Mc Graw Hill

Number Worlds® Raises Scores at Oklahoma City Public Middle Schools

The Oklahoma City Public School District (OKCPS) is the largest primary and secondary education district in the state of Oklahoma, with 95 schools and almost 46,500 students enrolled during the 2013–2014 school year.

OKCPS faces many of the same challenges as other urban school districts. Five percent of OKCPS students were counted as "homeless" during the 2013–2014 academic year. Thirty-two percent are English Language Learners, and nearly 90 percent are eligible for free breakfast and lunch.

One of the district's biggest academic challenges, according to Courtney Keck, Secondary Math Curriculum Coordinator, is that too many students enter middle school with large gaps in their basic math knowledge.

DISTRICT INFORMATION



Name:
Middle schools in the Oklahoma City Public School District (OKCPS)

Location:
Oklahoma City, Oklahoma

Grades:
6—8

Enrollment		
50% Hispanic	24% African American	17% White
4% Native American	3% Other	2% Asian



50% Students Eligible for Free Breakfast or Lunch

32% English Language Learners

13% Special Education Students

"This is true across the entire range of our students," Keck says, "whether they are in Academic Achievement ("AA", i.e., remedial) math, Special Ed, or the general student population."

Statistics supplied by the district support Keck's assertion; fewer than half of OKCPS students in grades 6 and 7 achieved a high enough math score to be deemed "proficient" on their Criterion-Referenced Test (CRT) during the 2013–2014 school year. Students who do not achieve proficiency on the CRTs are automatically put into AA remedial math.

"That's one of the primary reasons *Number Worlds*® was selected," says Leigh Parks, Secondary Response to Intervention/ACE Coordinator. "It's designed for teaching students who are struggling with math, and it aligns closely with what we're trying to accomplish with our AA math classes.

"We're not there yet," Parks acknowledges, "but over the next couple of years we hope to really drill down–differentiating our instruction. *Number Worlds* is really good for that because it provides so much support."

The program also appears to be getting results quickly. District-wide, math scores at OKCPS have gone up 11 percentage points since last year, when *Number Worlds* was first introduced. "Our scores are still lower than we'd like," Keck notes. "But we just had a double-digit increase in one year, and that's huge."

Number Worlds is being utilized at nine of OKCPS's middle schools, by students in grades 7 and 8, and two of those sites are using *Number Worlds* for 6th grade.

About *Number Worlds* at Oklahoma City Middle Schools

Around the time of implementation, the state of Oklahoma made a decision to shift away from the Common Core State Standards in favor of their own educational standards. In response to this change, according to Parks, some of the math teachers used the flexibility of *Number Worlds* to realign their approach.

"Those teachers had the most success," Parks says. "We're hoping that this year, more teachers will take that approach."

Cynthia Bothwell is one of the OKCPS middle school math teachers who adapted to the new standards while using *Number Worlds*®. "I really like the ability to create tests in *Number Worlds* with free-response answers–not just multiple choice," she says.

"For example, we're doing a pre-assessment for 8th graders on solving equations. The materials previously available for creating tests on that limited me to multiple choice, which doesn't tell me anything about what they're really understanding. But with *Number Worlds*, I am able to go in and create my own questions with open-ended answers."

Response to *Number Worlds* at Oklahoma City Middle Schools

"What I like best about *Number Worlds* is that it provides the teachers with a different perspective on teaching the content," says Keck. "So the kids are actually receiving the material, learning the material in a different way than they are in their core classes."

