

# Case Study: *Math 180*® Students in Clewiston Middle School Experience Significant Growth

## The Challenge

Clewiston Middle School experienced two consecutive years of decreasing rates of proficiency on the Florida Statewide Assessment for Mathematics between the years of 2017 – 2019. Clewiston's administration knew they needed to help a large number of students get back to grade level proficiency in math, and they knew it required a systematic, data-driven solution. With disrupted instruction moving back and forth from remote to in-person, Clewiston adopted *Math 180*® to address the widening gaps in math performance.

## The Solution

*Math 180* is a blended-learning intervention program designed to prepare students for Algebra Readiness that builds their confidence and competence in mathematics while providing teachers with comprehensive support. Built and informed by an extensive body of literature, *Math 180* uses the best practices for serving older, striving math students. It combines personalized software and teacher-facilitated instruction so that students can accelerate swiftly and successfully toward grade-level curriculum.

The administration focused on students with the greatest need, identifying 7th and 8th graders scoring in the lowest quartile in math achievement. These students, 175 in total, were enrolled in *Math 180* every day for approximately 45 minutes in addition to their regular core math classes.

In addition to the *Math 180* program being new for Clewiston Middle School, the teachers assigned to the program were also new to the school. The teachers received start-up training from HMH Professional Services to properly prepare them for the course and ongoing coaching to ensure program implementation fidelity.

## The Results

### State Assessment Scores

Florida tracks math proficiency on a 5-point scale across the state through the [Florida Statewide Assessment of Mathematics](#). Students who score at Level 3 are considered satisfactory for their grade, and Florida tracks by school and district both the percent of students who score satisfactory or better (level 3+) each year as well as the trend in percent of students who score satisfactory or better from year to year. The number of 7<sup>th</sup> graders statewide scoring at Level 3 or above declined 10% from 2019 to 2021 in [FSA](#)

## School Profile

Location:  
**Clewiston, FL**

Region:  
**Southeast**

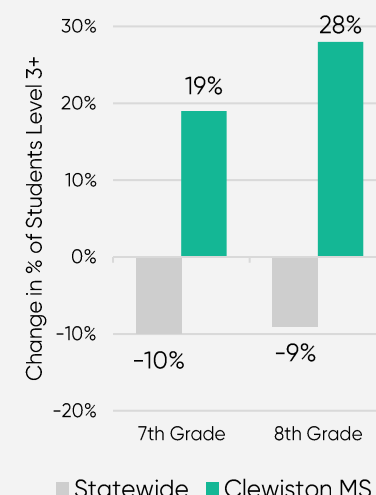
Locale:  
**Town**

Grade Levels:  
**6<sup>th</sup> – 8<sup>th</sup>**

Enrollment:  
**700+**

Demographics:  
**54.9% Hispanic, 27.2% Black, 14.9% White, 1.8% Asian, 1.2% Other**

## Clewiston 2019 – 2021 FSA Trend vs Statewide



Mathematics and 8<sup>th</sup> graders statewide declined 9% in the same measure. In strong contrast, Clewiston Middle School saw a massive increase in proficiency comparing 2021 FSA Mathematics results to 2019. During this period, the number of Clewiston students who scored at level 3 or above increased by 19% for 7<sup>th</sup> graders and 28% for 8<sup>th</sup> graders.

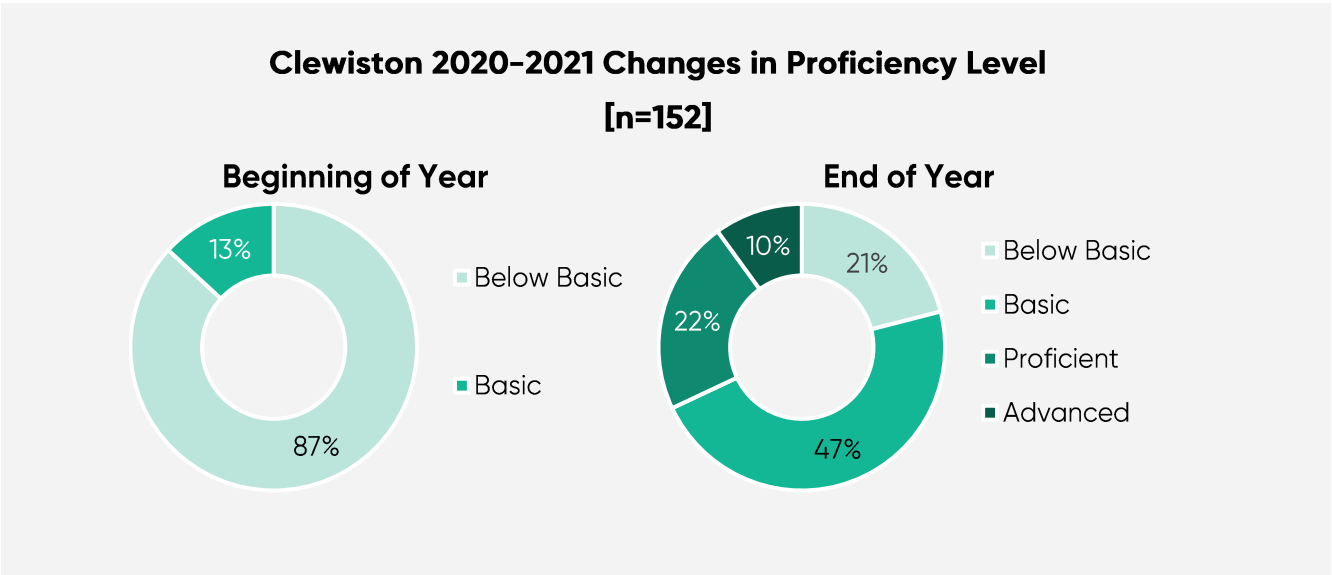
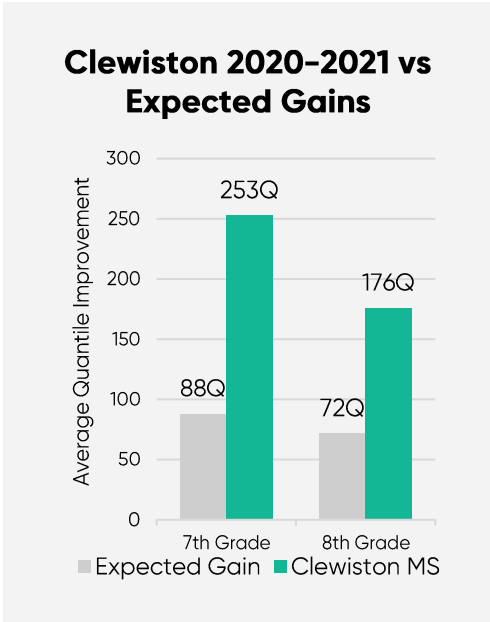
For a more specific look at the impact of Clewiston's implementation of *Math 180* on gains in 7<sup>th</sup> and 8<sup>th</sup> grade, we also examined their *Math Inventory* assessment data below.

