



SCORE State Collaborative
on Reforming Education

Instructional Coherence for Literacy:

Knox County Randomized Control Trial
Demonstrates Stronger Growth, Better Alignment,
and Teacher Support

May 14, 2026



Welcome!



Who is in our audience?





Agenda

- Tennessee Context
- About Instructional Coherence
- Study Design
- Study Results
- Scale and Next Steps
- Q and A
- Application



Tennessee Context





2022-23: Aligning Supports

Over the last decade, Tennessee has worked hard to improve early literacy instruction.

Revised ELA standards and adopted the RTI² Framework

Revised the RTI² Framework to emphasize a focus on core instruction

Passed the Tennessee Literacy Success Act and the Tennessee Learning Loss Remediation & Student Acceleration Act

2014

2016

2021

TN decided what it would teach across grade levels and how it would remediate students who were behind through tiered support.

TN created a clear focus on strong core instruction for all students alongside tiered support that was different from core instruction.

TN required adoption of HQIM for core literacy instruction, instruction grounded in foundational skills, and provided funding for HDT as another setting for student academic support.



2022-23: Aligning Our Supports

Program Element	HDT	RTI ²	
		Tier 2	Tier 3
How should students be identified for support?	40 th percentile or below on the universal screener with a focus on "approaching" students	Below the 25 th percentile on the universal screener coupled with additional evidence or use of local, relative norms for a large number of students to serve*	
How should the support be staffed?	Adult who has completed Tennessee accelerating literacy and learning corps (TALLC) training	Highly trained personnel adequately trained to deliver the selected intervention, and taught by qualified, certified teachers, if possible	
What materials should be used?	High-quality materials aligned with classroom content	Systematic scientifically research-based interventions that target the student's identified area of deficit that produce reliable and valid results	
What is the maximum staff-to-student ratio for small-group support?	1:3	1:5	1:3
How frequently should small groups meet?	30-45 minutes two times weekly	30 minutes daily	Minutes daily, grades K-3 <ul style="list-style-type: none"> • Kindergarten: 40-45 • Grades 1-2: 40-60 • Grades 3: 45-60
How long does this support last?	One year of support (As outlined in the TN ALL Corps grant requirements)	No specified duration or number of progress monitoring data points before recommending a change in frequency of intervention sessions, interventions, provider, time of day, or for initiation of a special education referral	

HDT also called for a small group structure, but in this case, focused support on acceleration with HQIM because it was for students scoring between the 26th-40th percentile instead of the 1st-25th percentiles.



The RCT builds upon earlier signals, providing evidence of impact.

- Observational data from cross-district high-dosage tutoring (HDT) network
- Students that would normally be slotted for intervention were exposed to instructionally coherent high-dosage tutoring

Students Without IEPs: Average Composite Score, Percentile Growth From Beginning to End of Year				
Beginning-of-Year Percentile Performance Range	Core Literacy Instruction Only	HDT	RTI ² Tier 2	RTI ² Tier 3
1st-10th Percentile	8.6	19.3*	11.0	5.7
11th-25th Percentile	11.5	11.7	7.8*	-1.2*
26th-40th Percentile	6.5	5.7	1.6*	-1.6*
41st-99th Percentile	-0.5	-1.6	0.8*	-5.9*

Statistically significant results are displayed with an asterisk using a .05 level of significance. The trends above were also consistent when analyzing growth between the beginning and midyear administrations of universal literacy screeners as well as midyear to end-of-year administrations, separately.



Instructional Coherence





While more TN students are proficient today than pre-pandemic, more students in lowest proficiency level.

