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What is available to support writing/speech to text?

Writing is an area which combines many skills for students. There is the *physical* act of writing which involves motor and visual skills. There is the *language* component of writing which makes the range from spelling to vocabulary. There is also an *organizational* component of being able to sequence your thoughts and create narratives. This is a lot! It is important to mention because the solutions for writing can depend as much on the student's strengths as their needs. Supports for writing are available accordingly. *Physical*: Pencil grips, name stamps, slant boards, specialized keyboards, voice typing. *Language*: Word and Spelling prediction programs, word bank programs. *Organizational*: Digital Graphic Organizers, Mind mapping programs.

What types of students might benefit?

The type of assistive technology which will help a student access the school environment depends on what their needs are. These students all may look very different in terms of solutions. *Physical*: A student who cannot physically type or write with a pencil may benefit from a small physical solution such as a pencil grip or keyguard as long as they have strengths with language and organization. *Language*: If a student has issues with spelling and vocabulary though can create narratives a word prediction or grammar program can be very beneficial. *Organization*: For a student who has difficulty with composing and organizing a narrative there are programs which can help with organization - though they may not adjust to more advanced levels of writing. Depending on the age, the student's needs, and their strengths will determine the type of assistive technology.

How does it help?

Each of these areas of writing can assist a student in better expressing their thoughts through writing - whether it is getting it down legibly, or having better compositions. Text to speech sounds like a good solution, and it is for many students, though keep in mind that after using text to speech students will need to be able to go back, reread, edit, and possibly add in punctuation because these programs are not perfect. If a student does not have these skills another solution may be needed.

Who can be a support on your team?

Occupational Therapist, Speech Pathologist, English Teacher, IEP Team, Student, Parent

Writing/Written Composition skills to consider:

- Draw/illustrate
- Write name
- information
- Write letters/words/numbers
- Align numbers and text
- Write from dictation
- Writes legibly

- Complete written worksheets and/or tests
- Outline/organize thoughts
- Write sentences, paragraphs or narratives
- Take notes
- Graph
- Use appropriate spelling, grammar, punctuation, and/or capitalization
- Use digital tools to produce and publish writing
- Writes within time frames

Common Classroom Tools:
- Computer/tablet/word processor
- Crayon/Marker
- Dictionary, grammar and/or spell checker
- Document camera
- Interactive whiteboard
- Letter and number strip
- Paper/writing surface
- Pen
- Pencil

Common Accommodations/Modifications/Strategies:
- Change format or substitute alternatives for written assignments
- Decrease assignment length
- Decrease number of responses
- Increase print size
- Increase time
- Optimal student seating
  - appropriate lighting (not facing glare or in shadows)
  - away from extraneous noises
  - close proximity to the teacher (distance)
  - individualized visual proximity to educational environment/materials
- Oral dictation
- Peer note taker
- Picture symbols to supplement written words
- Pre-teach content specific vocabulary
- Provide outline or copy of lecture notes
- Use outline and/or webbing strategies
- Word banks, sentence starters, and cloze format writing activities for supports

Assistive Technology Solutions:
- Pencil grip or other alternative writing aids
- Adapted paper

- - bold line
  - raised line
  - different spacing
  - colored
  - graph
- Positioning Aids (slant board/clip board)
- Non-slip material
- Personal dry erase board
- Slate and stylus
- Timers
- Device, software or app
  - spell and grammar checker
  - outlining/ graphic organizers
  - note taking
  - word prediction
    - word processor
    - text-and-picture-based
    - text-to-speech (talking)
    - speech recognition
    - portable
    - anti-glare screen
    - digital recorders/recording software
    - smartpen
    - onscreen keyboard
    - screen enlargement
    - document scanner
    - electronically scanned worksheets
    - online dictionaries
    - literacy suite software
    - advanced reading and writing aid software that includes:
      - Optical Character Recognition
      - text-to-speech with highlighting
      - study tools
      - dictionary
      - word prediction
      - braille writer
      - braille note taker with refreshable display
- Alternate access/accessibility features
  - adapted pointers
  - alternative mice
  - keyguards
  - alternative keyboards

