AI as Assistive Technology:
Practical Supports for Neurodiverse Learners

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Joan Green, M.A., CCC-SLP



Today's take-home message



- **Well-matched tools:** One effective tool can transform access, learning, and independence.
- **AI opportunities and risks:** AI expands the assistive technology toolbox but requires thoughtful use.
- **Student agency:** Match supports to individual needs while preserving thinking, choice, and independence.
- **Educational therapist expertise:** Professional judgment, instruction, practice, and follow-up make technology effective.

Want a copy of all these slides?

https://bit.ly/aet-joan-green

(There is a wealth of info here- some are for future reference)

New tech mindset

- “How can today's technologies and AI improve outcomes?”
- “Which readily available tools are easiest to use and likely to make the greatest difference?”
- Start with the low-hanging fruit!
- First, learn what's possible!



I'm thrilled to be here! A bit about me:

- Founder of Innovative Speech Therapy (rebranding to Innovative Speech + Technology)
- I love learning about emerging technologies and AI to help people of all ages and abilities
- Speech-language pathologist
- Assistive technology specialist
- Founder of the *Tech Life Inner Circle membership*
- It makes my day to help others improve life with tech!



How comfortable are you with AI?

1. **Hard pass:** We're not on speaking terms, and I'm fine with that!
2. **AI-curious:** We've exchanged glances, but haven't really met.
3. **Cautious explorer:** We've been on a few dates. I'm still deciding if I can trust it.
4. **Regular user:** We work well together, but I still check its work.
5. **Power user:** We're practically coworkers, but I'm the boss! I regularly explore new ways it can help.

Where are you now, and wh



What is getting in the way?

Think of the learners you support.

What tasks regularly create unnecessary barriers?



AI is already part of our everyday technology!

AI helps computers recognize patterns, process information, make predictions, and generate responses.

Everyday AI

Already in the tech we use!

- Speech recognition and live captions
- Predictive text and autocorrect
- Image and text recognition

Generative AI

New ways to personalize support!

- Creates text, images, and audio
- Explains ideas and answers questions
- Offers interactive coaching and practice

AI can sound confident when wrong. Expertise and critical thinking still matter.

Crucial AI implementation considerations

Who will use AI?

Professional use	Guided use	Independent use
I use AI to prepare or adapt learning materials.	We explore and practice using AI together.	The student uses AI strategically.

What must we evaluate?

Learning	Does AI remove a barrier without bypassing the learning goal?
Student agency	Does the student know when and how to use AI independently?
Policies	Does its use align with school policies and student privacy?

What counts as assistive technology (AT)?

- IDEA: **AT devices** increase, maintain, or improve functional capabilities of children with disabilities.
- Devices may be commercially available, modified, or customized.
- **AT services** include assessment, selection, training, and follow-up.
- AI may be AT when it addresses a disability-related need.
- 34 C.F.R. § 300.5: AT device
- 34 C.F.R. § 300.6: AT service



AI expands the AT toolbox

- **Improves access** to text, speech, and information
- **Personalizes support** with tailored explanations and feedback
- **Strengthens comprehension** through interactive learning and practice
- **Supports executive functioning** with planning, organization, and reminders
- **Empowers expression** through brainstorming, writing, and communication



Start with the simplest effective support.

Using AI in educational therapy



- **Your expertise comes first.** AI can enhance, but not replace, your understanding of the learner, your selection of strategies, or your monitoring of progress.
- **Support learning and independence.** Use AI to personalize instruction, reinforce strategies, reduce barriers, and develop skills for the future.
- **Respect student choice.** Consider student preferences and concerns about privacy, academic integrity, and environmental impact. Offer non-AI alternatives.
-

Universal Design for Learning (UDL)

UDL is a framework for designing inclusive learning experiences that reduce barriers to learning.

