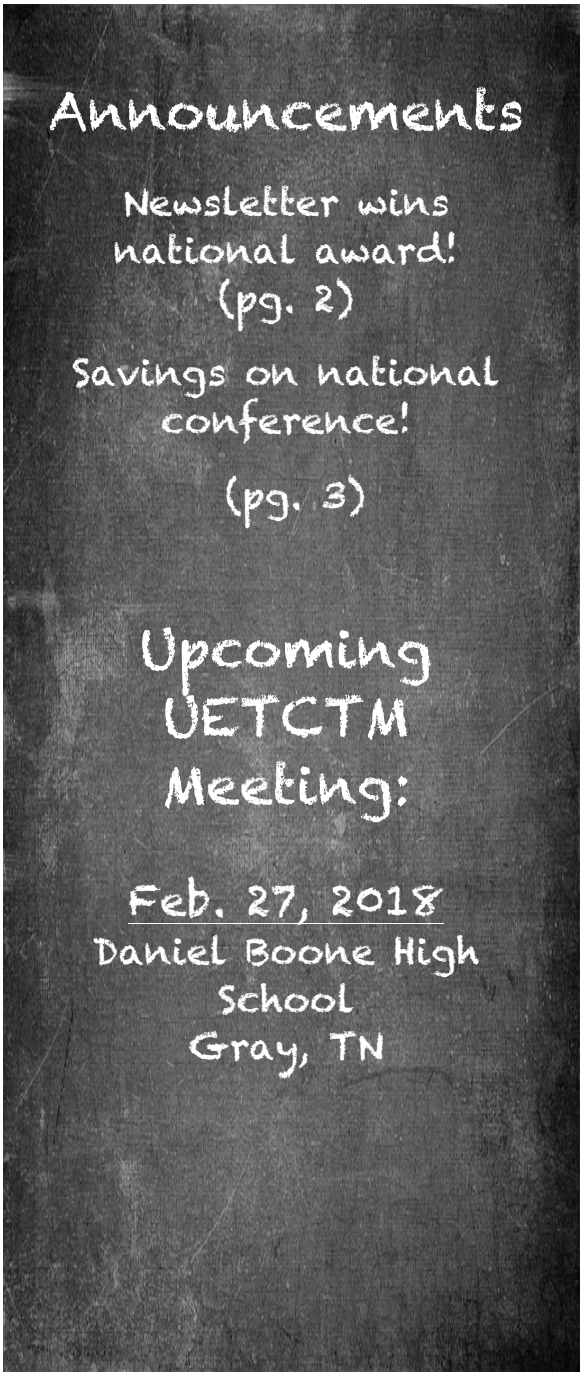
Upper East Tennessee Council of Teachers of Mathematics

NEWSLETTER VOLUME 18 ISSUE 4 FEBRUARY 2018



INSIDE:

UETCTM Newsletter Wins National Recognition!

Dr. Ryan Nivens celebrates his 10th year as Editor of the UETCTM newsletter with exciting news: The publication has just been accorded national recognition with the NCTM 2018 Publication Award.

In addition to sharing current national and regional NCTM news and resources, the six-times yearly publication showcases the essays of teacher-partcipants enrolled in the East Tennessee State University/ Eastman Scholars MathElites program.

"We owe this award to the hard work of a number of people," Nivens says. "Over the past 10 years, we have published 336 teacher-written essays. All of these teachers have been our students through the MathElites program, and many of them were also our students as undergraduates."

As 2018 begins, Nivens looks forward to more superior essays from participants in this summer's MathElites program!

EXCELLENCE BY THE NUMBERS:

- ✧ Dr. Ryan Nivens, 10 years as editor
- ✧ 60 issues
- ✧ 336 teacher essays

Mark your calendars now for MathElites 2018!

Better service, bigger savings from NCTM!

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Customize your NCTM membership with myNCTM, and join a vibrant instructional community sharing vital information through blogs, webinars and a wealth of other leading-edge resources. Sign up here today!

Register now for savings!

EARLY BIRD SPECIALS! Early registration for 2018 NCTM national conference yields big savings.

NCTM Annual Meeting & Exposition 2018

April 25-28, 2018

Washington, DC

Power up your instructional and professional practices at the NCTM Annual Meeting & Exposition! Networking is only the beginning of the strategic opportunities offered by the conference, appropriately themed "Empowering the Mathematics Community." Teaching trends and topics include: tools and technology; access, equity and empowerment; purposeful curriculum; assessment; professionalism; mathematical modeling, along with other emerging trends.

Save $50 on early registration for individuals; groups can save even more. Click here for more information, and register to save today!

Questioning the Need for Speed

In a winter NCTM President's Message, Matt Larson explains why acceleration shouldn't always be a desired goal.

In today's fast-paced world, it's no surprise that parents (and others) are pleased to see good mathematics students accelerate through the curriculum to reach the next grade or course more rapidly. However, NCTM President Matt Larson points out that such acceleration may not be well-thought-out—or even warranted.

In his message, "Mathematics Learning: A Journey not a Sprint," Larson notes that too often parents define mathematics very narrowly and shallowly, and that "speed completing computational tasks or carrying out routine symbolic manipulation cannot be the basis of acceleration." Such acceleration may lead to the shortchanging of student conceptual understanding.

Math should be a lifelong marathon—not a sprint!

