Can adaptive prompting improve the collaboration of small face-to-face groups in math classrooms?

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Abstract

When a small group of students collaborate, learning gains are often proportional to the amount of co-construction in their dialogue. Co-construction (also called transactivity or co-explaining) is an observable behavior that meets two criteria: students add task content to the dialogue (i.e., they construct) and their construction builds off their partners contributions. Unfortunately, co-construction is uncommon. In our studies of students collaborating face-to-face in middle school math classrooms, less than 5% of their spoken dialogue was classified as co-construction. In order to increase the frequency of co-construction and raise learning gains, prior work has inserted prompts into text-based dialogue, but our FACT system is alone in trying to use prompting to improve spoken dialogues in classrooms. Results on the accuracy of FACTs collaboration detectors will be presented along with results from a pilot test of its prompting in 5 middle school classrooms.