Inquiry in the Math 6 – 8 Classroom

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All In: When Theory Meets Practice in School Reform
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EAST
IN PARTNERSHIP WITH THE UNIVERSITY OF ROCHESTER

Math Experience

The Factor Game

Directions

1. Player A chooses a number on the game board and circles it.
2. Using a different color, Player B circles all the proper factors of Player A's number.
3. Player B circles a new number, and Player A circles all of the factors of the new number that are not already circled.
4. The players take turns choosing numbers and circling factors.
5. If a player chooses a number with no uncircled factors, that player loses their current turn and scores no points.
6. The game ends when there are no numbers left with uncircled factors.
7. Each player adds the numbers circled with his or her color. The player with the greater total wins.

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25
26	27	28	29	30

Theory of Practice

Connected Mathematics 3, or CMP3, is an inquiry-based mathematics program for Grades 6-8. It helps students actively focus on math problem solving, reasoning and proof, communication, representation, and connections. These math practices require students to look deeper and connect problem solving to practical situations. Funded in part by the National Science Foundation, and developed through Michigan State University, CMP3 provides a powerful inquiry model for learning mathematics.

Context

Using a selection of units from the Connected Mathematics Project, an NSF-funded curriculum program that is consistent with the Common Core Standards with proven results in terms of student achievement, augmented by a few “project-based” interdisciplinary units/experiences that can increase student’s interest and motivation and help them see potential applications and connections for the math they learn.

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Role of the University

NOYCE Fellowship – Teachers of Science and Mathematics are engaged in graduated level courses at the University of Rochester

Mentors – NOYCE fellows have mentors through the UofR that support them in their work

Jen Kruger – supports the Lower School Math department in their work.

Evolution of the Initiative

Summer of 2015 – Weeklong training in CMP3 curriculum by a CMP3 expert
2015/2016 school year – initial implementation
Summer 2016 – weeklong curriculum writing (UbD)
2016/2017 school year – further implementation (CEPT)
Spring 2017 – Attended CMP3 user conference at Michigan State
2017/2018 school year – continued implementation (refining teacher practices, CFU's)

What We've Noticed

Students who have been with us for Grade 6, 7, and 8 are:

-more willing to attempt challenging problems
-more persistent in sticking with a problem
-more willing to consider other strategies
-more willing to collaborate with their peers
-more willing to talk about mathematics

Q&A

Take Aways