ALEKS® Takes The Lid Off Math Achievement
In Oak Creek-Franklin School District

Overview
The Oak Creek-Franklin school district lies outside of the greater Milwaukee area in southeastern Wisconsin. The district serves more than 6,400 students in the city of Oak Creek and a portion of the city of Franklin. More than half of those students are in grades 6–12 and attend West Middle School, East Middle School or Oak Creek High School.

During the 2012–13 and 2013–14 school years, district leaders were surprised to see a sudden drop in some of its students’ standardized test scores. Specifically, the scores for their 7th-grade math students had fallen well below the state average.

Noting that scores in other subjects such as language arts, science and social studies remained strong, the district forged a strategy to address the math issue immediately.
Oak Creek-Franklin Joint School District suddenly had FALLING SCORES on state math tests.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd</td>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>4th</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>5th</td>
<td>-5</td>
<td>-10</td>
</tr>
<tr>
<td>6th</td>
<td>-15</td>
<td>-15</td>
</tr>
<tr>
<td>7th</td>
<td>-20</td>
<td>-5</td>
</tr>
<tr>
<td>8th</td>
<td>-5</td>
<td>-5</td>
</tr>
<tr>
<td>10th</td>
<td>0</td>
<td>-10</td>
</tr>
</tbody>
</table>

With ALEKS, teachers quickly saw that they could use real-time data to zero in on the strengths and weaknesses of each student and gain a stronger understanding of each student’s level of mathematical knowledge. That data made it possible for teachers to meet students at their existing skill levels and provide instruction tailored to their scope of understanding.

Chad Evenson, Curriculum Coordinator for Oak Creek-Franklin School District, oversees K–12 curriculum in every subject. He was an early proponent of using ALEKS to address the sudden drop in student math scores.

“We looked at the things that were positive and negative in our middle schools,” says Mr. Evenson. “For example, by moving to small group instruction, we knew we could capitalize on the great relationships students already had with their teachers. ALEKS was exactly what we needed to implement data-based grouping and make a positive shift happen.”

ALEKS provided district teachers with the data they needed to personalize their instruction, while also delivering online tutoring, assessment and practice problems that were tailored to the specific needs of each student. By the 2014–15 school year, all middle schoolers in the district were using ALEKS in their math classes.

John Marzion, Math Learning Coach at East Middle School, recalls how using ALEKS influenced changes in the classroom.

“The first year, we were just getting used to ALEKS, so everyone was using it a little bit differently,” he says. “Soon, we noticed that the most effective use of the program involved longer class periods during which ALEKS was combined with small group instruction. So, the next year the whole school went to 80-minute classes with ALEKS.”

Annalee Bennin, Principal at East Middle School, recognized early on that existing class schedules were not the most effective, and a major shake-up was needed. “We were working from the model of 40-minute, whole group lessons with repetitive practice, and it wasn’t working,” she says. “Extending our classes from 47 minutes to 80 minutes made it easier to implement the workshop model.”

“We were working from the model of 40-minute, whole group lessons with repetitive practice, and it wasn’t working. Extending our classes from 47 minutes to 80 minutes made it easier to implement the workshop model.”

–Annalee Bennin
Principal
East Middle School
District leaders provided plenty of Professional Development to prepare teachers for the changes. Ms. Bennin stresses that explaining the “why” behind things is important for ensuring members about the changes to come.

“We brought in pre-implementation coaches for a full ten months to help ease the anxiety of the transition,” says Ms. Bennin. “First, we showed them the trends in our data and explained why we needed to make changes. Then we introduced them to what an 80-minute ALEKS workshop looked like.”

For example, an 80-minute block usually begins with 30-minutes of ALEKS worktime. Teachers can then use the data they gather from that work to see what their students are ready to learn. This also enables them to create small groups based on varying readiness-levels and ask relevant, open-ended questions that get the students collaborating with their peers. A full 50-minutes of class time is dedicated to peer-assisted learning, which frees the teachers to guide other small groups or to hold personal conferences.

**High School Implementation**

After seeing so much success in the middle schools, the district was ready to introduce ALEKS to Oak Creek High School during the 2015–2016 school year. In preparation, its high school math students were pretested. Thirty-eight percent of them were working below book. District leaders were surprised and concerned.

“If you have a student sitting in a 9th-grade class that is only proficient up to a 6th-grade level, that student is going to shut down,” says Sara Johnsen, High School Learning Coach in the Oak Creek-Franklin School District. “Students in that situation often won’t try doing concepts that they don’t have the skills for.”

