



# First-ever student-level analysis of a statewide edtech implementation shows DreamBox Math helps students achieve growth

RESEARCH BRIEF | 2023

## Study sample

- Full statewide DreamBox Math implementation in South Carolina
- 77,707 Students in grades 4 and 5
- 70 Districts
- 626 Schools
- 2021-2022 School year

## Study inclusion requirements

- Students who completed SCReady in spring 2021 and spring 2022
  - In 3rd and 4th grade
  - In 4th and 5th grade

## Usage comparisons

- Estimates for students who completed
  - 0 lessons weekly
  - 2 lessons weekly
  - 5 lessons weekly
- This data represents students with no usage, nominal usage, and recommended usage

## Methodology

- Quasi-experimental design
- Hierarchical linear modeling
- Each student's predicted 2021 to 2022 growth was adjusted according to spring 2021 test score and average DreamBox Math lessons completed per week
- Analysis was conducted separately by grade

**Students in 4th and 5th grade who completed a recommended five DreamBox Math lessons per week approached or exceeded the South Carolina Added Value Targets.**

## Summary

South Carolina students in 4th and 5th grade who used DreamBox Math **demonstrated significantly greater growth on year-end testing compared to students who did not.**

These results were observed for students across **all achievement levels.**

Students who used DreamBox Math for the recommended weekly dosage (five lessons per week or about one hour), showed a year-over-year growth that either approached or exceeded the South Carolina Added Value Targets. **This same result was not true for students who didn't use DreamBox.**

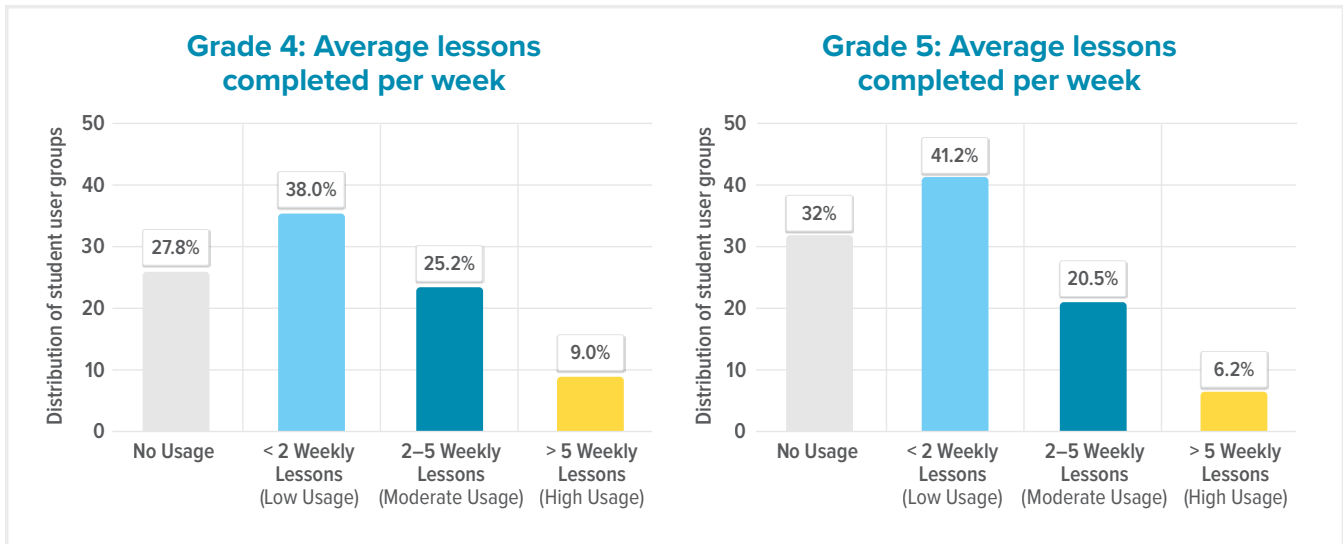
DreamBox Math is a strong tool that accelerates student growth and helps them reach grade-level proficiency with sustained usage.

