NCSM

LEADERSHIP IN MATHEMATICS EDUCATION

Considerations *for* Critical Conversations

Transformational conversations can prove to be challenging. Cultural norms, implicit bias, unproductive beliefs and/or discomfort can distract or derail the conversation. This series is designed to serve as a starting point for leaders who endeavor to strengthen institutional culture by engaging stakeholders in transformational conversations. Each ***conversation*** *of the series is written to provide leaders with some background knowledge, tools, and resources as they prepare to engage with a specific sensitive topic.*

HAVING A CONVERSATION ABOUT ALL STUDENTS CAN LEARN

Topic: Believing *All Students* Can Learn

Audience: Central office mathematics leaders, building administrators, mathematics specialists, instructional coaches, mathematics teachers and mathematics teaching teams (school- or district-level)

PURPOSE OF THE CONVERSATION

The phrase, "*All students can* learn" is a forever pursuit, built on the foundation of continuous improvement, short- and long-term student success, and focused learning targets for student proficiency. Yet too often, as mathematics educators we deflect blame on others - students, parents, our colleagues, our school leaders, our school system, and our communities - to rationalize why our students can't learn mathematics.

In reality, and often unintentionally, many teachers of mathematics do *not* believe all students can learn the mathematics of the K-12 College and Career readiness curriculum described in the standards of most states and provinces. This conversation activity is designed to reveal beliefs about how the word *all* applies when it comes to the student learning of mathematics and consider actions that can challenge those beliefs. Further, the conversation focuses on how the relationships between a teacher and their students impacts the development of student identity and agency.

WHY HAVE THIS CONVERSATION

It is just what bold mathematics leaders do. When students are not performing as expected in mathematics, we ask teachers to "look in the mirror" and decide what else can they do to help our "not yet" students. We do not settle for anything less. We *expect* all students to soar. How can we claim all students should learn the guaranteed and viable mathematics curriculum at each grade level, and in each course, yet accept much less? Bold leaders help teachers overcome student learning barriers to mathematics success in each grade level or course.

Too often we take an observational, and not an ownership approach to the expectations of *all* students learning the intended, guaranteed, and viable K-12 mathematics curriculum. It is, in some ways unintentional, a way of protecting us from the painful reality of student failure to learn, while on our watch. Yet, it is a belief that is damaging to too many students and hijacks our power to make a difference.

The steady drumbeat of poor student mathematics performance provides the evidence that solidifies this often-unspoken belief. Yet, as mathematics education leaders, at what point of poor student performance do we finally become uncomfortable to say, enough? At what point do we lead the conversations, set the goals for improvement, create new levels of "Un-comfortableness" with those we lead, and inspire the drive toward new evidence of student learning (and a plan to achieve that evidence) never reached before in the community we serve?

CULTURAL NORMS THAT MAKE THIS A CHALLENGING BUT ULTIMATELY TRANSFORMATIONAL CONVERSATION

Self-efficacy references our *belief in our capability* to do what is expected of us. In this sense, do we *believe* we have the capability to help *all* students demonstrate evidence of learning the expected mathematics standards for the grade level or courses we teach and lead, despite community beliefs, traditions or conditions to the contrary?

Consider these often-accepted *non*-self-efficacy norms that as leaders we must soften and break down using evidence of student learning.

- **Non-Student Self-efficacy:** I have never been very good at *math. Why try?*
- **Non-Parent Self-efficacy:** I was never very good at math, much less this *new math. No wonder my child struggles.*
- **Non-Teacher Self-efficacy:** I am not able to teach math to *those* children. *They lack preparation, they don't try, they don't work hard, they don't speak the language, and they can't keep up.*
- **Non-Math Leader Self-efficacy:** I am not able to inspire *all* of my teachers. *I can't make them do the right work. I am just waiting for that teacher to retire or transfer out.*
- **Non-School Administrator Self-efficacy:** I have more urgent issues than *mathematics* to worry about. You have no idea how many issues I face every day. And let's face it, some kids just can't do math.

UNPRODUCTIVE BELIEFS YOU SHOULD BE PREPARED TO HEAR AND SUGGESTIONS FOR HOW TO RESPOND TO THEM

Unproductive Belief: Victim Speak: **All Kids Can Learn Mathematics, *IF*...**

There are so many reasons my (our) students are not learning mathematics, it is not my fault they are not learning, you don't understand the obstacles in front of me. I didn't create this problem, and I am sure not going to own it.

GROUNDING ACTIVITY ONE: ATTACK THE BELIEF

Purpose – The purpose of this activity is lead teachers through a process of reflecting on their existing bias's related to the statement, "*All students can learn mathematics*."