ALEKS offers a way to reach those students without disrupting the learning of others, but Ms. Johnsen remembers there were challenges to implementing the program at the high school level.

“At the time, we had an eight-period day with 51-minute classes, and we used traditional textbooks. Our teachers had been teaching the same way for a long time, so there were logistical challenges, as well as some skepticism about ALEKS,” says Ms. Johnsen. “Many teachers worried it might affect ACT scores and that there wouldn’t be enough teacher interaction.”

What ultimately changed the high school teachers’ minds about ALEKS is exactly what makes the program so effective: data.

“Our middle schools were having great success with ALEKS. Some of our 7th-graders had earned their way into double-accelerated Algebra. Yet some high school teachers remained unconvinced,” says Ms. Bennin. “As a test, we administered the midterm and final exam to our middle school students in a pencil and paper format with no prior notice and no notes.”

The result?

“Our middle school students performed as well if not better than the high school students on the high school midterm and final exam,” says Mr. Marzion. “And I give all of the credit to the teachers for embracing ALEKS. The more they gave up control, the more engaged the kids became.”

> “Our middle school students performed as well if not better than the high school students on the high school midterm and final exam. And I give all the credit to the teachers for embracing ALEKS. The more they gave up control, the more engaged the kids became.”
> --John Marzion
> Math Learning Coach
> East Middle School

Ultimately, the high school did embrace ALEKS, and they are finding just as many reasons to love the program.

“ALEKS gives us more tools in our toolbox, and our students are held accountable for the knowledge they are gaining,” says Ms. Johnsen. “They can’t move on until they have mastered the skills from the topic. We’re seeing real growth in our student’s abilities to learn independently.”

**Student Engagement**

It isn’t just the instructors who have to adjust to ALEKS and workshops. Math students in Oak Creek-Franklin School District now receive performance data on a regular basis in the form of ALEKS-generated graphic pies. Students can see exactly how much work they have completed and how many concepts they have left to learn before mastering a topic.
“In traditional classrooms, if a student gets a question wrong, the teacher may have moved on to a new topic before anyone finds out,” says Mr. Marzion. “With ALEKS, we can look at data every day and address misinformation before it becomes engrained.”

“We use ALEKS to place students at the appropriate skill level, so that nothing is over their heads. That keeps them engaged,” says Mr. Evenson. “When I go into our math classrooms, students are always on the appropriate screen doing math or they are talking about math and working on problems together.”

He stresses that ALEKS is not just for intervention, and that it is effective at motivating students of all learning levels.

“The biggest success is that ALEKS takes the lid off what kids can achieve. If a student is in 6th-grade math, and he or she has finished all the pies for that grade level, it is fine for that student to move on. Students can go as far as they are capable of going, even if it is into the next grade level.”

“The biggest success is that ALEKS takes the lid off what kids can achieve. If a student is in 6th-grade math, and he or she has finished all the pies for that grade level, it is fine for that student to move on. Students can go as far as they are capable of going, even if it is into the next grade level.”

—Chad Evenson
Curriculum Coordinator
Oak Creek-Franklin School District

Mr. Marzion adds, “We have some 8th graders working on 4th-grade pies. Rather than forcing them to sit in an 8th-grade level class where they may feel disenfranchised, ALEKS allows them to feel successful at their own level and move up at their own pace. We’ve changed the math mindset, and it’s a drastic change.”

Ms. Bennin says that her school regularly posts an Excel sheet that lists the grade level each student is working on and the topics he or she must cover to move on.

“When I tell other educators that we do this, they are surprised, but it has never turned into a negative,” she says. “We do it to encourage perseverance, and it has created a culture of encouragement. Our students want others to succeed, and they never say, ‘I don’t get it’ because they know they can ask a peer, go on ALEKS, and work harder. They are responsible for their own learning.”

“In traditional classrooms, those who feel confident about their math abilities sit up front, while those who are struggling sit in the back and feel disconnected,” says Mr. Marzion. “The workshop model encourages kids to look at math as a big experiment. Creating customized, mini lessons for small groups allows kids to feel successful and have fun.”

He notes that they anonymously surveyed 950 kids in his building and asked them whether they love, like, dislike or hate ALEKS. Ninety-five percent said they like or love the program. “We then asked them if they like using ALEKS more than doing work out of a book, and 100% of the students chose ALEKS,” says Mr. Marzion. “It’s still work, but it’s work they are willing to do because it engages them.”

