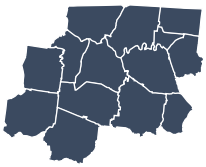
CASE STUDY

Surpassing Expectations Through Individualized Learning

Connor Siegel

Assistant Principal



Multiple Schools,
Greater Nashville Metro Area

Location:
Nashville, TN

Grades:
6

Number of students:
115

School characteristcs:
Urban

Subjects:
IXL Math

Individualized Instruction in IXL Math Drives Strong Learning Gains

As a 6th-grade teacher in the Nashville area, Connor Siegel used IXL Math to individualize instruction for his 100+ students each year. For an Action Research project as part of his master's program, he studied the impact of IXL on student growth rates on NWEA MAP, the standardized benchmark assessment used by his district. His results showed that students using IXL Math, whether for remediation or enrichment, made gains at two to three times the expected rate—and gains were highly correlated to the time spent and skills mastered in IXL.

The Challenges

> Connor used IXL Math at two separate middle schools. His first school was a Title I school serving predominantly economically disadvantaged students with a high population of English Language Learners. 100% of his 6th-grade students were performing in the bottom 10% of students nationally, according to NWEA's MAP Growth Assessment.

His second school (the one used in his formal study) was more diverse, with families in both the top 10% and bottom 10% economically. Here, MAP assessments showed significant and concerning achievement disparities between students in different income brackets and between Black students and their white peers. Furthermore, scores were dropping significantly. In 2018-2019, 58% of Black students and 66.3% of white students met their growth goals, but by 2021-2022, these numbers fell to 31% and 58%, respectively.

With 100+ students in four 6th-grade math classes (two honors and two inclusion classes), Connor had to cater to a wide range of learning needs. Many of his students were two or more grade levels behind in most math domains, while others were ready to tackle skills at the 7th-grade level or above. Clearly, a "one size fits all" approach to instruction was not going to work.

Connor needed a program that would enable him to create individualized learning paths for all students, with targeted intervention for those operating below grade level and enrichment for those operating above.

The Solution

Connor implemented IXL Math with students at both schools between 2018 and 2022. IXL automatically creates individual learning plans for each student based on their NWEA MAP RIT scores in each domain (Geometry, Statistics and Probability, etc.).

Students get immediate feedback as they work in IXL, including mini-lessons to review skills when they get a question wrong. This allows them to make progress in their individual learning paths independently and gives them agency in their learning.

Here's how Connor Siegel used IXL in his 6th-grade math classes:

- Students work on their individualized learning plans in IXL for a minimum of 100 minutes per week (20 minutes per day x 5 days per week). Individual work in IXL is completed as homework or during intervention blocks in the school day. Students all have school-provided laptops to work on IXL at home, but they can also access IXL on a smartphone or tablet or even an Xbox.

- Students are expected to achieve a SmartScore of 85 or above before moving on to the next skill. They can monitor their own progress on their individual learning plans.

- Students work on grade-level skills during small group rotations in class. About three times per week, Connor assigns IXL skills related to the grade-level concepts he is teaching.

- IXL's reports help Connor plan whole-class and small-group instruction and individual interventions.

- Students can win tangible prizes (such as a candy bar or small toy) based on time spent in the program and the number of skills mastered. Competitions between classes also keep students motivated.

The Results

For his Action Research project, Connor wanted to prove that technology-enabled individualized instruction could produce results—and that is just what his study showed. Gains seen within IXL Math were strongly correlated with gains on the MAP assessment, demonstrating the validity of IXL's skill mastery reports. Connor also observed a strong correlation between time spent practicing in IXL, skill mastery, and RIT scores in MAP.

