

Assistive Technology Tools in K–12 Classrooms

Assistive technology (AT) includes any device or software that helps students with disabilities access learning. AT ranges from simple low-tech tools (like colored overlays or pencil grips) to advanced high-tech devices (like speech-recognition software or refreshable Braille displays). In classrooms, we classify transactional uses of AT as those that support routine task completion or access (e.g. reading or writing tasks), while transformational uses enable new forms of learning or creative expression. The table below lists examples of low- and high-tech AT tools, their typical use in class and whether they primarily serve transactional or transformational learning.

How can we balance both transactional and transformative goals — ensuring AT builds essential skills and opens pathways for creativity, collaboration, and agency?

Assistive Tool	Tech Level	Example of Classroom Use	Transactional	Transformational
Pencil Grip	Low	A rubber or weighted attachment on a pencil helps students with fine-motor or grip difficulties hold and control their writing instrument.	✓	
Slant Board	Low	Angled writing surface that raises paper for better posture and grip, making handwriting easier for students with coordination or strength issues.	✓	
Adapted Paper (line/graph)	Low	Specialty paper with raised lines or grids helps students keep letters aligned and evenly spaced, aiding those with dysgraphia or poor spacing.	✓	
Coloured Overlays/Reading Guides	Low	Transparent coloured sheets or ruler strips placed over text focus visual attention and reduce glare or visual stress, assisting readers with dyslexia or visual tracking difficulties.	✓	
Communication Board (picture symbols)	Low	A board or booklet with pictures, symbols or words that students can point to in order to express needs or ideas, enabling nonverbal or emerging language learners to communicate in class.	✓	✓
Visual Schedule (picture routine)	Low	A sequence of icons or photos showing the day's schedule or steps of a task, which helps students (especially with autism or executive function challenges) follow routines independently.	✓	
Braille/Large Print Books	Low	Textbooks or worksheets printed in Braille or extra-large font allow students with vision impairment to access content by touch or enlarged text.	✓	✓

Handheld Magnifier	Low	Simple optical magnifiers enlarge text or images for low vision students when reading printed materials (maps, charts, worksheets).	✓	
Speech-to-Text Software	High	Programs like Dragon or built-in dictation let students speak aloud and have their words converted to written text, aiding those with fine-motor or writing difficulties.		✓
Text-to-Speech Software	High	Software or apps (e.g. Speechify, screen readers) that read digital text aloud from textbooks or websites, helping dyslexic or visually impaired students follow along.	✓	
Word Prediction	High	Writing assistance programs (e.g. Co: Writer) that suggest completions for words as students type, supporting spelling and sentence construction for students with dysgraphia or language disorders.	✓	✓
Graphic Organizers	Low/High	Software or apps (like Inspiration or Kidspiration) that let students create concept maps or webs on a computer/tablet to organize ideas, aiding comprehension and planning in writing or projects.	✓	✓
AAC Speech Generating Device	High	A tablet or dedicated device running Augmentative communications software lets nonverbal students select symbols or type messages that the device speaks aloud, enabling them to participate more fully in discussions.	✓	✓
FM/PEP Listening System	High	A wireless microphone system (teacher wears mic) transmits the teacher's voice directly to a student's hearing aid or receiver, improving audibility over distance or background noise.	✓	
Live Captioning/Transcription	High	Real-time captioning of lectures or videos (via CART, apps or built-in features) provides deaf/hard-of-hearing students with written text of spoken language, ensuring they don't miss information.	✓	
Refreshable Braille Display	High	An electronic device that converts onscreen text into a line of tactile Braille dots, giving blind students real-time access to digital content (e.g. reading a web page or document).	✓	

OCR Scanning Pen	High	A portable penlike scanner that reads printed text aloud when stroked across a page. Visually impaired or dyslexic students use it to independently access text from books or worksheets.	✓	
Eye Gaze Communication	High	An eye-tracking system turns a student's gaze into a pointer or keyboard, allowing students with severe physical disabilities to control a computer or communication software handsfree.	✓	✓
Braille/3D Embosser (Tact Plus)	High	A specialized printer that embosses Braille and raised-line graphics from digital files, enabling blind students to print maps, graphs or tactile images in class. (E.g., the TactPlus can quickly produce Braille pages from a computer file.	✓	

Notes: Tools checked as Transactional primarily assist with completing standard class tasks (like reading, writing or communication), while those checked as Transformational enable new ways of learning or expression (e.g. creative mapping or novel input methods). Grade levels indicate typical usage (some tools span all K–12). All examples above are evidence-based classroom practices for learners with diverse needs.

References

Kilbane, C. & Milman, N. (2023, June). Differentiated Learning and Technology: A Powerful Combination. *ASCD*, 80(9).
<https://www.ascd.org/el/articles/differentiated-learning-and-technology-a-powerful-combination>

Rice, M. (2024). 12 Examples of Assistive Technology in the Classroom. *BuiltIn*. <https://builtin.com/articles/assistive-technology-in-the-classroom>