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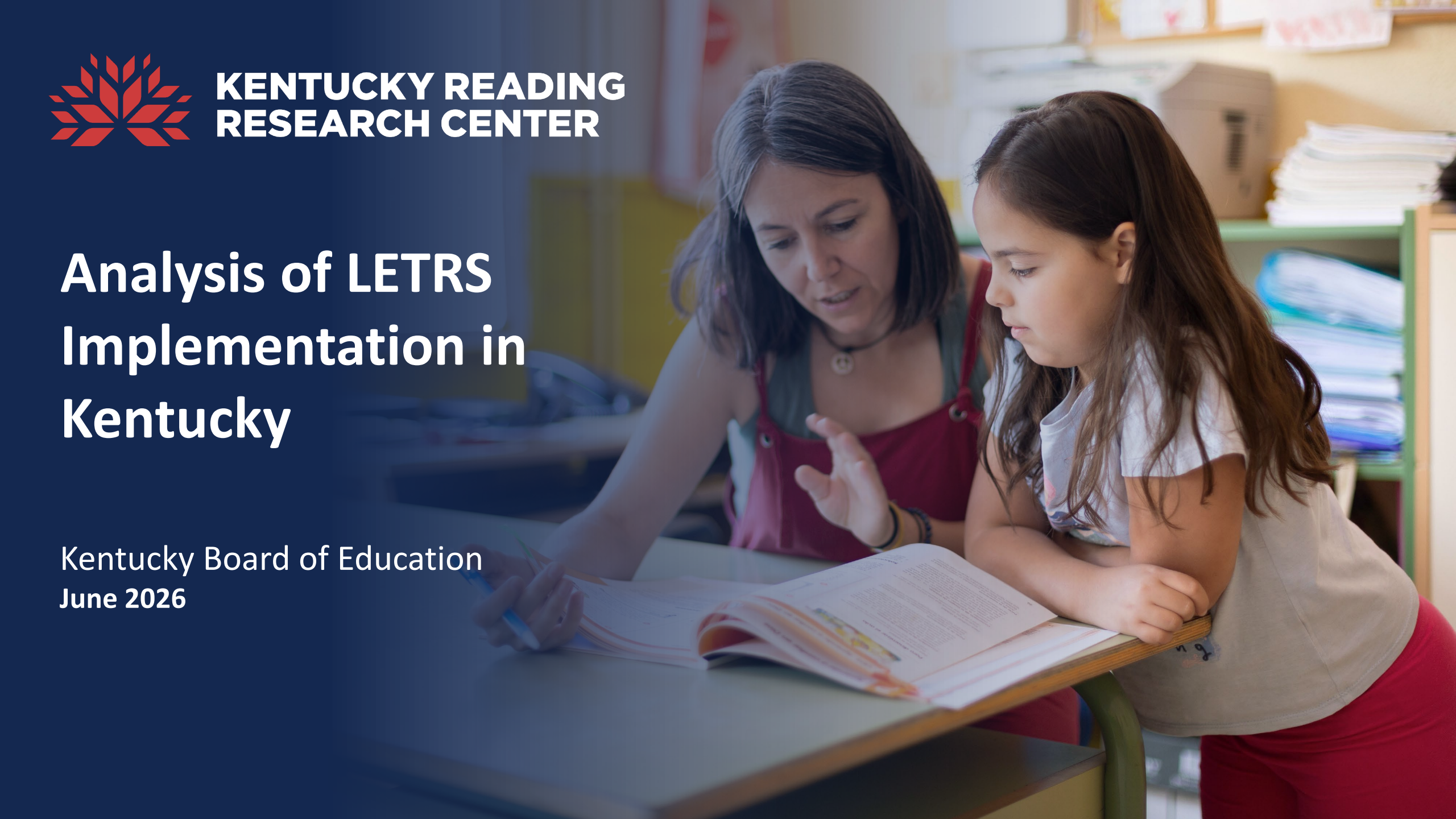
# Analysis of LETRS Implementation in Kentucky