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- ○ switch access
- ○ screen readers
- ○ speech recognition
- ○ magnifiers

Products mentioned below are examples of available items. Their listing in this guide is not an endorsement or suggestion for purchase. Consideration of the tool should be individualized to each student. **(Products involving Word Prediction and Spelling are in that handout, while products involving organization of thoughts are in the Study/Organization handout).**

Alternative Keyboard, *https://www.enablemart.com*

Mouse, *https://www.inclusivetlc.com/*

Pencil Grip, *https://funandfunction.com/*

Electronic worksheets

SnapType
http://www.snaptypeapp.com/

DocHub
https://dochub.com/

Speech to Text

DragonSpeak
https://www.nuance.com/dragon.html

Co:Writer
https://cowriter.com/

Read&Write Gold
https://www.texthelp.com/en-us/products/read-write/

Built In Programs to support writing through accessibility
Microsoft (Office, Windows, XBox) - https://www.microsoft.com/en-us/accessibility
Google (Chrome, Android, YouTube, and more) - https://www.google.com/accessibility/
Apple (Mac, iDevices) - https://www.apple.com/accessibility/

Special papers

https://www.maxiaids.com/ (Though these papers can be bought from many vendors)

Or, (Use these online resources to try out different papers)
https://www.desmos.com/calculator/als0wdo8d4
http://print-graph-paper.com/virtual-graph-paper
http://www.printfreegraphpaper.com/
https://www.superteacherworksheets.com/paper.html
http://do2learn.com/activities/writingtools/index.htm
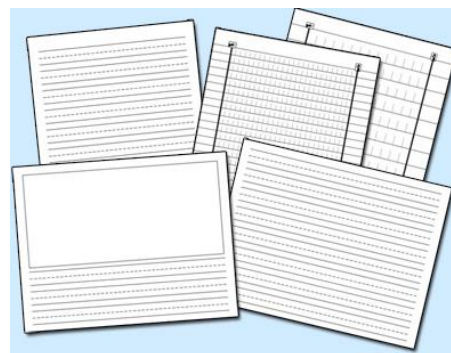*https://paperkit.net/linedpaper*

NoteTaking

Note taking is an area which crosses over between cognitive/organization, as well as physically writing/documenting information, and also requires attentional and memory skills (working and immediate memory). Depending on a student's strengths there are an array of products to choose from to support notetaking.

Low Tech: *Highlighters, pre-filled notes, a copy of the lecture notes, a recording device.**

Other High Tech:

Zoho Notebook, Personal Knowbase, AllMyNotes Organizer, MyInfo, WikidPad, Dropbox Paper, Simplenote, Xournal, TreeDBNotes, Outline, Microsoft OneNote, Notability, CintaNotes, Evernote, Google Keep, Whiz Folders, Memonic, Squid, Quip, Tomboy, ConnectedText, Bear, Notes, Day One, Zim, DejaClick, SoundNote, AudioNote, WritePad, AccessNote, Penultimate, PaperPort, iAnnotate…(and there are plenty more, more than 100 can be found with a simple search).
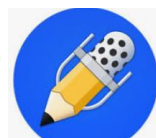
Consider:
Cloud Access, Note organization, Real-time collaboration and sharing, Backing-up, Instant Searching, Page Templates, Quick Access Toolbars, Internal Linking, Audio/Video Recording, Integration with other Apps, Drag-and-drop user interface, print sections, navigation, colors and nicknames, ****does your school allow recording, pictures in classroom, do you need a COPPA compliant program, what will work with internet filters in your district.***

https://www.livescribe.com/   *https://sonocent.com/*

Google Keep, One Note, Evernote, Notability...and many more.