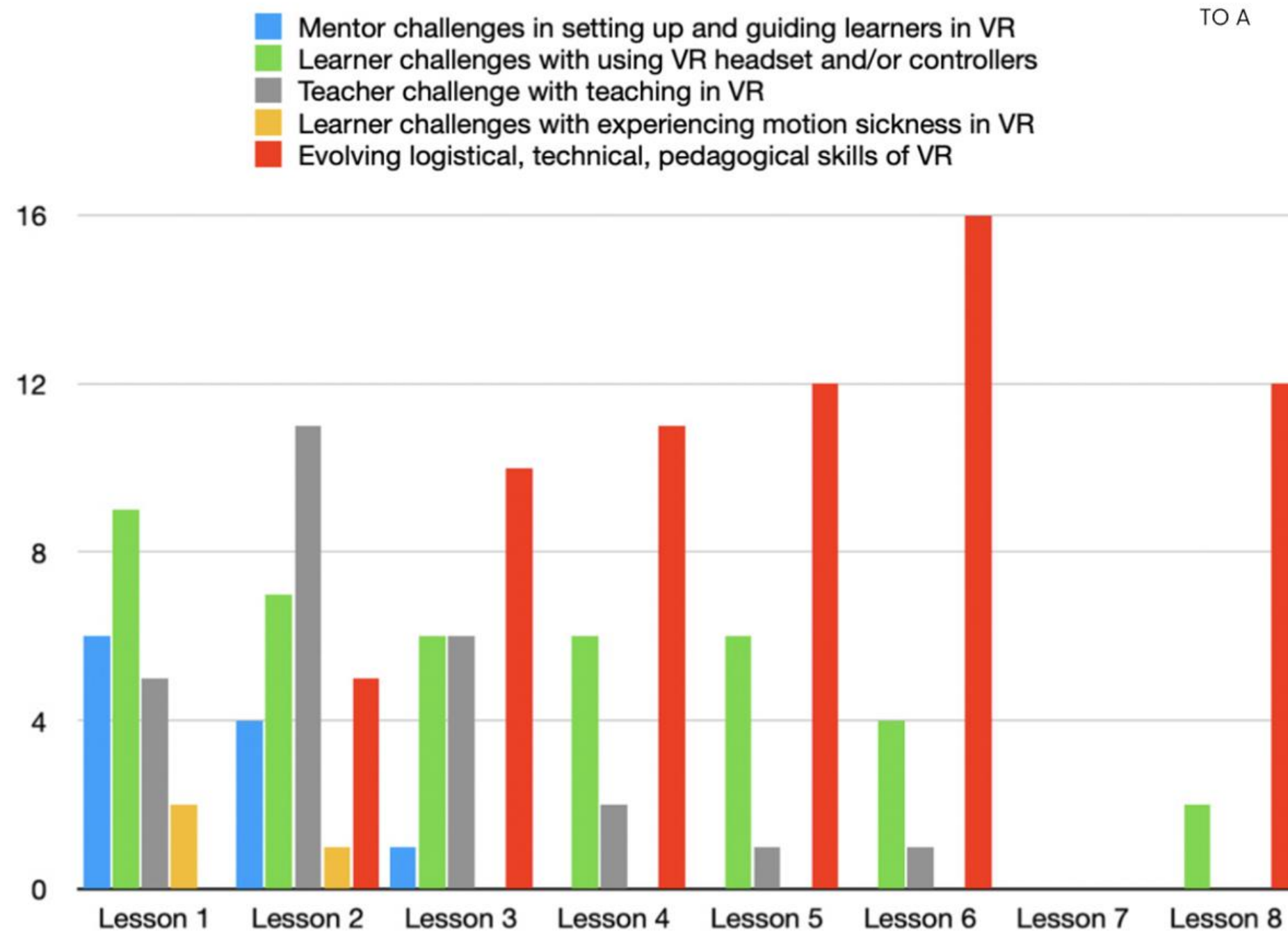
- Teacher

**RQ1:** How might the integration of virtual reality environments within English language learning curriculum assist Canadian newcomers?



Results from Semi-structured Interviews with the VR/SD cohort

**RQ2:** What affordances and challenges are evident in constructing and teaching English language learning curriculum using virtual reality technologies?



# Research Methods

## Design

A quasi-experimental, mixed methods study

- Randomly selected participants assigned as an experimental group (n = 21) and a control group (n = 17)
- The experimental group The control group conducted tasks with native speaking tutors (one tutors per group of 4 students)
- Stratified selection of participants invited for a semi-structured interview

# Methods (Cont.)

## Intervention

Selecting a GenAI chatbot

- Criteria: language performance, user-friendly format, easiness
- Selected chatbot: ChatGPT (3.0)

Developing and implementing GenAI chatbot-integrated tasks

- Communicative tasks where students use ChatGPT to complete in-class activities and homework within the TBLT framework
- GenAI activities paired with teacher feedback and in-class discussion

# Methods (Cont.)

## Intervention (cont.)



ChatGPT

assist me with interview questions for a job in healthcare



Student

Absolutely! Here's a set of **interview questions tailored for a healthcare job**, grouped by theme so you can pick and choose what fits best:

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### ◆ General Background & Motivation

- Can you tell us about your background and what inspired you to work in healthcare?
- What do you enjoy most about working in this field?
- Why are you interested in this particular position?