Kentucky Board of Education

**June 2026**

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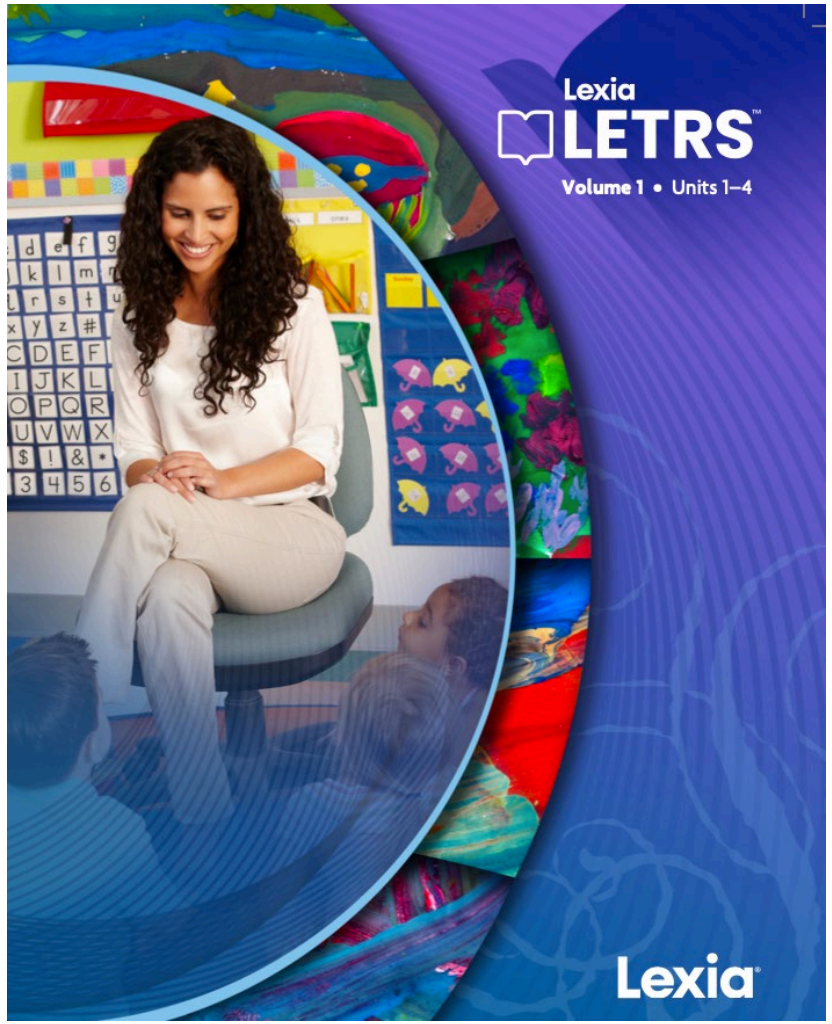
# LETRS

## Language Essentials for Teachers of Reading and Spelling

**LETRS** is a professional learning course that provides educators with in-depth knowledge and tools that they can use with any reading program.

LETRS is made available through the Kentucky Department of Education's **Kentucky Reading Academies** as a comprehensive, no-cost professional learning opportunity to all K-5 public school educators and administrators.



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Analysis of data between the 2021–2022 and 2024–2025 academic years, using **Kentucky Summative Assessment (KSA)** reading results:

**574 schools**

**135 districts**

**2021 - 2025**

**7,000+ educators**

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# General Findings

Across multiple analytical methods including regression models with baseline outcome measures, group comparisons, and Difference-in-Differences (DID) analyses, the findings consistently indicate that:

- **LETRS training helps drive students toward the "Proficient" reading level**, while inconclusive results for other reading levels (e.g., “Novice,” “Apprentice” and “Distinguished”)

**Results from 2022 baseline are still significant** but sometimes inconsistent and harder to interpret:

  - May be affected by COVID holdover
  - Comparatively very few trained teachers in 2022

- No statistical significance yet for administrators being LETRS trained

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# LETRS Training Completion Trends

From the final sample, the total number of educators completing the training has substantially increased, heavily concentrated in the last two years (2024 and 2025)

## Educators with completed LETRS training by year

| Completion Year | 2022 | 2023 | 2024 | 2025 | Total |
|---|---|---|---|---|---|
| Teacher | 1 | 38 | 813 | 1055 | 1907 |
| School Administrator | 4 | 24 | 95 | 82 | 205 |
| Total | 5 | 62 | 908 | 1137 | 2112 |
| (%) | (0.24%) | (2.94%) | (42.99%) | (53.84%) | (100%) |

