Mc Graw Hill ALEKS®

CASE STUDY

Raymond B. Stewart Middle School Exceeds its Intensive Math Goals with *ALEKS®*

PROFILE

Name
Raymond B. Stewart Middle School

Location
Zephyrhills, FL

Grades
6–8

Overview

Raymond B. Stewart Middle School (RBSMS) is located in Zephyrhills, Florida and is part of the Pasco County School District. RBSMS serves nearly 1,000 students in grades six through eight—76% of whom qualify for the Free and Reduced Lunch program.

As a Title 1 school, many RBSMS students have learning gaps that prevent them from being successful on grade-level material. Leaders at RBSMS strive to challenge these gaps so that all students can reach their academic potential.

To learn more, please visit: **mheonline.com/ALEKS-Case-Pasco**

This goal has inspired the use of *ALEKS* to help intensive math students gain and maintain new levels of math achievement—**including having the highest Florida Standards Assessment (FSA) Math learning gains for the lowest 25% of students in their district's Title 1 schools.**

ALEKS is a web-based, artificially intelligent assessment and math learning system that uses adaptive questioning to quickly and accurately determine exactly what a student knows and doesn't know in a course. *ALEKS* then instructs the student on the topics he or she is most ready to learn.

Implementation

Raymond B. Stewart Middle School (RBSMS) leaders wanted a math program that could help close gaps in student learning while also enabling teachers to support students with grade-level material and beyond. In the 2016–17 school year, they introduced *ALEKS* along with a new math curriculum to meet the needs of students on three levels: Tier 3, Response to Intervention (RTI), and middle school math.

That first year, all students used *ALEKS* in their math classes, but by the following school year, it was used solely for intensive math students with an FSA level of 1 or 2. Those students received a double-dose of math instruction four times a week, with 30 minutes of *ALEKS* and 20 minutes of on-grade-level support in addition to their core math class.

During the 2018-19 school year, school leaders refined their approach even further in order to ensure the right students are benefiting from time spent on *ALEKS*.

"We've found that our sweet spot is targeting students with an FSA Level 2 in Math and Reading," said Math Coach Deborah Pickett.

"They spend about two hours a week on *ALEKS*, and then we have a weekly conference with them to discuss their performance, so they know someone is paying attention to their progress."

RBSMS intensive math teachers use iPads, computer carts, and computer labs to access *ALEKS* during the school day, and home use is also encouraged so that students can get another hour of time in *ALEKS* each week.

Intensive Math teacher Karen Cooley believes *ALEKS* gives her new ways to present information and make connections with each student. "Everything has changed from the 'I do, we do, you do' approach to math," she said. "Today's students need independent learning, and they need to learn through mistakes and exploration. *ALEKS* fits within those parameters."

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> **–Karen Cooley**

Results

ALEKS allows RBSMS teachers to track the progress of intensive math students in ways they never have before. In addition to the district's quarterly assessments and the state's annual FSA, they can also look at week-to-week mastery data, topics completed, and the IEP report in *ALEKS* to see Multi-Tiered System of Supports (MTSS) growth.

> **"Even as we are working to exit more kids out of Intensive Math, some of those kids don't want out because they are seeing success with *ALEKS*."**
>
> **–Deborah Pickett**

"We do whatever we need to ensure our students can be super-successful," said Pickett. "As a result of using *ALEKS*, we've seen significant growth over what happened in the past."

In fact, out of all Pasco County School District's Title 1 schools, RBSMS math students had the highest learning gains for the lowest 25% of students on the FSA Math, and the school tied the district mean for learning gains of the lowest 25%.

Even more impressive is that Intensive Math students outperformed the grade-level average in 2017–18 quarterly assessments.

When a new group of students came in the following year, the teachers wondered whether they would see data changes. To their surprise, in the first quarter of the 2018–19 school year, the grade-level average for sixth graders was 50%, while the intensive average was 55%. The grade-level average for seventh graders was 49% (outperforming the district), while the intensive average was 52%.

"When you have kids in Intensive Math outperforming those that are not getting intensive-level support, you have to ask, 'What's going on?'" said Pickett. "Even as we are working to exit more kids out of Intensive Math, some of those kids don't want out because they are seeing success with *ALEKS*."