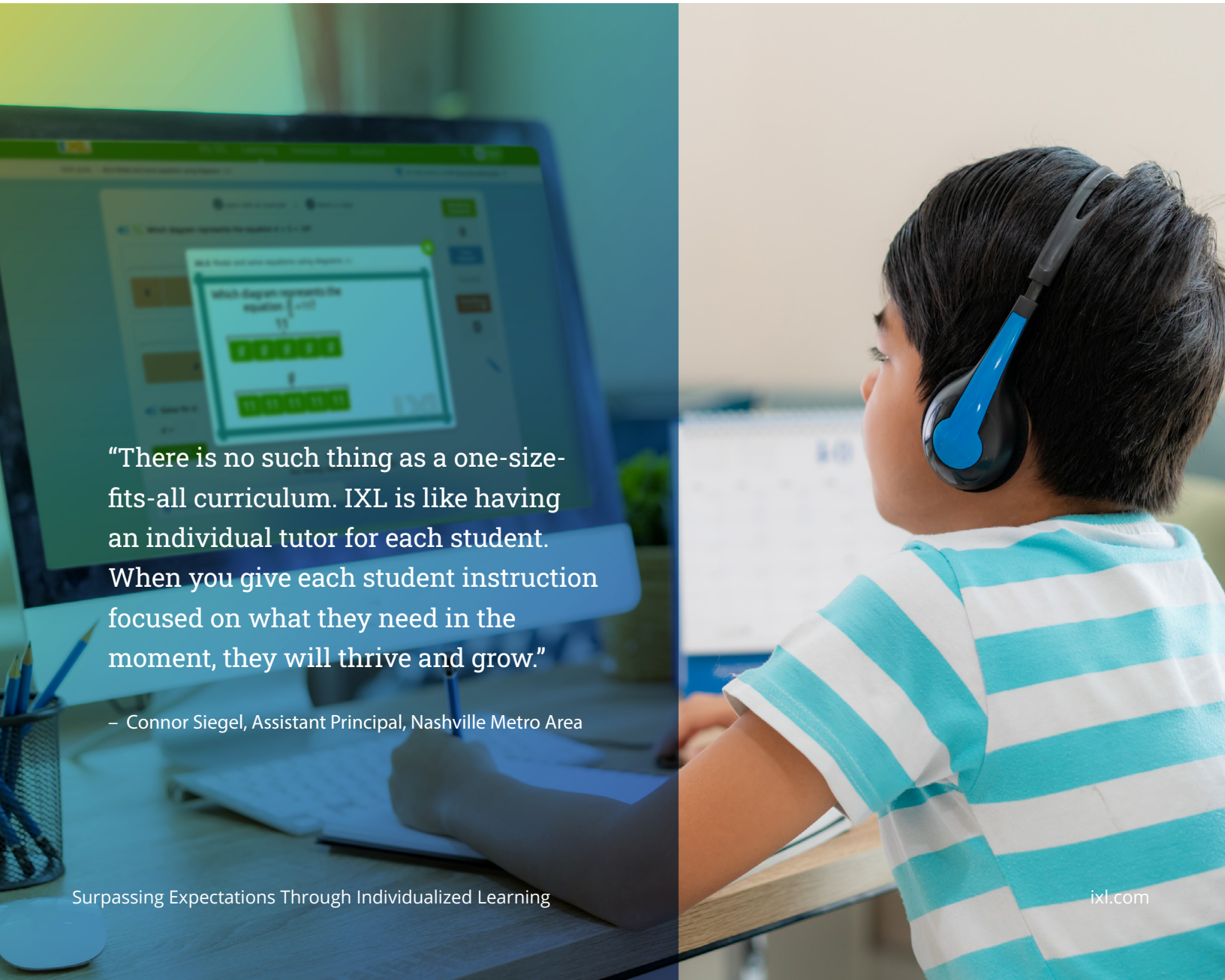
Student Movement Across Quintiles

Fall 2021	Quintile 1	19	20.20%	Jan ->	Quintile 1	12	13.04%
Fall 2021	Quintile 2	8	8.50%	Jan ->	Quintile 2	8	8.69%
Fall 2021	Quintile 3	18	19.15%	Jan ->	Quintile 3	5	5.43%
Fall 2021	Quintile 4	25	26.60%	Jan ->	Quintile 4	20	21.75%
Fall 2021	Quintile 5	24	25.55%	Jan ->	Quintile 5	47	51.09%

Learning Gains with IXL Math

Statistic	1st period Honors	3st period Inclusion	4th period Inclusion	6th period Honors
Percentage of students who met or exceeded their projected growth (According to MAP)	96.2% 25/26	82.6% 19/23	100% 14/14	96.6% 28/29
Percentage of Projected Growth Met	282.6%	270.7%	254.9%	294.4%
Median Conditional Growth Percentile	97%	93%	92%	97%

Connor saw strong results across both schools while working with IXL Math. At his first school, his classes achieved growth rates of 152% to 371% of expected growth between the fall and spring MAP tests, with many moving up from the bottom quintile to grade-level proficiency. At his second school, his classes achieved between 255% and 295% of expected growth rates. Importantly, this pattern held for students in all subgroups and at all ability levels, with students at both the top and the bottom of the range demonstrating strong growth. Nearly all of his students met or exceeded their projected growth targets, and many students moved across quintiles.



"There is no such thing as a one-size-fits-all curriculum. IXL is like having an individual tutor for each student. When you give each student instruction focused on what they need in the moment, they will thrive and grow."

– Connor Siegel, Assistant Principal, Nashville Metro Area