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**Teacher Tip VOLUME 3**

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**A Web-Based Intelligent Tutoring System for Reading Comprehension Delivered to Fifth-Grade Students Attending High-Poverty Schools: Results From a Replication Efficacy Study**

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Summarized are the results of an efficacy study of the web-based Intelligent Tutoring System for Structure Strategy (ITSS) for enhancing reading comprehension among 5th grade students in high-poverty schools. Thirty-three schools across five U.S. districts participated. A total of 2,170 students participated in the study; 82% qualified for free or reduced-price lunch, and 89% were from minority backgrounds. The goal of this project was to replicate previous findings of ITSS by delivering the Knowledge Acquisition and Transformation (KAT) reading comprehension framework to 5th grade students in high-poverty schools through the ITSS and teacher-led instruction. Results revealed large positive effects on measures related to writing main ideas and recall (effect sizes 0.97–1.32). The study confirms ITSS's potential to support reading comprehension in disadvantaged educational settings.

**This research found that instruction in the KAT Framework can mitigate low comprehension for students in high-poverty schools by:**

* Using an evidence-based reading comprehension strategy
* Showing how the ideas connect within a text or with new or complex content
* Assisting readers even when textbooks do not provide research-based instructional tasks

**The impact of the text structure strategy in the context of high-poverty schools:**

* 5th grade students using KAT and ITSS outperformed their control school peers on all measures of comprehension.
* ITSS and KAT demonstrated significant impacts in high-poverty schools, providing much-needed support for students who face systemic disadvantages.
* The intervention significantly improved students' abilities to identify signaling words, generate main ideas, and recall information from the text.
* The findings underscore the potential of ITSS and KAT to address educational inequities by delivering consistent, high-quality reading instruction that enhances critical comprehension skills​.

**Recommendations for teachers:**

* ITSS combined with teacher-led KAT instruction offer effective ways to enhance reading comprehension by focusing on text structures, main ideas, and summarization.
* Teachers can benefit from practice-based professional development (PBPD) tailored to improve fidelity and consistency in delivering evidence-based strategies.
* The inclusion of tools like structured lesson guides and ongoing coaching supports teachers in integrating ITSS with their curriculum, reducing reliance on inconsistent or contradictory methods.
* Providing high-quality, text structure strategy instruction that aligned with the KAT framework helps ameliorate gaps in students’ reading comprehension skills​, even in resource-limited environments.

**Recommendations for principals:**

* Principals should foster a supportive environment for implementing evidence-based comprehension interventions (i.e., ITSS and KAT) in high-poverty schools.
* Principals must facilitate the adoption of evidence-based programs by ensuring alignment with existing school curricula and policies, allocating time for teacher professional development, and supporting collaborative professional learning communities (PLCs).
* Principals must also prioritize fidelity of implementation by monitoring classroom practices and providing resources for consistent use of tools like KAT guides.