

# Supporting Shifts in Teacher Mindsets Around Math and Language

March 2022

The MLL Good to Great experience is designed to create durable change in teachers' instruction by changing their beliefs about what students can achieve. We do this by supporting teachers in facilitating challenging tasks where students own most of the thinking. Moving towards a more student-centered math classroom can be really intimidating because teachers can feel like they are giving up control. Instead of telling students how to approach the challenging task, students have the opportunity to create their own solution paths.

This type of work can challenge deeply rooted beliefs about what it means to be a good math student, and it also challenges assumptions teachers may have about their multilingual learners. Sometimes teachers assume that multilingual learners cannot participate in certain math tasks because they do not yet have the language to fully comprehend what the problem is asking, or they assume that multilingual learners lack the linguistic skill and sometimes even the desire to participate in class discussions. To prepare and support teachers through this, the MLL Good to Great professional learning includes the following key components:

- Reflecting and sharing teachers' own math identities and how those affect the way they teach mathematics.
- Engaging in learning about the Pygmalion Effect and The Learning Pit.
- Reflecting on students' math and language journeys.

## Teacher's Math Identities

At the beginning of our professional learning, teachers were given the opportunity to draft and reflect upon their math stories. They were asked to think about their experiences with math in school, as well as how they felt about math and what implications that had on the choices they made about college and career. Teachers were given the opportunity to share their stories with other teachers. In doing this, teachers discovered that their math stories were not that unique, and they recognized that they did not want this to be their students' experience with math. We anchored the rest of our professional learning in this by having time to reflect on their own evolving math story and how it impacts the way they teach math.

## Pygmalion Effect

Another component of our professional learning involves lifting up the learning from the [Pygmalion Effect](#) (Rosenthal and Jacobs 1968). This groundbreaking 1966 study found that students achieved impressive results when the teachers believed they were destined for greatness. Teachers were pushed to consider if they had limiting beliefs about their MLL students' capabilities in math class. During the MLL Good to Great Intensive, teachers were given the opportunity to reflect on their expectations every day in grade-level groups. During the daily lesson, teachers saw what all students were capable of doing, and they reflected on how this may have differed from their expectations prior to the lesson. Their expectations of their students evolved during the MLL Good to Great intensive.

## The Learning Pit

We also introduced teachers to [The Learning Pit](#) that was developed by James Nottingham (2007). The Learning Pit illustrates the various stages that we go through when reacting to a challenge. Teachers were asked to consider how students may experience The Learning Pit in their classrooms, and, perhaps more importantly, they were asked to reflect on themselves in The Learning Pit throughout the MLL Good to Great intensive. By providing intentional points of reflection throughout this learning experience, teachers were asked to embrace and push through the struggle because they recognized that this was just part of the learning process.

## Student's Math and Language Identities

Throughout the MLL Good to Great Intensive, teachers were asked to consider who they were positioning as mathematically capable in their classrooms. At the end of each day, teachers reflected on which students shared their thinking that day and who had the opportunity to use language to communicate their ideas. For many teachers, they had a few go-to students that they always called on, and in most cases, they were not their MLL students. We challenged teachers to include their MLL students' voices the next day and be ready to share what they noticed. In doing this, teachers began to uncover some unproductive beliefs they held about their MLL students when they saw how capable they were and how easily they could utilize language supports.

Change is hard and many times, we ask teachers to change the way they teach without giving them the tools to support them through the change. By embedding supports in our MLL Good to Great Intensives that explicitly focused on shifting mindsets around math and MLL instruction, nearly two-thirds of all teachers had a positive shift in expectations after just one week.

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