Troubling questions also remain about acceleration contributing to issues of inequality. Acceleration may also lead to burn-out, robbing the profession of much needed talent.

"Speed completing computational tasks or carrying out routine symbolic manipulation cannot be the basis for acceleration."

While acknowledging that "acceleration may be appropriate if a student has demonstrated significant, deep, and complete understanding of grade level or course-based mathematics," Larson advocates engagement that allows each student to embrace his or her own mathematics journey and be empowered by mathematics knowledge.

Click here for Larson's complete message.

Accidental Brilliance!

By
Brian Shaver

As a first year teacher, teaching the concept of solving an equation to 8th graders proved much harder than I had anticipated! I fairly quickly recognized that combining like terms, properties of equality and inverse operations were concepts students may have been exposed to, but that they had not retained much of the understanding.

I spent a good deal of time discussing the properties of equality and that equations can be manipulated as long as we follow those properties. I explained it as simply as I could, as I'm sure most teachers always have, by explaining that you can do whatever you want to an equation as long as you do it to both sides of the equation. The students seemed to grasp this concept and, with a little nudging, the idea that they should use inverse operations to get numbers away from the variable.

Combining like terms presented some problems as well. Students would continually try to forcefully add coefficients of variables with the constants, or decide to vanquish the variable to the Phantom Zone, or wherever it is that variables get vanquished to! This allowed the student to now have nice and neat numbers to add together. However, again this does not lead the student to understanding the concept and achieving the desired success. We did some off-the - cuff activities to help with the idea of combining like terms, such as grouping students in class based on their shirt color. We would then divide up again, and I would call up two randomly selected groups of 5-6 students each. The class would have to come up with expressions to represent the two groups with letters to represent the color of shirts. Next I asked the students to combine the two groups (expressions). This activity really seemed to help the students begin to understand the concept of combining like terms.

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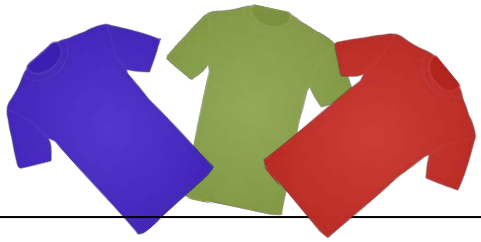
Grouping students by shirt color helped with comprehension.



Accidental Brilliance!

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Thinking inside and outside the boxes:

Great! Problem solved, right? Students now should be able to solve equations with a great degree of success, correct? No! Now, I came to find out that the students have a hard time deciding which value they should get away from the variable first, as well as having to deal with those pesky subtraction signs. I found myself spending a lot of time boxing off the different terms of equations and explaining the importance of the sign or operations needing to go with their corresponding terms. For example:

$$4x - 2 = 14$$

$$\boxed{4}\boxed{x}\ \boxed{-2} = 14$$

There was still a very evident problem in knowing where to begin with solving the equation. One day while at the board trying to explain this idea yet again, I was boxing up my equation and talking more in depth about where to start solving. I mentioned again that since we are undoing what all has been done to the variable, we need to think in terms of reversing the order of operations. I asked the question, "What is the first thing that happened to my x?" One of my students answered that it was multiplied by 4. She then asked me if I could just put one box around the 4x together. When I did this I saw something new and accidentally stumbled upon the key to finally helping my students become successful with solving equations. The boxed equation now looked like this:

$$4x - 2 = 14$$

$$\boxed{4x}\ \boxed{-2} = 14$$

At this point I told my students about how sometimes at Christmas and on birthdays I like to trick my kids by wrapping their gift, then putting it in another box and wrapping it again, sometimes a few or several boxes.

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Accidental Brilliance!

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I explained that we could use this same idea to help us know where to begin solving equations. First of all, we cannot open a box if it is on the inside of another box. Second, we need to know how to get the boxes open. To "open" the boxes you must do the inverse of whatever operation is in that particular box. For instance, with the example I have given, the students see that the outer box operation is subtraction. They now know to add that number. Remembering the properties of equality they now know to add 2 to the other side of the equation as well. Now they are left with the inner box:

$$\boxed{4x} = 16$$

The students would quickly recognize the inverse "key" to "open" the last box would be division, helping them to arrive at the desired value for x:

$$X = 4$$

Adding sweet rewards to more boxes:

After seeing this method truly help so many of my students in just one day, I decided to make it a little more interactive. That night I created a set of "equation boxes" out of empty boxes I found in my house and garage. The next day we worked through an activity with these boxes. After I showed the students the largest box, they had to determine what the first step was they should take. I would give them time to think it through and then have someone come up and tell their solution path, or first step. They would then open the box reach in and pull out the next box, which would reveal what the equation should look like now. If they were correct, they would also get a piece of candy out of the box. This process would repeat until we got down to the solution for our variable.

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Accidental Brilliance!

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For example, one set of equation boxes might look like this:

$X = -2$ $\quad 3x = -6$ $\quad 3x + 8 = 2$ $\quad \frac{3x + 8}{2} = 1$

Taking the large outer box the students would use the box method to begin their solution path:

$$\frac{3x + 8}{2} = 1$$

My students' success rate and deeper understanding in solving equations grew in almost the blink of an eye! The confidence of my students after this breakthrough was also a thing to behold. Though I would like to say this was a well thought-out and deeply researched method, I can only say that with a little help from my students we were fortunate enough to stumble upon one of those moments of accidental brilliance!

