

Research Brief

Altamont High School

DUCHESNE COUNTY SCHOOL DISTRICT, ALTAMONT, UTAH

Students Improve Math Performance on SAGE and ACT Assessments

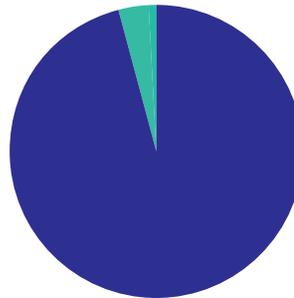
Evaluation Overview

Grades: 9–12

Model: Computer Lab

Measure: SAGE Math, ACT Math

Demographics



Caucasian	97%
Hispanic	3%
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Total Students	299
Gender	
Male	51%
Female	49%
Other Demographics	
Low income	25%

School Overview

Altamont High School (AHS) is located in Duchesne, Utah, a rural town nestled between the Strawberry and Duchesne Rivers in the Uintah Basin of northeastern Utah, with a population of 1,872 people and an economic base in farming and oil. The school enrolls approximately 300 students in grades 7–12, who are predominantly Caucasian (97 percent).

AHS set out to improve math achievement during the 2014–2015 school year after 55 percent of high school students scored below the proficient level on the spring 2015 Student Assessment of Growth and Excellence (SAGE) math test. Without a budget to hire a highly qualified teacher, the school decided to turn to online instruction to better meet individual student needs. The school selected Edgenuity because of its robust reporting system and competency-based approach to learning. In the fall of 2015, the school enrolled all of its high school students in Edgenuity online math courses.

Implementation

Planning for Success

AHS recognized that implementing a new online learning program would require careful, step-by-step planning. Teachers and school leaders would need quality professional development to help incorporate the program in blended and online contexts. Once staff understood how to integrate rich pedagogical strategies with the program, they would need to work with students and parents to articulate a clear vision for online course use, and create a strategic plan for making that vision a reality. The plan would need to anticipate obstacles and come up with proactive strategies to address them.



“We knew we had to lead with the end in mind,” said Principal Dean Wilson. “We didn’t want students to feel like they were guinea pigs in some sort of mathematical experiment.”

At the start of the year, teachers and school leaders attended two days of training to learn how to use and customize Edgenuity courses, set expectations, carefully align offline activities to face-to-face instruction, monitor data, provide positive feedback, and encourage online discussion. To create buy-in, school leaders invited parents and community leaders to attend workshops that discussed personalized learning, and the flexibility and options for students, staff, and families. In addition, the school trained parents how to access the Family Portal, a website that allows parents to access real-time information about their student's progress and performance.

Teacher-Led, Data-Driven Instruction

AHS students used Edgenuity math courses in computer labs for 70 minutes each day. Students were expected to complete at least 3 percent to 4.5 percent of course activities each day, with a grade of 70 percent or higher.

While in the computer lab, lab managers used data from Edgenuity's learning management system to monitor student performance, engage students, and inform content-area teachers about the specific areas in which students were struggling. Students who were falling behind or failing to master content material were pulled from their elective classes (physical education, band, or choir) to receive one-on-one instruction from a certified math teacher. The certified teacher provided additional remediation and support to reengage the students.

The school leaders viewed data as a way to deepen teacher-student relationships. "Data tracks student proficiency and it doesn't lie," commented Principal Wilson. "However, you cannot underestimate the role of a highly qualified teacher, a savvy, competent person who can use data to clarify concepts in different ways to ensure students truly understand course material."

Modeling Positive Behavior

AHS leaders believed you cannot adequately teach content material without modeling positive behavior. As such, the school aligned its blended learning program with its positive behavioral interventions and support system (PBIS).

The school used a reward system where Edgenuity students earned cards for good online behavior in five areas: personal responsibility, respect, integrity, discipline, and engagement. Teachers gave three cards per day, one to a low-performing student, one to an on-grade-level student, and one to a high-performing student. On the back of each card, the teacher wrote why the student earned a card that day. After submitting the card to the principal, the student became eligible for weekly, monthly, and annual privileges and cash prizes. The program was so successful that students initiated their own card program designed to show appreciation for teachers.

Study Sample

This report tracks the academic performance of Altamont High School students who used math courses during the 2015–2016 and 2016–2017 school years.

Measures

Edgenuity Program Data

Edgenuity's learning management system tracks student progress, achievement, and engagement data. This study collected data for all 9th to 12th grade students who used Edgenuity math courses during the 2015–2016 and 2016–2017 school years.

Student Assessment of Growth and Excellence

SAGE is Utah's computer-adaptive assessment system aligned to the state's core standards. SAGE includes a summative end-of-year test used for state and federal accountability, and interim fall and winter tests that inform instruction. The math assessments include standard tests for grades 3–8, as well as Secondary Math I, II, and III. In 2017, the state did not administer the SAGE assessment to students in grade 11.

ACT

The ACT is a curriculum- and standards-based educational and career planning test that assesses students' academic readiness for college. The test consists of four multiple-choice subtests: English, Mathematics, Reading, and Science. It provides a benchmark for the minimum score needed for students to be ready for college-level coursework. This study focuses on the Math subtest of the ACT.

Results

Participation Level

Edgenuity usage data were collected for 219 Altamont High School students who were enrolled in 754 math courses during the 2015–2016 school year and 223 students who were enrolled in 822 math courses during the 2016–2017 school year (see Figure 1).

Data indicate that students progressed through nearly 80 percent of course activities during the 2015–2016 school year and more than 76 percent of course activities during the 2016–2017 school year, maintaining an average overall grade of approximately 77 percent both years.

