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# The Influence of Instruction with Hand Gesture on Children's Visual Attention after Instruction

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## Abstract

Students benefit from instruction with hand gestures when learning to solve mathematical equivalence problems. However, the mechanism by which gestures support student's learning is unknown. One way that gestures may support student learning is by influencing students' visual attention. To investigate this, we taught children how to solve mathematical equivalence problems using video instruction with or without gestures and used eye-tracking to observe how gestures influenced visual attention when solving problems after instruction. When compared to children taught without gestures, children taught using instruction with gestures had increased attention to the answer blank, but not to the numbers in the problem. Children's visual attention to the blank also varied by problem features and whether children learned from the instruction. Attention to the answer blank may be an important characteristic of children's equivalence problem solving, and observing gestures can influence children's visual attention beyond the moment in which gestures are perceived.