■

Open minds by opening boxes!

Instagram in the Classroom

By
Brittany Ivanich

These days it seems like everyone has an Instagram account, from Beyonce to the Pope. Social media can be a great thing, and I believe when used the correct way, it could also be a powerful tool in the classroom. Classroom social media sites have become very popular these past few years; therefore, this upcoming school year I plan on using Instagram in my fifth grade math classroom.

Last year at our school we implemented student leadership teams as part of our *Leader In Me* program. One of those groups of students was the Media Team. I would like to put those children in charge of posting on our classroom Instagram account every afternoon. This way the parents could see documentation of all the exciting things we did in math class that day. Using Instagram will also be engaging to students because this is something they are already interested in and familiar with at the fifth grade age. Other benefits could include using the account to post after-school homework help or live video math talks after the school day ends, as well as teaching about digital citizenship, online safety, and how to document events in a more modern way. These are important life skills needed as my fifth graders prepare for middle school.

The classroom Instagram account is not just limited to the students; it will also be a helpful tool for parents. I plan on using this technology to show off student work, give updates, remind about upcoming events, and show student progress from the beginning of the year to the end. Instagram will also show the progression in math as the students get closer to becoming middle schoolers. Students and parents will be able to look back at all the special lessons and activities we completed throughout the whole year. These are just a few of the many benefits to using Instagram in the classroom, and I am so excited to get started on this new social media journey with my fabulous fifth graders! ■

+ MATH = BENEFITS FOR ALL!

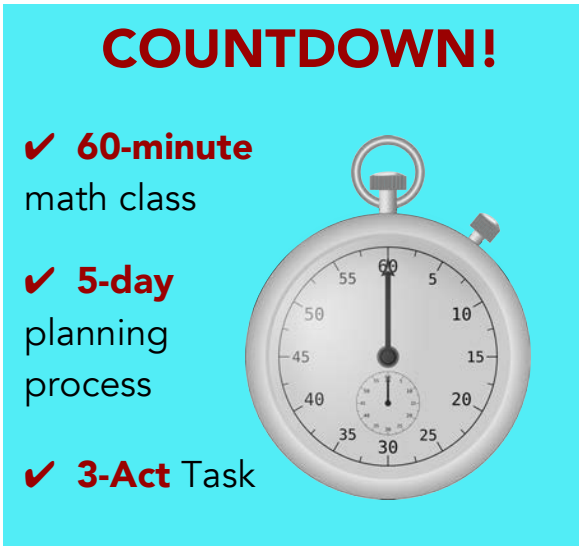
No Time to Waste in 2nd Grade Math

By
Carolyn Kestner

"No time to waste" is my attitude for the new school year. Making every minute count in math is one of the hardest parts of teaching. This year I will have only 60 minutes to teach math. We are departmentalized at my school, and I will be responsible for 3 different math classes. Using every spare minute of my time is extremely important.

My new plan of attack is to utilize a 5-day planning process:

Monday will be the day to introduce or re-teach a skill. I will use a 3-Act-Task. If you aren't familiar with 3-Act Task, please look on the web for Dan Meyer's 3-Act Task. First, I will show a picture/video for students to find the math in and come up with their own math questions. For example, I could show a video of a city and have students look for math in the city, windows, shapes, or signs. I then will guide the students to the question I want solved. Students will work in small groups to solve the math problem. They will have a choice to use manipulatives or paper and pencils to help model the math. We will then come back together as a whole group to reveal our answers. We will compare different ways to solve the problem. Students then will have individual practice solving similar problems.



Tuesday, Wednesday, and Thursday will be begin with Number Talks lasting 15 minutes. Number Talks are classroom conversations making sense of numbers. Then we will move to 45 minutes of practice at math stations where students will be divided into three groups, and they will rotate between three math stations. I only really allow 12 to 13 minutes at each station to give clean-up time.

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No Time to Waste in 2nd Grade Math

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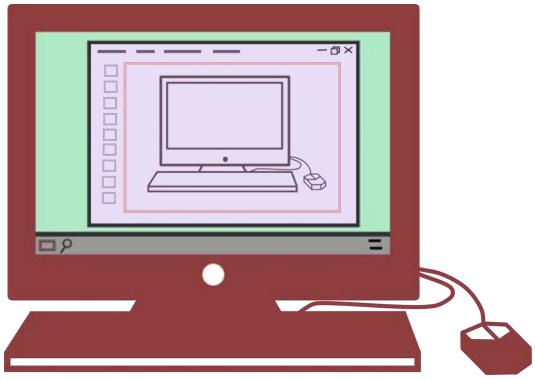
Station 1: Computer practice station (IXL). I create cards for each student with the sections of IXL that I want them working on. When each section is passed students can check that section off of their card.
Station 2: Math game, paper and pencil practice, or practice with math fluency.
Stations 3: Teacher-led math skills, math books, or learning a new math game with the teacher.



Midweek: Stations

Friday will be a review of the week with a project, journal, or video created by a student. Students will demonstrate their knowledge and support reasoning by sharing with the class.

Use Friday as a day to review student-made projects, journals or videos so students can demonstrate knowledge by sharing.