Multiple means of:

- **Engagement**
- **Representation: How content is presented**
- **Action and Expression: How learners respond**

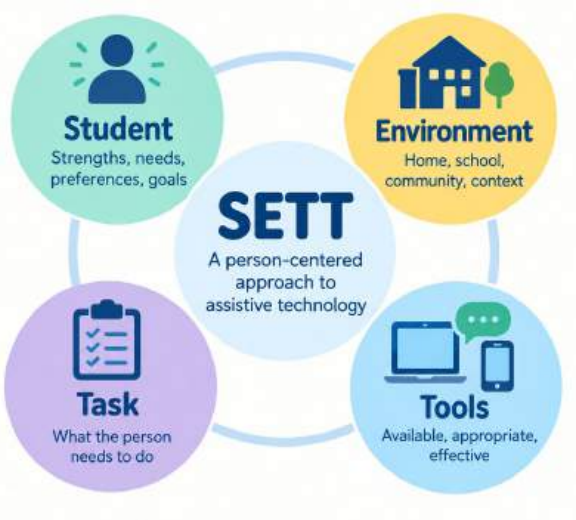
CAST UDL Guidelines 3.0

SETT: Start with the student

A collaborative person-centered framework for making assistive tech decisions

- *S: Student: strengths, needs, preferences*
- *E: Environments: where learning happens*
- *T: Tasks: what must be accomplished*
- *T: Tools: supports that fit*

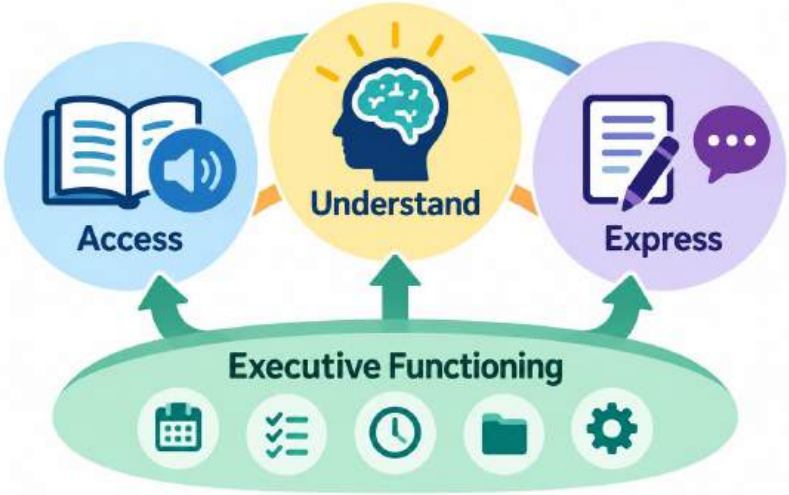
Consider the student, environments, and tasks before tools.



[*Joy Zabala: SETT Framework*]

How technology empowers learners

- **Access:** How can I get the information?
- **Understanding:** How can I make sense of it?
- **Expression:** How can I show what I know?



Executive functioning supports all three.

Choosing the right support

- **Barrier:** What is getting in the way?
- **Task:** What needs to be accomplished?
- **Function:** What could reduce the barrier?
- **Fit:** Is it usable, available, and practical?
- **Training:** Who will teach, practice, and follow up?
- **Safeguards:** Privacy, accuracy, consent, policies



Meet Alex: A seventh grader

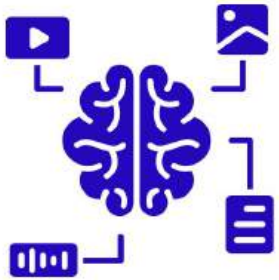
- **Strengths:** Curious about science; strong verbal reasoning
- **Barriers:** Dense reading and fast-paced spoken information
- **Task:** Read a pollinator article and capture three key ideas
- **Environments:** Classroom, home, educational therapy





Explore the simplest available support first.

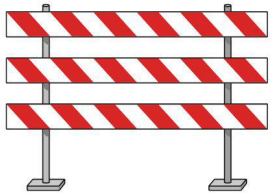
Accessing information: AI as AT



Barrier: Accessing written information

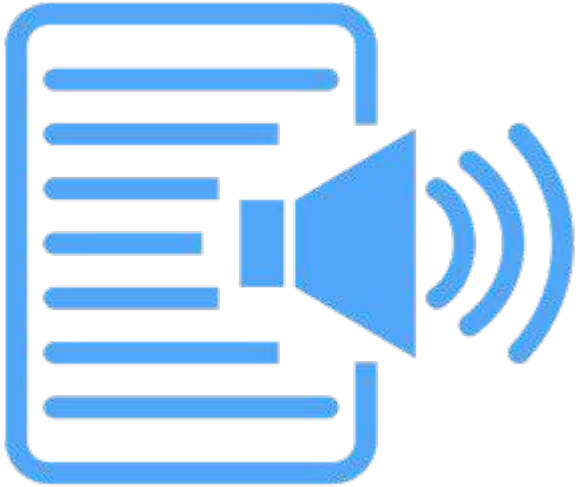
May have challenges with:

- Decoding
- Reading comprehension
- Visual perception
- Attention



Text-to-speech

- Reduce print barriers when decoding is not the learning goal.
- All devices can read aloud for free!
- Newer AI voices sound more natural.
- Start with built-in accessibility.
- Add specialized or AI-enhanced supports when the learner needs more.