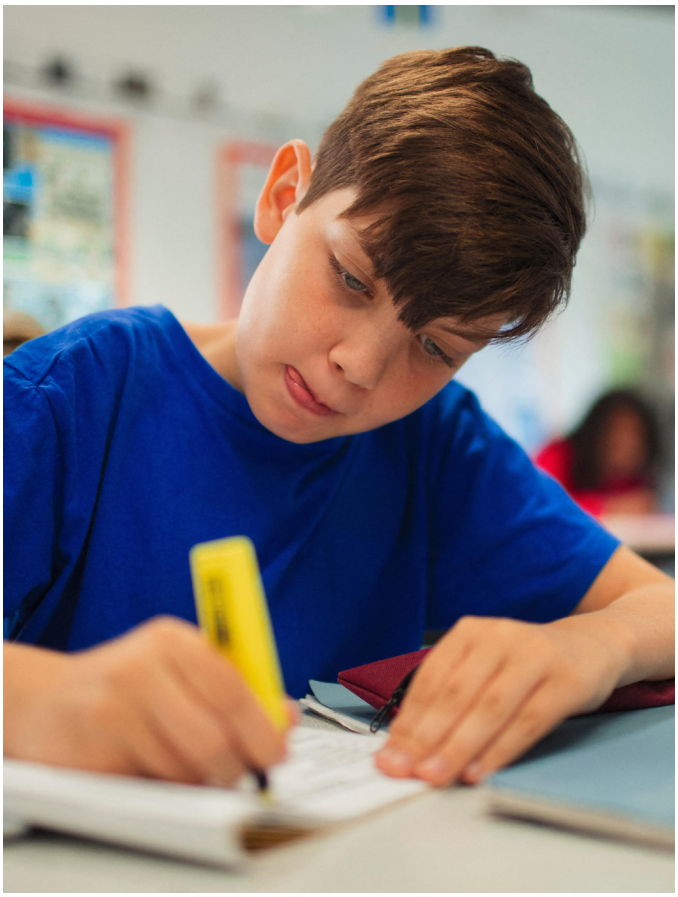
Parks likes "the activities included with *Number Worlds*—something students definitely don't have during their core instruction time. "For our [AA] kids, they really need a different kind of instruction," she says.

Polly Henderson and Deb Barnett are, like Bothwell, OKCPS middle school math teachers who use *Number Worlds* in their AA classes.

Barnett reports that her students are highly engaged by the *Number Worlds* approach. "They really like the number line," she says, referring to a tool that helps children develop greater flexibility in mental arithmetic. "When they see the number line, they go, 'Oh, I get it. That's easy!' For me, I really like that *Number Worlds* uses real-world examples to let them know how they might use math in their daily lives. So they can say, 'Oh, I see why that's important.' And they like the games; I like them, too."

Henderson says, "*Number Worlds* is fantastic! I love that it was developed specifically to help with remedial math. Too many remedial math classes today have no real direction—no processes, no structure. *Number Worlds* helps make remedial math a standardized course where progress monitoring can happen across the district."

"I used the heck out of *Number Worlds* last year when I was teaching AA math," Barnett adds,



"and it helped me so much. I saw a huge growth in achievement once we had a standardized, structured process. I saw 51 percent of my students—all of whom had failed their state tests in 6th grade—pass their state tests at the end of seventh grade. They all moved up. I know that *Number Worlds*®' structure helped with that. I know it did!"

Bothwell agrees. "All of my kids are in the lowest category for math, and at least a third of them jumped two levels to reach 'proficient.' We saw all of the middle school math scores in our district jump significantly. That has to be attributed to using *Number Worlds*. One of the boys in my class who did not achieve proficiency nevertheless raised his CRT score from ten to 21. He's now one point shy of moving up to a new level. I said, 'You jumped 11 points on your CRT. That's huge!'"

Bothwell says, "Some people thought *Number Worlds* was too advanced for the new Oklahoma standards, but I think we only truly understand math when we push past it. I want to give my kids the opportunity to go to school and do well in math wherever they go after middle school. *Number Worlds* has the kind of rigor that can make that happen."

About McGraw Hill *Number Worlds*

Number Worlds is a math program for at-risk students in grades PreK–8. Teacher-led mathematics intervention helps struggling learners in Response to Intervention Tiers 2 and 3 achieve math success. *Number Worlds* applies research-proven adaptive instruction to engage math-challenged PreK–8 students and quickly bring them up to grade level.

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—Deb Barnett, OKCPS middle school math teacher

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