

Mindset Matters- Exploring Mindset in the Math Classroom

A CVEDC course with 2 graduate credits (*optional*) from St. Michael's College

Course Syllabus

Course Title: Mindset Matters- Exploring Mindset in the Math Classroom

Credits: 2 graduate credits from St. Michael's College (*optional*)

Course code #:

Time & location:

June 23rd, 24th, & 25th from 9:00-4:30 (online- synchronous & asynchronous)

Additional 2.5 hours of asynchronous work prior to July 3rd

Instructor & contact information:

Karen Lehning

GEMS Instructional Leader, Grades 3-6

Email: klehning@fwsu.org

Overview :

This 2-graduate credit course will explore the impact of both teacher and student mindset on the math classroom through a series of synchronous and asynchronous activities. Participants will read and discuss current research on growth mindset in an effort to understand how mindset impacts students beliefs about mathematics. Throughout this course participants will gain a better understanding of the strategies that can help shift students negative perceptions about mathematics. Through both whole group and individual work sessions we will dive into rich mathematical tasks and activities that will actively engage students in meaningful learning opportunities. Course participants will leave this

course with resources they can use to build a culture in the math classroom that supports a growth mindset.

Course Elements:

- Online platform- Zoom (a link will be provided to participants)
- Synchronous and asynchronous learning opportunities
 - Virtual whole group sessions (not to exceed 90 minutes per session)
 - Individual work time
 - Wellness/Brain Breaks
 - Virtual Office hours available for the instructor
- Access to a Google Website that contains all course materials.

Course Objectives:

1. Participants will build an understanding of the differences between a fixed and growth mindset by exploring the work of Carol Dweck and Jo Boaler.
2. Participants will evaluate and assess their own mindset to uncover beliefs and assumptions about how we learn mathematics.
3. Participants will learn how embracing mistakes can impact student beliefs about how we learn mathematics.
4. Participants will gain a better understanding of how to implement practices that encourage a growth mindset in the math classroom.
5. Participants will design a series of activities that will move students toward a growth mindset.
6. Participants will explore the use of low-floor, high-ceiling tasks and how to incorporate tasks in the math classroom.
7. Participants will engage in whole class and small group discussions to challenge and/or affirm beliefs about mathematics education.

Assigned Readings:

Boaler, J., & Dweck, C. S. (2015). *Mathematical mindsets : Unleashing students' potential through creative math, inspiring messages and innovative teaching*. Chichester: John Wiley & Sons, Incorporated.

Additional Readings:

Boaler, J. (2015, January 28). Fluency Without Fear. Retrieved from <https://www.youcubed.org/evidence/fluency-without-fear/>

Dweck, C. (2015). Carol Dweck revisits the “Growth Mindset.” Education Week, 35(5), 20-24.

Dweck, C. (2016). Mindset. New York: Random House. (*optional*)

Course Requirements:

- Attend all sessions
- Actively participate in class discussions & activities
- Complete assigned readings
- Complete class reflections
- Complete final course assignments (see below)

Assignments:

Course Readings & Reflections

- Read the assigned text and keep a journal highlighting the big ideas presented in the book along with any questions or pondering you have as a result of the research.
- Bring your journal to each class meeting to use during small group discussions.
- Take notes about how your thinking has changed or affirmed as a result of the group discussions. Make notes in your journal.
- Write a final 1 page reflection that captures how your thinking has changed, or your thoughts have been affirmed through the course readings and discussions. Note any lingering questions.
- To be submitted to the instructor by **July 3rd.**

Final Course Project

Based on insight gained about the importance of mindset in the math classroom, participants will design a series of activities that can be used in the classroom to promote a growth mindset.

1. Create a collection of **4-5 activities** that can be used in the math classroom (or with small groups of students) to encourage a growth mindset.
 - Provide an outline of each activity (template will be provided)
 - Organize activities in either a digital or paper format.
2. Present activities to a small group (on the final day of the course) in order to receive feedback.
3. Use the feedback provided by course participants to make any necessary changes or adjustments to the activities.
4. Final product to be submitted to the instructor by **July 3rd**.

Course Assessment:

The final course grade will be based on the participation, assignments, and accomplishment of the course objectives.

Participation & Attendance 20%

Reading & Reflections 30%

Final Project 50%

Proposed Course Topics

(subject to change)

Day #1	
9:00	Virtual Session #1 (<i>synchronous</i>) <ul style="list-style-type: none">• Introductions & Goals• Assessing our own mindsets• Fixed vs. Growth Mindset

	<ul style="list-style-type: none"> ○ Brain Science
10:30	Work Session #1 (<i>asynchronous</i>) <ul style="list-style-type: none"> ● Math Task ● Padlet Activity
11:30-12:30	Lunch & Wellness Time
12:30	Virtual Session #2 (<i>synchronous</i>) <ul style="list-style-type: none"> ● The Power of Mistakes- <i>why do they matter?</i>
1:30	Work Session #2 (<i>asynchronous</i>) <ul style="list-style-type: none"> ● Creating a culture that values mistakes
2:45	Brain Break
3:00	Closing Session <ul style="list-style-type: none"> ● Share ● Pluses & Deltas

Day #2	
9:00	Virtual Session #3 <ul style="list-style-type: none"> ● Math in Nature
10:30	Work Session #3 <ul style="list-style-type: none"> ● Math in Nature Activity
11:30-12:30	Lunch & Wellness Time
12:30	Virtual Session #4 <ul style="list-style-type: none"> ● Share- Math in Nature Presentation ● Rich Mathematical Tasks- <i>what makes it a rich mathematical task? where do I find them?</i>
1:45	Work Session #4 <ul style="list-style-type: none"> ● Math Task ● Youcubed Work

2:45	Brain Break
3:00	Closing Session <ul style="list-style-type: none"> • Share- Math Tasks • Pluses & Deltas

Day #3	
9:00	Virtual Session #5 <ul style="list-style-type: none"> • Access & Equity- <i>making math accessible to all students</i>
10:30	Work Session #5 <ul style="list-style-type: none"> • Article • Padlet Activity
11:30-12:30	Lunch & Wellness Time
12:30	Virtual Session #6 <ul style="list-style-type: none"> • Next steps- <i>What now? How do I create a growth mindset classroom?</i>
1:30	Work Session #6 <ul style="list-style-type: none"> • Mindset Tool Kit • Final Self Reflection
2:30	Brain Break
2:45	Closing Session <ul style="list-style-type: none"> • Share • Pluses & Deltas