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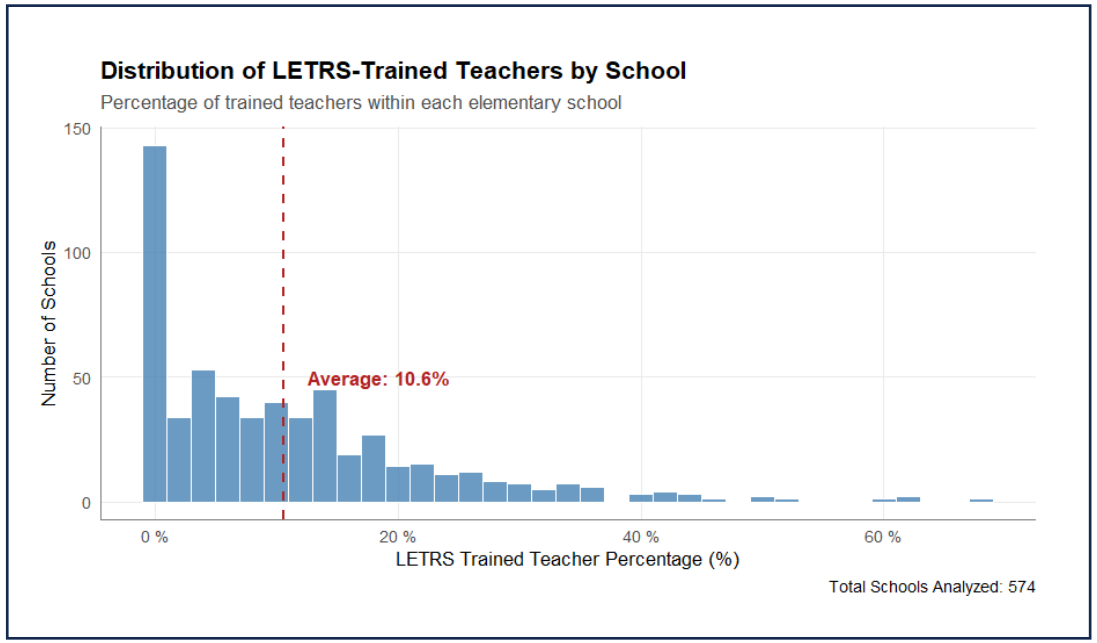
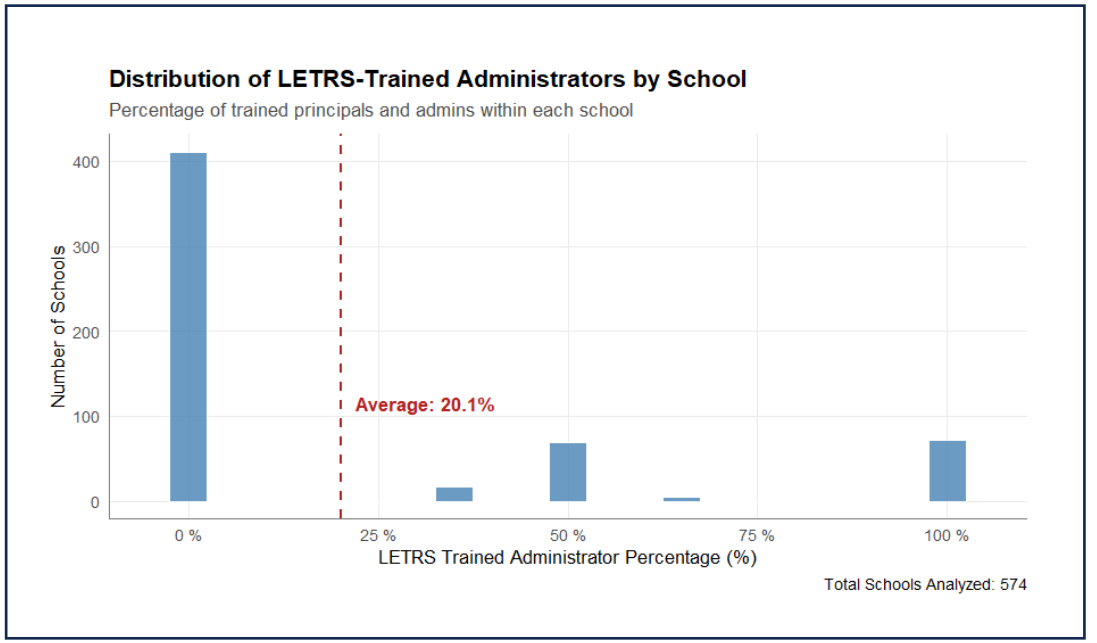
# School-Level LETRS Training

- Average school has 3.32 LETRS-trained teachers (10.6%) and 0.357 trained administrators (20.1%)
- 24.9% of the schools do not have any LETRS-trained teachers
- 11% of schools have at least one out of four teachers (25%) trained in LETRS
- 71.6% (411 schools) do not have any LETRS-trained school administrators
- 12.5% (72 schools) have all of their school administrators trained



