



Micro-Unit and Structure Tasks

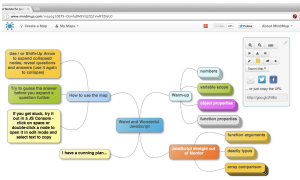
Written expression can be a challenge for many students with language-based learning disabilities. While instruction to learn the process, strategies, and tools is fundamental to building composition skills, students can also benefit from using technology in each of the steps of the writing process.

Research

- “Word processors, word prediction, spell checkers, text-to-speech, and organization tools have all been extensively discussed as helping or having potential to help students with disabilities to engage in the many levels of cognition required to produce coherent, organized, audience-aware, and conventionally accurate compositions” (Peterson-Karlan, 2011).
- “Researchers concluded that spelling checkers and collaborative writing process software are beneficial for [learners with diverse needs]” (Fitzgerald, 2008).

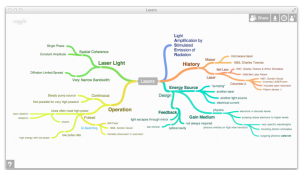
Pre-Writing

- The steps involved in the prewriting phase of composition are brainstorming and organizing. It is important that students brainstorm ideas related to their writing assignment and then organize those ideas in a coherent fashion. [Graphic organizers and templates](#) are great tools for the organizing and outlining portion in addition to the following technologies for mind mapping:



[Inspiration](#) software is available for Windows or Mac. It aids students in the brainstorming and outlining process by allowing them to create mind maps and outlines. There is a free 30 day trial available for the software, and buying options can be explored [here](#).

The [Inspiration Maps](#) app is available through iPad and iPhone and costs \$9.99.



[Coggle](#) works through the internet and is free for the basic version, allowing for independent mind-mapping, uploading images and text, and even collaboration.

[MindMeister](#) is a free tool for Mac OS and Windows, and it is also available online. It also allows for the generation and organization of ideas with collaboration.



[Lucidchart](#)- is a free online tool for creating flowcharts.

[Popplet](#) can be used on the web or on an iPad, and it is great for helping students to organize and connect ideas. The cost is \$3/month or \$30/year.

Writing

- The writing phase of composition involves drafting a rough copy, proofreading/editing, and then drafting another copy (more drafts may follow, depending on the number of edits needed). Technology



can aid in that process by alleviating time demands for slow processors and providing an alternative form of expression for students with dysgraphia or just poor handwriting.



Word Processors: According to Alnahdi, research shows that students tend to produce higher quality writing when using word processing software (Cullen, 2008). Varying word processing programs are available on all devices.

[Co:Writer](#) is a Don Johnston tool used for word prediction to help support students' written expression. The price is about \$4.99 per student.



[Voice Dictation](#) is a free Google Doc tool titled "Voice Typing." It allows the student to speak into the document rather than type. A research project by Higgins in 1995 found that the use of voice dictation allowed students to use more complicated vocabulary that they likely could not spell themselves.

[Dragon NaturallySpeaking](#) is a speech recognition software program available to purchase for Mac or PC. A newer version is also available as an [app](#). Prices vary.



Spell Checkers are great tools to help students appropriately spell words that they would otherwise be unable to spell. When using spell checkers, though, students need to be taught how to choose the correct option for the intended word.

[Grammarly](#) is a free Google Chrome extension that checks all online work for spelling and grammar.

[Ginger](#) spell checker and corrector is available on most platforms for free.



[Read and Write for Google](#) is a Google Chrome extension that allows internet-based materials to be read back. The premium version allows for interactivity and highlighting for a price. Students can use this tool to have their written work read back to them as a form of independent proofreading.

HOW DOES THIS CONNECT TO MICRO-UNIT AND STRUCTURE TASKS?

Because technology never replaces instruction, these technological tools for improving written expression could be used in conjunction with the multi-step writing process. The steps in this process provide a structure of smaller steps to aid students in completing the process successfully.

References

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Fitzgerald, Gail. (2008). "Research on Computer-Mediated Instruction for Students with High Incidence Disabilities." *Journal of Educational Computing Research*. Vol 38(2): 201-233.

Peterson-Karlan, George R. (2011). "Technology to Support Writing by Students with Learning and Academic Disabilities: Recent Research Trends and Findings." *Assistive Technology Outcomes and Benefits. Focused Issue: Assistive Technology and Writing*. Vol 7(1): 39-62.