



From Student Engagement to Academic Success in Mathematics

Charter School Conference and School Choice Summit

October 2025



FLORIDA DEPARTMENT OF
EDUCATION
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Icon Guide

Icon on the Slide	Meaning on the Slide
	Denotes opportunity for writing in Participant Guide
	Denotes opportunity for discussion
	Denotes opportunity for engaged activity
	Denotes opportunity for the use of technology to enhance learning

Session Objectives

Participants will:

- Identify instructional strategies and practices to increase active engagement and connections to Florida's Formula for Success.
- Dive into the Mathematical Thinking and Reasoning Standards (MTRs) and MTR Coaching Tool to better understand how these tools relate to student engagement in the mathematics classroom.
- Discuss what student engagement looks like in a mathematics classroom.



Florida's Formula for Success



FORMULA FOR SUCCESS

$$5 + 5 + T1 + T2 + T3$$

5 CHARACTERISTICS OF BENCHMARKS- ALIGNED, HIGH- QUALITY INSTRUCTION

Horizontally and Vertically Aligned
Balanced Instructional Approaches
Student-Centered
Instruction Informed by Data (Assessments)
Implements Tiered Instruction

5 ASSESSMENT TYPES TO GATHER STUDENT DATA

Screening
Progress Monitoring
Diagnostic
Formative
Summative

T1 CORE INSTRUCTION FOR ALL STUDENTS

Systematic
Scaffolded
Differentiated
Inquiry-Based
Explicit
Progress Monitoring

T2 SUPPLEMENTAL INSTRUCTION FOR SOME STUDENTS

Systematic
Small Group Scaffolded Instruction
Differentiated Opportunities to Practice Targeted Skill(s)
Guided Inquiry-Based
Explicit
Frequent Progress Monitoring
Occurs in Addition to Tier 1

T3 INTENSIVE INSTRUCTION FOR FEW STUDENTS

Systematic
Smaller Group or One-One Scaffolded Instruction
Differentiated Guided Practice
More Guided Inquiry-Based
Explicit
More Frequent Progress Monitoring
Occurs in Addition to Tier 1 and/or Tier 2

Successful implementation of Florida's Formula for Success includes ways to provide access for ALL students, including students with disabilities (SWD) and English Language Learners (ELL), and incorporates Universal Design for Learning (UDL) principles. Additionally, corrective feedback occurs in all instructional approaches.

**The Formula for Success supports benchmarks-aligned, high-quality instruction in Mathematics, Civics, Science, Computer Science, Social Studies, Health and Physical Education.*

Characteristics of Benchmarks-Aligned, High-Quality Instruction (BAHQI)

- Horizontally and Vertically Aligned
- Balanced Instructional Approaches
- Student-Centered
- Instruction Informed by Data (Assessments)
- Implements Tiered Instruction

Horizontally and
Vertically Aligned

Balanced Instructional
Approaches

Student-Centered

Instruction Informed by
Data (Assessments)

Implements Tiered
Instruction

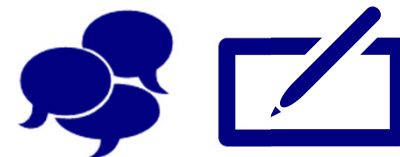




Student-Centered Instruction in the Mathematics Classroom

What Does Student-Centered Instruction Mean to You?

- Student-centered instruction occurs when teachers create both collaborative and independent classroom learning environments in which students are **actively engaged** in challenging mathematical tasks, encouraging them to be risk-takers and to persevere in their learning.
- What does **student engagement** look like in a mathematics classroom?





Mathematical Thinking and Reasoning Standards (MTRs)

What are the Mathematical Thinking and Reasoning Standards (MTRs)?

- The B.E.S.T. Standards for Mathematics should be taught through the lens of the MTRs embedded throughout every lesson.
- Bulleted language of the MTRs was written for students to use as self-monitoring tools during instruction every day.
- MTRs are addressed at multiple points throughout the year, to gain mastery of mathematical skills by the end of the year and build upon these skills as they continue in their K-12 education.



