



From Student Engagement to Academic Success in Mathematics

Florida Organization of Instructional Leaders





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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:

Grade Bands
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.





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!

Office of Mathematics and Sciences

- Courtney Starling, Director
 - Courtney.Starling@fldoe.org
- Natalie Alday, K-12 Mathematics Specialist
 - Natalie.Alday@fldoe.org
- Suzanne Fielder, K-12 Mathematics Specialist
 - Suzanne.Fielder@fldoe.org
- William Anthony Severson, K-12 Mathematics Specialist
 - William.Severson@fldoe.org
- Nicole Dissmore, K-12 Sciences Specialist
 - Nicole.Dissmore@fldoe.org

Contact Us!

B.E.S.T. Mathematics Coaches

- Barbie Hartsfield, Director
 - Barbie.Hartsfield1@fldoe.org



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