Third Grade Performance Categories Over Time





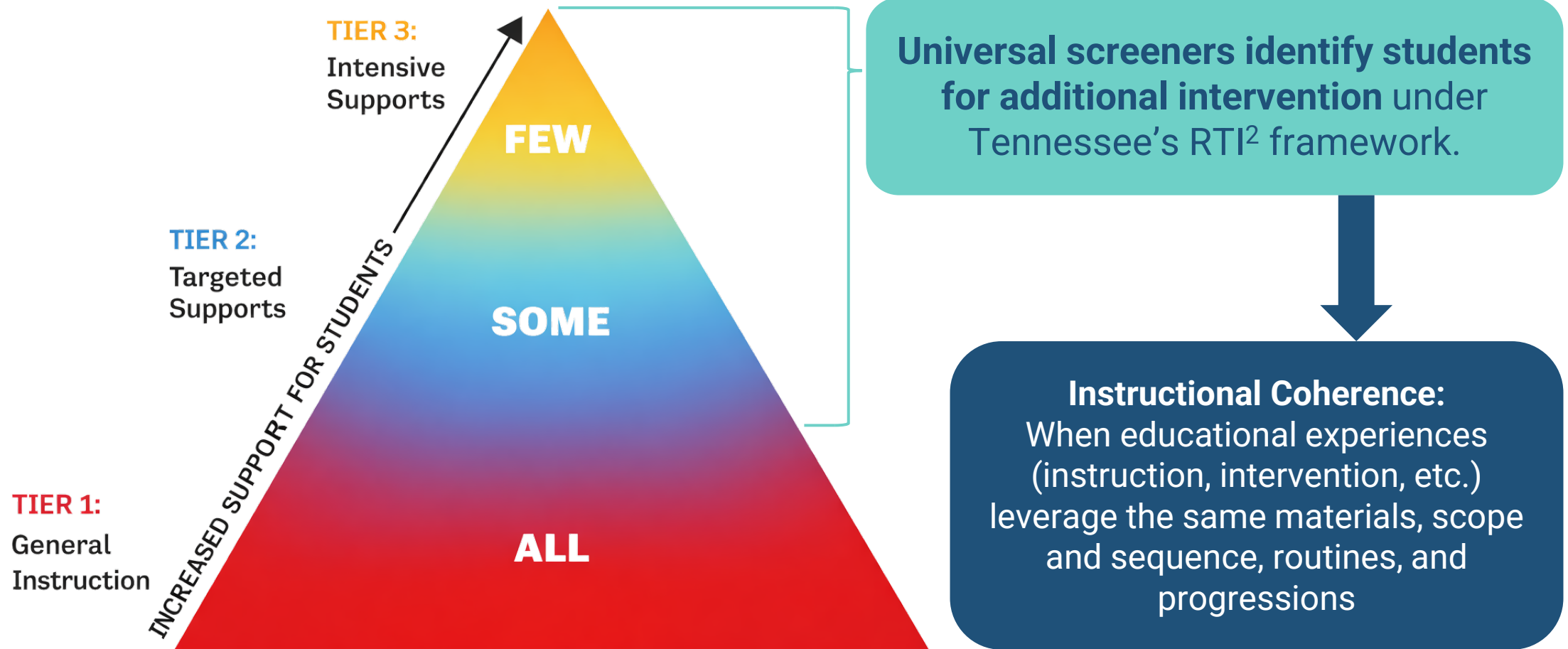
What is instructional coherence?

“Instructional coherence means aligning instruction, content, and goals across all learning spaces—from core instruction to intervention and other academic supports—to ensure that all students engage in and are actively prepared for grade-level learning.”

-TNTP, Coherence By Design



Instructional coherence aligns intervention to core instruction.





Instructional Incoherence

KEY ELEMENT	COHERENT INTERVENTION	TRADITIONAL INTERVENTION
Materials	High-quality instructional materials used in Tier I	Research-based materials; computer-based programming
Group Size	Small group (ideally four)	Small group (three to six, depending on tier)
Alignment	Same scope and sequence, routines, progressions as core instruction	Often disconnected from core instruction
Student Experience	Consistent and reinforcing	Confusing and fragmented



Instructional Incoherence in Practice

- Universal Screener: Flags Jon for intervention, but doesn't identify his specific needs
- Tier I: Jon reads *The Phantom Toll Booth*
- Intervention: Jon works on an adaptive computer program where he reads a below grade-level text about endangered species.
- Tutoring: Jon practices sight words pulled from the internet.
- Multilingual Support: Jon practices cause-and-effect in an article about the water cycle



2023-24: Investing in Coherence

SCORE State Collaborative on Reforming Education

Tennessee Case Study:
Piloting Instructionally Coherent Literacy Intervention in Knox County Schools

In the fall of 2024, four elementary schools in Knox County Schools (KCS) piloted a new approach to supporting students who are academically behind. For over a decade, most Tennessee schools — including these four — have used intervention-specific materials when providing academic support to students outside of Tier I settings.¹ However, for the 2024-25 academic year, the four schools are working to align the materials used in small-group settings to those used in core instruction — an approach known as **instructional coherence** — for kindergarten through third-grade literacy.

This case study provides context for instructional coherence in Tennessee and outlines Knox County Schools' approach in their pilot. We hope this will support more Tennessee districts and schools to explore these same shifts.

