Project Summary

Connections and Retention

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Background

This study focuses on strategies for increasing student skills and vocabulary transference and retention.

Innovations

We share key innovations that were implemented in our classrooms that supported the increase in connections and retention. These innovations include:

- Big Ideas and Closure
- Affirmations and mindfulness in a math classroom
- Mindset Mondays
- Classroom Climate, Morale, and Team-Building
- Using Digital Learning Logs
- Concept Maps
- Connections Game
- ALGEO Lesson Explorations
- Classroom Timeline
- Vocabulary Exercises and Routines
- Trips and projects
- Project Geometry

Findings

Creating concept maps improved students' comprehension, retention, and critical thinking. They helped organize information, identify relationships, and deepen understanding of complex, connected topics. Students' confidence in applying concepts across contexts increased. Integrating concept maps empowered our students to be more active, strategic learners.

Timelines helped students connect ideas through the textbook's mathematical storyline. We created a timeline based on the chapter, problem, and concept as well as different "threads" of running through the book, such as breaking down shapes into triangles, similarity and scale factors, and slope. Threads helped students build skills and carry them from one topic to the next.

Routinely providing purposeful, embedded opportunities for students to pair vocabulary with diagrams and symbols resulting in students using words associated with the content.

Contribution

This paper provides teachers with actionable strategies for supporting students' skill transference and retention across topics throughout the year.

Disclaimer. CPM is glad to share the promising ideas produced through the work of the Teacher Research Corps. It is expected that teachers will rely on their knowledge of their students, the mathematics they are teaching, and the circumstances surrounding their specific teaching assignment when modifying their own behavior and selecting appropriate instructional strategies. A given strategy may have a positive effect on student learning in some situations and a negative effect in others. Please use your own best judgment as you continue to improve your teaching practice. ***See https://cpm.org/research/ for more about CPM's Teacher Research Corps.***