Figure 1. Altamont High School Edgenuity Students

Edgenuity Math Course Data by School Year

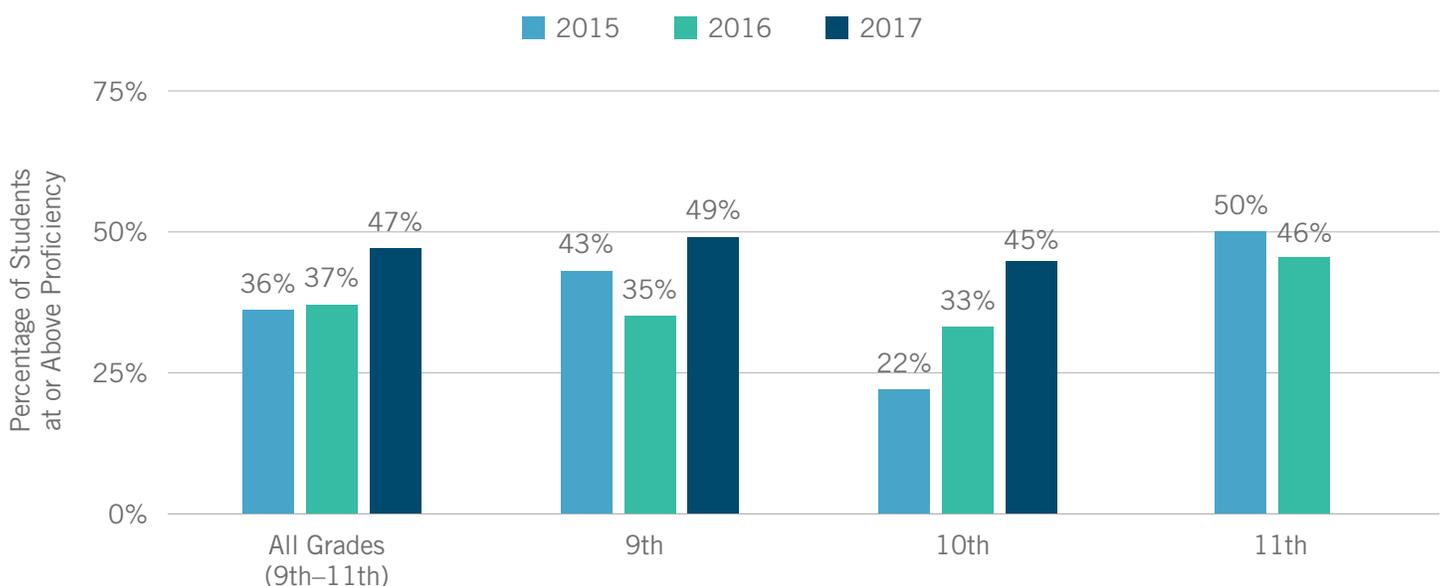
School Year	Number of Students	Total Number of Courses	Average Progress	Average Overall Grade
2015–16	219	754	79.4%	77.4%
2016–17	223	822	76.5%	76.8%

SAGE MATH ASSESSMENT

Edgenuity examined AHS student performance on the SAGE Math assessment from the 2015 (prior to Edgenuity use), 2016, and 2017 school years. During the 2014–15 school year, AHS used in-person, face-to-face instruction only. Overall, from 2015 to 2017, the percentage of students scoring At or Above Proficiency increased from 2015 to 2017 (Figure 2). Results were particularly impressive for 10th grade students, who demonstrated more than an eightfold increase in proficiency rates on the SAGE Math test.

Figure 2: Altamont High School Edgenuity Students, Grades 9–11

Percentage of Students Reaching Proficiency on the 2015, 2016, and 2017 SAGE Math Tests

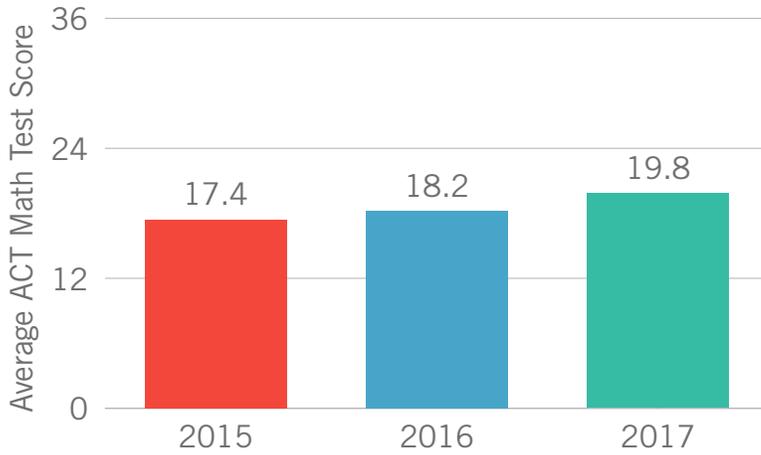


ACT

Data were collected from students who took the ACT from 2015 to 2017. Results show that the average ACT Math subtest score increased from 17.4 to 19.8 (Figure 3).

Figure 3: Altamont High School Edgenuity Students, 11th and 12th Grades

Average Score on the ACT



Conclusion

Overall, after using Edgenuity for two years, students improved their performance on the SAGE and ACT Math assessments. Notably, 10th grade students demonstrated more than double the increase in proficiency from the SAGE Math test from 2015 to 2017. Similarly, from 2015 to 2017, the average score on the ACT Math subtest grew from 17.4 to 19.8.

As a result of these successful math outcomes, AHS leadership decided to offer Edgenuity online courses in personal finance, health, foreign languages, and courses for seniors who need specific credits to graduate.