**Note: a Glossary of Terms used in this case study can be found in Appendix A.*

THE DATA ON INSTRUCTIONAL COHERENCE

The KCS pilot builds on the work of a previous cross-district network that tracked student literacy growth for first through third graders during the 2022-23 school year, based on the kind of academic interventions provided to students. Some students only received Tier I instruction — the core instruction that all students receive — while others received additional supports like high-dosage tutoring (HDT) or Tier II and III intervention.

Data from that network suggest that, regardless of performance level, students grew more when they received **no additional support whatsoever** compared to students placed in the most intense Tier II or III intervention, which meets three to five times per week. Students who grew the most were, in fact, the students placed in high-dosage tutoring, a less intensive intervention focused on support using Tier I curriculum and meeting two to three times per week. **These results lead to a hypothesis that all supports and interventions would be maximized if districts used aligned curricular materials (i.e. instructional coherence).**

Students Without IEP's: Average Composite Score, Percentile Growth From Beginning to End of Year				
Beginning-of-Year Percentile Performance Range	Core Literacy Instruction Only	HDT	RTI ² Tier 2	RTI ³ Tier 3
1st-10th Percentile	8.8	19.3*	11.0	5.7
11th-25th Percentile	11.5	11.7	7.8*	-1.0*
26th-40th Percentile	6.5	5.7	1.6*	-1.6*
41st-99th Percentile	-0.5	-1.6	0.8*	-3.8*

Statistically significant results are displayed with an asterisk using a .05 level of significance. The trends above were also consistent when analyzing growth between the beginning and mid-year administrations of universal literacy screens as well as mid-year to end-of-year administrations, separately.



\$2M
systemwide purchase of aligned K-5 materials for Tier 2 and 3

Implementation pilot in 4 schools to study and replicate promising practice



Knox County's Prior Intervention Model

- **Overly Broad Screeners**
 - Universal screeners were the primary tool used to flag students for intervention, which gave instructors little clarity about students' actual needs.
- **Misaligned Intervention Curriculum**
 - Each tier used a different program, meaning students—especially those who struggled most—were asked to learn yet another program (which didn't align to Tier I).
- **Limited Data and Collaboration**
 - Educators across tiers only had 30 minutes/month to collaborate and only oral reading fluency data to drive instructional decisions.



A Knox County Schools (KCS) pilot embraced three primary components.



1. Expanded their vision and commitment to research-backed early literacy instruction and use of high-quality instructional materials.
2. Implemented a more targeted data strategy to pinpoint student needs and create data-driven small groups.
3. Collected informal progress monitoring of data through a skills tracker, enabling educators to respond quickly to demonstrated student learning.



KCS expanded their vision for literacy instruction and commitment to research-backed instruction.

- Cast a vision to unify teachers, interventionalists, and leaders to a singular vision for advancing literacy
- Identified how schools and the district work together toward developing literacy
- Explicitly detailed how high-quality instructional materials will be utilized

Literacy Vision

Literacy is a deserved right of every student, and KCS is committed to supporting all students to be proficient before third grade – regardless of cultural background, socioeconomic status, native language, or learning challenges.



We do this by providing:

- Instruction anchored in the science of reading
- Interventions and supports for students who are struggling or are classified as gifted
- High-quality instructional materials



High-quality instructional materials implemented with integrity will:

- Provide explicit and systematic foundational literacy instruction
- Build knowledge of the world as students read, speak, listen, and write about complex text daily
- Enable students to build fluency, think critically, and broaden their background knowledge
- Provide opportunities to leverage and build students' linguistic and cultural assets



Teachers and leaders support this vision through:

- Collaborative unit and lesson preparation and internalization
- Learning walks to reflect on instructional practice
- Formative and summative assessment data to shape instruction



KCS implemented a more targeted data strategy, responding to student needs.

- Universal screeners identify which students need support but not why
- Using curriculum embedded assessments allowed KCS to sort students into groups that focused on specific skills

QPA Task	Phonics Skill Addressed	Phonetic Connections StartUp, BuildUp, and SpiralUp Lesson/Unit Correlation
Task 1	Sound/Symbol Recognition -identification of letter names -sounds for vowels (5) and consonants (21)	StartUp Red Letter Awareness Lessons 15-50 Purple Phonics Units 1-25
Task 2	VC & CVC words	StartUp Purple Phonics Units 1-8 VC Units 3-25 CVC
Task 3	Consonant Digraphs	BuildUp Unit 12 — final digraph ck Unit 13 — digraphs ch, sh Unit 14 — digraphs th, wh

Source: Quick Phonics Assessment Handbook. Benchmark Education Company, LLC (2006).