Audience – This activity is designed for use with mathematics teachers and teacher leaders.

Procedures

1. **Show teachers this prompt:** Ask them to fill in the end of the sentence *All Students Can Learn Mathematics*... with the choice 1, 2, 3, or 4 that best represents their belief for the students in their school. And ask them to write a brief explanation for their choice. They can only choose one.

ALL STUDENTS CAN LEARN MATHEMATICS ...
1) Based on their ability.
2) If they take advantage of the opportunity to learn.
3) And we will accept responsibility for their growth and motivation
4) And we will establish high standards of learning that we will expect all students to achieve

2. **Report out:** After a few minutes of quiet reflection, take a poll (digital or otherwise) that reveals their choice. Then ask teachers to quietly share their response choice with a partner to explain their thinking.
3. **Reveal the belief that underlies their choice:** Complete the activity by facilitating a conversation focused on each "choice-justification" answer below. Then, engage teachers in a discussion to develop a deeper understanding about stated beliefs and the associated justifications.

Activity Artifacts - Choice Justification Statements

Choice 1: All students can learn mathematics if they have the ability

All students can learn mathematics *if* they have the ability. This conditional statement reveals the belief that the teacher rejects the very premise *all* students can learn mathematics, and most likely sends messages to students that learning the expected math curriculum is not possible for some students.

The expected mathematics of the *Guaranteed and Viable Curriculum* (also known as the GVC) for mathematics at each grade level or course is abandoned by teachers through actions such as slowing the curriculum down, or not providing students access to certain standards, and shifts blame on previous year teachers, and seeks only to place students out of their grade level classroom, or course. This belief disavows the teacher from any responsibility to ensure *all* students learn.

This mindset manifests itself by making malpractice teaching decisions; slowing the curriculum down and not allowing students access to the *guaranteed* curriculum or worse, taking actions and using words that indicate no matter how hard the student tries, learning the *viable* (and thus doable for every child) mathematics curriculum is not going to be a successful experience for them.

This teacher belief will not change without direct evidence of improved student learning, modeled by others with the same type or set of students. When the veil of "its not the kids, it must be you" is lifted, change begins.

Choice 2: All students can learn mathematics if they take advantage of the opportunity to learn

This response also allows the teacher to shift blame onto the student, and once again disengage from the responsibility for student learning. "The child won't do their work, what do you want me to do?" is a common mantra. "I told them to see me after school, but they didn't show up. They just don't care."

This belief mostly reveals a lack of teacher self-efficacy- meaning the teachers' belief in his or her ability to meet expectations for student learning and inspire their students to do the work. Most likely, this teacher belief that All students can learn mathematics *if* they take advantage of the opportunity to learn**,** reveals a lack of personal confidence in alternative strategies to build student effort, confidence, competence and knowledge toward self-efficacy for success. Essentially, this response is a teacher confidence problem, a belief that is more easily shifted through your mathematics instruction professional development.

Rather than disconnecting from the lack of student work or effort, teachers with true self-efficacy move past that default response, and indicate: "You are in my class, this class is important. What we do here is important. Therefore you are important to me. If you do not do your work I will not be able to know whether you are learning the GVC. So, you can, and you will do your work, *with my help*."

In most cases, teachers with this belief about all students can learn, will begin to shift their belief through professional development focused on developing their personal confidence and competence for mathematics instruction and assessment. The teacher, working with colleagues, begins to own any evidence of "not yet" student learning.

Choice 3: All students can learn mathematics and we will accept responsibility for their growth

Notice the shift in this belief response from *"If"* to *"And We"*. It signals a belief that all students can learn *and we* will *own* their progress toward learning the mathematics GVC. Many teachers often choose this belief choice and should. The use of "we" here is important. It signals *we* pursue solutions to student learning, together. And we will own this problem. This is a great reveal, and one you should hope for.

Yet, it is also dangerous, in that it often plays out as disingenuous. The danger of a growth model belief is that it often lowers the math curriculum expectations bar, usually for our students of color or poverty. Without realizing it, we effectively indicate, "Well, I couldn't get all of the kids over the bar, but I helped some of them grow closer."

This belief allows us to feel good about our effort due to student improvement, and ignores the deeper question: Is the mathematics we want students to know in this grade level or course, *a movable target*? Are we allowed to lower the learning bar for *some* students? If yes, then we are unintentionally acting as gap creators, when we help some get over the bar, and accept that others will not.

This belief begins to shift over time, as you help teachers and teacher teams, with a more holistic, required and *just in time* response to intervention when students are not learning. The expected curriculum standards for mathematics in a grade level or course is constant, but the time to learn those standards needs to be variable.