This strategy aligns with the "8 Best Math Practices." It also aligns well with my personal philosophy for teaching that hands-on is always best. If we have a short week of school or special event I will adjust my schedule according to my students' needs. I do feel it is important to start the year off with a plan and readjust as needed. There definitely is "no time to waste" in 2nd grade math.

■

Struggling with Productive Struggle

By
Nicole Cross

As a teacher, it is in our nature to want to help our students when they are struggling. It is almost painful to watch them work on a task that is difficult for them without stepping in and assisting them to find the correct solution. We so badly want to help that we end up sharing too much information or in many cases solving the problem for them.

The danger with this practice is that often, without realizing it, we set them up for future failures in problem solving. With this practice, we teach them that when a problem gets slightly difficult they should no longer persevere, but immediately seek guidance. Without perseverance, it will be nearly impossible to be successful, especially in higher level mathematics.

While participating in a year-long coaching project with my district math coach I became very much aware of these concerns. With that understanding, I became determined to provide my students with opportunities to productively struggle with on-level math tasks.

One example of this opportunity for productive struggle is described here, in a matching equivalent expressions problem. The students were provided with these numbers:

Column A	Column B
3 (y + 4)	2 (4y + 3)
	4 (4y + 2)
14y +3	7 (y^2 + 3)
	3 (2y + 7)
7 (3 + 1y)	y + y + y +12
	12y + 8y + 3 – 6y
6y + 21	2 (8y + 4)
	6 + 3y + 4 – 1y
12y + 8 + 4y	3y + 12
	7y + 21

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Struggling with Productive Struggle

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Column A was printed out on pink paper, and Column B was printed out on blue paper. The students were verbally given directions to find the matches using any strategy that they could think of for finding equivalent expressions. The students were told that there would be some expressions that did not have a match and that some would have more than one match. Students were also told that they would need to provide evidence that the two expressions were a match. For example, they could list a property or describe the application of combining like terms as long as they told how they knew they were equivalent.

Before the task began, no students were able to tell me what it meant for expressions to be equivalent, nor could anyone think of ways that they would know. Students were told that they would discover these ideas as they worked.

The conversations between myself and the students were recorded. Here are a few samplings of those conversations:

Group 1

- **T:** First of all, can you explain to me your thinking and how you came up with all of your matches?
- **S:** That one is 3(y +4) and y+y+y+12 because I've been using the distributive property.
- **T:** Is there a possibility that there could be more than one answer that could be a match?
- **T:** Could we look through the ones that are left and see if there is another match? I'm not saying there is another match, but it's possible, right?
- **S:** Is like 3(y + 4) equal to 3y +12?
- **T:** How are we getting from here to here? What would be your evidence to support that? What property?

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Struggling with Productive Struggle

(continued)

Group 2

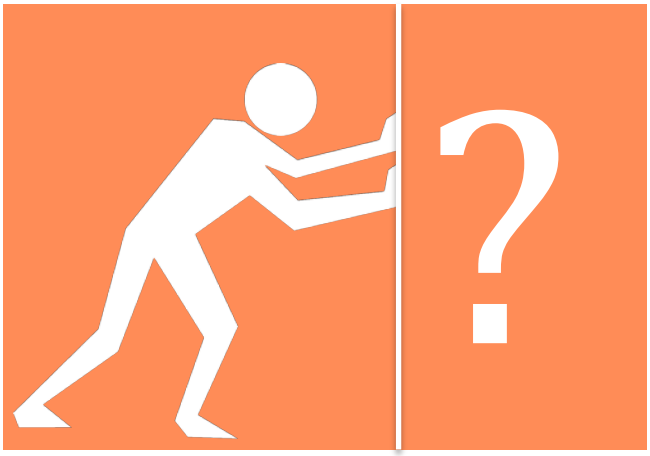
- **S:** 7(3+1y)=7(y+3)=……..7y +21 We used the distributive property—7(y+3) 7 times y is 7y, and 7 times 3 is 21, and it is 7y+21.
- **T:** Is that one equivalent also?
- **S:** Yes.
- **T:** And you told me the distributive property for that one (7y+21). Awesome, so we're going to put this here? 7(3+1y)=7(y+3)=7y+21. Okay—and what property did you use for 7(3+1y)=7(y+3)?
- **S1:** We used the…
- **S2:** Commutative, I think.
- **S1:** Yeah.
- **T:** So you're saying this is the commutative property because the order just changed?
- **S:** Yeah.
- **T:** But that's a 1y, and that's a y. Can you just do that?

  S1 and S2: Yes, because…

  S1: The variable by itself is 1 times y.

These examples show the use of assessing and advancing questions in the process of task solving. The students were allowed to struggle productively without being given too much assistance. They were encouraged to use appropriate mathematical vocabulary and to provide evidence to support their matches.

Let students push through to the correct answer, using appropriate vocabulary and evidence.



