

## Research question

How does the presenter type (Human x 4 GenAI instructors) during adaptive segments affect math performance, engagement, and gaze behavior?

## Methods

Participants watched a video about square roots taught by a human instructor. During the lesson, two adaptive segments occurred that were taught either by the human version or 1 of the 4 GenAI instructors. Therefore, all participants saw the main video taught by the human version and the adaptive segments taught by the instructor of their condition. Even though problems were presented in the main video and adaptive segments, participants did not solve any problems during the lesson. During the video and adaptive segments, participants were probed for task-unrelated thought, difficulty disengaging, valence, and boredom. Additionally, participants rated the current instructor. Four probes occurred during the main video and two occurred during the adaptive segments. After the video, participants answered 10 math questions, the Indiana Mathematic Beliefs scale, a visual skills questionnaire, and demographic questions. Participants were randomly assigned to instructor condition.

## Summary of findings

The human instructor performed better than all 4 GenAI instructors in terms of engagement, ratings, and gaze behavior whenever there were significant differences.