KCS integrated informal progress monitoring through a skills tracker.

The skills mastery tracker allows teachers and interventionists to collect formal and informal data about student progress within target skills. As students master or struggle with new content, educators can track the data and use it to determine how to best support students, including when to advance to new skills or move students to new intervention groups more closely aligned to their specific skill set needs.

Student Name	Unit	Notes from Weekly Instruction	Decoding Assessment Results	High-Frequency Word Assessment Results	Encoding/ Dictation Assessment Results
Student A	unit 5-short-u	automatic and confident	4/4	4/4	6/6
Student B		still not fully automatic; a bit slow in pacing lacking confidence	3/4	3/4	3/6
Student C		automatic and confident	4/4	4/4	6/6
Student D		struggling with encoding new skill	2/4	2/4	0/6



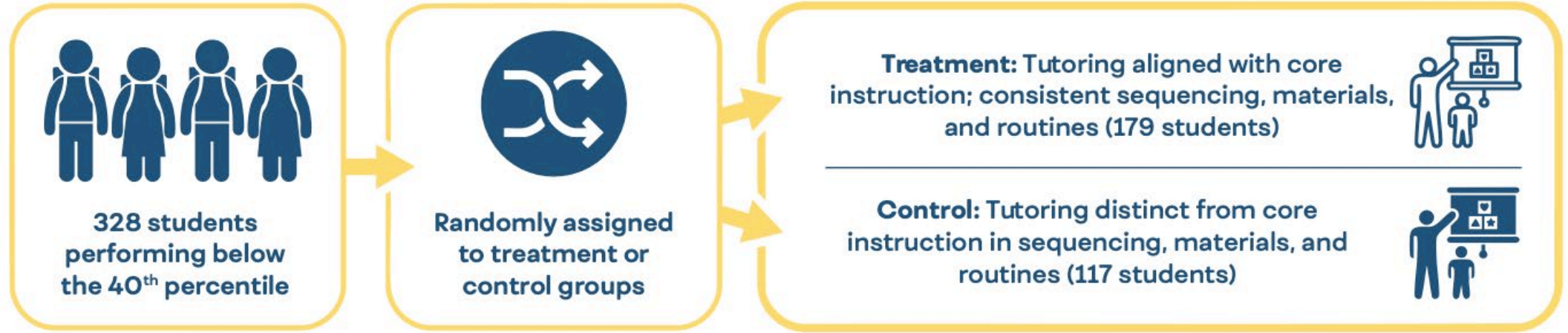
Study Design





The KCS instructional coherence pilot featured a rigorous randomized control trial (RCT).

Researchers leveraged an RCT design, identifying the statistically significant positive effect that instructional coherence has on student learning.



Data Note: Due to attrition over the course of the RCT, 32 students were removed from the researchers' final analysis, resulting in a final sample of 296 students.



Between treatment and control groups, receiving instructional coherence was the key difference.

Day-to-day operations at KCS pilot schools closely mirrored previous years of RTI² implementation, only changing the instructional materials used.



Modality:
In-person, small-group tutoring



Subject:
Early literacy (K-3)



Tutor type:
Teachers & paraprofessionals



Tutor to student ratio:
1:3.5



Dosage:
5 days/week;
40-45 min sessions



Study Results





Key Findings

Students in **coherent intervention** groups averaged:

1.3

Additional months of learning*

The **lowest performing students** averaged:

