



Nov. 6, 2001

Press Contact: William Harms  
(773) 702-8356  
[w-harms@uchicago.edu](mailto:w-harms@uchicago.edu)

## University of Chicago Researchers Find Gesturing Facilitates Thinking

University of Chicago researchers have a new explanation for why many people can't seem to keep their hands still when they're talking. "Talking with our hands," said Susan Goldin-Meadow, Professor of the Department of Psychology, "may actually make thinking easier." A study conducted by Goldin-Meadow and three colleagues asked people to remember a list of letters or words while explaining how they solved a math problem.

Goldin-Meadow found that the people who gestured while explaining remembered significantly more items than those who did not gesture. The impact of the findings, she said, could herald a change in conventional manners. "Your grandmother may have been wrong in this instance, it may not only be okay to move your hands while talking, it may be good for you," said Goldin-Meadow, whose research will appear in the article "Gesturing Lightens the Load" in the November issue of *Psychological Science*.

To understand the impact of gesture on cognition, Goldin-Meadow, Howard Nusbaum, Chair of the University's Department of Psychology, and project researchers Spencer D. Kelly and Susan Wagner, conducted a four-step experiment with 40 children and 36 adults.

The children were first asked to solve addition problems at a blackboard, while the adults were asked to solve factoring problems. Second, after solving each math problem, participants were given a list of items (words for children, letters for adults) to memorize. Third, all participants were asked how they arrived at their solutions to the math problems. The participants were asked to explain their math answers under two conditions "gesture permitted" and "gesture not permitted." Finally, after completing the math explanation, participants were asked to recall the list of items, as a way of measuring the cognitive load imposed by the explanation task.

The results on the memory task show that the adults and children remembered more than 20 percent more words and letters when they gestured while explaining how they solved the math problems, when compared to the condition when they did not gesture.

"These findings suggest that gesture reduces the cognitive load of explanation, freeing capacity that can be used on a memory task performed at the same time," Nusbaum said.

The researchers have several theories about why gesturing frees-up thinking resources. One theory is that gesture can divide the work of an explanation by using visual, spatial, or motor

representations rather than just verbal representations. "This might allow gestures to facilitate information processing and reduce effort," Nusbaum said.

<http://www-news.uchicago.edu/releases/01/011113.gesturing.shtml>  
Last modified at 03:39 PM CST on Tuesday, November 20, 2001.

---

University of Chicago News Office  
5801 South Ellis Avenue - Room 200  
Chicago, Illinois 60637-1473

(773) 702-8360  
Fax: (773) 702-8324  
[Contact Us](#)