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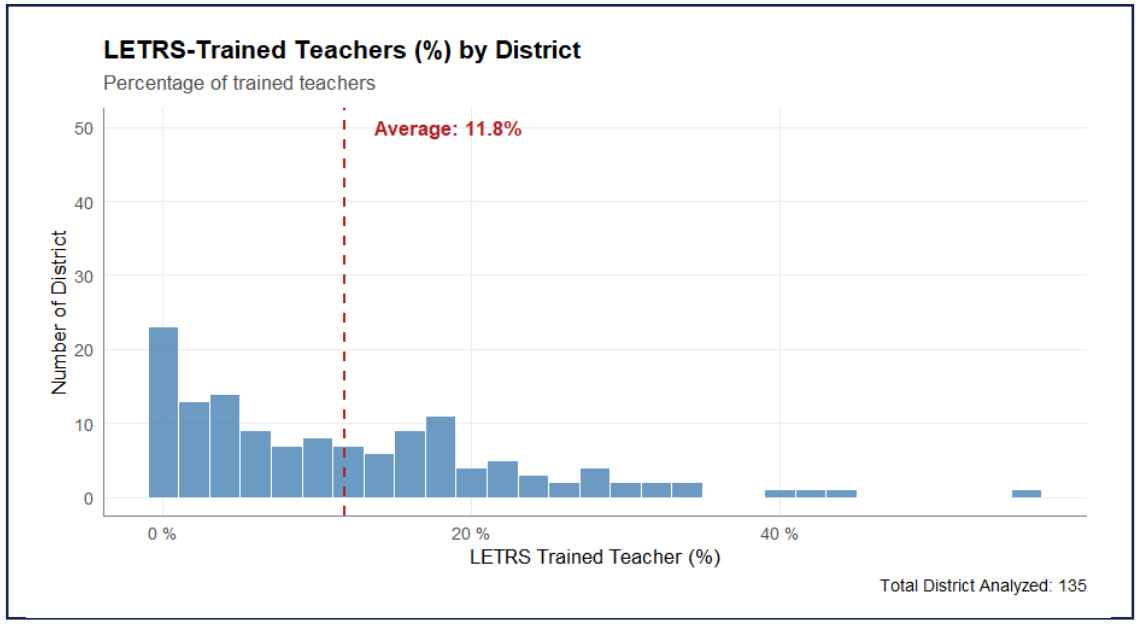
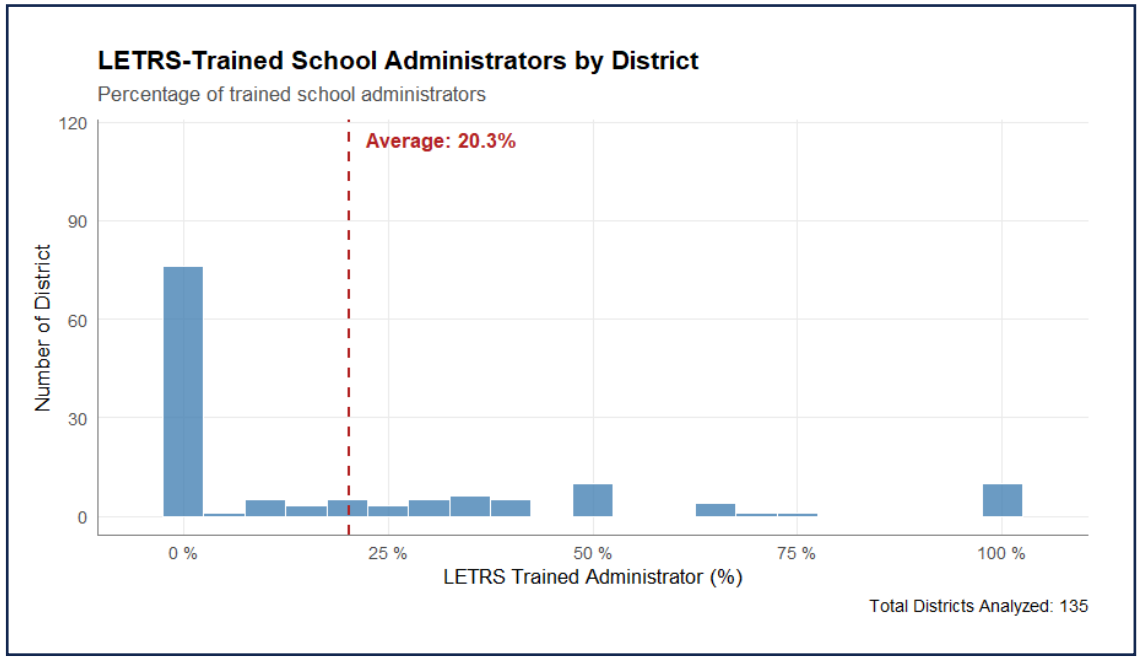
# LETRS-Trained Teachers and Administrators