Choice 4: All students can learn mathematics and we will establish high Standards of learning we will expect all students to achieve

In the end, this is the only acceptable response. And the more our teachers believe this response, the closer we move toward a commitment to *All students can learn*. Think of this as keeping the GVC bar high, accepting no excuses for not helping any student make it over that grade level or course-based curriculum bar, and every student will be viewed as a "not yet" student, given additional time and support to learn the expected standards as needed.

This response reveals complete ownership of inspiring student learning, a refusal to negotiate the bar of expected outcomes for the grade level or course, and an accountability to, confidence in, and competence toward the formative assessment feedback and action research that ensures a path to student learning.

GROUNDING ACTIVITY TWO: TRANSFORMATIVE ACTION TO SHIFT THE ALL BELIEF: COHERENCE AND ACTION

Purpose: The purpose of this activity is to engage teams in data discussions that build coherence and lead to action. Beliefs change through actions that result in evidence that defies the belief. In preparation for this activity, leaders should prepare sets of student performance data that is disaggregated by all student groups.

Audience – This activity is designed for use with mathematics teachers and teacher leaders.

Procedures

1. Group teachers together in grade-level or course-based teams. Provide multiple data points (local evidence of student learning – such as proficiency performance by standard or grade distributions by course) from the past three years, disaggregated by student group. Pose the question, "How do the data trends inform their teacher *team* performance, across all races, ethnicities, gender preference, language, etc.?" and facilitate a discussion on team member responses.

Discussion Support Resource

Data reveals current reality, without judgment. It reveals the truth about shortcomings to the mission of *all students can learn*. Data digs are never used to blame colleagues but rather to suggest a focus for our attention on mathematics teaching strategies that are working vs. those strategies that don't seem to be working as well. Data digs are not about the teacher as much as they are about sharing our best strategies to support all students leap over the learning bar. To move teachers (regardless of their current belief about all students can learn) leaders can use the following activity, as a routine of action, every unit, every month, every year.

2. Continue the data discussion by asking the teacher teams to answer the following four critical questions for *Coherence*:

1. What is it ***our team*** wants *all* students to know and be able to do? (Our confidence and competence)
2. How will ***our team*** know if all students know the GVC? (We assess student learning, together)
3. What will be ***our team*** response if some of our students don't know the GVC? (No bar lowering allowed. Required teacher team intervention for student learning)
4. What will be ***our team*** response if they do know the GVC? (How will we deepen learning)

3. Then ask the teachers to discuss and then set short- and long-term student performance goals, create plans for developing student self-efficacy, belonging, and validation, while working with each other to reach those goals. These goals must be aligned to the data shared.

4. Pose the following question to the team, "How will teachers and students celebrate their big and small victories along the way?" Facilitate a discussion of responses.

IN SUMMARY

As evidence of improved student learning begins to change upward, the belief *all* students can learn will follow. The continuous cycle - unit after mathematics unit - of teach, assess together, analyze effective teaching strategies, and then targeted interventions (targeted by standard and by student) as a teacher team is a forever pursuit. Slowly, and the more rapidly the results will inch you closer to the belief.

The *All Students Can Learn Mathematics* mindset reveals that learning is not a meritocracy. There should not be winners and losers, as in a sporting event. Learning the fifth-grade mathematics standards is not supposed to have losers each year. Otherwise, all does not mean all. So, work together, make the grain size of change the teacher team and not the individual teacher. Above all, set up a system that pursues, every "not yet" student, and give them the support needed to get up and over the mathematics curriculum bar.

ADDITIONAL RESOURCES TO PREPARE FOR THIS CONVERSATION

DuFour, R. (2004). *What is a Professional Learning Community?* Educational Leadership. ASCD. Accessed at http://www.ascd.org/publications/educational-leadership/may04/vol61/numo8/What-Is-a-Professional-Learning-Community¢.aspx

Mattos, M. (2019). *A Pivotal, Powerful Assumption: All Students Can Learn at High Levels* accessed at https://www.solutiontree.com/blog/assuming-all-students-can-learn/

Muhammed, A. & Cruz, L. (2019). *A Time For Change: 4 Essential skills for Transformational School and District Leaders*. Bloomington, IN: Solution Tree press.

National Council of Supervisors of Mathematics. (2015). Improving student achievement by infusing highly effective instructional strategies into Multi-Tiered Support Systems (MTSS)–Response to Intervention (RtI) Tier 2 instruction. Accessed at www.mathedleadership.org/member/docs/resources/positionpapers/NCSMPositionPaper15.pdf

CONTRIBUTORS

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