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Struggling with Productive Struggle

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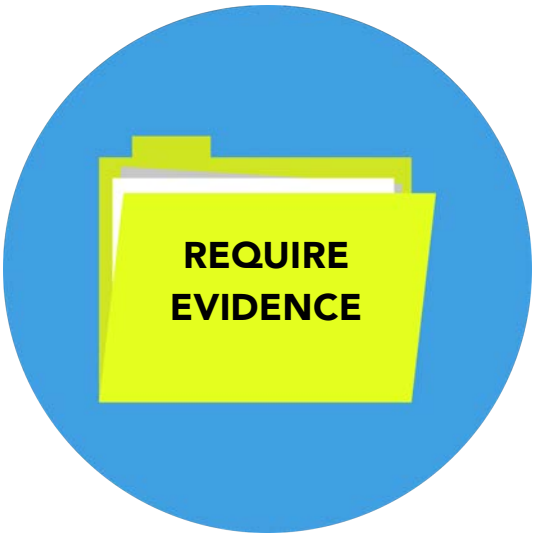
In the sharing phase of this task, students were again required to provide evidence of their choices.

- **T:** Who wants to show me their equivalent expressions for 14y + 3?
- **S1:** 12y + 8y + 3 - 6y—so what we did was we combined like terms. So 14 y + 3, you can't combine one that has a letter (14y) and one that doesn't (3). So 12y and (student points to the 3 - 6y and does a switching motion) and we kind of used the associative property.
- **T:** Associative?
- **S1:** No, commutative.
- **S2:** We did 12y + 8y. Like he said we switched them so we did 12y+8y-6….
- **T:** And that will give you what term?
- **S1:** So that would be 20 – 6, so that would be 14y.
- **T:** What about the 3? So, it stays by itself?
- **S1:** Yeah, you can't do that, so basically both of these (14y + 3 and 12y + 8y + 3 + 6y) are basically 14y and 3. Yeah, it's 14y and 3.
- **T:** So what I hear you saying is that you could do this because you were combining like terms?
- **S1:** (nods agreement)
- **T:** Did anyone come up with another one, or did you just have this one match?
- **S3:** (offers that there may be one more).
- **T:** Would you like to take a risk and come up and share your thoughts?
- **S3:** (shakes her head "no").
- **T:** So, do we agree that there was only one match for this one?
- **All S:** Agree



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Struggling with Productive Struggle

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Time for our final one: 7 (3 +1y). (This group struggled a little more than the others during the task.)

- **S1:** So, we used the commutative property (student draws connection between expressions to explain with his hand) because 7 times 3 plus 1y is 7(3+1y), and over here it's 7 times y plus 3 is 7(y + 3). A variable by itself is always 1y (points to 1y and y), and that's what helped. We just wrote a 1 next to the y. [Points to 7(y + 3)—7 (1y + 3]. So these two switched between the two.
- **T:** So they changed their order. And order is the….?
- **S1:** Commutative property.
- **S2:** Um, 7y + 21 models use of distributive property as explaining using 7(3 + 1y), so we did 7 times 3, and we got 21, and we did 7 times y, and we got 7.
- **T:** Okay, so 7 times y you got 7y. But you just said it backwards, so did you just do the distributive property? You told me 7 times 3 was 21, but I don't see it first in the expression. So you did distributive, but you also did the….?
- **S:** Commutative.
- **T:** So that's one, two properties? Does everybody see that? You did distributive, but you also changed the order so you did commutative. You had lots of things going on there.

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Struggling with Productive Struggle

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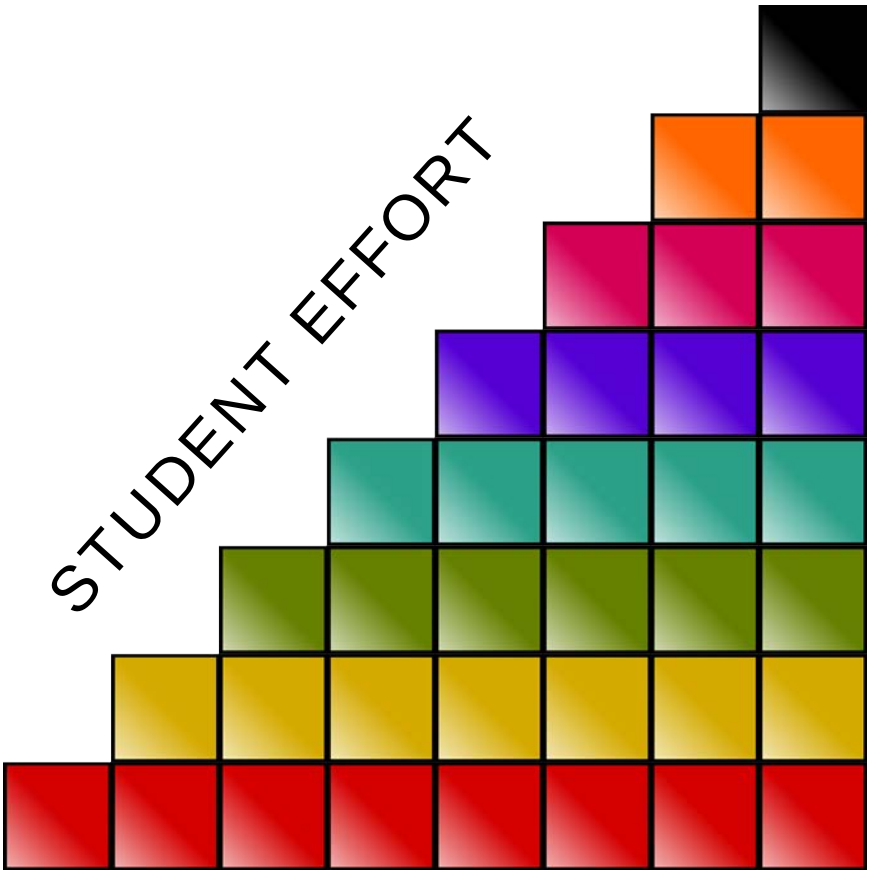
Every effort was made to provide scaffolding to the students without giving too much information or assistance. **Many students commented that this was a difficult task for them, but as I walked around questioning students there was not a group that stopped trying.** Even when they could not tell me the exact vocabulary they needed to know, they were still trying to make mathematical sense of the expressions.