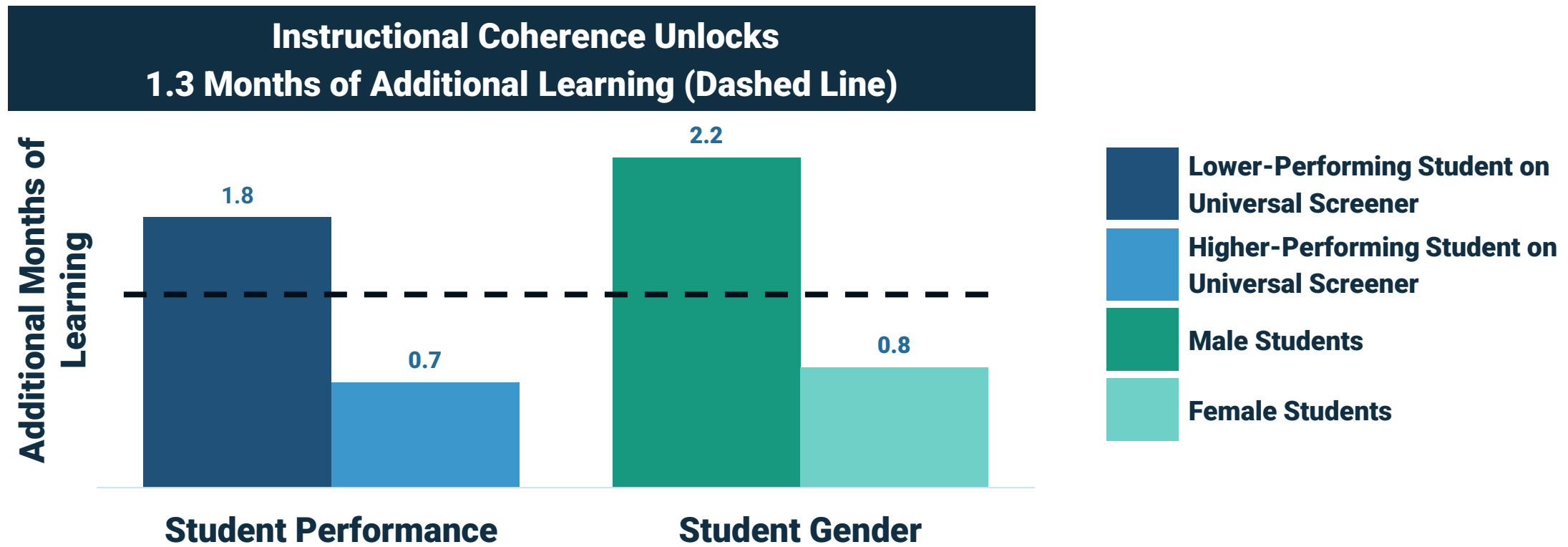
1.8

Additional months of learning*

*compared to similarly performing peers in control intervention groups



Instructional coherence unlocks months of additional learning for students.



Additional months of learning achieved through utilizing an instructionally coherent approach to RTI² interventions by student performance, sex, and length of tutoring session

Data Source: Creating Coherence: Does Instructional Alignment Affect the Impact of Tutoring? EdWorkingPaper: 25-1332, Annenberg Institute at Brown University, 2025.

Data Note: The results visualized here were statistically significant for the following groups: overall effect (1.3 months of additional learning), low-performing students (1.8 months of additional learning), and students in 45-minute sessions (3.2 months of additional learning) at a significance level of $p < 0.05$.



Through strong implementation, Pond Gap Elementary had uniquely strong learning gains.

Pond Gap Elementary more than tripled the average learning gains for students, unlocking 4.1 months of additional literacy gains.



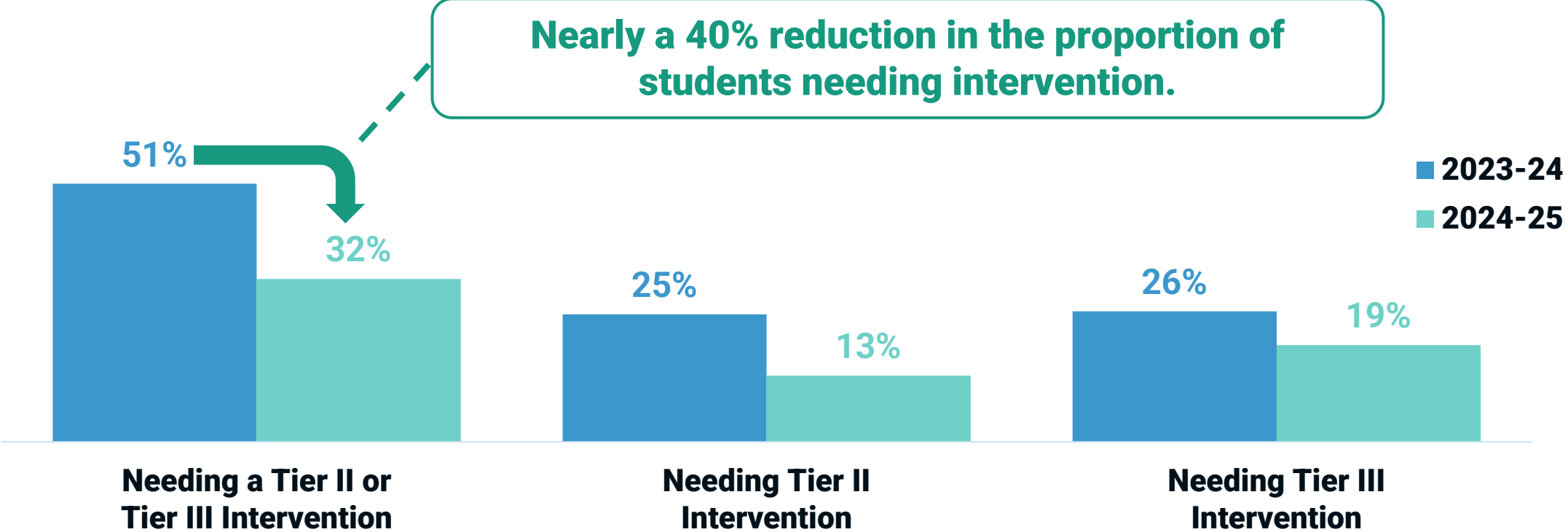
Months of learning gained by the average student that experienced an instructionally coherent Tier II or Tier III intervention as compared to a student that received an instructionally distinct intervention for participating pilot schools overall and Pond Gap Elementary specifically

