

# THE CHANGING FACE OF MATH

*Is Common Core math all it's cracked up to be?*

**M**ath gets a bad rap, says Gina Graham, owner of Eugene tutoring service Math Is Magic! “We have in our nation a predisposition to think math is yucky,” she says. “I think that’s a problem.”

The nation’s relationship with math grew even more complex with the onset of the Common Core State Standards (CCSS). When the state of Oregon adopted CCSS in 2010, parents and students in Eugene School District 4J and other districts saw an internal shake-up as districts shifted from older, more direct methods of teaching to newer techniques in math instruction that fulfill learning requirements outlined by the Common Core.

This shift, proponents say, is largely positive — students are not simply memorizing the procedure of two times two equals four. Under CCSS, they’re also learning multiple ways of solving a problem as well as the concepts behind why math works the way it does.

But it also can cause some confusion among parents who learned math in a completely different way, and critics say that while the new emphasis on problem solving has merit, its actual implementation in Oregon has prevented it from functioning properly due to a lack of resources and large class sizes.

Math instruction is a hot topic among Eugene parents, says Heather Sielicki, parent to a second grader at Camas Ridge Elementary School. “There’s a lot of intimidation about the change in the way math is taught,” Sielicki says, noting that she likes the changes.

Maddy Ahearn, math administrator at 4J, says she has encountered some confusion from 4J parents.

“If there’s any anxiety, it’s things like knowing how to solve a problem but not knowing if it’s the same way as the teacher is doing it,” Ahearn says.

She describes CCSS math as a three-legged stool. The most common understanding of math is simple computation, but this only represents a portion of what math is, and the Common Core math standards push students past memorization, she says.

“Math is also concepts and the relationships between those concepts. You can have a whole lecture on math with no numbers at all,” Ahearn says. “And the third part is about application: Why does math matter in the real world?”

Math tutor Graham says that while she feels neutral about Common Core math standards — they have good parts and bad parts — she finds the standardization of education at odds with “differentiation and individualized instruction.”

Graham says that “each of us learns and teaches differently,” and “students who find math natural and enjoyable can be frustrated by being penalized for not explaining solutions in full paragraphs, not finding alternative ways to solve problems or not working in

‘We can’t have Common Core without smaller class sizes.’

— JERRY ROSIEK,  
UO EDUCATION PROFESSOR  
AND 4J PARENT



PHOTO BY TODD COOPER

groups” — three scenarios kids might encounter in CCSS-based curricula.

If kids are having trouble with homework, Ahearn advises that parents communicate with teachers first — homework decisions are usually classroom-based, she says, and teachers know how far their students have progressed. She also says that parents can ask their children to teach them unfamiliar techniques.

Ultimately, Ahearn says, struggle is a part of learning how to solve a problem, and she tells parents to talk with their kids about developing coping mechanisms when dealing with frustration rather than solving the problem itself.

“Having that conversation with your child translates well beyond mathematics,” Ahearn says.

Graham says she questions the advice to let kids struggle and suffer through math in order to understand it. “Why are we only talking about this in math?” she asks. “Is it OK for them to cry because they don’t know how to say ‘stop’ in Spanish? Should we just let them cry and figure it out? No, we wouldn’t do that.”

She adds that, in public education, large class sizes and a focus on grades can detract from learning on an individual level. “Differentiation in education is essential, and when we lose sight of this, we cease to educate,” Graham says.

At Oak Hill School, a private school in Eugene, class sizes in math for middle and high school students range from eight to 12 students, says Josh Melton, upper school head at Oak Hill.

The median class size in 4J is 27 students, according to the Oregon Department of Education. At Roosevelt Middle School, the median class size for math is 35.

“What I like about smaller class sizes is that it’s easier to facilitate collaboration, and it’s also easier to meet the students individually at their needs,” Melton says. “Because our teachers work so directly with students and know them well, I think they have the ability to differentiate within the curriculum in ways that are meaningful.”

As a private school, Oak Hill does not require

curriculum aligned to CCSS, and Melton says that Oak Hill leans toward traditional methods of teaching math while incorporating new ideas like project-based learning.

Jerry Rosiek, a UO education professor and 4J parent, says he doesn’t take issue with the Common Core’s focus on “higher-level cognitive skills,” but in practice, Common Core curriculum “remains tied too closely to the standardized tests, which still emphasize basic skills.” The Smarter Balanced test, which Oregon students took for the first time last year, consists partly of multiple-choice questions, which don’t accurately assess higher-level thinking skills, Rosiek says.

Additionally, he says, Oregon’s underfunded school system results in large class sizes and little money directed toward teacher training, leading to underprepared teachers and a lack of ability to teach curriculum correctly with too many students in a classroom. “We can’t have Common Core without smaller class sizes,” Rosiek says.

Sielicki says she thinks that CCSS and Smarter Balanced testing are separate issues, and after volunteering in her child’s classroom and seeing math taught firsthand, she appreciates “the underlying message that there’s more than one way to solve a problem.”

She says parents should go online to watch Common Core math being taught, or sit in on their child’s classes. “Most people who see it in action are really excited about it because it does make so much sense,” Sielicki says.

Graham says that math has always involved multiple ways of solving problems, and the unfamiliar terminology accompanying CCSS math doesn’t necessarily mean it’s as new and different as it seems.

“I can lay out six different ways to do multiplication. There’s not a right way,” Graham says. “But there is a way that works for a particular kid. And how do you figure that out? Probably not in a classroom with 40 kids and no teacher’s aid.” ■

*For those interested in how math is taught in 4J, Ahearn recommends visiting [4j.lane.edu/instruction/math](http://4j.lane.edu/instruction/math).*

**SALE!** Bring in this coupon for **20% off** one sale or non-sale item. Valid thru 1/31/2016.

**Folkways**  
Clothing, Jewelry & Gifts

18th & Willamette  
Meridian Building  
541-431-3411

Coupon must be presented for discount. Coupon applies to in-stock merchandise only, including sale items. Cannot be used on special customer orders, consignment merchandise, layaway pick-ups or gift certificates. Limited to one coupon per person per day. May not be combined with other coupons.

• GLOBAL AWARENESS • PROJECT-CENTERED CURRICULUM • ADVANCED PLACEMENT

Where kids LOVE school!

**Open House Tours**  
Tuesdays Jan. 26 and Feb. 16  
Drop in 5-7pm  
Meet teachers and parents

**Drinking Gourd** ELEMENTARY SCHOOL

Class of 10 students  
Low tuition on a sliding scale

689-5255 • [dgschool.org](http://dgschool.org)

• MUSIC • PEACE EDUCATION • DRAMA • SPANISH • SMALL CLASSES • FRIENDLY KID CULTURE •