Reading Mode in Chrome

- **Open reading mode:**
  - On your computer, open Chrome.
  - Go to a website with text that you'd like to read.
  - Right-click the page.
  - Select Open in reading mode.
- **Adjust settings.**
- Select Play to hear the text.

What becomes easier? What still requires instruction or comprehension checking?



AI-Enhanced Literacy Supports



Helperbird

Customize websites and PDFs for accessible reading and writing.

AI: Simplify text • Summarize • Explain



Read&Write (Everway)

Comprehensive reading, writing, and study support.

AI-enhanced voices • Simplify text • Predict and dictate



Dolphin EasyReader Education

Accessible books, longer reading assignments, and independent study.

AI: Summaries • Guided tutor • Quizzes and flashcards

Start with the learner, the task, and the reading material.

Reading PDFs aloud on Chromebooks

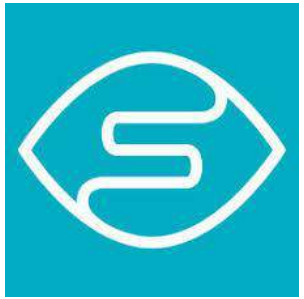
- Open the Files app (not web-based Google Drive).
- Select Google Drive in the left sidebar.
- Locate the PDF.
- Right-click the PDF and choose Open with → Chrome PDF Viewer. PDFs normally open in the Gallery app, so this step matters.
- In Chrome, press Alt + Shift + R or choose Open in reading mode.
- If the text appears, click Play to hear it read aloud.

Other options: Kami, **Helperbird,** Adobe Acrobat, **Speechify.**

Read printed text aloud: Start with what you have

- **Google Lens** (iOS and Android): Scan, select, and listen to printed text.
- **Apple Live Text + Speak Selection**: Recognize and hear text on iPhones and iPads.
- **Android Select to Speak**: Read on-screen text and, on supported devices, text captured by the camera.
- **Microsoft Seeing AI** (iOS and Android): Read printed pages aloud using AI-assisted recognition.





Scanning pens: A dedicated reading tool

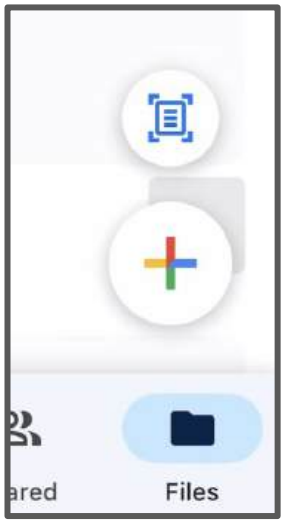
- Scan printed words or lines to hear them spoken.
- Some models offer definitions, translation, and reading-speed adjustments.
- Many work offline and may be suitable for school settings.



- C-Pen Reader 3
- Scanmarker Pro

Scan printed material to create a digital format

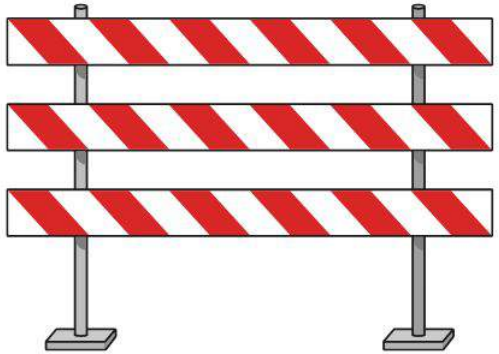
- Turn paper into digital study materials
- Scan paper with Google Drive, Microsoft OneDrive, or another scanning app to create a searchable PDF
- Extract text to copy or paste into Word, Google Docs, or OneNote
- Search the PDF for info
- Upload to approved AI tools for summarizing or studying



Barrier: Understanding fast-paced spoken information

Challenges:

- Auditory processing
- Language processing
- Hearing
- ADHD



AI tools to keep up with spoken information

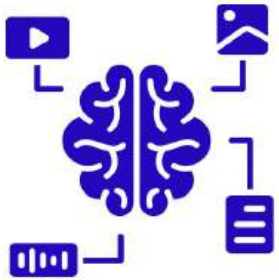
- Android Live Transcribe: Free, real-time speech-to-text
- Apple Live Captions: Captions for conversations and audio
- Ava: Live captioning for classrooms and conversations
- Caption.Ed: Live captions, transcripts, and AI-powered notes
- Google Meet / Microsoft Teams: Built-in captions



Reduce listening demands so students can focus on understanding.

