



INNOVATING SUCCESS

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– Timothy J. Johnson



Stephen F. Austin High School Houston ISD Houston, Texas

School Statistics

- 1,850 students
- Grades 9-12
- Urban
- <http://sfamustangs.org/index.html>

Student Population

- <1% Asian/Pacific Islander
- <1% Caucasian
- 2% African-American
- 15% Special education
- 22% Limited English proficiency
- 95% Economically disadvantaged
- 97% Latino-American



Austin High School Improves Student Performance with AC Science Texas

Challenge

Stephen F. Austin High School is one of 44 high schools in the Houston Independent School District (ISD), the largest public school system in Texas and the seventh largest in the United States. In 2011, the percentages of Austin High School students passing the Texas Assessment of Knowledge and Skills (TAKS) grade 11 exit-level exams were 79 percent in science, 81 percent in mathematics, 86 percent in English language arts, and 94 percent in social studies.

“Of the four content areas, science was an area of concern in terms of our standardized test scores. Students usually performed better in English language arts and social studies than they did in science and math,” Timothy J. Johnson said, a science teacher now in his 28th year of teaching and science department chair at Austin High School.

“In 2011, our district looked at nine different solutions that were approved as part of the state’s Supplemental Science Materials adoption and we decided on Adaptive Curriculum,” he said. “I liked that the program has a lot of built-in formative assessment and that it gives immediate feedback to the student and teacher, alike. Another thing that stood out for me is that it has several features to support English language learners (ELLs), which is important for our population here in Houston.”

Implementation

Austin High School began using Adaptive Curriculum (AC) Science Texas™ in spring 2012. AC Science Texas™ is an innovative concept mastery solution that strengthens science performance by helping middle and high school students build a deep understanding of core concepts and skills. The web-based program provides full coverage of the new Texas Essential Knowledge and Skills (TEKS) for Science in grades 5-8, biology, chemistry, integrated physics and chemistry (IPC), and physics.

At Austin High School, AC Science Texas™ is used in grades 9-12 in a variety of classes, including biology, chemistry, and physics. Teachers use the program’s instructional units, called Activity Objects, to provide individualized, small-group and whole-group instruction.

Keep Reading

Implementation Continued

With AC Science Texas™, students master core concepts and skills through active participation in an immersive, differentiated learning environment that provides real-time feedback and assessment.

"I love the active learning," Johnson said. "During whole-group lessons, students want to go up and manipulate things on the screen and test their hypotheses and explore. It's not a game but it feels like a game, which appeals to them."

AC Science Texas™ integrates real-world content from across the curriculum with challenging problem-solving situations to foster higher-order thinking skills. It engages digital-age learners with realistic visualizations, interactive simulations, 3-D models, and virtual labs and manipulatives.

At Austin High School, teachers appreciate that Adaptive Curriculum's multimedia and multisensory lessons help them address diverse learning styles.

The online program also supports ELLs by providing written and verbal instruction, so students see and hear words in English. In addition, it includes Spanish language content to support non-English speaking students.

"We have many students who have been in this country only a year or two, or less. The Spanish language content is essential for my students," Johnson said. "Whether a student speaks English or Spanish, Adaptive Curriculum meets students where they are. We can pull up middle school

lessons, if needed, to build struggling students' skills up to the high school level. Or, we can use the rigor of the program to take students as high as they want to go."

Adaptive Curriculum's built-in standards alignment and search capabilities allow teachers to quickly choose Activity Objects that address their specific curriculum and standards requirements. Online assessments and reports, as well as printable activity sheets, enable teachers to easily monitor student progress, identify areas of concern, and keep students on task.

"The flexibility of assigning any part of the curriculum to any student, and the ability to quickly monitor students' time and performance are really big selling points for me," Johnson said. "A key difference between Adaptive Curriculum and other science programs is the amount of exploration and manipulation students can do," Johnson said. "As teachers, it gives us a variety of ways to introduce a lesson and to provide reinforcement or remediation. The built-in formative

assessment allows us to easily monitor student learning, so we can immediately adjust our instruction to meet students' needs.

Outside the regular school day, teachers also use AC Science Texas™ with struggling learners in afterschool tutorials, Saturday tutorials, summer school credit recovery courses, and a summer bridge program for incoming ninth graders.

"Teachers find the Activity Objects to be very effective with these students," Johnson said. "I used the program for credit recovery with 30 students who had failed their first semester of physics in the fall. Most of these students accessed Adaptive Curriculum from home, so this program has the potential to save a lot of classroom time."

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Results

Austin High School Percentage of students passing the grade 11 exit-level TAKS exams

	2011	2012	Difference
Science	79%	95%	+16 percentage points
Mathematics	81%	93%	+12 percentage points
English Language Arts	86%	90%	+4 percentage points
Social Studies	94%	97%	+3 percentage points

"Adaptive Curriculum has been a great help to me in my physics classes and with credit recovery in physics," Johnson said. "In 2012, we did better than we've ever done on our standardized tests in science at the exit level. We can't credit the changes only to Adaptive Curriculum, but I do think it's making a difference in student learning." From spring 2011 to spring 2012, the

percentage of Austin High School students passing the grade 11 exit-level science TAKS exam rose from 79 percent to 95 percent. The gain of 16 percentage points in science was the largest gain of the four core subject areas. In addition, the percentage of students achieving the Commended result on this test rose from 10 percent to 22 percent.