One of the keys to that success is that *ALEKS* identifies gaps students may have had since elementary school, and it will not allow students to progress until they have mastered the content necessary to close those gaps.

"I had a young lady who received a 14% on her knowledge check in August of this year," said Cooley. "One quarter later, she is now scoring a 63%. My students are better prepared, and they are gaining confidence."

This year, 40% of Intensive Math students have already exited, allowing more students to come in and work on closing their own gaps.

Raymond B. Stewart Middle School Intensive Math Versus Grade-Level Math Progress by fourth quarter, 2017–2018

Quarter 1	Average
Sixth Grade Average	45%
Intensive Avg (51 students)	57%
Seventh Grade Average	48%
Intensive Avg (22 students)	55%

Quarter 2	Average
Sixth Grade Average	37%
Intensive Avg (57 students)	44%
Seventh Grade Average	37%
Intensive Avg (21 students)	36%

Quarter 3	Average
Sixth Grade Average	36%
Intensive	41%
Seventh Grade Average	34%
Intensive	36%

Note: RBSMS does not perform fourth quarter checks due to FSA testing.

Student Engagement

Scheduling time for students to work in *ALEKS* helps RBSMS teachers ensure the program is being used, and providing students with incentives is a great motivator. Cooley pays her students in play dollars—$1 for every two topics—to raise the stakes. They are paid on Fridays when they can use those dollars in a school store that she stocks with food and toys.

"I choose a Student of the Week based on how many topics students have completed in *ALEKS*," said Cooley. "They are working for it. I had one boy complete 50 topics on a Saturday. That's six hours of work! It's a win for me and a win for them."

Students are able to access *ALEKS* on any internet device, which makes it possible for them to continue working at home after school and on the weekends.

Each week, the courses they've covered are assessed, and students are moved to the appropriate level as needed. Pickett said *ALEKS* helps them gain confidence in their grade-level classes too.

"Our Intensive Math students start to think, 'I can do this,' because they've already covered topics in *ALEKS*," said Pickett. "Their peers start to look at them as the experts."

Students who start in an RTI course and make it to the middle school math course are eligible to attend a pizza party.

"When we help kids close gaps, it allows them to spread their wings," added Pickett. "They are making a sacrifice to do two math classes, one grade-level and one intensive. An opportunity for exit means they have time to go to PE or art classes."

"Often, students learn something once, and they quickly forget it. But in *ALEKS*, everything repeats and builds on itself, so they will gain the same knowledge in different areas as they progress."

–Karen Cooley

Often, the learning gaps Cooley and Pickett see in their sixth- and seventh-grade classrooms began in third, fourth, and fifth grade. *ALEKS* allows them to hone in on each standard and know exactly what to teach to address those gaps.

"A lot of these kids don't seem to know addition, subtraction, multiplication, or division," said Cooley. "They really like the QuickTables in *ALEKS* because it allows them to move on to games."

In *ALEKS* QuickTables, the memorization of math facts is facilitated by a distributed practice mechanism that closely adapts to the individual student. This enables a learning sequence that carefully mixes new and partially mastered problems, gradually moving the learned facts from short-term memory to long-term memory.

"Often, students learn something once, and they quickly forget it, but in *ALEKS*, everything repeats and builds on itself, so they will gain the same knowledge in different areas as they progress," added Cooley. "I encourage every student to keep a math journal so they can track that progress."

The Future

Pickett and Cooley both love *ALEKS* because it allows them to support every student by meeting his or her individual needs. Next year, depending on the resources they receive from their district, they hope to expand *ALEKS* to more students—especially select students who could benefit from additional help but are not in Intensive Math because of scheduling challenges.

"Now our seventh- and eighth-grade teachers want to be able to use *ALEKS*," said Pickett. "We're at the end of selecting curricula, but no matter what is in the running, it's clear everyone wants to keep *ALEKS*."

About *ALEKS*®

ALEKS is an adaptive, online math learning program that delivers a personalized learning path for each student. This robust, digital resource adapts to each student's level by delivering periodic assessments that determine what each student is most ready to learn. *ALEKS* challenges students while keeping them fully engaged, guiding students on their personalized learning path while eliminating frustration and boredom. For complete details, visit **ALEKS.com/k12.**

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