Data Source: Creating Coherence: Does Instructional Alignment Affect the Impact of Tutoring? EdWorkingPaper: 25-1332, Annenberg Institute at Brown University, 2025.

Data Note: The results visualized here were statistically significant for both pilot schools overall and Pond Gap Elementary specifically. These results were statistically significant at the $p > 0.05$ and $p > 0.001$.



Instructional coherence grew students out of intervention.



Proportion of students needing a Tier II and/or Tier III literacy intervention at Pond Gap Elementary during the 2023-24 and 2024-25 academic years

Data Source: Creating Coherence: Does Instructional Alignment Affect the Impact of Tutoring? EdWorkingPaper: 25-1332, Annenberg Institute at Brown University, 2025.



Bright Spot: Pond Gap



"It was a shared accountability piece. It wasn't just one space or one person or one job title. It was all of us. It required a structure and vision for the school that it never had before."

Taiesha Young,
Principal of Pond Gap Elementary School



Instructional coherence maximizes resources by aligning intervention to instruction.

Students are flagged as needing an RTI² intervention

3,755 KCS students in kindergarten through fifth-grade needed intervention during the 2024-25 school year.



Before coherence, separate curriculums are needed

During the 2024-25 school year, KCS spent approximately \$2 million on purchasing intervention materials.



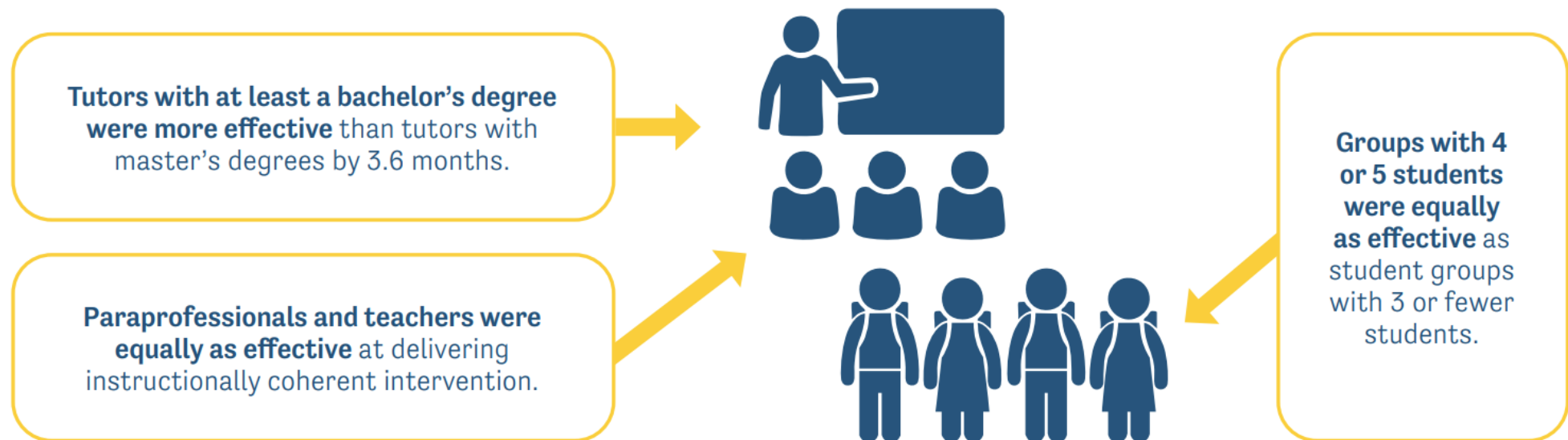
After coherence, only one curriculum is necessary

KCS could have generated savings of approximately \$530 per student receiving intervention through instructional coherence.