Obtain appropriate permissions for recording and transcription, and teach students to check AI-generated notes for accuracy.

Understanding and learning:
AI as AT



Active learning requires interaction with content

- Use doodles, pictures, diagrams, and colors to reinforce learning.
- **Review, revise, and add to notes after class.**
- **Engage actively rather than just rereading information.**
- Create summaries, quizzes, and flashcards.
- Try teaching the content to someone else.



AI tools to capture, organize, and review information

Turn spoken information into resources for active learning.

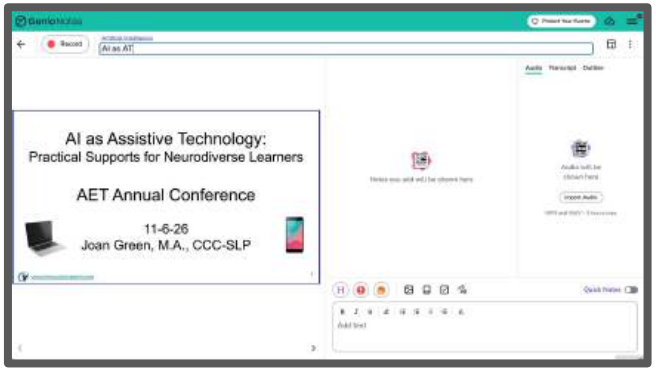
- Genio Notes: Audio-linked notes, transcripts, AI outlines, and quizzes.
- Otter.ai: Transcription, searchable notes, and AI summaries.
- Google Pixel Recorder: Recordings, transcripts, and summaries on supported devices.
- Caption.Ed: Recordings, annotated transcripts, and AI summaries
- Google Meet + Gemini / Teams + Copilot: AI-generated meeting notes and recaps.

Capturing information isn't the same as learning it!

Recording requires appropriate permission, and AI-generated information should be verified.

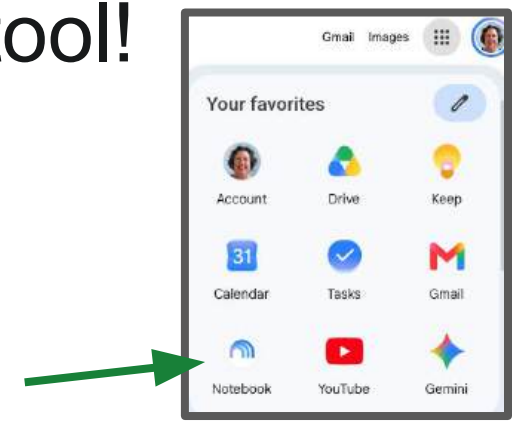
Genio (formerly Glean)

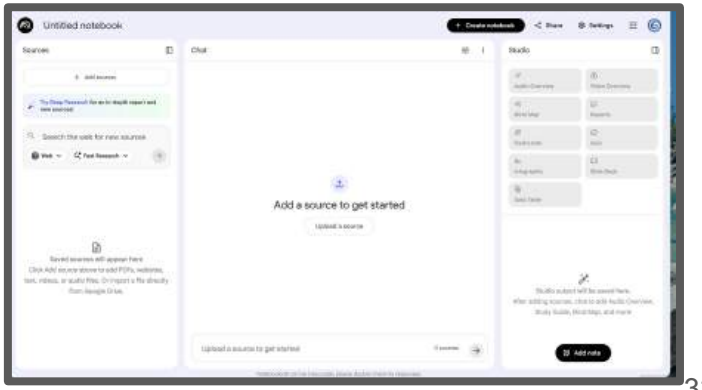
- AI-powered web-based audio note-taking app
- Designed for students with learning differences
- Records lectures and automatically breaks audio into sections
- Interactive transcripts
- Tag key moments, generate summaries, and add written notes
- Add notes, slide PDFs, and images
- Great for active listening and reviewing
- Generate quizzes and interact with AI
- Share notes without sharing the recording
- 30-day free trial
- $14.49/month or $152/year
- Less suited to extensive handwriting or sketching



Gemini Notebook: A terrific AT tool!

