

# Exploring Mindset in the Math Classroom

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

## Course Syllabus

**Course Title:** 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 8:30-4:00*
- *Location: CVEDC iClassroom, 123 Ethan Allen Ave. Dupont Hall, Suite 212, Colchester, VT 05445*

### Instructor & contact information:

Karen Lehning  
FWSU Math Teacher Leader Grades 3-5  
802-233-7981 [klehning@fwsu.org](mailto:klehning@fwsu.org)

### Overview :

This 2-graduate credit course will explore the impact of both teacher and student mindset on the math classroom. 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. Participants will diving into rich mathematical tasks and activities that will actively engage students in meaningful learning opportunities. Course participants will be leave this course with resources they can use to build a culture in the math classroom that supports a growth mindset.

### 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 assigned text and keep a journal highlighting the big ideas presented in the book along with any questions or pondering you have as 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 activities that can be used in the classroom to promote a growth mindset.

1. Create a collection of **6 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. Create a final product to be submitted by 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

Session	Topics
<b>Monday, June 23rd</b>	<ul style="list-style-type: none"><li>• <b>Fixed vs. Growth Mindset-</b> <i>how are they different?</i></li><li>• <b>Mistakes-</b> <i>why do they matter?</i></li><li>• <b>Math in Nature</b> <i>(participants will complete a small group project)</i></li></ul>
<b>Tuesday, June 24th</b>	<ul style="list-style-type: none"><li>• <b>Rich Mathematical Tasks-</b> <i>what makes it a rich mathematical task? where do I find them?</i></li><li>• <b>Access &amp; Equity-</b> <i>making math accessible to all students</i></li><li>• <b>Small Group Work-</b> <i>collaboration &amp; communication in the math classroom</i></li></ul>
<b>Wednesday, June 25th</b>	<ul style="list-style-type: none"><li>• <b>Assessment-</b> <i>is it different in the growth mindset classroom?</i></li><li>• <b>Next steps-</b> <i>What now? How do I create a growth mindset classroom?</i></li></ul>