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No more math drills: Suggestions for helping your child excel in math

March 29, 2018

SALT LAKE CITY — Situation: Your kiddo comes home from school with math homework that reads like a foreign language to you. It's been years since you've stepped foot in a math class and you're puzzled on how to best help.

Sound familiar?

The good news is Utah educators say you don't have to feel anxious or frustrated during math homework time, nor do your children. Teachers and administrators understand that parents may face some math anxiety déjà vu from their time in school, but math content instruction has only improved over the years.

For parents who might be a bit hesitant to dismiss their math memories as children, American Fork Junior High math department chair Travis Lemon said these adjusted teaching practices are based on a growing body of research.

"Just as any other field of study or research has made advances in the last two decades, math education researchers have made significant discoveries — they work on the frontier of innovation each and every day," Lemon said.

He, along with four other Utah educators we spoke with, want parents to know about math instruction today and how they can help their children with math at home — in ways that don't involve doing algebra or geometry problems themselves.

Learning math isn't about memorization

Do your memories of math as a child involve multiplication table drills? While your math memorization days may haunt you, know that children in Utah are having quite a different experience today.

“Our students love math!” said Tami Bird, principal at Rose Creek Elementary School in Riverton.

Bird encourages parents to understand their math experiences are not the same experiences their children are having in school today. “We're teaching more than just procedures,” she said.

Davis School District special education coordinator Adam King echoed Bird, noting there is a more conceptual approach to math teaching now.“While this may mean that the math is taught in a different way than parents are used to, it also means that it will potentially be more useful and applicable,” King said.

Rachel Rolf, a seventh-grade math teacher at Hillside Middle School in Salt Lake City, resists the old-school memorization approach as well. She wants parents to know that learning math is more about identifying patterns and making connections with what students have learned before than it is about memorizing answers to problems.

“I don’t care so much if they memorize a procedure right off the bat," Rolf said. "I want them to see the pattern and recognize the algorithm we learned.”

While some parents might feel uncertainty about this approach to math instruction, Salt Lake City School District elementary math coach Meghan Everette assures there is no “new math.” Instead, she said math itself is the same as it ever was. “We are just trying to get students to understand the meaning behind the math, ” Everett said.

Today, more emphasis is put on students’ ability to be flexible in their thinking, as well as their ability to articulate how and why solutions work. This, Everette said, leads students to a more comprehensive understanding of the "why" behind mathematics. Being able to calculate is just one small piece of solving real problems, she said, but the ability to problem solve is what really matters.

Yes, parents really can help

Bird advises parents to contact their child’s teacher to determine the best way to help at home. She encourages families dealing with math homework frustration to set it down for the night and visit with your child’s teacher before proceeding.

All of the educators we spoke with encourage parents to ask their child’s teacher about online resources available for parents, which Everett said "can often help you ‘see’ what is going on the in the classroom." King specifically suggets free online tools like YouTube and Khan Academy to learn from.

For parents unsure or where to begin, Rolf advises simply talking to your child about what they learned that day. “Get your student to talk about their experiences in the classroom: What do they remember talking about with their classmates? What questions did their teacher ask them?” he said.

Everette also urges parents to ask questions in a way that drives thinking without having to know the exact steps in class. She suggests using phrases like:

- “How do you get started?”
- “What do you know from the problem?”
- “What are you trying to find out?”
- “Can you draw a picture to help?”

Once they start talking, Rolf said children naturally start drawing on the information they need.

A growth mindset matters most

One area all five of these Utah educators emphasized as essential for parents is to avoid telling your child that because you didn’t excel at math, it’s OK if he or she doesn’t either. What’s key is to encourage your child to have a growth mindset rather than a fixed one.

“A fixed mindset is when you think you can’t do something," Rolf explained. "A growth mindset is knowing that you can do anything, but it might just take more work."

Everette said the idea with a growth mindset is that even though you may not yet understand something, you know that you can and will continue to work toward the goal; whereas a fixed mindset is one of failure or a hard stop.

Parents can promote a growth mindset at home, Rolf said, by encouraging their child to keep trying and not allowing them to say “I can’t.”

“I encourage parents to add the word ‘yet’ to their vocabulary," Bird added. "When a child says, ‘I can't do that (math problem),’ a parent can reply, ‘You can't do it yet, but if you keep working on this you will be able to do it!’”

Lemon said parents can also encourage a growth mindset toward math by having a positive attitude about the subject. “If parents have a negative attitude about mathematics, or say ‘I was never good at math,’ they promote a negative attitude towards math that is very damaging to their child," he said.

Rather than speaking about your deficiency in math in front of your children, Lemon advises sharing the importance of learning and problem-solving.

King is such an advocate of incorporating growth mindset discussions in his teaching that each day he asks his students about the mistakes they made. “If we only focus on the successes, we send the message that those are the only things we care about," he said. "Imagine if we celebrated the learning process as much as the final answer!”

Math today

Bird says math education several decades ago is nothing like math education today, so there really is no need to dread the day your child comes home with seemingly difficult math homework.

Some of the challenge can be resolved with a simple shift in mindset. From there, connect with the teacher about available resources and ask your child prompting questions about their day, working together to learn the process behind solving the problem.

Finally, try to forget the frustrations with math you may have had yourself and take advantage of the research-backed, new approaches Utah educators are using in the classroom.