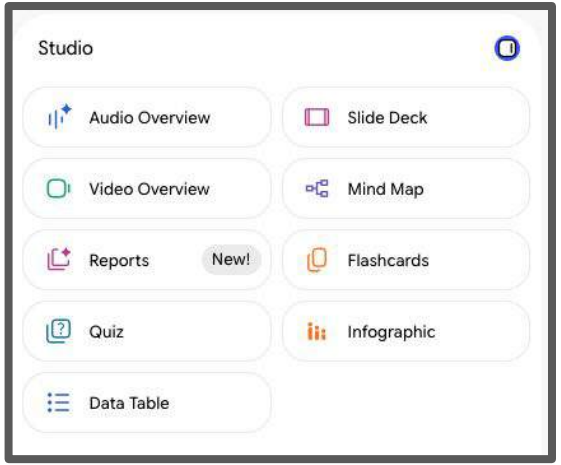
- Makes information accessible in multiple formats: audio discussions, short videos, and more.
- Makes complex information easier to understand: ask questions about uploaded materials.
- Reduces executive functioning demands by organizing material from multiple sources in one workspace and generating study guides.
- Supports active learning and self-monitoring





More benefits of Gemini Notebook

- Reduces note-taking and listening demands: import audio recordings and transcripts to create study resources.
- Keeps learning connected to course materials: responses include citations.
- https://support.google.com/gemininotebook/answer/16212820
- Privacy: “The content in Gemini Notebook will not be used to directly train our foundational AI models, unless you choose to provide feedback.”



Understanding: How generative AI may help

- Start with an approved handout, public article, or other source.
- Activate prior knowledge: "*Before I read this chapter, explain what it's about, introduce important vocabulary, and give me three questions to think about.*"
- Ask AI to clarify vocabulary and difficult concepts.
- Ask it to summarize in bullet points or adjust the reading level.
- Make connections and generate examples without losing key ideas.
- Check responses against the original material.



Generative AI tools

- ChatGPT: https://chatgpt.com
- Gemini (Google): https://gemini.google.com (student guardrails with school accounts)
- Claude (Anthropic): https://claude.ai
- Perplexity: https://www.perplexity.ai
- Copilot (Microsoft): https://copilot.microsoft.com
- Duck.ai: https://duck.ai
- Grok: https://grok.com/








Prompts

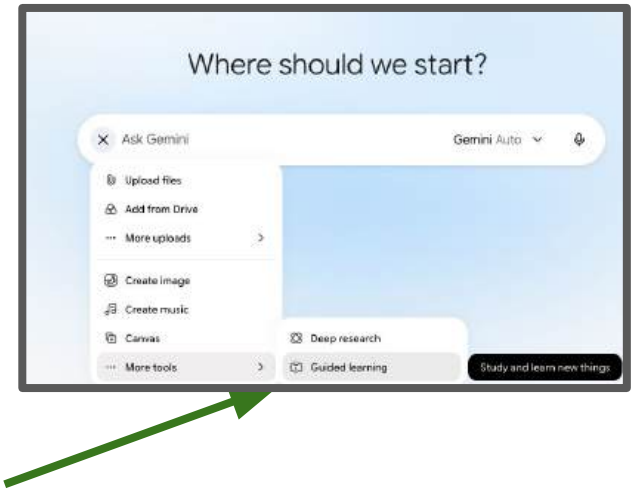


Prompting don'ts

- **Don’t enter personal or confidential information**
  Avoid names, birth dates, school names, diagnoses tied to identity, IEPs, medical records, or legal documents.
- **Don’t assume the answer is correct**
  AI can invent facts, sources, quotes, or details.
- **Don’t ask AI to replace professional judgment**
  It should not diagnose, determine eligibility, write final legal or clinical decisions, or select services independently.
- **Don’t remove the learner’s thinking**
  Avoid prompts that complete graded work or speak entirely for the learner.
- **Don’t use the first response automatically**
  Refine the prompt, ask follow-up questions, and edit the result.

