



Learning and Teaching in Remote Settings

Sharing nonverbal cues to support communication.

Background

Teacher-learner communications plays a crucial role in education. Nonverbal cues such as gaze and gestures convey emotion, attention, and interest without words in face-to-face communication.

However, when the teacher and learners are physically separated, they communicate through videoconferencing systems. In this situation, interpreting each other's gaze and gestures can be challenging due to the limited view provided by webcams, which show only the face and part of the upper body. Despite the ability to convey these cues using webcam-based eye-tracking and gesture recognition, it remains to be explored how to effectively implement and make sense of these cues in remote environments to get one step closer to natural face-to-face communication.

Research Question

This thesis aims to develop a tool for sharing gaze and gesture cues to improve communication between the teacher and learners in video conferencing systems. You will evaluate the tool in terms of usability and explore the effects of nonverbal cue sharing on learning, co-presence, and interaction between teacher and students.

Based on Bachelor or Master level the thesis will be adapted.

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Focus

User-Centered Design
Process
Software Prototype
Eye-Tracking
Gesture Recognition