

Exploring Expressions, Equations, and Statistics

March 6, 2019, 1:00 p.m.–4:00 p.m. (For Administrators)

March 7, 2019, 9:00 a.m.–4:00 p.m. (For Teachers)

March 8, 2019, 9:00 a.m.–1:00 p.m. (For Teachers)

Mississippi Construction Education Foundation (MCEF) Classrooms
5165 Old Brandon Road, Pearl, MS

Day 1 (Administrators)

1:00 p.m. **Welcome, Introductions, and Objectives** Dr. Phyllis Underwood

The goals for this bridge event are to:

- Expose administrators to common misunderstandings and instructional strategies for teaching expressions and equations through student work
- Expose administrators to strategies used to teach students how to evaluate and compare different strategies for solving problems
- Model for administrators how to monitor and reflect on the discussion process to articulate the reasoning behind strategy choice and identify which strategy presented the most efficient means of obtaining the solution
- Discuss student misconceptions and over-generalizations and how they impede student learning
- Provide administrators with a listing of resources supported by the What Works Clearinghouse and the National Council for the Teachers of Mathematics

1:05 p.m.	<p>Research in the Area of Algebraic Reasoning and Introduction to the Practice Guide, <i>Teaching Strategies for Improving Algebra Knowledge in Middle and High School Students</i></p> <ul style="list-style-type: none"> ▪ Overview of Research Evidence on Algebraic Reasoning ▪ Provide administrators with overview of using multiple strategies in a way that will allow them to compare the efficiency of solution strategies and the importance of students being able to articulate the reasoning behind their methods 	Dr. Tim Jacobbe
2:00 p.m.	<p>Overview of Expressions and Equations for Administrators</p> <p>Provide administrators with materials for teachers and practice opportunities so they are better prepared to support teachers implementing the suggested methods</p>	Dr. Tim Jacobbe
2:45 p.m.	<p>Overview of Statistics for Administrators</p> <p>Provide administrators with materials for teachers and practice opportunities so they are better prepared to support teachers implementing the suggested methods</p>	Dr. Tim Jacobbe
3:30 p.m.	Questions and Wrap Up	Dr. Tim Jacobbe
3:55 p.m.	Stakeholder Feedback	Dr. Phyllis Underwood

Day 2 (Teachers)

- 9:00 a.m. **Welcome, Introductions, and Objectives** Dr. Phyllis Underwood
REL Southeast
- The goals for this bridge event are to:
- Expose teachers to common misunderstandings and instructional strategies for teaching expressions and equations through student work
 - Help teachers learn how to teach students to evaluate and compare different strategies for solving problems
 - Model for teachers how to monitor and reflect on the problem-solving process to articulate reasoning behind strategy choice and identify which strategy presented the most efficient means of obtaining the solution
 - Discuss student misconceptions and overgeneralizations and how they impede student learning
 - Provide teachers with a listing of resources supported by the What Works Clearinghouse and the National Council for the Teachers of Mathematics
- 9:05 a.m. **Research in the Area of Algebraic Reasoning and Introduction to the Practice Guide, *Teaching Strategies for Improving Algebra Knowledge in Middle and High School Students*** Dr. Tim Jacobbe
- 9:30 a.m. **In-depth Examination of Recommendation 1 of the Algebra Practice Guide** Dr. Tim Jacobbe
- Highlight the importance of recommendation 1 – **Use solved problems to engage students in analyzing algebraic reasoning and**

strategies

- Interpreting Equations
- Engage participants in activities that highlight this approach

11:30 a.m. Lunch

12:30 p.m. **In-depth Examination of Recommendation 2 of the Algebra Practice Guide** Dr. Tim Jacobbe

- Highlight the importance of recommendation 2 – **Teach students to utilize the structure of algebraic representations**
- Solving Linear Equations
- Engage in activities that highlight this approach

2:30 p.m. **Comparing Value for Money** Dr. Tim Jacobbe

3:00 p.m. **Lines and Linear Equations** Dr. Tim Jacobbe

3:30 p.m. **Debrief and Reflection** Dr. Tim Jacobbe

Day 3	(Teachers)	
9:00 a.m.	Overview of Statistics Standards	Dr. Tim Jacobbe
9:30 a.m.	In-depth Examination of Recommendation 3 of the Algebra Practice Guide <ul style="list-style-type: none"> ▪ Highlight the importance of recommendation 3 – Teach students to intentionally choose from alternative algebraic strategies when solving problems ▪ Formulating Questions ▪ Engage in activities that highlight this approach 	Dr. Tim Jacobbe
10:30 a.m.	In-depth Examination of Recommendations 1 and 2 of the Algebra Practice Guide with emphasis on Statistics Standards Connected to the Algebra Curriculum <ul style="list-style-type: none"> ▪ First Names – Distributions ▪ Family Size – MAD ▪ Comparisons of Distributions 	Dr. Tim Jacobbe
12:30 p.m.	Debrief and Reflection	Dr. Tim Jacobbe
12:55 p.m.	Stakeholder Feedback	Dr. Phyllis Underwood