*Math Inventory Assessment Scores*

The HMH *Math Inventory* is often used in conjunction with *Math 180* to assess students' math performance and progress based on the [Quantile® Framework](#). *Math Inventory* Quantile measures are further grouped by grade level into performance bands of *Below Basic*, *Basic*, *Proficient*, and *Advanced*. For analysis of gains across Clewiston's *Math 180* students, we only considered students with 20 or more sessions and 8+ weeks between *Math Inventory* assessments, totaling 152 of the 175 Clewiston 7<sup>th</sup> and 8<sup>th</sup> graders originally enrolled in *Math 180*.

Through the *Math Inventory* data, we find that Clewiston intervention students made significant gains. Across the 2020 – 2021 school year, *Math 180* students improved their Quantile scores an average of 208Q, a significant gain. For greater context, we compared Clewiston students' Quantile score improvement against a set of [national norms for Math Inventory](#). Weighting Clewiston's *Math 180* students expected gains by their starting proficiency, we would expect an average annual improvement of 88Q for 7<sup>th</sup> graders and 72Q for 8<sup>th</sup> graders. Clewiston significantly outperformed those norms with an average improvement of 253Q for 7<sup>th</sup> graders, 2.9 times the weighted average of expected yearly gains, and 176Q for 8<sup>th</sup> graders, 2.5 times weighted average of expected yearly gains.

We also see significant positive changes when considering students' end of year performance levels. At the beginning of the school year, 87% of Clewiston's *Math 180* students were at a below basic level and another 13% were at basic level. By the end of the year, 74% of those enrolled had moved up at least one proficiency level. This movement across performance levels demonstrated tangible progress toward mathematical proficiency.



### Teacher and Student Perceptions

A [foundational principle of Math 180](#) is to build a growth mindset within students. Striving students are more likely to have a negative, fixed mindset toward their own mathematical abilities, so *Math 180* seeks to build competence and confidence to change that student mentality to one where they believe that their knowledge and achievement can be developed and improved over time through effort and dedication.

Clewiston teachers detailed similar challenges among their intervention students. At the outset of the school year, many students and even teachers were not immediately sure how the program would correlate to core math class lessons. By mid-year, persistence bore fruit as teachers and students alike had numerous aha moments, tying *Math 180* lessons back to relevant core math curriculum. Teachers reported those connections redoubled student confidence in themselves and their excitement for *Math 180*.

Clewiston also notes that the majority of their intervention teachers were in their first year at Clewiston. These teachers were tasked with the usual challenges of a new teaching environment as well as a new math intervention program. Due to the initial training, ongoing coaching, and the nature of the program itself, they were able to rise to this challenge, prompting an administrator at Clewiston to say, "This program is so well scripted and broken down, I think for a new person coming in, I would love to teach it, it's all there for you."

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—Samatha Ortiz  
Clewiston Dean of Curriculum

## Final Thoughts

Clewiston Middle School was experiencing significant challenges with decreasing levels of proficiency in Math as students were moving from 6<sup>th</sup> to 8<sup>th</sup> grade evidenced by the 2019 Florida Statewide Assessment for mathematics. This challenge was exacerbated when the pandemic struck the following year. During the 2020–2021 school year, Clewiston Middle School implemented the *Math 180* program to help their 7<sup>th</sup> and 8<sup>th</sup> grade students with the greatest need. Those students achieved exceptional gains over the 2020–2021 school year, averaging two and a half times the expected average growth measured in Quantiles. Their collective improvement moved the needle in proficiency and contributed to Clewiston's remarkable positive swing in the 2021 Florida Statewide Assessment for mathematics. Interviews with Clewiston staff provide additional evidence of a growth mindset in both teachers and students using *Math 180*, and it has been demonstrated that mindset plays an important part in student success. Future research should look to measure the change in mindset among students and teachers who use *Math 180* and unpack its relationship to student success.

To learn more, visit:

[hmhco.com/programs/math-180](https://hmhco.com/programs/math-180)

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