## R E S E A R C H



Visualizing and Verbalizing for Math

## Fullerton School District

## PROFILE:

Number of Students: 9 Average Age: 8-5
Average Grade Level: 3.5
Average Hours of Instruction: 104.5
Lindamood-Bell Programs Implemented: On Cloud Nine ${ }^{\circ}$ Outcome Measures:

- Wide Range Achievement Test-5th (math)


## BACKGROUND:

Like many districts grappling with learning loss, Fullerton School District in Fullerton, California, serves students who are at-risk of math failure through an extended day program. During the 2022-23 school year, Fullerton School District implemented high-dosage tutoring with a Lindamood-Bell Learning Center on Campus to address the specific needs of this student population. Nine students received an average of 104.5 hours of On Cloud Nine instruction over the course of a semester to develop concept imagery and numeral imagery for math. Instruction was delivered by Lindamood-Bell tutors, and student gains were measured with the Wide Range Achievement Test-Fifth Edition.

Average Standard Score Changes


| Small | Medium | Large |
| :--- | :--- | :--- | :--- |
| $(<3.0)$ | $(3.0-4.5)$ | $(>4.5)$ |

Pre- and Posttest Percentiles


*Statistically significant ( $p \leq .05$ ).

Pre- and Posttest Grade Equivalents

*Actua instrution neriod 0.0 .4 shool years.

## RESULTS:

On average, On Cloud Nine students achieved significant improvements in math. They made large standard score changes in math computation, and their pre- to posttest results were statistically significant. One hundred percent of students showed improvement, with students growing an average of 1.6 grade levels in one semester of instruction. Additionally, the 47-point percentile increase in math put these students within the normal range (25th-75th percentile). The results of this study illustrate that Lindamood-Bell intensive instruction in the On Cloud Nine program leads to improved math skills, which are essential to achieving success with school curricula.