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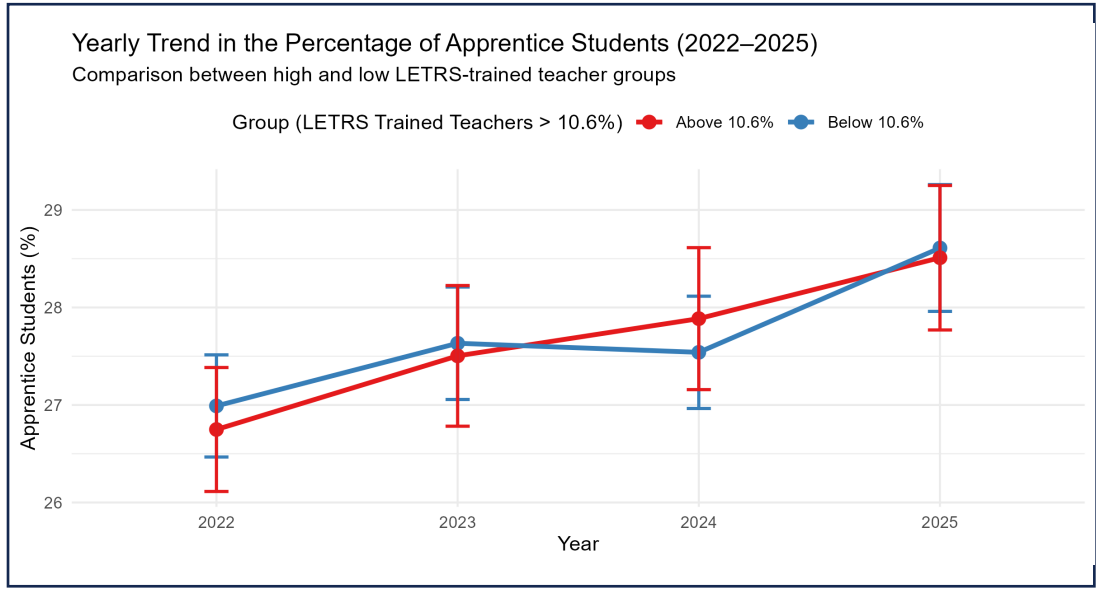
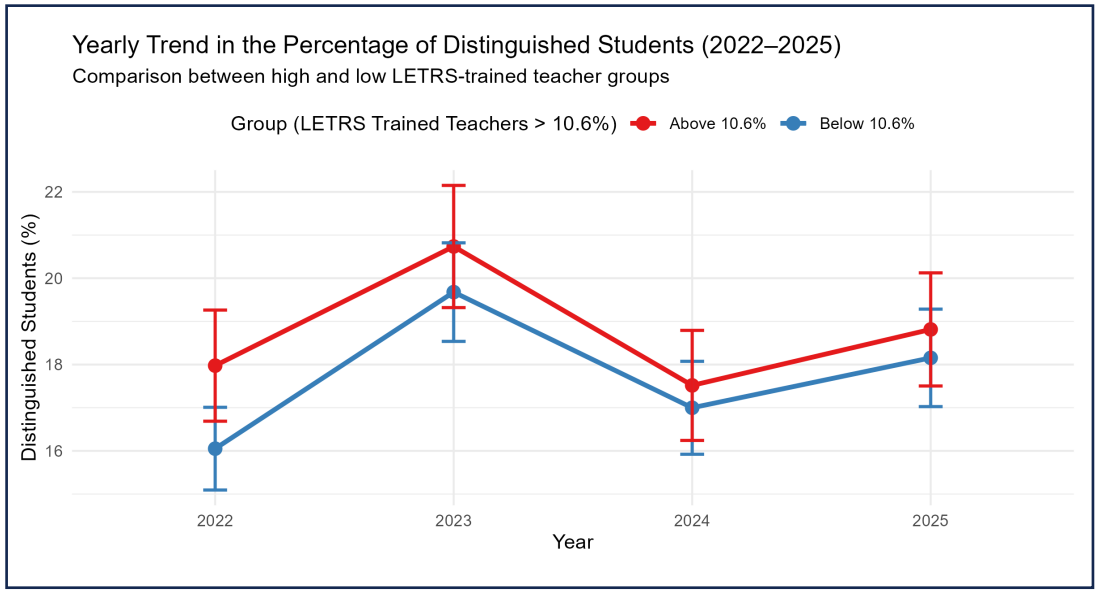
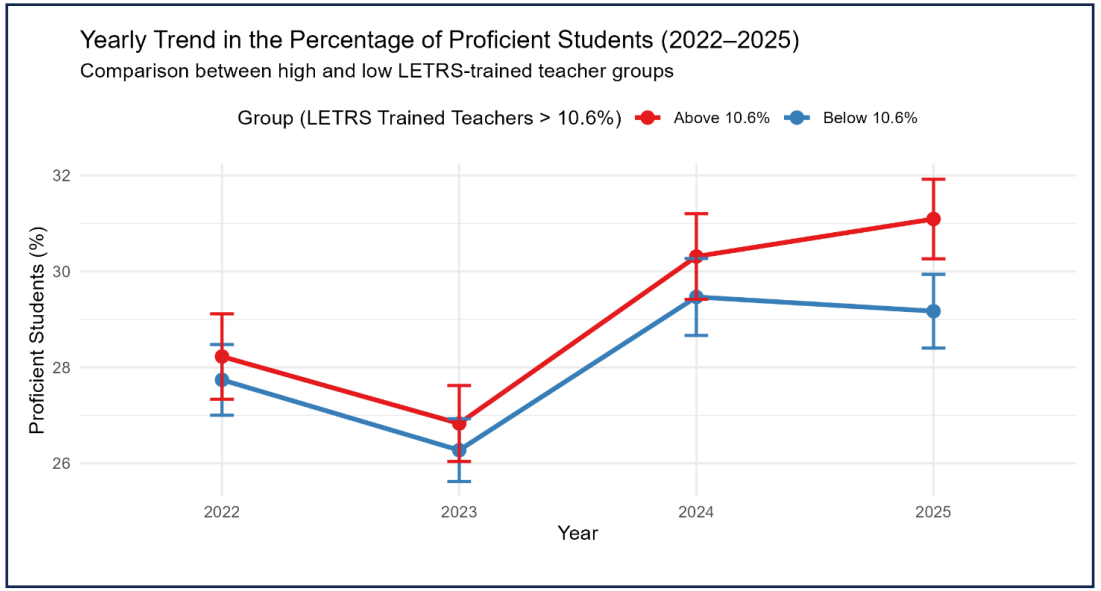
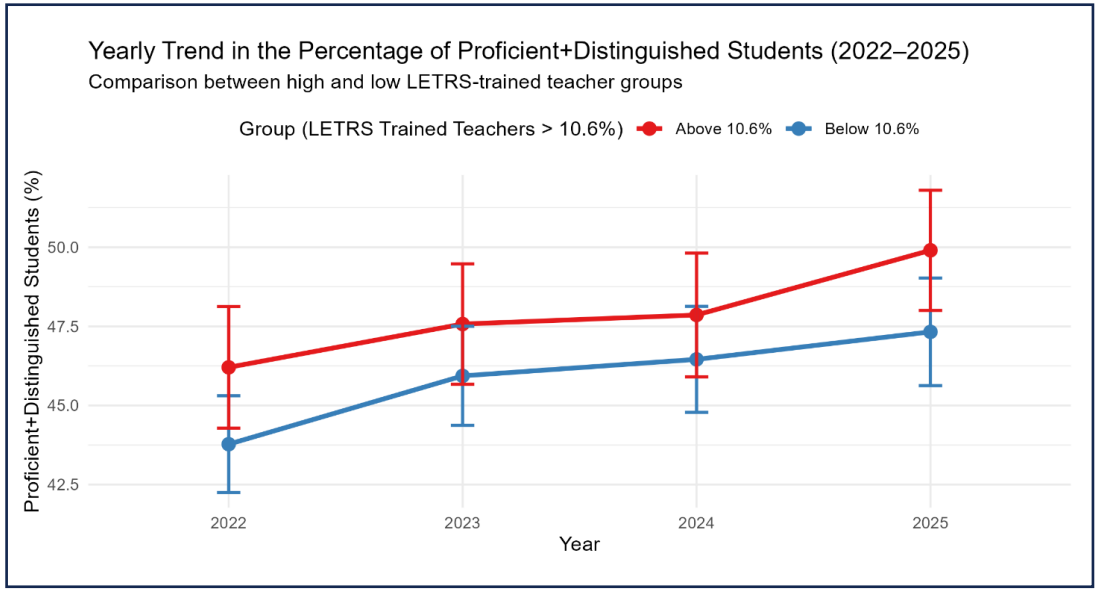
# Yearly Trends