### ◆ Clinical/Technical Knowledge

- How do you stay current with medical advancements and healthcare regulations?
- Can you describe your experience with [electronic health records / specific procedures / equipment]?
- Tell me about a time you had to make a quick clinical decision. What was the outcome?

# Methods (Cont.)

## Instruments

English language proficiency test

- A curriculum-embedded elicited imitation test (EIT) was developed (20 items), assessing the language functions and grammar uses
- The EIT was delivered before and after the course, administered online using [extemporeapp.com](http://extemporeapp.com)
- Twelve trained raters scored the responses on a phrase level using a three-level ordinal scale \* (inter-rater reliability,  $r = .89$ )

\* scale: 0-no or little repetition, 1-partially accurate repetition, 2-accurate repetition

A semi-structured interview: A series of questions were asked

# Methods (Cont.)

## Analysis

### Statistical analysis

- The scores were analyzed using multilevel modeling (MLM), where forty phrase-level item scores (level 1) are clustered within each individual test taker (level 2)
- Five random intercept models with item scores as an outcome variable were separately run, each adding predictors
  - Test Phase (pre or post test)
  - Pre-existing English proficiency, henceforth Proficiency (pre-test average scores)
  - The use of AI chatbot activities, henceforth AI (AI or non-AI, Model 5).
  - A cross-level interaction term between AI and Test Phase

### Qualitative analysis

- The interview data were analyzed using thematic analysis to identify recurring patterns and key themes within the participants' responses.

# RQ1. Discussion

## Impact of the GenAI tasks

Both the AI and non-AI groups significantly improved their post-EIT scores compared to their pre-test scores, even after controlling for pre-existing proficiency.

➡ **For both groups, TBLT-based ESL instruction was effective in improving L2 English speaking skills.**

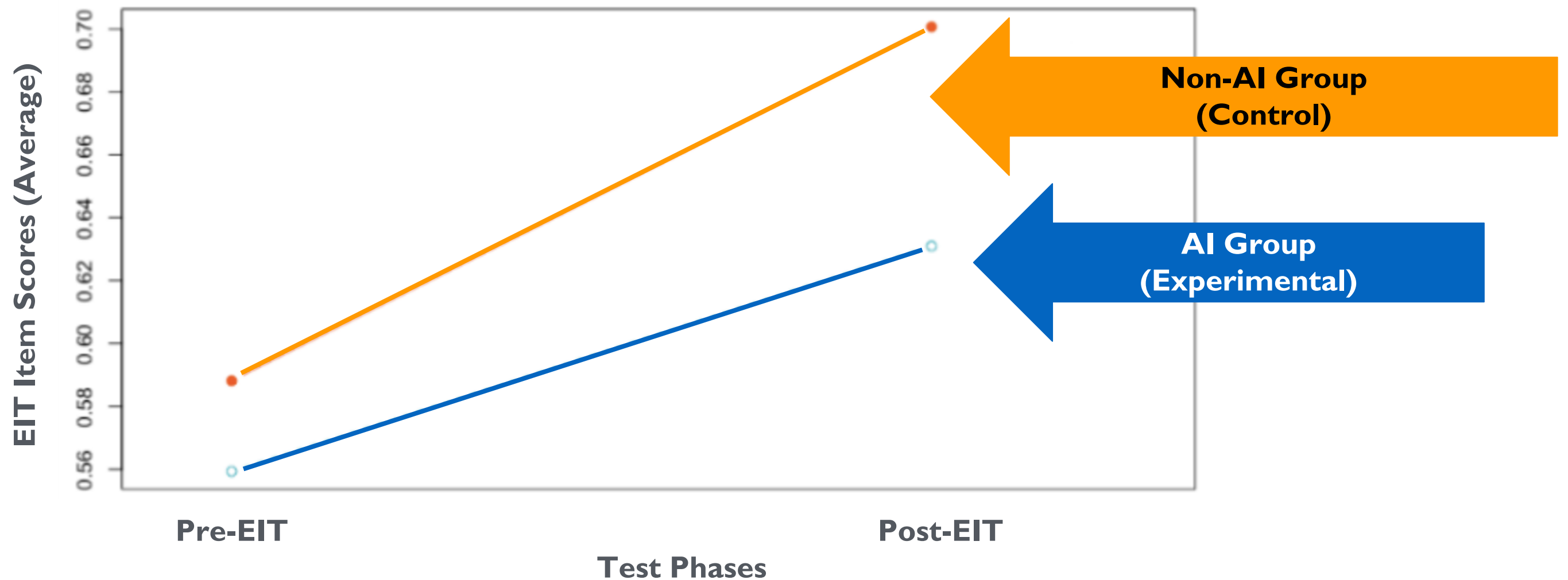
Neither the group difference nor its interaction with the test phase was significant, meaning that the improvement from pre- to post-test did not significantly differ between the groups



