Success Story
Middle School Math  K-12 Math Program

Student Confidence and Leadership Soar at Penn Harris Madison Middle Schools

“When my students walk through my door, they're happy because they know that they're going to learn something new, that they're going to uncover a new secret.”

-Gianna Keim, 6th Grade Math Teacher - Discovery Middle School

Penn Harris Madison District Demographics:

- Grade Level: Pre-K-12
- Number of Students: 11,373
- Race: White: 73.8%, Black: 6.6%, Latinx: 5.8%, Asian/API: 5.7%, two or more races: 5.7%, American Indian/Native Hawaiian: 0.6%
- Economically disadvantaged: 19.5%
- English learners: 8.3%

Challenges:

- Obtaining a consistent math curriculum across grades and schools
- Addressing unfinished learning from disrupted classroom time
- Engaging students across a variety of math learning needs

Solutions:

- Middle School Math Solution (MATHbook & MATHia)

Populations Served:

- Middle School Students

Results:

- Student confidence and performance have soared
- Students with IEPs and RTI needs have addressed learning gaps and achieved grade-level learning
- Teachers have been empowered with more time and resources to support their instruction

When Elizabeth Cunha took over the principalship of Discovery Middle School, she knew she had big shoes to fill. The school is ranked 4th in the state of Indiana, and she is only the second principal in the school's 23-year history. After serving on a committee tasked with finding a district-wide middle school math solution, Cunha was confident that Carnegie Learning would provide a rigorous and flexible math curriculum across grades. She was right.

All three middle schools in Penn Harris Madison (PHM) School Corporation in St. Joseph County, Indiana, began implementing Carnegie Learning's Middle School Math Solution in the 2020-21 school year. The math solution has met the district's standards for excellence.

“The middle school teachers love MATHbook and MATHia,” says Principal Cunha. “They love that it's so hands-on, they love that it's so vivid, and they love the way it breaks down concepts.” Middle school math classrooms across the district have seen student performance and confidence soar.
Combining “New and Old Best Practices”

Carnegie Learning’s Middle School Math Solution comprises MATHbook, a consumable write-in text that fosters active, hands-on learning, blended with MATHia, an intelligent tutoring software that provides an adaptive path to mastery. This combination optimizes student engagement and performance.

“There are some deeper questions, but there are some surface questions too, so you can pull lower-achieving kids in. They can get more confidence from that because they all feel success.”

“Carnegie Learning’s math solutions are unique,” Principal Cunha says, because they “combine old school ways of constructing with materials—paper, pencils, scissors—with current technology. It’s combining new and old best practices.”

The Middle School Math Solution is based on decades of research by a team of instructional designers, cognitive scientists, and master practitioners, as well as the feedback of hundreds of educators. By applying a scientific understanding of how people learn—the science of learning—to the classroom, the math solution helps all students excel, no matter their starting point.

Designed to Help Every Student Be a Math Person

Not all students walk into a math classroom feeling like “a math person.” But Carnegie Learning’s curriculum is designed to help each student build the confidence that they are.

Eighth-grade math teacher Michelle Crawford appreciates that formative assessments in the MATHbook are designed to help build confidence in all students. Ms. Crawford notes,

“Gianna Keim, a sixth-grade math teacher, points out how lesson activities and discussions are designed to help students discover math principles on their own, rather than through a top-down lecture. She says, “when my students walk through my door, they’re happy because they know that they’re going to learn something new, that they’re going to uncover a new secret.”

Ms. Keim adds, “The biggest change I’ve seen in my students since partnering with Carnegie Learning is a positive attitude. I’ve had many students tell me, ‘I don’t hate math anymore’ and give a smile. The fact that they’re able to vocalize, ‘I’m ready for it. I feel confident. I feel empowered, excited. I feel like a leader,’ is very encouraging as a teacher.”
Engaging Mathematical Discourse Builds Student Leaders

A key feature of MATHbook that contributes to building learners and leaders in the classroom is the “Questions to Support Discourse” section for each unit in the teacher’s guide that helps facilitate critical thinking and mathematical discussions.

Even the least likely students have emerged as strong mathematical leaders in this environment. One sixth-grade student professed to be “really bad at math,” but ended up being one of Ms. Keim’s top performers. This student grew from being silent in class to leading group discussions so enthusiastically that she would be on her feet and leaning in towards her classmates.

When this student aced a test on fractions, she laughed and remarked, “I can’t believe I’m that student now. No one expected it from me.” Ms. Keim reflected on the power of this transformation: “She recognized that she proved all of them wrong, and, perhaps most importantly, that she proved herself wrong.”

Carnegie Learning’s math solution helped this student, and many like her, perform as the skilled and competent learner and leader she was always capable of being.

Ongoing RTI Successes

The impact of Carnegie Learning’s math solution has been particularly favorable with Response to Intervention (RTI) groups, largely because of MATHia’s ability to personalize learning and offer just-in-time support that addresses each student’s particular skill gaps. “We love that MATHia works with students at their level and scaffolds as they go,” says Principal Cunha.

Principal Dean-Null has seen similar results at Schmucker Middle School: “RTI students use MATHia to fill in gaps and learn skills from previous units or school years that they missed the first or second time through.”

With both middle schools using MATHia consistently to supplement classroom instruction, the number of students needing mathematical interventions has decreased.

Skill-Building for Students with IEPs

Students with Individualized Education Plans (IEPs) have also been able to build skills, close gaps, and improve confidence with MATHia.

“Our special education students have seen great success with Carnegie Learning,” reports Principal Cunha. “Prior to implementing Carnegie Learning’s math solution, I don’t know that they were always able to do grade-level math concepts, but because of MATHia being supplemental within the curriculum, they can always do the practice they need to approach or attain grade-level status.”

Principal Cunha further notes that students with IEPs have benefitted from the multiple ways information is presented in Carnegie Learning’s curriculum and the diversity of entry points the material provides. “Carnegie Learning presents skills or strategies in a lot of different ways,” says Cunha, “and IEP students feel a lot more seen and encouraged.”
Empowering Teachers

One of the greatest benefits of Carnegie Learning’s math solutions is that it gives teachers time to focus on what they do best—connecting with students.

Principal Dean-Null notes that teachers are now spending less time gathering resources or completing administrative tasks: “Teachers are freed up now to think more about how they’re instructing, how they’re working with kids, how they’re forming assessments, and how they’re tweaking lessons based on student need.”

Looking Forward to the Future

Now that students are back to in-person learning and Penn Harris Madison is getting closer to a post-pandemic recovery, they are looking forward to realizing the full capabilities of MATHbook and MATHia. The middle schools’ standards for excellence remain high, and they have equally high hopes that Carnegie Learning’s Middle School Math Solution will help students continue excelling as math learners and leaders.

Supporting the District with Wraparound Services

Carnegie Learning’s professional development and support services make its math solution stand apart from the rest.

Principal Dean-Null praises Carnegie Learning’s wraparound services: “I’ve gone through lots of adoptions of new curricula, and Carnegie Learning is one of the best when it comes to offering support and working with people.”