## Students using DreamBox Math as recommended demonstrated greater year-over-year growth.

In the 2021-22 school year, all South Carolina K—5 students had access to DreamBox Math. To evaluate the educational benefits of the program, DreamBox researchers analyzed the end-of-year SCReady test scores for spring 2021 (baseline) and spring 2022 (follow up). Within this data, they analyzed two cohorts of students:

- Students in grade 4 (n=38,794) who completed the baseline assessment in 3rd grade and the follow-up assessment in 4th grade.
- Students in grade 5 (n=38,913) who completed the baseline assessment in 4th grade and the follow-up assessment in 5th grade.

There was considerable variation in the average lessons completed per week across the cohorts.



Researchers analyzed the association between DreamBox Math usage and growth using a hierarchical linear model to account for the nested nature of the data (students nested within schools).

The analyses for the 4th -grade and 5th -grade cohorts were conducted separately. Researchers created conditional growth estimates for students of any baseline SCReady score and any lesson completion average.

The South Carolina College-and Career-Ready Assessments (SC READY) are statewide assessments that meet all of the requirements of Acts 155 and 200, the Elementary and Secondary Education Act (ESEA), the Individuals with Disabilities Education Improvement Act (IDEA), and the Assessments Peer Review guidance.

The following figures show the average growth for:

- Students who did not use Dreambox Math (0 lessons per week)
- Students who used DreamBox Math a minimal amount (2 lessons per week)
- Students who used DreamBox as recommended (5 lessons)

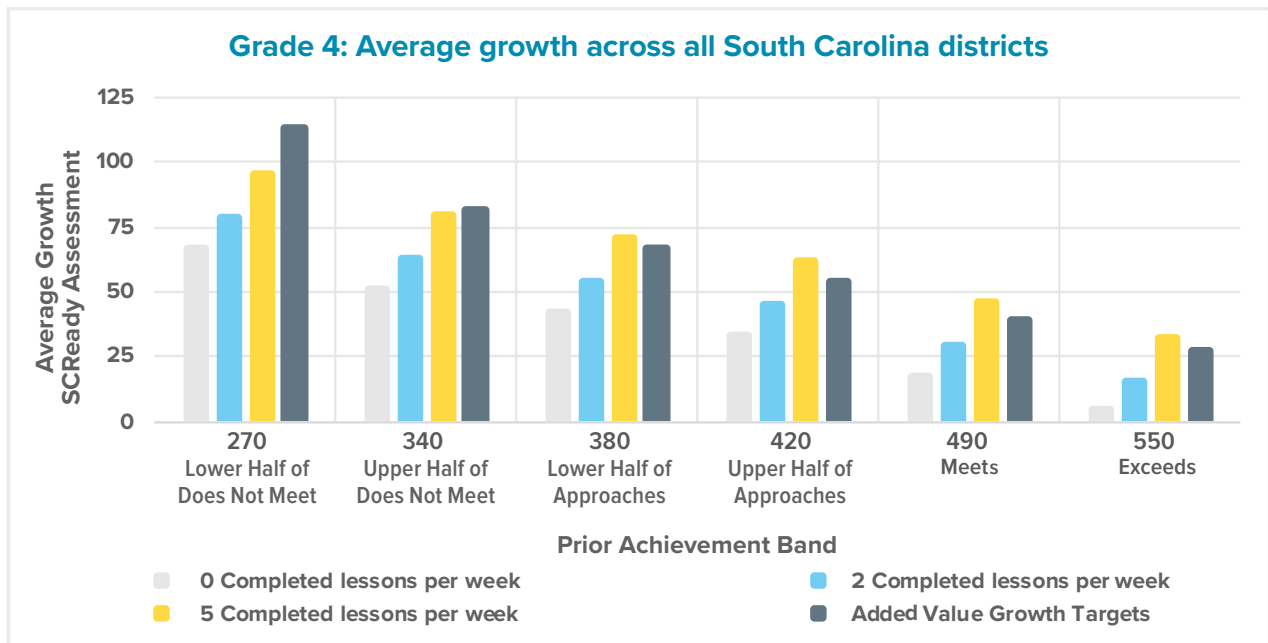
The dark grey bars represent the Added Value Growth Targets as defined by South Carolina.

The following graphs present the data across six categories of SCReady performance, which includes separating the **Does Not Meet** and **Approaches** categories into two groups to achieve a more granular view of the results.

