# TRENDS, EMPHASES, AND POTENTIAL SHIFTS IN RESEARCH ON DISCUSSION IN MATHEMATICS TEACHING

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Although scholars tend to prefer discussion over recitation, traditional teacher-led recitation has been resistant to change. To counter this trend, leading discussions has recently been identified and studied as a core practice of mathematics teaching (e.g., Jacobs & Spangler, 2017). This study investigates research on discussion in mathematics teaching through a literature review. After two-stage search and initial screening, a total of 80 studies were included in the review and coded in terms of their focus, problem, methods, and main results. An additional layer of discussion-specific codes was then applied to identify whether and how studies define discussion, what phase (if any) of leading discussions they focus on, if they have an explicit focus on teacher moves, if they emphasize norms or classroom culture, and if they study the knowledge demands of teaching with discussion.

The studies vary in focus, and many only pay indirect attention to teaching with discussion. Few studies define what they mean by discussion, and many apply an implicit and all-encompassing understanding of discussion as any kind of group conversation. Among the studies that focus explicitly on leading discussions, many investigate what teachers do when orchestrating discussions. However, few studies consider how teachers develop a classroom climate for discussion over time. Most studies focus on actions of teachers rather than on the demands of teaching.

Over several decades, research on mathematics teaching has developed from process-product research to an increased focus on the role of content in teaching. Researchers have called for an additional shift from knowledge to knowing, and to studying the demands that are entailed in the special work of teaching (Ball, 2017). This present review of literature indicates that research on discussion in mathematics teaching is dominated by a focus on actions that teachers (can) perform while leading discussions, and a shift toward studying the work of leading mathematical discussions with its entailed demands can be beneficial also for this field. Another suggestion is to shift toward studying the work of establishing a classroom climate for discussion, instead of focusing mainly on the orchestration of discussions in classrooms where such a climate has already been established.

## References

Ball, D. L. (2017). Uncovering the special mathematical work of teaching. In G. Kaiser (Ed.), *Proceedings of the 13th International Congress on Mathematical Education* (pp. 11–34). Springer.

Jacobs, V. R., & Spangler, D. A. (2017). Research on core practices in K–12 mathematics teaching. In J. Cai (Ed.), *Compendium for research in mathematics education* (pp. 766–792). National Council of Teachers of Mathematics.