FAQ about technology and assistive technologies: Things to consider before you invest time and money into technologies that might not be what you need

By Sandy Russo, Director SPELD SA

When it comes to assistive technologies and the devices we use them on there are two important principles I always refer to:

The 'KISS (Keep it simple, stupid)' principle. *Simplicity should be a key goal in design and unnecessary complexity should be avoided.*

'Less is more' If students with Specific Learning Difficulties (SLDs) use less devices and technologies and learn how to use one device and its technologies well, they will have more complex problem solving strategies and skills that can be applied to other devices later on.

Students with SLDs may not need to depend on assistive technologies over time, if they are used as tools to compliment developing skill sets through explicit teaching and practise, rather than as a means to replace their weaknesses with a computer and its assistive technology programs.

Teachers need to be explicitly teaching SLD students the skill sets needed to use assistive technologies well over a range of programs. The same students will also need a lot of repetition and practice to master the skills over all areas of explicitly taught curriculum.

Our students with SLDs work so hard, and if something seems like it is going to be complicated they often won't use it.

Before you invest in devices and assistive technologies and programs
Before schools and families invest in technologies it is wise to do an audit of exactly what you already have, and if it still works on the platforms you are running. Money spent on training rather than more spent on STUFF is important.

Most of us already have programs and technologies that we can use better
E.g. do you have MS Office? Is it being used effectively? When was the last time you did some training using the MS Office suite of programs and the hidden features it offers that can be used to help students with specific learning difficulties? Do you know how to turn off auto correct and grammar check when you are teaching students various literacy elements? Have you turned on the readability score to level the worksheets and newsletters you are sending out?

FAQ: on a daily basis SPELD SA receives queries asking questions about which devices and assistive technologies will help with dyslexia and other SLDs. The following questions are general questions we are always being asked.

FAQ #1. What are a few of the most effective technologies or equipment currently available in schools that support the learning needs of students with dyslexia and other specific learning difficulties? What needs do they address? Why are they effective?

These are good questions and it is important not to just run out and buy something. Devices and programs are expensive, and sometimes you already have something that can be used. Here are my top 4.

1. **Computers and or laptops:** These are usually available in all schools; some schools have a bring your own device policy or you can negotiate for your child to bring theirs to school. Computers and laptops, as tools, are what I advise over iPads,

because an assistive technology program on a PC or Mac can be used over all reading and written activities; where there is text that can be highlighted when reading with a text-to-speech program; or if there is an active text box when writing with the combination of a word prediction program and text-to-speech for editing.

Some students with mild learning difficulties just need access to the device, where they can use the built in features, such as spell check in the MS Office Suite (although there can be a tendency to just right click and click any word in if they are having reading difficulties). Others may need assistive technologies to help them produce work that shows their capabilities and knowledge.

Computers allow students to use a number of programs and assistive technologies to produce their work. A student using a laptop or computer should be given daily practice developing their typing skills, as this cuts out some processes and allows them to be looking at the screen. A free typing program can be found in CleverByte #9 on the SPELD SA website.

Many students that have specific learning difficulties have working memory issues. They need to be taught the strategies that will help them develop good quality, structured pieces of work. No program will do the work for the student. Students must be taught about the program, taught good strategies (such as a six box for planning), and be introduced in how to use those strategies to produce quality work.

Computer vs Laptops: Laptops are best as they can be taken home and back to school so students can get support at home from their parents. I usually start introducing laptops for students struggling with their reading and writing from year 5 so they have time to learn what they need to know by the time they get in to year 7 and the writing expectations of the curriculum start becoming more involved.

You don't have to spend a million dollars on a computer, but consider the optimal and acceptable specifications of assistive technologies and programs you have been advised to use. Many programs will work well on an off-the-shelf laptop or computer, but some programs, such as Dragon Naturally Speaking may work better with optimal specifications if you are using it for large quantities of voice recognition e.g. If you are writing a thesis, or long reports.

2. **IPads and tablets:** If I were choosing between an iPad and a tablet I would choose an iPad, as I find the speech-to-text in the iPad is far superior.