The most effective intervention groups are instructionally coherent and strategically leverage resources.

Students made equal or greater learning gains when paraprofessionals and bachelor's-level tutors used instructional coherence, even in larger groups.



Details on how different configurations of instructional coherence delivery affected student learning.

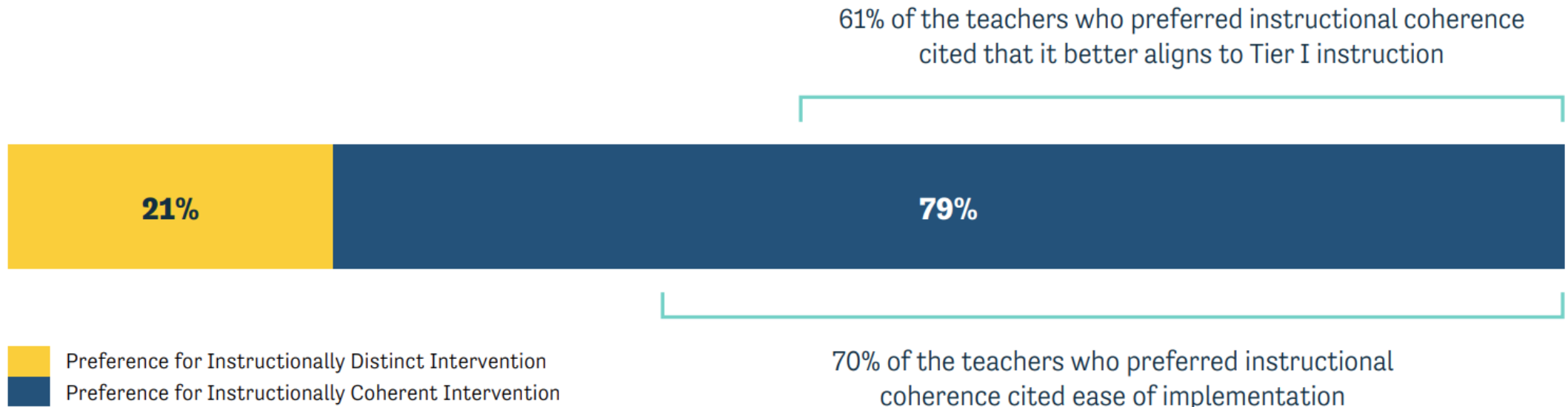
Data Note: This visual captures the effect of how instructional coherence is delivered within the treated group. Results comparing tutors at the master's and bachelor's levels were statistically significant and positive when less resources were strategically utilized. The lack of a statistically significant difference between licensed teachers and paraprofessionals provides evidence that focusing licensed instructors on core instruction maximizes school resources. A lack of statistical difference between tutoring groups of three or fewer students and groups of four or five students suggests that getting tutoring group sizes down to five students is effective for creating learning gains.

Source: Creating Coherence: Does Instructional Alignment Affect the Impact of Tutoring, EdWorkingPaper: 25-1332, Annenberg Institute at Brown University, 2025.



Instructional coherence enjoys the support of both teachers and leaders.

Teachers preferred instructionally coherent interventions four-to-one, with a majority citing that instructional coherence is both easier to implement and aligns better with core instruction.



Percentage of teachers from the KCS pilot who preferred an instructionally coherent approach to RTI² intervention as compared to an instructionally distinct approach

Data Note: Teachers could select multiple reasons for preferring an instructionally coherent approach to RTI² interventions. Options included easier to implement (16 teachers), better alignment to Tier I instruction (14 teachers), more tailored to student needs (11 teachers), students are more engaged (nine teachers), and students achieve more growth (eight teachers). Percentages for easier implementation and better alignment were calculated using the 23 teachers who preferred instructional coherence.

Source: Teacher and Leader Perceptions Survey for KCS Instructional Coherence Pilot, TNTP, 2025.



Teachers and leaders prefer an instructionally coherent approach to intervention.

