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Today's Classroom Accessibility

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What do we, as teachers, do or think when we find out that a student with a disability will be in our class? Hopefully, we celebrate the diversity that this will add to our classroom culture, but if you are unfamiliar with particular differences (hearing, vision, motor, or learning disabilities), you may be uncertain about this unknown. Here are a few thoughts to support your efforts to maintain a just and equitable classroom learning environment.

Initially, and perhaps most importantly, an important practice is to talk with a student with a disability in the same tone and manner as you do with all other students. For example, blind and visually impaired students do not require you to slow your pace or raise the volume of your voice. If a sign-language interpreter is required, you will want to face and speak with the student and not the interpreter. If a student with a disability is struggling with a task that is easy for other students, such as opening a door, promote independence by asking the student if she or he wants help or if his or her preference is independence. All students with disabilities are not the same; interact with atypical students as individuals and not merely as disabilities.

After remembering to regard basic social premises, teachers consider what different technologies might do to support students with disabilities. For example, students with a hearing impairment, might benefit from a basic room microphone, such as a Redcat by Lightspeed, might be adequate to boost spoken audio to intelligible levels. Truly, a room microphone is a benefit for all students, and that is a point to value about many technologies for people with disabilities. If the room microphone is not sufficient, the student with a hearing disability may need a mic system that can broadcast to his or her hearing aids, such as the Roger mic by Phonak. It is also important to make sure that any videos presented in class have captions and any recorded audio has a transcript.

Recalling that students with any disability remain unique and will, therefore, vary widely within their particular population is critical. For example, students with a vision impairment differ in their ability to see and interact with class materials. A student with color blindness may just need you to avoid certain

color combinations when you're creating presentations or handouts. These color combinations are determined by the type of color blindness for each individual. If iPads are used in the classroom, iOS has strong accessibility features built right in. One of these is the option to present screen colors through a color filter that makes difficult colors, those that would have otherwise been difficult to differentiate, stand out for people with color blindness.

For students that are legally blind but still have some vision, large print (18 pt. font or higher) that has a high color contrast might suit the need. Again, iPads have software features, such as built-in screen magnification, that aid students with low vision. If students use desktops or laptops, they may require third-party software for screen magnification and/or text-to-speech synthesis. A quality product for Mac and PC that performs both functions is ZoomText, but individual students might be able to achieve adequate assistance from the accessibility functions that come pre-installed on both Macs and PCs.

Students who are blind will need some additional learning supports in your classroom. The first consideration is speaking anything that is presented visually. Teachers naturally do this as they write something on the board for all students to both hear and see information; speaking aloud is effective instruction for all students. Another way to ensure equal access to information is providing students a fully-accessible, digital version of class materials ahead of time or at the beginning of class. That way, students who are blind or visually impaired can use screen reading technologies, like JAWS or VoiceOver, to gain an efficient understanding of the flow of the presentation, in addition to being able to preview any visuals that might be incorporated.

Once again, it is important to highlight the premise that students with a disability remain unique. Depending on the particular disability, students with a mobility impairment represent a range of different needs. A popular classroom accommodation for mobility impairment is speech recognition; both Macs and PCs have this built into their latest operating systems. Cortana in Windows is a virtual assistant that can aid students in a variety of tasks, and Siri on the Mac can do a similar set of functions. Past these virtual assistants, though, speech recognition for document creation can be a great boon, and in that task, Dragon NaturallySpeaking by Nuance is the most popular and arguably the most comprehensive solution, allowing students with mobility impairment the ability to control the entire operating system through speech. Macs do have a dictation feature that will allow students to speak text into a document, and even Google Docs has an embedded dictation feature. Contemporary inclusive teachers may seriously consider providing all students the power of a tool like dictation because it benefits both typical and atypical students in their learning. Students that are non-verbal, having a mobility impairment or not, would not benefit from speech recognition, but there are other digital tools that can assist in classroom communication. One example of this is an augmentative and alternative communication (AAC) board. The ability of an app to contain hundreds or thousands of custom AAC charts allows faster and more effective communication. Text prediction is another software feature that can aid students who are non-verbal. This function is present in a wide array of devices and softwares, but Texthelp's Read&Write is known for its focus on making this tool streamlined and powerful.

Speaking of Read&Write, the other tools in this software suite are tailored to assist students with learning disabilities. Some of the features of the Read&Write software are:

- Improve reading comprehension: hear web pages and documents read aloud with a choice of natural voices

- Help students understand unfamiliar words with text and picture dictionaries
- Develop writing skills and confidence with word prediction
- Support homework and independent research with study skills tools
- Turn documents and web pages into MP3 files for easy listening on the move
- Assist English Language Learners and students studying a second language
- Accessibility features like screen masking provide extra support to students with dyslexia and other literacy challenges

Kurzweil 3000 is a competitor to Read&Write and has a set of tools that almost mirror the latter. Admittedly, both of these pieces of software are expensive, but they demonstrate a significant impact on student comprehension and retention for all students in the classroom. This means, while providing specific support for students with learning disabilities, these software packages benefit typical learners, as well.

This brief overview of technologies for students with disabilities provides ideas of ways in which teachers provide equivalent classroom experiences for students with disabilities. The goal is to "level the playing field" so that no student is at a disadvantage. Providing access to information and the means to showcase understanding is essential. And, in the process of exploring technologies as an instructional alternative, it is discovered that all students, typical and atypical, can benefit.

You are invited to follow the hyperlinks provided in this article to find out more about any particular assistive technology, and feel free to email me at William.Burgess@mtsu.edu with any specific questions about their implementation. None of the solutions mentioned are the single answer, but together, they create a platform on which learners of today and tomorrow will shape the world.