Engaging Students Through the Lens of MTRs

- MA.K12.MTR.1.1 Actively participate in effortful learning both individually and collectively.
- MA.K12.MTR.2.1 Demonstrate understanding by representing problems in multiple ways.
- MA.K12.MTR.3.1 Complete tasks with mathematical fluency.
- MA.K12.MTR.4.1 Engage in discussions that reflect on the mathematical thinking of self and others.
- MA.K12.MTR.5.1 Use patterns and structure to help understand and connect mathematical concepts.
- MA.K12.MTR.6.1 Assess the reasonableness of solutions.
- MA.K12.MTR.7.1 Apply mathematics to real-world contexts.

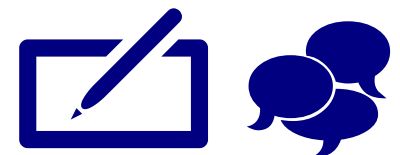
MTR Coaching Tool

- Look over the MTR Coaching Tool.
- Discuss in your group what you notice.
- Respond in the Participant Guide.



MTR Coaching Tool

- This tool contains Student and Teacher Moves aligned to the MTRs.
- It provides examples that demonstrate the embedding of the MTRs within the mathematics classroom and how some MTRs could be incorporated into student learning and instruction, keeping in mind the benchmark(s) that are the focal point of the lesson or task.





Student Engagement in the Mathematics Classroom

Non-Examples and Examples | Pair Up | Popcorn Share Out

1. What are non-examples of student engagement in a mathematics classroom?
2. What are examples of student engagement in a mathematics classroom?



Collaborative Activity: Student Engagement

- Divide into one of the 4 mathematics groups:

Grades K-2

Grades 3-5

Grades 6-8

Grades 9-12

- Title the chart paper with your grade band.
- Divide the chart paper into 4 labeled quadrants and collaboratively respond to the questions posed on the next slide.
- Be prepared to share.



Collaborative Activity: Student Engagement

- Questions for each quadrant:
 - I. What are some **barriers** to student engagement in the classroom?
 - II. How can the intentional embedding of the **MTRs** enhance student engagement?
 - III. How can we, as teachers and leaders, **strengthen student interest**?
 - IV. How can teachers use the **characteristics** of benchmarks-aligned, high-quality instruction and balanced **instructional approaches** to cultivate a productive and engaging learning environment for our students?



Collaborative Activity: Student Engagement

Mathematics Grade Group	
II. MTRs	I. Barriers
III. Strengthening Student Interest	IV. Characteristics of BAHQI and Instructional Approaches



Gallery Walk | Collaborative Activity: Student Engagement

- During the gallery walk use sticky notes to leave any a-ha's, questions or feedback you have for that group.





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Reflection

Reflection

- Why is student engagement important?
- How can understanding, using and planning for MTRs intentionally throughout mathematics instruction help increase student engagement, student learning and academic success in the mathematics classroom?
- How can you incorporate and embed active student engagement into your mathematics classrooms?





How Can We Support You?

We Want Your Feedback!

Access the Bureau of Standards and Instructional Support (BSIS) professional learning feedback survey using the QR code below.



Contact us!

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Contact Us!

B.E.S.T. Mathematics Coaches

- Barbie Hartsfield, Director
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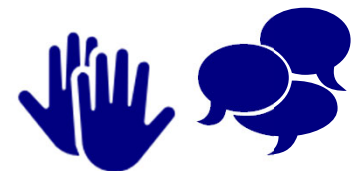
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MTRs and Student Engagement

MTRs and Student Engagement

- Using the MTRs and the information on your group poster, identify which MTRs were represented.
- Do this by placing the MTR *number code* next to the items listed on your poster.



Collaboration Activity

- In groups of 3-4, using chart paper, create a display of the information listed below.
- Highlight instructional strategies (from the previous poster activity) that can be used to increase student engagement.
- Connect these strategies to Florida's Formula for Success, including the following:
 1. Benchmarks-aligned, high-quality instruction (encompassing the five characteristics).
 2. Effective use of assessments to guide instructional decisions.
 3. Tiered supports to meet the needs of all learners.

