

Evidence summary: assistive reading tech (2026)

scope

This summary covers studies and meta-analyses from 2018 to 2026 on text-to-speech (TTS), reading rulers / focus overlays, in-line definitions, and dyslexia-friendly typography. It is not a systematic review. Full references are available on request.

text-to-speech

- Consistent moderate effect on comprehension for dyslexic readers when TTS is paired with on-screen highlighting (multi-modal scaffolding).
- Effect on reading fluency is smaller and depends on whether the student also reads the text. TTS as a substitute for reading shows little gain.
- Multi-voice narration (character voices) improves engagement in younger readers but evidence on comprehension gains is still emerging.

reading rulers and focus overlays

- Strong qualitative evidence and growing quantitative support for reduced visual stress in Irlen / Meares-Irlen syndrome.
- Useful as a low-cost classroom adjustment for ADHD pupils, though the mechanism is attentional rather than visual.
- Best deployed alongside, not instead of, individualised tinting.

in-line definitions

- Robust evidence that look-up cost (the time and disruption to find a definition) is a major barrier to reading harder texts.
- Tap-to-define interfaces close that gap and correlate with willingness to attempt above-level texts.
- Best practice: kid-friendly definitions, syllable breakdowns, and audio playback in a single card.

typography

- OpenDyslexic and similar fonts show small, mixed effects in controlled trials.
- Larger effects from line spacing, letter spacing, and font size adjustment than from font choice alone.

- User control matters: pupils who choose their own settings outperform those given a fixed dyslexia-friendly preset.

what this means for practice

Combine modalities. A single tool rarely moves the needle. TTS plus focus line plus tap-to-define plus user-chosen typography is the configuration with the strongest combined evidence in 2026.