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# KSA Level Change by School

## Above-Average vs. Below-Average Teachers Trained

**(Baseline Year 2022)**

Note: Highlighted column indicates the largest percentage change between the two groups.

| Group | Novice % Change | Apprentice % Change | Proficient % Change | Distinguished % Change | Proficient + Distinguished % Change |
|---|---|---|---|---|---|
| Below Avg <10.6% | -5.18 | 1.62 | **1.43** | 2.10 | 3.55 |
| Above Avg >10.6% | -5.47 | 1.76 | **2.87** | 0.84 | 3.70 |

**(Baseline Year 2023)**

Note: Highlighted column indicates the largest percentage change between the two groups.

| Group | Novice % Change | Apprentice % Change | Proficient % Change | Distinguished % Change | Proficient + Distinguished % Change |
|---|---|---|---|---|---|
| Below Avg <10.6% | -2.40 | 0.977 | **2.90** | -1.52 | 1.39 |
| Above Avg >10.6% | -3.30 | 1.010 | **4.26** | -1.92 | 2.33 |

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# KSA Level Change by District

## Above-Average vs. Below-Average Number of Teachers Trained

### KSA Level Change Between Above-Average vs. Below-Average (Baseline Year 2022)

| Group | Novice % Change | Apprentice % Change | Proficient % Change | Distinguished % Change | Proficient + Distinguished % Change |
|---|---|---|---|---|---|
| Below Avg <11.8 | -5.75 | 2.35 | **1.31** | 2.09 | 3.40 |
| Above Avg >11.8 | -5.78 | 2.53 | **2.53** | 0.72 | 3.25 |

### KSA Level Change Between Above-Average vs. Below-Average (Baseline Year 2023)

| Group | Novice % Change | Apprentice % Change | Proficient % Change | Distinguished % Change | Proficient + Distinguished % Change |
|---|---|---|---|---|---|
| Below Avg <11.8 | -3.35 | 1.24 | **3.02** | -0.91 | 2.11 |
| Above Avg >11.8 | -4.57 | 2.12 | **3.91** | -1.46 | 2.45 |

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# KSA Level Change by Subgroups

## Summary (Effect By Tier)

- **Tier 1 – Economically Disadvantaged & Hispanic/Latino:** Difference-in-Differences (DID) models confirmed highly significant distributional shifts, characterized by substantial reductions in the proportion of Novice-level students and corresponding increases in the shares of students reaching the Proficient and Distinguished tiers.

- **Tier 2 - African American & English Learner:** High-density LETRS schools exhibited a moderate descriptive increase in the proportion of Proficient students and a corresponding decrease in the share of Novice students for these subgroups.

- **Tier 3 - Students with Disabilities:** KSA achievement distributions for this subgroup remained largely parallel across training levels, suggesting no robust intervention effect.

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# KSA Level Change by Subgroups

## Socioeconomically Disadvantaged

- Both regression and DID analysis for economically disadvantaged students reveal a strong and statistically significant relationship between higher LETRS training density and improved student reading outcomes.
  - Statistically significant decrease in the proportion of Novice students.
  - Concurrently, there is highly significant increase in the proportion of Proficient students.

