



IT WORKED!

Meaningful Math Mistakes

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Meaningful Math Mistakes

No one likes to make a mistake. We learn from a very young age that a mistake, whether made inside the classroom or out, is not a good thing. It means our actions resulted in doing something wrong. But, mistakes can actually be very positive and a powerful learning experience in the math classroom.

During the summer, a group of teachers, school administrators, and resource teachers met to discuss and create our School Improvement Plan. As we talked about the strengths and needs in mathematics, it was quite evident that the one area that all teachers agreed needed improvement was the students' accuracy and precision in performing operations with whole numbers and decimals. The teachers cited a variety of errors that the students would typically make: basic fact errors, incorrectly lining up digits, and incorrectly performing the regrouping process, to name a few. By the end of the meeting, it was decided that this topic would be an area of focus for math professional development. The goal was that students' computational skills would improve through the use of classroom routines and mini-lessons on finding errors and checking for accuracy.

To address the school goal in this area, the following occurred:

- In September 2015, school-wide professional development was planned in collaboration with the reading specialist on the topic of accuracy and precision (computation in math and fluency/decoding in reading).
- The math professional development session included reading and discussing the article by Linda Gojak, *The Power of a Good Mistake* (NCTM *Summing Up*, January 8, 2013).
- The foundations for accuracy and precision in pre-K and Kindergarten were examined: number sequence, one-to-one correspondence, cardinality, and subitizing.
- I presented several high-yield accuracy activities for young learners, including the role of estimation.
- There were discussions of the three most common types of math mistakes and some "quick fixes" for them: Math Mistakes (basic fact errors), Process Mistakes (did not perform steps correctly), and Silly Mistakes.
- Classroom routines to help students strengthen their attending to precision and checking for accuracy were shared: using incorrect work to help students look for errors and then do it correctly (*What's My Mistake?*, *My Favorite Oops!*, and *Mr. McStakes* are a few great routines!)
- Anchor charts on checking for accuracy were created by teachers and students.

As a result of the professional development and of the teachers' implementing the new classroom routines in math, students began to focus more on checking their own work for accuracy in computation. At the monthly math data meetings, the math teachers bring their quizzes and unit post-tests, and the grade-level teams analyze their students' results to determine what types of math mistakes were made. Then, the teachers form intervention groups to meet during their "flex time" in order to address the mistakes through strategic instruction and the provision of time to practice the computation. This cycle of teaching, assessing, and analyzing student errors has resulted in an overall improvement in computational fluency.

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