



CASE STUDY

Hazelwood North Middle Takes Math to New Heights With *Number Worlds*[®]

ABOUT THE DISTRICT

Name

Hazelwood School District

Location

Florissant, Missouri



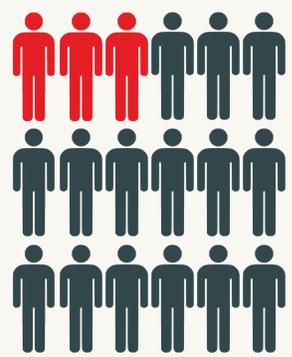
Overview

With more than 18,000 students currently enrolled in 33 schools,* Hazelwood is the second-largest K-12 school district in St. Louis. It strives to give children of every race, income level, and physical and mental ability the same chance.

The Special School District of St. Louis County was created to address the educational needs of students with disabilities such as language impairment, autism, and other emotional disturbances. These special education services are based entirely on a student's Individualized Education Plan (IEP)—which included nearly 3,000 students in the 2013/2014 school year.

Because teaching math to children with special needs without a curriculum has been challenging, the district's grade 6-8 teachers at Hazelwood North Middle School were exceptionally pleased to pilot *Number Worlds* during the 2015/2016 school year.

Of 18,000 students



Each person represents 1000 students

enrolled in 33 schools

3,000
are students with IEPs

Implementation

Tracy Nelson, a Hazelwood North Middle Modified Math Instructor, officially piloted *Number Worlds* in her grade 6-8 classrooms in 2015, partnering with grade 6-8 teachers Emily Meuth and Katie Kunkler to introduce the program to their students.

“Tracy and I attended a presentation to evaluate *Number Worlds*...she wanted to see how the program might work at Hazelwood,” said Meuth. “This is our first year with a true special education math curriculum, and it has made a huge difference. We’ve seen incredible results.”

Nelson was pleased that she chose to pilot the program.

“I had four students moved out of my classroom after the first trimester,” said Nelson. “I wish I had *Number Worlds* sooner, before some of my 8th graders got discouraged and gave up. I know I could have caught them up with this program.”

This past year, Katie Kunkler had just two students in her grade 7 modified math class—and both were enthusiastic about starting the program because it felt like something different.

“It’s unique to feel confident that what I’m doing is benefitting my kids.”

Katie Kunkler,
Special Education Instructor

“Every year, my kids are doing the same or similar lessons because their teachers have to pull together whatever materials they can find and make copies,” said Kunkler. “That doesn’t support progression. This year, we got actual materials through *Number*

Worlds, and my student with autism said he felt like he was doing ‘new math.’ Suddenly he was being challenged, and he liked it.”

“It made me wish I had Number Worlds sooner, before some of my 8th graders got discouraged and gave up. I know I could have caught them up with this program.”

Tracy Nelson,
Special Education Teacher

Engagement

When asked directly about their experiences with *Number Worlds*, the students in modified math classes at Hazelwood North Middle had responses such as:

“It is fun and inspiring and good.”

“Because math is like the key. Everywhere you go, it’s going to be math.”

“Because it has a huge impact on my future.”

The special education instructors at Hazelwood North Middle believe that *Number Worlds* works because when their kids engage in math it isn’t scary.

Meuth said educators have to trust the process to see results. “I thought the lessons were going in a strange order, but I decided to just go with it. Ultimately, I realized they were teaching it that way for a reason, and I stopped trying to figure it out,” said Meuth. “The program is aligned to the common core, and it works for all learning styles: visual, auditory, those that need to be up and moving around. We need to keep using this program.”

Nelson looks at AIMSweb data weekly to ensure her students are progressing, but she sees the progress in other ways, too.

“I had one girl that wanted out of modified. Then, as I was teaching a *Number Worlds* lesson, I saw the light bulb go on,” said Nelson. “My student broke through, and her confidence took off!” I remember her saying, ‘I can’t stop smiling.’ That student made her way out of modified classes before ever entering high school.”

Kunkler loves the hands-on manipulatives for engaging her students.

“My students are so happy NOT to just have worksheets,” she said. “They love Building Blocks and the online activities. By the end of the year, they were doing 2 lessons a day instead of 1.”

Meuth agreed that that engagement is what makes *Number Worlds* so unique.

“*Number Worlds enables me to be better focused on what kids need and what they are struggling with.*”

Emily Meuth,
Special Education Teacher

“There are hands-on activities to reinforce every major concept,” said Meuth. “My students ask to get on Building Blocks during free time, which has never happened before.”

She added that *Number Worlds* allows her to provide routine for her students with autism while also changing it up for those with short attention spans. This is because they always have their main lesson

in the same place and rotate to stations in a predictable pattern.

“*Number Worlds* enables me to be better focused on what kids need and what they are struggling with,” said Meuth. “The teacher portal is so helpful. Once I know what they need, I have access to the tools to make sure they get it.”

Results

The results of the 2015/2016 *Number Worlds* pilot at Hazelwood North Middle are irrefutable:

- Two-thirds of Special School District students with autism at Hazelwood North Middle are prepared for the MAP-A Assessment because *Number Worlds* provides them with the structure, routine, and simple format they need to master the concepts with increased independence.
- Hazelwood’s students with hearing impairment did not reach proficiency, yet they still had an average improvement of 35%. These students rely on an interpreter and FM system in order to access the curriculum.
- Hazelwood students with intellectual disabilities had an average improvement of 48%. The repeated review and drill and predictable lesson format allowed this group of students to independently work toward mastery of the concepts for the first time. The material is non-threatening, and the students are able to share what they have learned, and express their own process for learning and solving problems.
- For students with language impairments, *Number Worlds* provides access to the curriculum using content vocabulary in a way that all students can understand. Teaching vocabulary is embedded in every lesson and offers multiple opportunities for repetition to support mastery of the content and vocabulary.

The greatest obstacle for Hazelwood’s students with specific learning disabilities was breaking through their previous math experiences in order to build their confidence. Progress was slow at the beginning, because students were operating on their previous thoughts and feelings about math. With increased learning, their confidence grew.

Kunkler said teaching *Number Worlds* feels like patching holes in learning.

“My students’ background knowledge grew stronger, and their AIMSweb scores went up at least a grade,” she said. “They knew exactly what to do because the program is consistent and effective. As they gain confidence, they are willing to take risks.” Kunkler added, “I never want my students to feel dumb. No child should ever feel like that. When *Number Worlds* is implemented with fidelity, it fills in the holes that make them feel that way.”

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Katie Kunkler,
Special Education Instructor

The Future

Nelson is determined to continue using *Number Worlds* in the Hazelwood School District.

“We’re definitely going to keep using the program because we know it works,” she said.

Kunkler agreed. “*Number Worlds* makes me feel good about being a teacher,” she said. “There have been times I felt worn out, but *Number Worlds* has brought back my love of teaching math. My kids are walking around with their heads held high, and they can’t wait to get to class.”

Kunkler added that her students begin each year so far behind their same-age and grade peers that she doesn’t want to waste their time. “*Number Worlds* can help them skip a whole unit by building their number sense and catching them back up. I don’t have to waste time guessing what would be the right lesson. It’s all right there.”

About *Number Worlds*

Number Worlds is a blended learning intervention program for students in grades Pre-K to 8. *Number Worlds* applies research-proven adaptive instruction to engage students and quickly bring them up to grade level.