



# Impactful Math Intervention

From the 1st National Percentile to the 54th in One Year

## EARLY CHILDHOOD CENTER FAST FACTS

- Title 1 school
- 300 Kindergarten students
- 45% Eligible for free or reduced price lunch

## DREAMBOX IMPLEMENTATION

- Deployed since April 2009
- Kindergarten students in need of and/or at risk for intervention

## FUNDING SOURCES

- Grant from the Kentucky Department of Education
- General school operating budget

## ABOUT DREAMBOX LEARNING

DreamBox Learning's Intelligent Adaptive Learning™ program accelerates student learning by ensuring every student works continually in their optimal learning zone and helps all students achieve math proficiency.

## → CHALLENGE:

Accelerating intervention for students scoring below the 1st percentile nationally

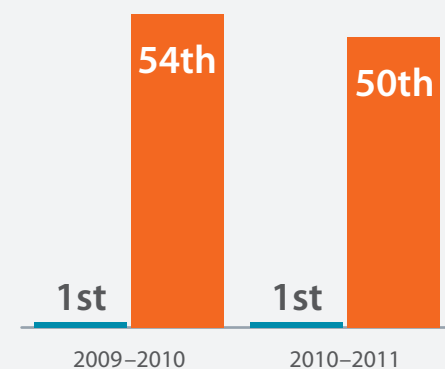
With 300 kindergarten students entering the ECC each year, the challenge of identifying, assessing, and providing intervention services to every student in need is a challenge. Principal Melissa Lentz notes each school year at the Early Childhood Center begins with the task of evaluating hundreds of students for services. "We need to quickly assess their level of comprehension in order to identify those in need of intervention," she says.

Once assessed, attention quickly shifts to increasing math proficiency among a large group of students entering school with virtually no exposure to mathematics. Math Intervention Teacher Suzanne Farmer notes, "Each year we saw more students in need of math intervention. These were kids who were starting school and couldn't count to 10 and didn't know more or less — just staggeringly low performers." In fact, the 80 kindergartners identified as needing math intervention in 2009 placed significantly below the first percentile nationally in math, nearly 3 standard deviations below the mean.

## Growth in MAP Test Scores

KINDERGARTEN MATH INTERVENTION STUDENTS

Average National Percentile  
■ Fall ■ Spring



## → SOLUTION:

Leverage intelligent adaptive learning technology for math intervention

Math Intervention teachers at the Early Childhood Center look to identify and overcome core problems when young students struggle to learn and apply even the simplest numerical concepts. In 2009, the ECC chose to augment traditional intervention services with DreamBox Learning, an intelligently adaptive online math program with a deep focus on developing number sense. "DreamBox lessons use instructional best practices while constantly assessing students to make informed adjustments in the

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— Suzanne Farmer, Math Intervention Teacher  
Anderson County Schools

lessons,” says Farmer. “Students receive the lessons and specific support they need without knowing they are being assessed.”

Educators at the ECC use DreamBox assessment data to differentiate instruction to groups of students based on level of comprehension. “With DreamBox teachers have confidence that all students are being challenged properly regardless of their proficiency level,” Farmer says. “Instead of teachers having to adjust the DreamBox placements, we found we could use the teacher reports from DreamBox to adjust the placement of students in classroom lessons. The program has become that important in our arsenal of assessment data.”

## → IMPLEMENTATION:

**Online individualized instruction combined with targeted small group intervention work**

DreamBox Learning allowed the Early Childhood Center to change their model of delivering intervention services and more than double the number of students receiving support without adding staff.

Despite an increased caseload DreamBox enabled teachers to work 1:1 with Tier 3 intervention students in smaller groups. Principal Lentz says the addition of DreamBox helped her teachers serve more students, “It felt

like we had an additional intervention teacher without needing to add staff”.

“In order to be effective, our group sizes needed to be very small,” Farmer says. “But invariably, those groups began to grow in size and become less effective. DreamBox enabled me to have some kids working on the computer in conjunction with groups that I was leading so I only had to pull them off as needed.” She goes on to describe DreamBox as “an individual math tutor with infinite patience.”

Farmer says the integration of assessment and instruction in the DreamBox program allowed significantly more students to receive appropriate targeted instruction. “With DreamBox, I was able to trust these students would get quality specialized instruction while I monitored their progress using the program’s assessment reports. DreamBox helped our students increase conceptual understanding as well as mathematics proficiency. It’s the best math education technology for primary students that I have seen.”

## → RESULTS:

**From the 1st national percentile to the 54th in one year**

Math proficiency gains among intervention students at the Early Childhood Center were astonishing. In the 2009–2010 school year, of 80 Kindergarten students scoring below the 1st percentile nationally in math, 20% of these students scored in the 70th percentile by the winter period MAP testing and were no longer in need of intervention services. By the end of the year, the intervention students scored on average in the 54th percentile nationally, just above the national average.

In the 2010–2011 school year, the combination of targeted intervention services and DreamBox Learning’s adaptive online program was equally powerful with intervention students moving from the 1st percentile to the 50th percentile nationally in a single school year. Principal Lentz sums it up, “We’re seeing measurable gains with DreamBox — it’s an exceptional program.”

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