

Title: Strategies to Infuse Executive Function Supports into Middle Grades Math Classrooms
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Session Overview

Improving Executive Function (EF) skills is a powerful lever to support students in becoming proficient mathematics learners. Join us to learn how various strategies to strengthen and support EF skills in math classrooms have been implemented in math learning prototypes and how you can use these strategies to support math learning in your own classroom.

Executive Function skills (inhibitory control, cognitive flexibility, and working memory) are the core cognitive capacities that allow us to focus on what's important and ignore distractions, think flexibly to solve problems, and keep track of ideas in our minds. A compelling research base shows that EF skills are critical to learning math more effectively. EF skills have been shown to be most effective when strengthened and supported within the context of mathematics.

Executive functions allow students to have agency over their attention, emotions, and behavior to achieve the learning goals they set for themselves. Research shows EFs contribute to differential outcomes among groups of students (particularly along socioeconomic dimensions). To reach equity and access goals, EFs need to be intentionally strengthened and supported to increase opportunities for all students to learn math at the highest levels.

Participant Learning Outcomes & Session Agenda

First, the audience will participate in interactive activities that demonstrate the core components of executive function skills (participating in a working memory game, for example). During the second section of the workshop, participants will discuss the shared example strategies in small groups and work with co-speakers to think about how these strategies might apply in their own classrooms. Finally, participants will be given a sample classroom activity. They will practice infusing the EF strategies they have learned about into the activity to create an EF-infused math lesson. Participants will showcase their strategies by sharing with the entire audience.

[25 min] Participants will learn about executive function (EF) skills and be able to articulate the difference and importance of both strengthening and supporting EFs. They will also understand that every learner has EF skills, how to use asset based language to discuss EFs, and the relationship between EFs and equity in classrooms.

[20 min] Participants will learn strategies that are used to strengthen and support EFs in math classrooms, and engage with examples of those strategies. They will experience the direct training of EFs through digital and physical games that help students learn math while

developing EFs, and through EF lessons/activities that overlay onto curriculum. Participants will also engage with embedded supports that scaffold the development of EFs, such as in-the-moment reflection prompts and planning tools that help students develop their problem solving skills.

[15 min] Participants will discuss and make connections to their own classrooms.

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