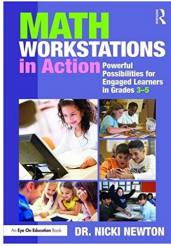


Math Workstations in Action (3-5)



Instructor: Dr. Nicki Newton

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Office Hours: Virtual office hours are by appointment. We can meet through virtual face to face conference or by phone. Email me for an appointment.

Required Text/Materials:

1. Math Workstations in Action by Dr. Nicki Newton
2. Links will be provided throughout the course for suggested readings and activities

Course Description: Math Workstations in Action is a course designed to explore how to design, set-up, implement and evaluate math workstations. Throughout the course we will discuss various models and what teachers are trying in their own classrooms. The sessions will follow the chapters in the book.

Course Goals/Student Learning Outcomes: The goal of this course is that teachers fully understand and can implement Math Workstations by the end of the course. Teachers should be able to describe what it is, how to do it, how to organize the classroom, how to manage the math workstations, how to implement the structure of math workstations with their current curriculum and how to assess students in math workstation work and to evaluate their effectiveness in using this instructional strategy.

Instructional Methods: Throughout this course we will use a variety of instructional methods, including mini-lectures, discussions, readings and videos.

Grading: Your grade will be based on the following percentages:
You must get at least 75% to pass the class.

Introductory survey & Preassessment – Describing your class currently. Discussing current knowledge about math workstations.	20%
Online Quizzes – Quizzes on various modules throughout the course	25%
Final Exam –Math Workstation Exam	30%
Completion of all modules	25%

Important Dates: You have 90 days to complete the course upon initiation of the course.

Academic Integrity: Please make sure that all your work is your own. You are expected to do your own work and not plagiarize from the work of others. The work is to be reflective of the theories and concepts that we study and the implementation with your class.

Module 1– 1.5 hour*	<p>Place for Purposeful Practice ESSENTIAL QUESTIONS: What is a math workstation? Why do we use them? How do they scaffold student achievement? Reflection: <i>What is the purpose of math workstation? How do we ensure that they provide meaningful engagement for all students? What is the role of differentiation in workstations?</i></p>
Module 2– 1.5 hour*	<p>Workstation Management ESSENTIAL QUESTIONS: How do I organize workstations? Reflection: <i>What are key components of any workstation?</i></p>
Module 3– 1.5 hour*	<p>Fluency Workstations ESSENTIAL QUESTIONS: What are the components of the fluency workstation? see operation games: https://www.multiplication.com/ https://www.mathplayground.com/games.html http://www.math-play.com/ Reflection: <i>How does the framework of concrete, pictorial and abstract inform the fluency workstation?</i></p>
Module 4– 1.5 hour*	<p>The Word Problem Workstation</p>

	<p>ESSENTIAL QUESTIONS: What are the components of the word problem workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station?</p> <p>Links: http://gregtangmath.com/wordproblems https://www.mathplayground.com/thinkingblocks.html</p> <p>Reflection: <i>What is the purpose of the word problem workstation? How does the framework of concrete, pictorial and abstract inform the fluency workstation?</i></p>
Module 5– 1.5 hour*	<p>Vocabulary and Writing Workstations</p> <p>ESSENTIAL QUESTIONS: What are the components of the vocabulary and writing workstations? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station?</p> <p>Links: https://www.spellingcity.com/math-vocabulary.html http://www.discoveryeducation.com/free-puzzlemaker/?CFID=355277&CFTOKEN=12766806</p> <p>Google: Building a Bridge to Academic Vocabulary in Mathematics</p> <p>Reflection: <i>What is the purpose of the vocabulary and writing workstation? What does the research tell us about teaching and learning vocabulary and how does this inform the workstation?</i></p>
Module 6– 1.5 hour*	<p>Digital Workstations</p> <p>ESSENTIAL QUESTIONS: How do we meaningfully integrating digital aspects throughout workstations? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station?</p> <p>Links: https://web.seesaw.me/?utm_expid=.puymyPFhT7iUN3i29m23jg.0&utm_referrer=https%3A%2F%2Fwww.google.com%2F https://www.mathlearningcenter.org/resources/apps</p>

	<p>Reflection: <i>What does it mean to have students be producers and not only consumers at technology workstations in our classroom?</i></p>
<p>Module 7- 1.5 hour*</p>	<p>Place Value Workstations ESSENTIAL QUESTIONS: What are the components of the place value workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station? Reflection: <i>Why would we keep the place value workstation up all year long? What is the fundamental role of place value in the teaching and learning of math and how does the workstation help to reinforce big ideas and enduring understandings all year long?</i></p>
<p>Module 8- 1.5 hour*</p>	<p>Fraction Workstations ESSENTIAL QUESTIONS: What are the components of the fraction workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station? Links: http://www.abcya.com/fraction_percent_decimal_tiles.htm https://www.mathlearningcenter.org/resources/apps Reflection: <i>What is it that we want students to know and do in the fraction workstation? What is the role of concrete, pictorial and abstract in this station?</i></p>
<p>Module 9- 1.5 hour*</p>	<p>Decimal Workstations ESSENTIAL QUESTIONS: What are the components of the decimal workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station? Link: http://www.abcya.com/fraction_percent_decimal_tiles.htm Reflection: <i>What is it that we want students to know and do in the decimal workstation? What is the role of concrete, pictorial and abstract in this station?</i></p>

Module 10- 1.5 hour*	<p>Measurement Workstations</p> <p>ESSENTIAL QUESTIONS: What are the components of the measurement workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station?</p> <p><i>Reflection: What is it that we want students to know and do in the measurement workstation? What is the role of concrete, pictorial and abstract in this station?</i></p>
Module 11- 1.5 hour*	<p>Geometry Workstations</p> <p>ESSENTIAL QUESTIONS: What are the components of the geometry workstation? What are the big ideas in this station? What specific skills will students be working on? How is the cycle of concrete, pictorial and abstract woven throughout the activities in this station?</p> <p>Link: https://www.mathlearningcenter.org/resources/apps</p> <p><i>Reflection: What is it that we want students to know and do in the geometry workstation? What is the role of concrete, pictorial and abstract in this station?</i></p>
Module 12- 1.5 hour*	<p>Assessment</p> <p>ESSENTIAL QUESTIONS: How are you assessing the workstations? What is the evidence that students are practicing and learning in a meaningful way?</p>

*Each module will be 1.5 hours including videos, reflection, discussion and external links to readings and videos

Readings: Math Workstations in Action: Powerful Possibilities for Engaged Learners in Grades 3-5 (2017, Newton)

Additional Resources: Throughout the course there are several links with additional information. These links are also shown here on the syllabus.

Discussion Board: There is a discussion board in the course. Students are encouraged to contribute to the ongoing discussion of the course.

Materials: Book

Examples of Quizzes:

Module 2:

1. How do you plan for student engagement at each station?
2. How do you hold students accountable at each station?
3. Name 3 structures for setting up games at stations?
4. What are the groupings that students can do? How does this impact learning?
5. How do you scaffold effective transfer from the games that students play to the ways in which they will be held accountable for content knowledge and skills on state exams?

Module 8

1. Why and how should this station be leveled?
2. What are the different types of models for teaching fractions and how are they integrated into the workstation?
3. What does the cycle of engagement look like in the fraction workstation?
4. When and for how long should this station be up?
5. Name 3 types of activities that students might do in this station.