Guided learning: AI as a coach

- It changes AI from an “answer machine” into a more interactive learning partner.
- It can break concepts into smaller steps, ask guiding questions, adjust explanations, and check understanding along the way.
- Helps students stay engaged in learning while giving just enough support to move forward.



Demo prompt: Guided learning

“I'm learning about photosynthesis. Ask what I already know, then teach me one small step at a time. Use an analogy if I'm confused. Ask me to explain each step before moving on. Don't give me a long answer all at once.”

Try the approach with a topic your student is studying.

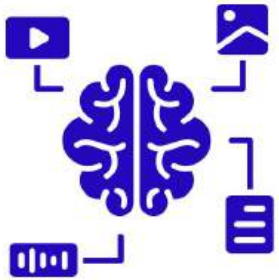
Example prompt: Adapt reading materials

“I'm an educational therapist helping a seventh-grade student who reads at approximately a third-grade level.

Adapt the attached text to make it more accessible while preserving essential ideas and important academic vocabulary.

- Use only information from the source. Don't invent facts.
- Simplify sentences and explain difficult vocabulary.
- Keep 5–8 important terms and provide student-friendly definitions.
- Create three questions that check understanding and encourage thinking.
- Flag any important information that was lost or oversimplified.”

Expression: Show what you know



AI as AT

Speech-to-text and audio: Remove writing barriers

Let students focus on their ideas, not the mechanics of getting words on the page.



- **Reduce barriers:** Dictation lets students focus on ideas instead of handwriting, spelling, or typing.
- **Start with built-in tools:** Google Docs voice typing, Microsoft Word Dictate, or a device's keyboard microphone.
- **Teach a process:** Plan → Dictate → Review → Revise.
- **Offer alternatives:** Record spoken responses when dictation isn't effective.
- **Preserve ownership:** Students still organize, review, and refine their own ideas.

Speech recognition for nonstandard speech

- May help people with dysarthric or otherwise nonstandard speech
- Transcribes speech to text in real time, allowing users to copy-paste or share their messages.
- Restates what the user said in a clear synthesized voice to help with conversations and home assistant devices.
- Free trial: https://www.thebabelgroup.com/voiceitt/
- $49.99/month or $599.99/year

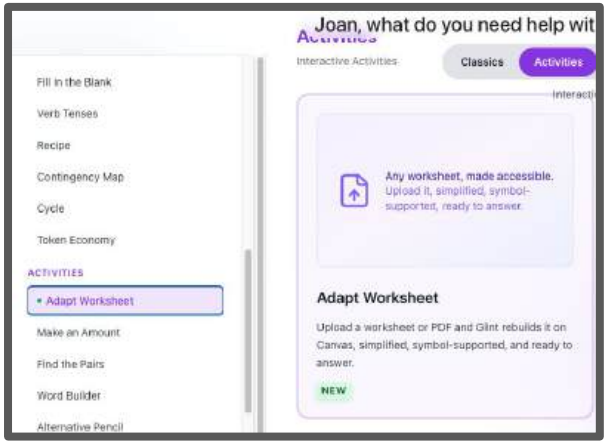


Adapt worksheets to make them more accessible

Glint 4.0: Make Learning Materials More Accessible

AI-powered visual supports and worksheet adaptation

- Adapt existing worksheets to better match individual learning needs
- Simplify directions and reduce visual clutter
- Add symbols and visuals to support comprehension
- Break complex activities into manageable steps
- Offer alternative ways for students to respond
- Support learners with dyslexia, ADHD, autism, and language challenges



Additional writing supports

- **Word prediction:** Suggest words; ease spelling and word-retrieval demands.
- **Listen back:** Hear a draft aloud to catch missing or confusing language.
- **Smart feedback:** Notice possible grammar, clarity, and organization issues.
- **Student choice:** Review suggestions and make the changes.



AI as a writing coach

- **Before:** “Ask one question at a time to help me develop my ideas.”
- **Organize:** “Suggest two outline options using only my notes.”
- **Revise:** “Point out one unclear part; ask how I might improve it.”
- **Check:** “Compare my draft to this rubric; don't rewrite it.”