“ALEKS has made our students much more self-sufficient and supportive of others,” says Mr. Evenson. “When they are struggling, they are encouraged to watch a video or ask a neighbor for help. If those steps don’t work, then they can put their name on the board to get help from the teacher.”

Anonymous survey of students on 10.21.16
(844 responses)
Results

After four years of using ALEKS in Oak Creek-Franklin classrooms, the results have been overwhelmingly positive. All three schools now have ample data that shows ALEKS is working, and they find themselves doing presentations to share that data with other districts.

Middle School Gains

It is clear to see that when ALEKS was implemented, the scores not only raised up to meet the state average, but soon surpassed it by leaps and bounds.

"Nine years ago, Schooldigger scored us right at the 50th percentile in our state," says Mr. Evenson. "It now shows that we are performing 69.2% better than other districts in Wisconsin. The majority of that growth has been in math."

In his presentations, Mr. Marzion likes to share what it looks like when the potential of young learners is unlocked.

"When we piloted ALEKS, we had 317 students in accelerated math classes and zero students in double-accelerated classes," he says. "By the 2016–2017 school year, we suddenly had 345 students in accelerated math and 60 students in double-accelerated math. That’s a jump from zero to 60 in three years. Every data set we look at shows an impact."

ALEKS helps teachers and students REACH THEIR FULL POTENTIAL

How did the students gain that proficiency to advance so dramatically? The connection to ALEKS is clear when reviewing the number of ALEKS pies that middle school students completed, year by year.

More pies completed = more student confidence in their own math abilities!
The following charts illustrate the slump, recovery, and ultimate resurgence of the district’s 6th, 7th and 8th-grade math scores in comparison to the state average.

It’s amazing to see how dramatically student scores rose when ALEKS was in full use during the 2014–15 and 2016–17 school years.

High School Gains

The high school had a few more challenges implementing ALEKS, but as the program takes hold and middle schoolers who are used to working with ALEKS move up, strong results are surfacing there, too.

The graphic below shows the difference in freshman students enrolled in Algebra2 with Trigonometry, year by year. In the 2014-2015 school year, only one high school freshman was confident enough to take both courses. Year by year, those numbers grew, and in 2017–2018, 43 freshman have enrolled for both Algebra 2 with Trigonometry.
“Our teachers now understand how to communicate about pre-assessments,” says Ms. Johnsen. “And for students, goal-setting has become a cultural norm. ALEKS is how we do math now.”

“Our teachers now better understand how to communicate to students about the initial knowledge check and grading policies.”

–Sara Johnsen
High School Interventionist
Oak Creek High School

The Future

Now that ALEKS is entrenched in both of its middle school math classrooms, the district is focusing on expanding ALEKS at the high school level.

“Between 2012 and 2014, we introduced ALEKS to some of our 6th, 7th and 8th-graders,” says Mr. Evenson. “By the 2016–2017 school year, it was in the middle schools and the high school, and we began using it for Pre-algebra, Algebra and some Geometry classes. Next year, we hope to be using ALEKS in all Geometry classes and some Algebra II.”

Ms. Johnsen says they are hoping to see the impact on students’ ACT scores over the next two years, but she adds, “You have to be patient when using a program like ALEKS. We have continually changed the way we use it, because there is no right or wrong way. ALEKS is not the answer; it is a tool.”

In the future, Oak Creek-Franklin math students will benefit from a 50/50 model: 50% mathematical skills/concepts accompanied by 50% mathematical application. Ms. Bennin says, “I like to quote Karim Ani to explain our approach. He says, ‘A math class without authentic applications is like an astronomy class where students spend the year calibrating a telescope but never actually look at the stars.’ The skills and concepts that our students acquire via ALEKS helps them build telescopes. They get to see the stars through those telescopes when they apply this knowledge in authentic, relevant ways.”

For the Oak Creek-Franklin School District, every year is a new challenge, and so far, ALEKS has helped them meet—and exceed—their math goals.

About ALEKS®

ALEKS is a personalized math solution for grades 6–12 that uses artificial intelligence to identify and provide instruction on the topics each student is most ready to learn next. Designed to ensure mastery, ALEKS maps each student’s evolving knowledge state and continuously refines the way topics are connected to each other. By presenting the topics a student is most ready to learn next, ALEKS ensures a mastery rate of more than 90 percent.

To learn more about ALEKS, visit: aleks.com/k12