

## Evidence-Based Math Practices Professional Development:

Primary Facilitator: Dr. Brad Witzel, PhD

The general plan for the Evidence-Based Math Practices program includes these components:

Session	1	2	3	4	5
<b>Title</b>	Opportunities for Growth	Lesson Preparations	In-class Coaching	Problem Solving	In-class Coaching
<b>Details</b>	<ol style="list-style-type: none"> <li>1. Discussion on who struggles and why versus who is sufficient in math and why</li> <li>2. Evidence-based practices versus anecdotal findings</li> <li>3. Aligning Interventions to students' needs</li> </ol>	<ol style="list-style-type: none"> <li>1. Bridging the Arithmetic to Algebra Gap</li> <li>2. Vertical and Horizontal Planning</li> <li>3. Cognitive Science meets Mathematics</li> <li>4. Systematic Lesson Planning Design</li> </ol>	<ol style="list-style-type: none"> <li>1. Teachers will provide plans</li> <li>2. Professor(s) observe and record notes on observation report</li> <li>3. Teachers individually meet with professor(s) to reflect and set goals</li> </ol>	<ol style="list-style-type: none"> <li>1. Math as a Language</li> <li>2. Problem Solving in Math</li> <li>3. Retention of math content</li> <li>4. Math across the Curriculum</li> </ol>	<ol style="list-style-type: none"> <li>1. Teachers will provide plans</li> <li>2. Professor(s) observe and record notes on observation report</li> <li>3. Teachers individually meet with professor(s) to reflect and set goals</li> </ol>
<b>Suggested Readings</b>	IES practice guides Witzel & Little, Chapter 1 Ma Chapters 1-4	Witzel (2016) Ch. 2 and 4 Meta-Analyses on Instruction		IES practice guides	
<b>Assignments</b>	<ol style="list-style-type: none"> <li>1. Reflection on where they struggled in learning and why</li> <li>2. Compare and contrast evidence-based approaches with anecdotal positions</li> <li>3. Practice evidence-based approaches with place value, operations, and fractions</li> <li>4. Develop formative assessment protocol for upcoming content</li> </ol>	Pre – Reflect on assessment data <ol style="list-style-type: none"> <li>1. Map concerns for each grade or course level</li> <li>2. Link instructional steps from one concept to the next</li> <li>3. Link instructional steps from one grade or course to the next</li> <li>4. Match instructional needs to students' learning stage</li> <li>5. Design lesson plan for upcoming content</li> </ol>	<ol style="list-style-type: none"> <li>1. Lesson plan</li> <li>2. Reflection based on the observation report and coaching</li> </ol>	<ol style="list-style-type: none"> <li>1. Develop math terminology visuals</li> <li>2. Align problem</li> </ol>	