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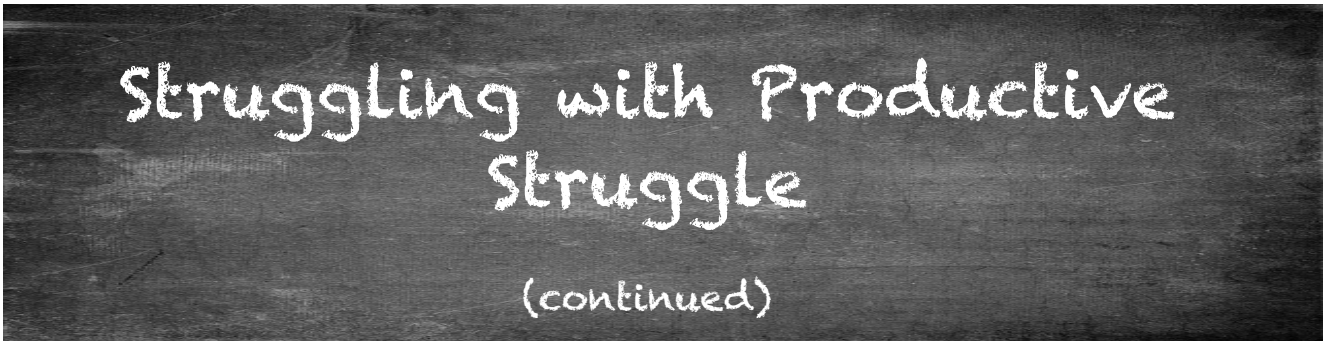

Throughout the task, several of the **Eight Mathematical Practices** were applied:

Most clearly, was **Math Practice 1: Make sense of problems and persevere in solving them.** Students were required to make sense of each expression and perseverance was key in matching up the equivalent expressions.

Next was **Math Practice 2: Reason abstractly and quantitatively**. Students had to do both of these when trying to reason out why the expressions they chose to match up were equivalent. The students could apply a property, and sometimes they also had to make computations to prove equivalency.

Math Practice 3: Construct viable arguments and critique the reasoning of others. This practice was most evident when students were discussing the reasonableness of matches with their partners. Much discussion and debate happened as the students prepared their evidence.

Math Practice 4: Model with mathematics was clearly shown when students had to apply the distributive property as they attempted to simplify before finding an equivalent expression.

Students applied **Math Practice 6: Attend to precision** as they combined like terms. Students had to carefully analyze terms to determine which were like before they could combine and find an equivalent expression.

Once students caught on to what each property or strategy looked like it was easier for them to apply **Math Practice 7: Look for and make use of structure**.

Finally, as the students became more comfortable with the task they were able to apply patterns that they saw, and this addressed **Math Practice 8: Look for and express regularity in repeated reasoning.**

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Struggling with Productive Struggle

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Perseverance without frustration is the goal of a productive struggle task. There is a fine line between the two. As I continue towards the goal of providing my students with more opportunities to work on tasks of this kind, I know that I will not have to feel guilty for not helping them because the more they practice, the better they will become at thinking mathematically without giving up.

This type of independent and higher order thinking is the goal for my students and can sometimes be my own productive struggle, but I will continue to persevere so that my students become more math-minded problem solvers who take risks as they learn more complex and in-depth mathematical ideas. ■

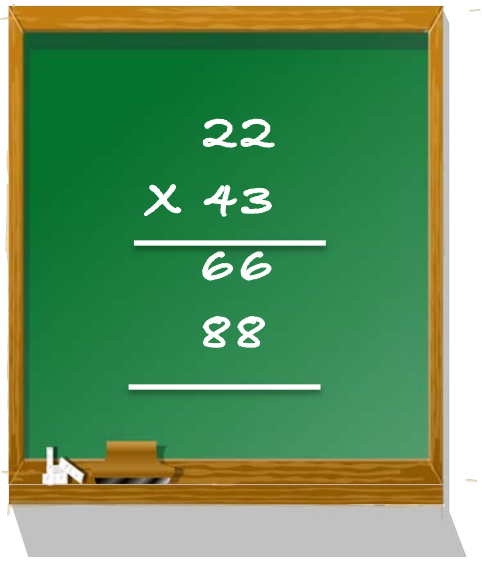
But I'm the Teacher: An Approach to Error Analysis

By
Millie Robinson

Everyone remembers the math problems that have the reader examine a completed problem and correct it if it is wrong or write "correct" if it is right, which they rarely were. While these problems were, and are, beneficial, they do not allow students to fully explore and defend their reasoning. I want to offer an alternative to this approach that allows students to work together to construct an argument and critique each other's reasoning (Math Practice Standard 3).