**Regression Models (Baseline: 2022/2023)**

| Outcome Variable | Simple Model | | Full Model | |
|---|---|---|---|---|
| | Coefficient | t | Coefficient | t |
| Novice | -0.063 | **-2.227*** | -0.046 | -1.727 |
| Apprentice | 0.013 | 0.645 | 0.006 | 0.271 |
| Proficient | 0.080 | **3.402**** | 0.063 | **2.759**** |
| Distinguished | -0.018 | -0.841 | -0.022 | -1.096 |

***Note***: * $p < .05$, ** $p < .01$, *** $p < .001$

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# KSA Level Change by Subgroups

## Hispanic or Latino

- The models consistently demonstrate a significant reduction in Apprentice-level rates and a corresponding increase in Proficient-level rates, suggesting that high LETRS training density effectively transitions students from low literacy to higher achievement levels.

- These regression findings are stable, showing that increased LETRS training rates correlate with improved reading outcomes for Hispanic and Latino students.

**Regression Models (Baseline: 2022/2023)**

| Outcome Variable | Simple Model | | Full Model | |
|---|---|---|---|---|
| | Coefficient | t | Coefficient | t |
| Novice | -0.141 | -1.896 | -0.071 | -0.972 |
| Apprentice | -0.120 | -1.676 | -0.148 | **-2.054*** |
| Proficient | 0.214 | **3.105**** | 0.180 | **2.638**** |
| Distinguished | 0.076 | 1.259 | 0.062 | 1.031 |

***Note***: * p < .05, ** p < .01, *** p < .001

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# KSA Level Change by Subgroups

## African American

- Simple regression models indicate that African American students in schools with higher LETRS training rates experienced the most dramatic improvements in reading achievement.
- The relationship is such that, as LETRS density increases, the percentage of Novice students decreases while the percentage of Proficient students increases.

**Regression Models (Baseline: 2022/2023)**

| Outcome Variable | Simple Model | | Full Model | |
|---|---|---|---|---|
| | Coefficient | t | Coefficient | t |
| Novice | -0.243 | **-2.479*** | -0.154 | -1.608 |
| Apprentice | -0.034 | -0.383 | -0.047 | -0.510 |
| Proficient | 0.207 | **2.280*** | 0.152 | 1.660 |
| Distinguished | 0.081 | 1.158 | 0.048 | 0.672 |

***Note***: * p < .05, ** p < .01, *** p < .001

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# KSA Level Change Between by Subgroups

## English Language Learners

- Regression models suggest that LETRS training density is associated with a decrease in Novice levels and an increase in Proficient percentages, most coefficients lacked statistical significance.
  - Rigorous Difference-in-Differences (DID) estimates did not yield significant results, likely due to high data variability in this subgroup.
- The simple regression model for the 2022/2023 baseline indicates a significant reduction in the proportion of Novice students (*coefficient*: -0.204, $p < .05$).

**Regression Models (Baseline: 2022/2023)**

| Outcome Variable | Simple Model | | Full Model | |
|---|---|---|---|---|
| | Coefficient | t | Coefficient | t |
| Novice | -0.204 | **-2.028*** | -0.157 | -1.563 |
| Apprentice | 0.016 | 0.168 | -0.017 | -0.174 |
| Proficient | 0.138 | 1.706 | 0.136 | 1.681 |
| Distinguished | 0.034 | 0.684 | 0.015 | 0.295 |

***Note***: * p < .05, ** p < .01, *** p < .001

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# KSA Level Change Between by Subgroups

## Students with Disabilities (IEP)

- Compared to other subgroups, the data for Students with Disabilities provides no definitive indication of a training effect for this group.
- The Above group maintained a marginal descriptive lead in top-tier achievement. Specifically, the Above group's Proficient + Distinguished rates rose by 1.61 percentage points, slightly outpacing the 1.47 percentage point increase in the Below group.
- The Distinguished category for students with an IEP represents approximately 1.4 students per school. Because of this, results are considered inconclusive.

**Regression Models (Baseline: 2022/2023)**

| Outcome Variable | Simple Model | | Full Model | |
|---|---|---|---|---|
| | Coefficient | t | Coefficient | t |
| Novice | 0.022 | 0.472 | 0.041 | 0.962 |
| Apprentice | 0.047 | 1.285 | 0.024 | 0.649 |
| Proficient | 0.052 | 1.527 | 0.044 | 1.390 |
| Distinguished | -0.056 | -1.820 | -0.063 | **-2.098*** |

***Note***: * p < .05, ** p < .01, *** p < .001

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# Students with Disabilities (IEP) -- Continued

| Outcome Variable | Correlation Coefficient | p-value, Significance |
|---|---|---|
| Novice (%) | -0.04 | .357, Not Significant |
| Apprentice (%) | 0.15 | **.001, Significant** |
| Proficient (%) | 0.09 | **.048, Significant** |
| Distinguished (%) | -0.15 | **.002, Significant** |
| Proficient + Distinguished (%) | -0.05 | .340, Not Significant |