Student ideas → AI feedback → student decisions

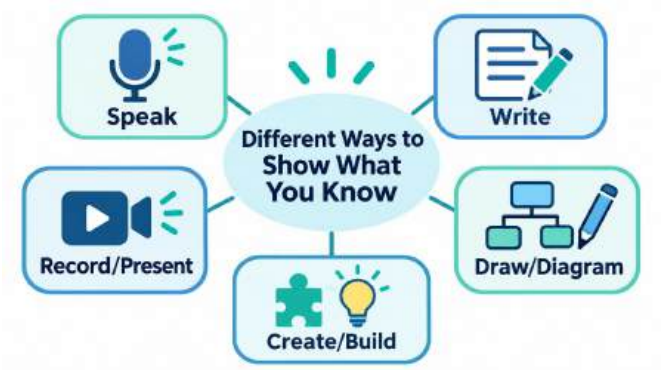
An alternative to voice typing

- Wispr Flow (wisprflow.ai)
- AI-powered dictation tool
- Works wherever you can type
- Fixes grammar and punctuation
- Accepts spoken corrections and adapts
- Privacy: Ask about HIPAA-related protections and whether a signed BAA is available.
- Available on macOS, Windows, iOS, and Android



Beyond writing: Show knowledge in different ways

- **Speak:** Record an explanation or dictate a response.
- **Show:** Build a labeled diagram, concept map, or storyboard.
- **Create:** Narrate slides or a short student-made video.
- **Communicate:** Use AAC or visual supports when needed.



AI can help organize or give feedback; students supply the ideas.

Return to Alex: Show what you know

Task: Explain three accurate ideas about how pollinators help plants.

Barrier: Written output slows Alex; oral reasoning is a strength.

Option 1: Dictate and revise a short paragraph.

Option 2: Label a diagram and record a brief explanation.

AI coach: “Ask me about pollination, then help organize my answers. Don't write my response.”

Check: Can Alex explain why each idea matters?

Role-play self-advocacy skills

"I'm a high school student with ADHD. I sometimes miss important details when my teacher gives spoken directions. I want to ask if I can use a transcription tool or receive written directions. Pretend you're my teacher and let me practice the conversation. Ask one realistic question at a time. After I respond, help me improve my explanation without speaking for me."



Voice conversation features in some generative AI tools are especially useful for practicing specific difficult situations.

Executive functioning: From overwhelm to action AI as AT



Goblin.tools: Make tasks manageable

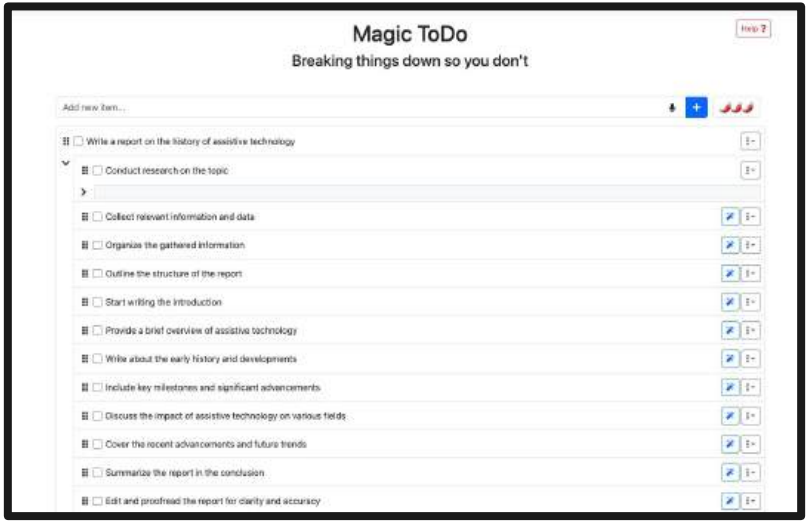
Free web tool: https://goblin.tools

Magic ToDo: Break an overwhelming task into smaller steps.

Adjust “spiciness” for more or less detail.

Compiler: Turn a messy brain dump into action items.

Estimator: Suggest a rough time estimate to discuss.