Error analysis is a vital aspect of math instruction, but it is often done in ways that stifle student discussion and collaboration. It also rarely requires students to deepen their understanding, because it allows them to give a surface level response. I am still fine-tuning my whole-group approach to error analysis, but I have found that my students are more engaged and eager to discuss their reasoning when we work together to correct an error.

I like to present errors in a variety of ways so that my students can take different approaches to correcting the mistakes, but my favorite strategy is what I call, "But I'm the Teacher!" For this approach, I begin by quickly working through a problem while explaining what I'm doing, but I make one error in my process. At first only a few students will look questioningly at the board, and the others



"At first only a few students will look questioningly at the board."

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But I'm the Teacher: An Approach to Error Analysis

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will just go along with me and assume that their ideas were wrong and I'm correct. Eventually, some students will start to speak up and question my methods. I will then ask students to explain their point of view while I formulate my own counter-argument. I require students to work together to fully explain my error while I continue to try and support my side. After students have explained and corrected my error, I will finally say, "But I'm the teacher! So I have to be right, right?" My students love this because it shows them that everyone can make mistakes, even their teacher.

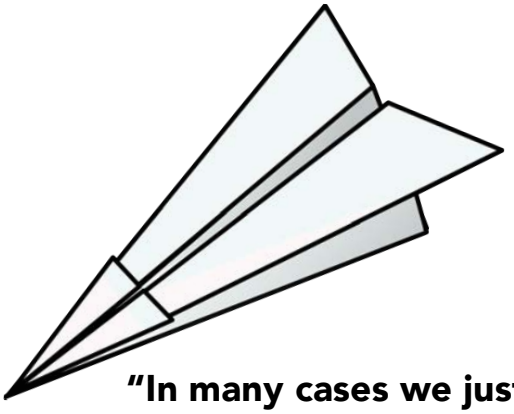
It is so important for our students to develop the mindset that mistakes lead to growth rather than embarrassment. This approach also supports the idea that the teacher is not the only person in the room who can contribute to learning. The teacher is simply a facilitator who is not above error and questioning. I want my students to see that it is okay to question me and argue against my reasoning if it is done in a respectful way. Just because I'm the teacher does not mean that I am always right. ■

Students should learn that mistakes can show the way to growth rather than lead to embarrassment.

Guided Math

By
Christina Moody-Lawson

As a teacher in the early grades, I have found that many of my colleagues teach reading using a guided reading approach. We do this to meet students where they are in their learning and to create dynamic growth for student development of ELA skills. No one thinks this is strange or finds it difficult to do so. However, in math we seem to think this is a foreign concept. In many cases we just "throw" the concepts at the students and expect them to master them.



"In many cases we just 'throw' concepts at the students and expect them to master them."

I feel that in teaching math using the guided math method just makes sense. Using guided math provides students with diverse opportunities to use manipulatives, models, create concrete and abstract thinking, improve number sense and develop strategies.

Guided math is very similar to guided reading in that it meets students where they are in their mathematical understanding. There are various ways that guided math can be set up in your classroom. Much like Daily 5 for ELA, you can configure and change what elements you use and make it work for your classroom and your students. Multiple resources and materials for guidance are available online to get you started.

In my classroom I do a four-part guided math, and I use a PowerPoint to time my rotations. I use PowerPoint to insure that I reach every child every day so that I can combat any misunderstanding. This also allows me to help students who are proficient and mastering skills by enriching their understanding and going deeper with concepts.

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Guided Math

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The four parts of my guided math are:

Independent Time

Time to work on differentiated assignments independently. This allows the teacher to see where a student is struggling when working independently. I typically use this to guide and plan for my "With the Teacher" time.

Small Group

This time is for students to work with a small group of their peers that are on the same learning level as they are. This tends to be a game-like activity with a focus on the skill that we are working on.

Technology

During this time students work on one of two different pieces of software. I put students on Moby Max or Personal Math training (Journeys Math). I chose which one based on the level of the student, and each student knows what he or she needs to do. Both of these provide me with a way to track student activity and know exactly what they are doing each day. Both of these also assess the students and give them activities that meet their needs to remediate or enrich their mathematical understanding.

With the Teacher

This is a time where the students work in a small group setting with the teacher. This allows me to plan for exact needs of the students every time they are with me. I use this time to either remediate and fill gaps for my students who are falling behind, or enrich the students who are ready to move on. I plan the focus for these groups based on a few different components. These include what I see in independent time, during whole group lessons, and what I observe when students are working on assignments both independently and in small groups.