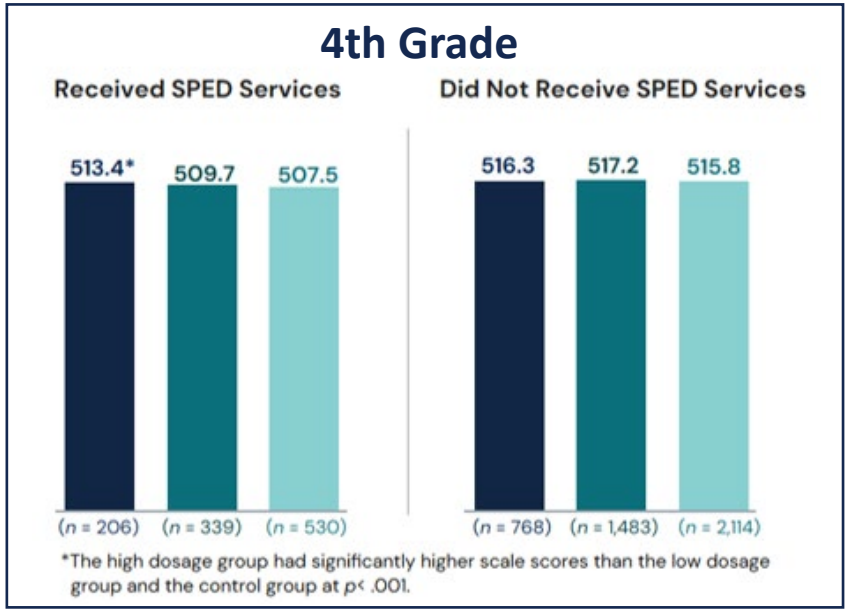
## ICF Study (2023-2025):

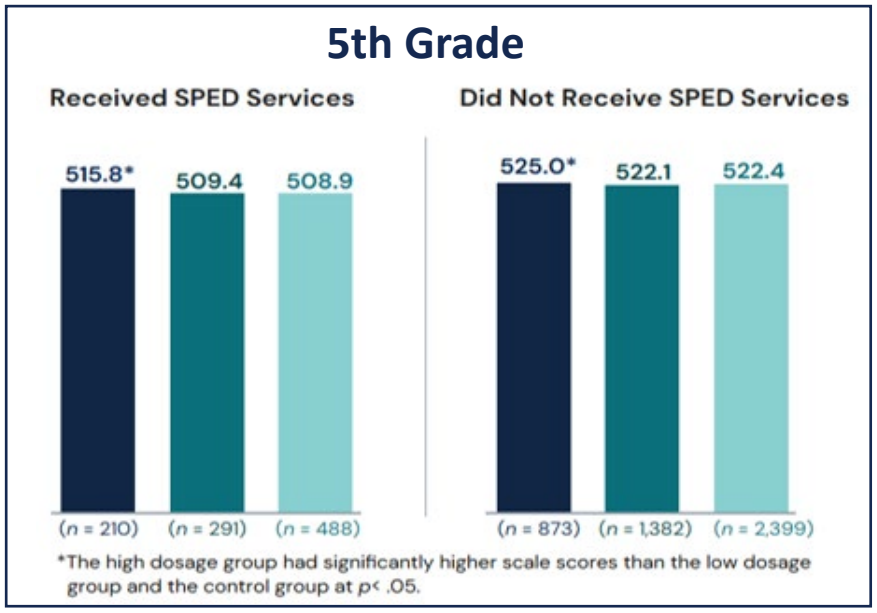
- 4th and 5th grade students with an IEP with a LETRS-trained teacher for 2 years, 1 year, or none
- Students with IEP in 4th and 5th grade who were exposed to two years of LETRS-trained teachers significantly out-performed their peers with less exposure to LETRS-trained teachers

High Dosage Group
2 Years Exposure

Low Dosage Group
1 Year Exposure

Comparison Group



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# Key Takeaways

## Impact on struggling readers

The overall pattern of results indicates that LETRS training appears to:

- **Move more students toward the "Proficient" level**
- **Reduce the number of students at the "Novice" level**
- Have differential effects on student sub-populations

This suggests LETRS may be most effective at strengthening foundational reading skills and helping students reach grade-level expectations, rather than primarily increasing the number of top-performing students.

## What this means for Kentucky

**LETRS training is helping move students into reading proficiency.** This matters because the "Proficient" level represents students who are reading at grade level and prepared for future academic success. Even modest percentage gains translate into thousands of additional students reading on grade level across the state.

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# Opportunities for Future Research

**Further research could strengthen understanding of LETRS effectiveness by focusing on:**

- **Classroom-level implementation**
- **How teachers apply LETRS instructional strategies**
- **Connections between specific literacy practices and student reading development**

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# Recommendations for Decision-Makers

- Expand access to LETRS professional learning. Many schools and districts still report 0% of educators trained in LETRS.
- Invest in data systems to track teacher training participation, measure classroom-level impact and strengthen future program evaluations.
- Encourage instructional alignment and support from school leadership to sustain literacy initiatives, align instruction and build school-wide reading culture.


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