“I really appreciate that the materials are aligned with Tier I ... they are grounded in the science of reading and are noticeably more engaging for students.

Additionally, the ability to target specific skills through the administration of the QSA/QPA has made our intervention efforts more focused and effective.”





What's next?





Supporting Scale

- Advocating for a change to our state's RTI Manual to more explicitly encourage this practice
- Supporting more districts to design and pilot instructional coherence
- Knox County is expanding instructional coherence to additional grades and academic settings



Q and A





Application





Check for Coherence

Imagine a student in a school that is familiar to you. This student receives multiple different supports during the day, and you're hoping to see if they are coherent. Work to create a template that includes:

1. An observable indicator statement: *"We will know coherence is happening when _____."*
2. A data source: *"We will look at _____."*
3. A quality check: *"A threat to validity could be _____, so we will mitigate it by _____."*



Share Out

- What would we need to see to believe this is real coherence?
- How could we monitor/measure implementation over time?

Materials for Download



EARLY LITERACY SUCCESS FOR ALL STUDENTS: A COHERENT PATH FORWARD



Tennessee Case Study: Piloting Instructionally Coherent Literacy Intervention in Knox County Schools

In the fall of 2024, four elementary schools in Knox County Schools (KCS) piloted a new approach to supporting students who are academically at-risk. For over a decade, most Tennessee schools — including those that — have used classroom-level specific materials when providing students support to students outside of Tier 1 settings. However, for the 2024-25 academic year, the four schools are working to align the materials used in small-group settings to those used in core instruction — an approach known as **instructional coherence** — to help support growth for all students.

This case study provides context for instructional coherence in Tennessee and outlines Knox County Schools' approach to this pilot. We hope this will support other Tennessee districts and schools to explore these same efforts.

Note: a list of terms used in this case study can be found in Appendix A.

THE DATA ON INSTRUCTIONAL COHERENCE

The KCS pilot builds on the work of a previous cross-district network that tracked student literacy growth for first through third graders during the 2022-23 school year. Based on the lack of academic interventions considered to date, some students only received Tier 1 instruction — the core instruction that all students receive — while others received additional supports like high-leverage tutoring (HGT) or Tier 2 or 3 interventions.

Data from that network suggest that, regardless of performance level, students grew more when they received an **additional support whenever** compared to students placed in the most intense Tier 2 or 3 intervention, which results in one hour per week. Students who grew the most were, in fact, the students placed in high-leverage tutoring, a less intensive intervention focused on support using Tier 1 curriculum and meeting two to three times per week. These results led to a hypothesis that **all supports and interventions would be replaced if effective used aligned, evidence-based materials (i.e. instructional coherence).**

Students Without HGT	Average Composite Score, Percentile Growth from Beginning to End of Year	Core Literacy Intervention Only	HGT	RTI ² Tier 2	RTI ³ Tier 3
End 2024 Percentile	6.6	18.3*	12.0	5.7	5.7
End 2023 Percentile	12.8	12.7	12.7	12.7	12.7
Start 2024 Percentile	-0.5	5.7	5.7	5.7	5.7
Start 2023 Percentile	-0.5	-1.8	5.8*	5.8*	5.8*

Statistically significant results are identified with an asterisk using a .05 level of significance. The results above were also consistent when analyzing growth between the beginning and end-year administration of general literacy measures as well as separate levels of general administration.

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Instructional Coherence for Literacy: Knox County Study Shows Stronger Growth, Better Alignment, and Teacher Support

DECEMBER 2025

For over a decade, Tennessee schools have implemented the state's Response to Intervention (RTI) Framework, which is intended to build from a strong foundation of standards-aligned core instruction (Tier 1) and add levels of increasingly intensive interventions for students who need additional support. The overarching goal of the RTI framework and process is to provide all students with access to and support for reaching high standards and expectations. Students who are identified as further behind receive Tier 2 and Tier 3 interventions, which include additional instruction in literacy or math beyond the core instruction block. Today in Tennessee, these interventions most often take place in small groups using intervention-specific instructional materials that differ from district's core Tier 1 instructional materials.

During the 2024-25 academic year, four elementary schools in Knox County Schools (KCS) piloted a new approach known as **instructional coherence**, creating greater alignment across tiers of support for early literacy. For KCS kindergarten through third-grade students in the pilot group, interventions that no longer relied on separate programs or materials, instead, Tier 2 and Tier 3 lessons were intentionally aligned to the same high-quality instructional materials (HQM) used in Tier 1 instruction.

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Thank you!