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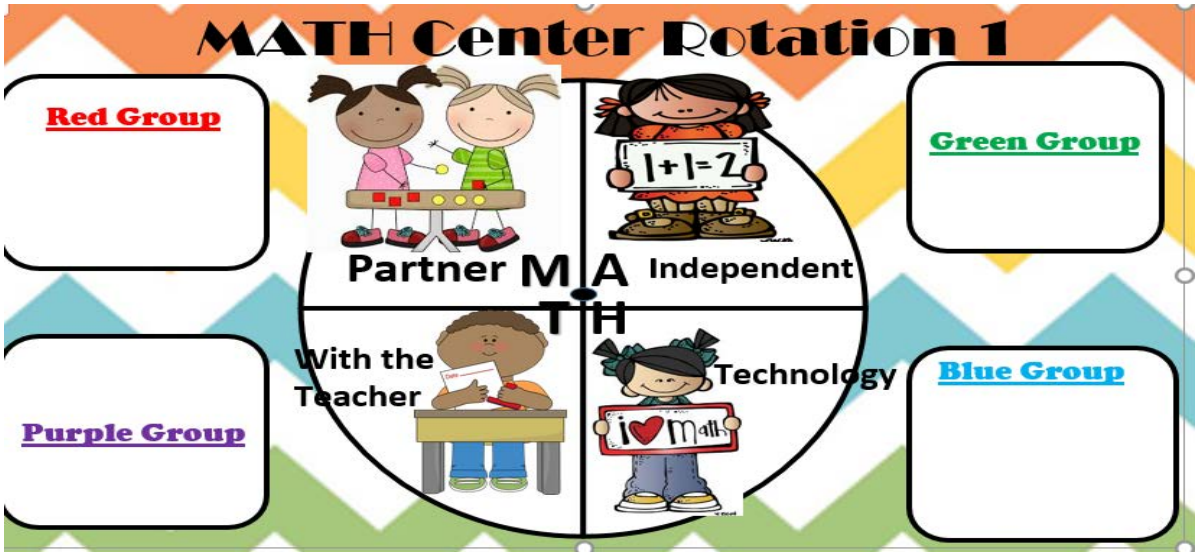
Guided Math

(continued)

Each of these are rotations 15 minutes long, so guided math uses 60 minutes of my 90-minute math block. Not everyone has 90 minutes for math, but there are many alternatives to implementing this process. You could implement guided math with less time, fewer stations, or do one station per day and use Friday to do an enrichment and remediation time.

Each part of guided math is very important in my opinion. Each student has an opportunity to excel and feel success in mathematics. The students are taught and learn based on where they are in their development of mathematical proficiency.

So, I hope you will consider giving guided math a try! I truly think you will see amazing results. Make it work for you and your students. You will be amazed with the love of math that is fostered and the success that you see. ■

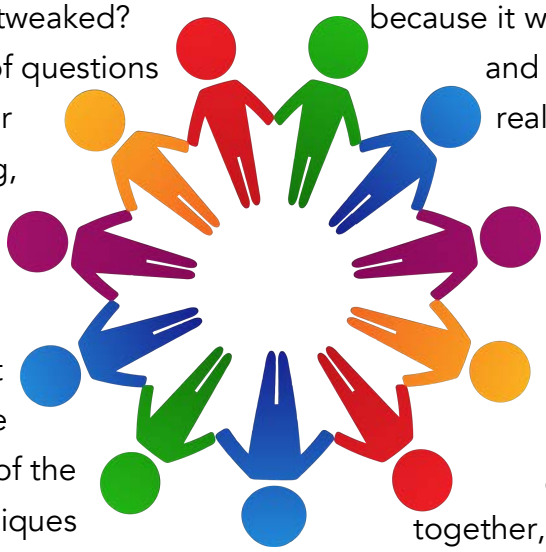


Above: This is an example of my PowerPoint slide. Each student is in a group. These groups will be 3-4 students each. These groups are fluid and frequently change based on the needs of my students. The students will rotate through each of the 4 activities each day.

Power of Kids Squared

By
Rebecca Rhinehardt

One year. My first year—done. I keep telling myself that, but it still feels weird. With one year of teaching under my belt, specifically, one year of first grade, I have begun reflecting on my time. What went well? What could be tweaked? There are hundreds of questions that I keep going over and over. In reflecting, I know that I have learned more about myself as a teacher and even more about what strategies to use when teaching. One of the most beneficial techniques I used was partner work. We always hear, "two heads are better than one," and I believe that this is absolutely true, especially in a classroom.



At the beginning of the year, I was a little afraid to do partner work a lot as I thought that I could deliver the most meaningful instruction though whole-group, direct instruction. I quickly learned this was not the case. Some of the most meaningful moments from our classroom were when students were working collaboratively. I assigned students a peanut butter and jelly partner whom they worked with during partner work. I even had a chant that the students would do when finding their partner. The kids loved this time because it was a chance for them to relax, and they felt like they were not really learning, even though they were learning some of the most important lessons that direct instruction sometimes does not teach.

I believe that when children are working together, they are fostering much more than concepts such as number sense or how to blend a word. They are becoming

JAM-PACKED WITH FUN & LEARNING

With PBJ partners and chants, students have fun even as they learn critical lessons.

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Power of Kids Squared

(continued)

self-aware of not only their contributions to the class, but their feelings of what their strengths and weakness are. Many times, children might feel lost in the crowd, especially during math time, and working with a partner gives them the chance to self-assess and rethink how they may have been too hard on themselves or too easy on themselves over a concept. Working with a partner also develops social awareness, relationship skills, and responsible decision-making. This awareness cannot always be taught, but can be learned best though collaboration with others.

The idea that two children, or kids squared, are better than one, is a notion that I will take with me through the many years of teaching that I have before me. Even though when it was all said and done, my classroom consisted of partner and group work almost 50% of the day, I still feel that I could implement it even more. In doing so, I hope to continue to instill the love of learning that not only I can pass along, but that they can develop with a partner.

■

"Even though when it was all said and done, my classroom consisted of partner and group work almost 50% of the day, I still feel that I could implement it even more."

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