Glint: Make the plan visual

- Create visual schedules, checklists, and task analyses.
- Customize the wording, pictures, and sequence.
- Print or share a visual support the student will actually use.
- https://nerchat.com/su/INNOVATIVESPEECH

From photo or screenshot to action plan

- **Capture:** Photograph a board, assignment, or due-date notice.
- **Extract:** Ask AI to list directions, materials, and deadlines.
- **Check:** Compare every date and detail against the original.
- **Plan:** Turn requirements into steps and estimated work sessions.
- **Save:** Put verified tasks and reminders in one trusted system.
- Photo → text → steps → reminders



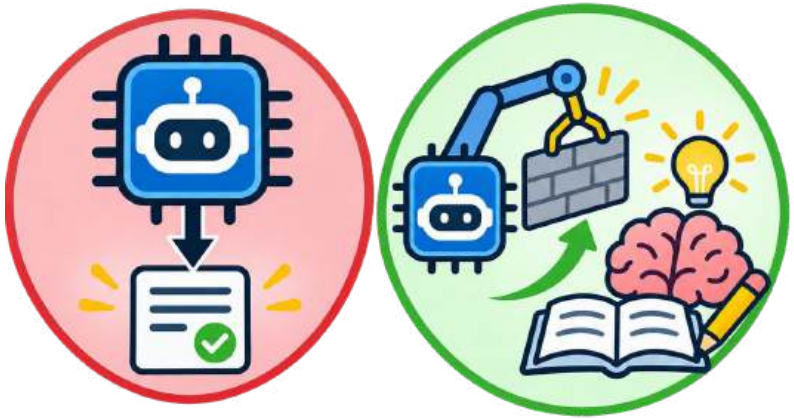
Brain dump → priorities → first step

- **Dump:** Say or type everything that's on your mind.
- **Sort:** Let AI group tasks by class, project, or category.
- **Prioritize:** Choose what matters now; confirm real due dates.
- **Start:** Identify one manageable next action.
- **Follow through:** Move the plan to Calendar, Tasks, or a checklist.
- Try: “Organize this list. Ask questions; don't invent deadlines.”



Who did the thinking?

Is AI doing the thinking, or removing a barrier so the student can do the thinking?



When AI helps performance but hurts learning

Students using unrestricted GPT-4, compared with students without AI:

During AI-assisted practice

+48%

Higher practice scores
with AI support

On the unassisted exam

−17%

Lower exam scores
without AI support

A safeguarded AI tutor using hints did not show the same exam decline.

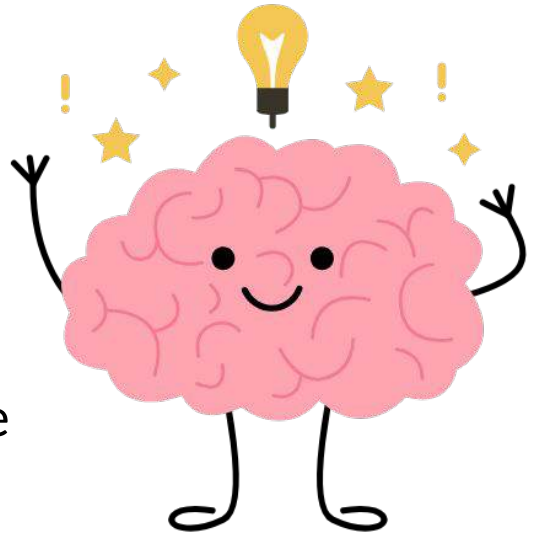
Completing the work is not the same as learning the skill.

Bastani et al. (2025), PNAS, 122(26), e2422633122. doi:10.1073/pnas.2422633122

Prompts that keep students thinking

- Activate: Ask me what I already know.
- Guide: Offer one hint, not the solution.
- Practice: Quiz me one question at a time.
- Reflect: Ask me to review and improve my attempt.

The goal: Remove barriers without removing the student's thinking. Can the student explain, apply, and make their own decisions?



Preparing for college, work, and life

- Recognize personal strengths, barriers, and effective supports.
- Practice requesting accommodations and explaining why they help.
- Use AI to plan, organize, communicate, and problem-solve.
- Evaluate AI responses and understand the rules in different settings.
- Transfer these skills to college, employment, and everyday life with greater independence.



Responsible AI: Protect access and agency

- Clarify which AI supports are permitted for each task.
- Protect privacy and obtain consent for recording.
- Check AI information for accuracy, bias, and missing context.
- Honor disability accommodations and provide accessible alternatives.
- Keep students involved in decisions and preserve meaningful learning.



Let's stay in touch!

Joan Lipman Green
www.innovativespeech.com
Joan@innovativespeech.com
Facebook: Innovative.Speech.Therapy
FB group: IST Tech Savvy Solutions
LinkedIn: Joan Lipman Green
Instagram: joanlipmangreen
Free 15-minute phone consultation