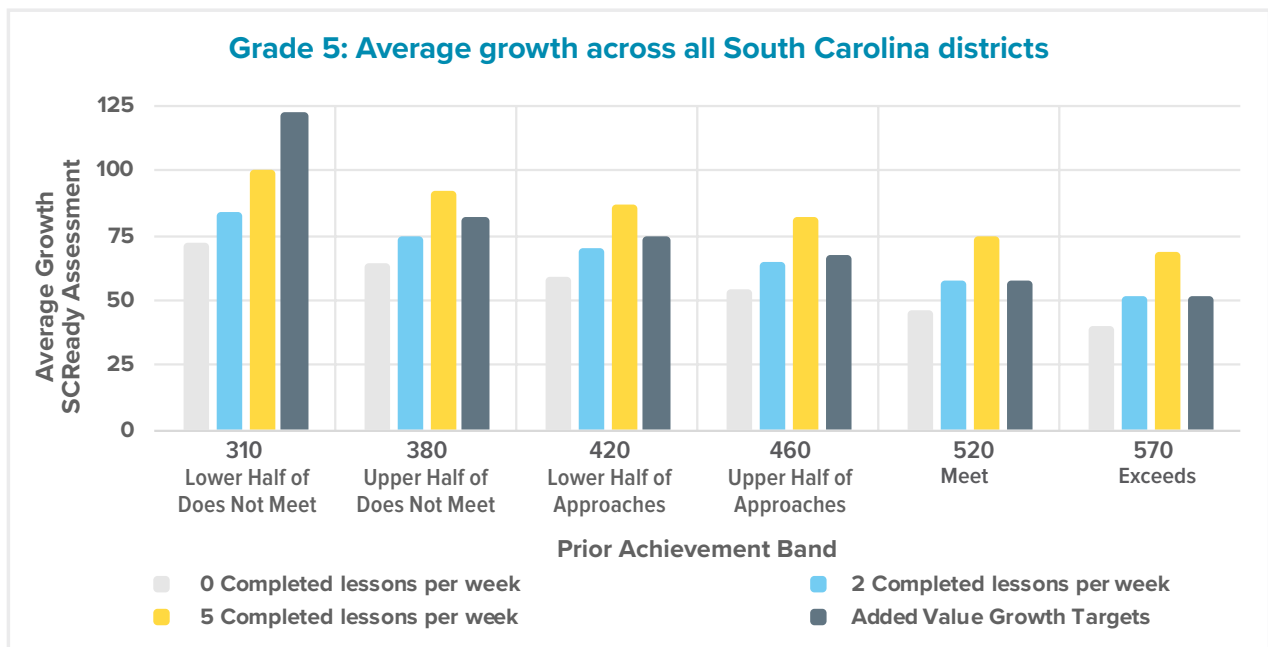
**In both grades, researchers observed a strong and significant effect for increased growth year over year for students who completed more DreamBox Math lessons.**

As demonstrated in the graph, 4th-grade students who scored 270 (The Lower Half of Does Not Meet) on SCReady in 2021 but did not use DreamBox Math at all averaged approximately 68 points of growth year over year compared to students at the same level who completed five lessons per week and averaged approximately 96 points of growth.

Likewise, 4th-grade students who scored 490 (Meets) in 2021 averaged approximately 19 points of growth with no DreamBox usage compared to 47 points growth for students who completed five lessons per week.



As expected, data from both 4th and 5th grade indicated that students with lower baseline SCReady scores demonstrated more growth compared with students with higher baseline scores. This difference reinforces that students with lower baseline scores have more room to grow.



Researchers also found that students in both grades who completed an average of five DreamBox Math lessons per week demonstrated average growth that approached or exceeded the South Carolina Added Value Targets. The Added Value Targets represent meaningful and measurable growth toward grade-level proficiency for those students who have not yet demonstrated proficiency and appropriately challenging goals for students who have achieved proficiency to continue to excel. **In this study, only students who used DreamBox averaged a sufficient amount of growth to reach these targets.**



For more information on how DreamBox Math drives student achievement across the nation, visit [DreamBox.com](https://www.dreambox.com)