**AI-incorporated L2 tasks have the potential to serve as an effective alternative to person-to-person communication activities.**

# RQ1 Results

## RQ1. Impact of the GenAI tasks: Descriptive Statistics

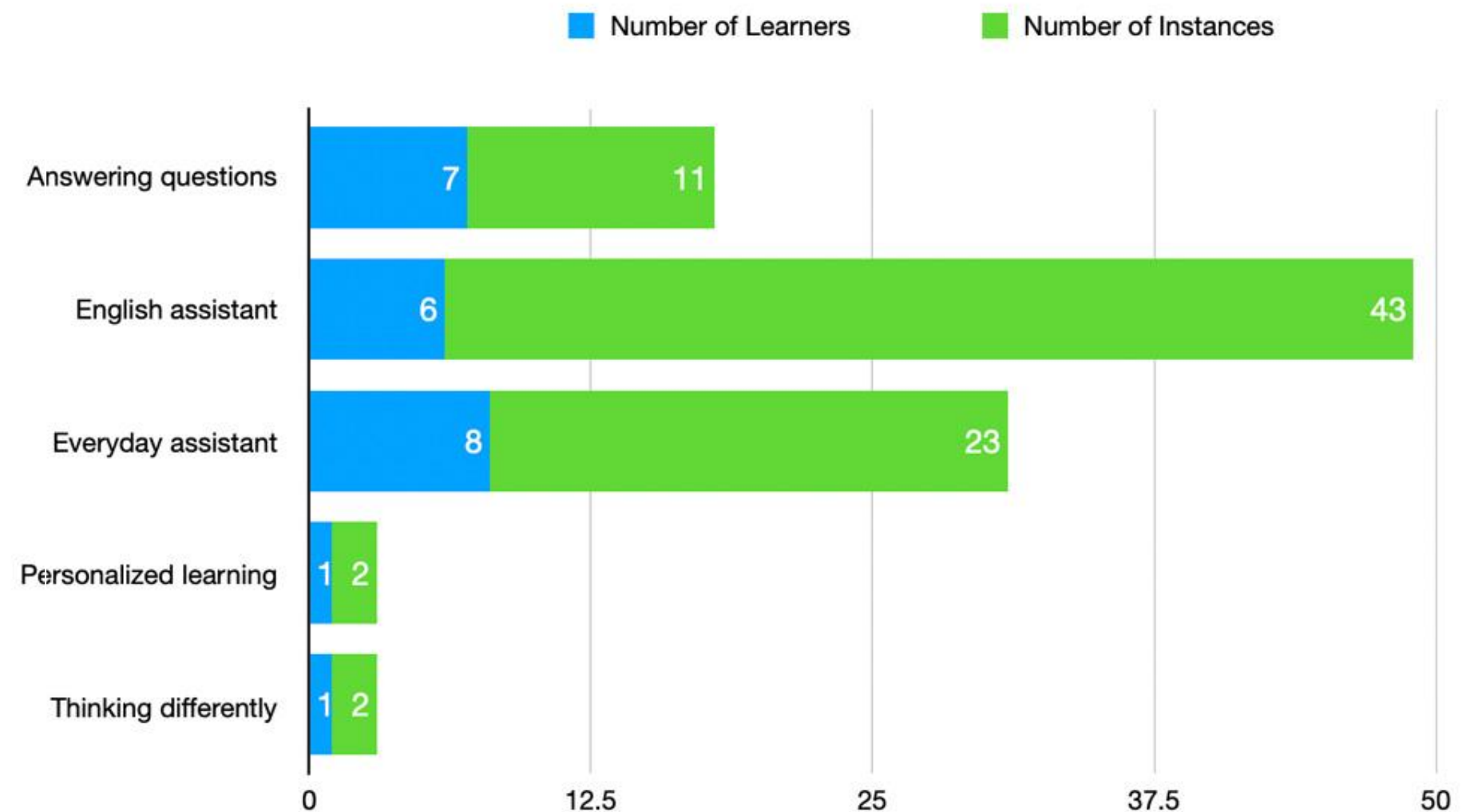


# RQ2. Results & Discussion

## RQ2. Student perspectives and learning experiences

### Affordances & Usefulness

- GenAI as a language assistant
- GenAI as an everyday assistant



# RQ2. Results & Discussion

## RQ2. Student perspectives and learning experiences

**Positive!**

**Interactive learning, engagement, accessibility, and tailored/instant feedback**

“It helps me when I listen to it and when I ask a question, it gives me the answer back. We [are] using ChatGPT as a learning tool and we ask [it] questions...ChatGPT gives us information and all the answers - a lot of information! You feel like you can talk with the person [and] it gives you all the answers [to] all of your questions.”

“ChatGPT has been a really great resource for me. I use ChatGPT - it's available 24/7. I can practice whenever it's convenient for me and get instant feedback on my writing, on my assignments. I have also engaged in conversations with ChatGPT to practice my conversation skills... it's just like having an English tutor at your finger[tip].”

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Thank you!

