Imagine Edgenuity® Students Demonstrate Significant Improvements on the Biology Keystone Exam

Evaluation Overview

Grades: 10 and 11

Model: Flex Model

Measures: Pennsylvania Biology Keystone Exam

Sample Demographics

Caucasian	97%
African American	1%
Hispanic	1%
Other	1%
Low Income	35%
Special Education	17%

District Overview

Bald Eagle High School (BEHS) is located 20 miles north of State College in rural Pennsylvania. It serves 925 students in grades 9–12. While BEHS has a 92 percent graduation rate and more than 70 percent of students pass their state standardized tests, a small group of high school students were continually failing the Biology Keystone Exam. During the 2014–2015 school year, administrators began looking for an engaging online test preparation course that would help students improve their scores on the high-stakes biology assessment. The district chose Imagine Edgenuity because of its video-based instruction by expert teachers, interactive assignments, and frequent assessment. They particularly liked that Imagine Edgenuity's virtual tutor course leveraged diagnostic tests to identify students' strengths and weaknesses, creating a personalized learning path for each student.

Implementation

Students who needed to retake the Biology Keystone Exam were offered Imagine Edgenuity's biology virtual test preparation course from September 2, 2015, to January 22, 2016. Students used the course 44 minutes a day, five days a week, for 18 weeks in a computer lab. While in the computer lab, three certified teachers circulated through the room, providing challenge, support, or remediation to students. Once a week, students worked on laboratory experiments and hands-on projects.

Study Sample

This report tracks the performance of 40 high school students who didn't reach proficiency on the Pennsylvania Biology Keystone Exam in spring 2015 and retook the exam in winter 2016. Approximately 95 percent of these students were White and 5 percent were Hispanic.

Twenty percent were eligible for free or reduced-price lunch and 15 percent received special education services.

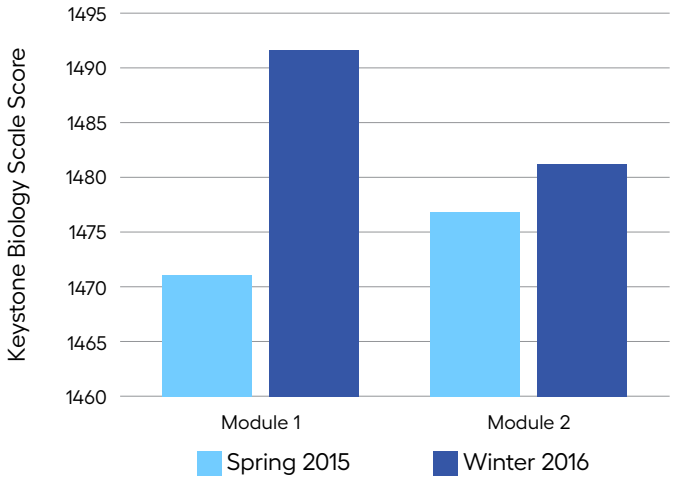
Measures

The Keystone Exams are end-of-course assessments designed to evaluate proficiency in academic content. Students take the Keystone Exam at or near the end of their Algebra I, Biology, and Literature courses. The Biology Keystone Exam was developed by educators and is aligned to the standards adopted by the Pennsylvania State Board of Education. The test is made up of two modules: Cells and Cell Processes, and Continuity and Unity of Life. Each module yields a scale score and a performance level (Below Basic, Basic, Proficient, or Advanced). Students who do not score at least Proficient may retake the exam. Biology Keystone Exam scale score data were collected from 40 Imagine Edgenuity students who took the assessment in spring 2015 and winter 2016.

Results

After using Imagine Edgenuity's Biology Virtual Tutor for 18 weeks, students showed gains on the Biology Keystone Exam (see Graph 1). On Module 1, Imagine Edgenuity students improved from a spring 2015 scale score of 1,471 to a winter 2016 scale score of 1,492, a significant gain of 21 scale score points. On Module 2, Imagine Edgenuity students improved from a spring 2015 scale score of 1,477 to a winter 2016 scale score of 1,481, a gain of 4 scale score points.

Graph 1. Bald Eagle High School Imagine Edgenuity Students, Grades 10–11



Note: Paired t-tests revealed gains were statistically significant at ($p \leq 0.05$).

Conclusion

This preliminary analysis indicates that BEHS students benefited from participation in the Imagine Edgenuity Biology Virtual Tutor course. From spring 2015 to winter 2016, students demonstrated significant gains on the Pennsylvania Biology Keystone Exam.