It is important that teachers and parents have clear goals and expectations of how an app will be used when we are using it for students with SLDs. Can I complete my task using one app, or do I have to swap from app to app? Can the app be used across the curriculum to maximise its use to a student with learning difficulties? Have a read *of Don't get Caught in the App Trap* for more information http://www.speld-

sa.org.au/information/articles/10014-information/207-

don-t-get-caught-in-the-app-trap.html

I find students using iPads in the lower years tend to not use programs on a computer well when introduced in high school. It is much easier to go from using a computer to an iPad than vice versa. There are many reason for this. Some examples are:

- An app does not offer the full program e.g. I can't use as many features on the Word app.

- Students just click in words from a word prediction program which isn't helping them learn to spell. I encourage students to use word prediction to guide them as to how to spell the next sounds and syllables in the word they were attempting to spell.

- Students tend to type with one finger on an iPad, even if they have a keyboard.

- Many teachers download apps and only use them once or twice. A person with a specific learning difficulty needs to be encouraged to use the program they need over most tasks they are performing, this doesn't tend to happen with the iPad.

3. **MS Office Suite:** The MS Office suite is in most schools and often under-utilized. I rarely see any training in schools of how to get the most out of your office suite, or more importantly, which simple, hidden features will help my students with dyslexia. Some examples are below.

a) **MS PowerPoint when planning formal writing tasks:** For students with memory difficulties, I can duplicate the six-box-planning structure I use to teach students to plan out an assignment in **PowerPoint.** This way they can record their ideas *(before they blink and their memory bank clears; which is how my Mum described my difficulties).* The instructions for the process is on the SPELD SA website and can be adapted for both simple and complex tasks, and students of all ages and capabilities. http://www.speld-sa.org.au/images/CleverBytes/clever_byte_10_-_powerpoint_for_struggling_writers.pdf

b) **MS PowerPoint for oral presentations:** You can use PowerPoint to help students that have difficulties giving oral speeches due to shyness,

memory difficulties etc. The instructions are on the SPELD SA website http://www.speld-sa.org.au/images/CleverBytes/clever_byte_11-PowerPoint_for_oral_presentations.pdf. I have used this process with students with many types of specific learning difficulties and it depends on their difficulty as to which way I get them to record their speech.

They are just two of the underutilized MS Office features that make a huge difference to students with SLDs. OneNote is another MS Office program that many teachers don't explore. Have a look at this free training to get you started https://snipurl.im/z9JR9

4. **Text-to-speech:** This is classified as an assistive technology. Some computers and devices have text-to-speech capabilities built in to the platforms they use. There are also quality text-to-speech programs that can be downloaded for your computer, both free and paid options. It is often available in a school already without teaching staff realising.

    •   Text-to-speech allows any highlighted text on your device to be read aloud.

    •   It can be promoted as a technology that every student in a school can use. E.g. When you edit your work, do you read what's on the page, or read what you think you wrote? A text-to-speech program will read what is on the page, once students have been taught how to listen to what is said, and how to notice when something isn't right, it is a very useful tool.

    •   A good text to speech program will work over everything that a student uses on their device. Which is why I find that computers are better than tablet type devices. iPad apps are used in isolation and many apps don't allow speech selection.

    •   It will allow a student to highlight one word to be read, or passages of text.

    Free text to speech (this list gives you one option for the most popular technologies)

    For the iPad or iPhone: http://www.speld-sa.org.au/images/CleverBytes/clever%20byte%202.pdf

    For an android tablet or phone: http://www.speld-sa.org.au/images/CleverBytes/clever_byte_2.1-SelectToSpeak.pdf

    For a Mac or PC: http://www.speld-sa.org.au/images/CleverBytes/clever_byte_4_Install_Free_Natural_Reader_on_your_computer.pdf

    Paid options: I find there are two that stand out. Word Q 4 and TextHelp Read and Write. Over my many years of working with students and schools, I have found that WordQ 4 is more likely to be used in a school setting as it is a simple tool that can be used with little training.

TextHelp Read and Write tends to be more popular for students who are engaged in learning and who are likely to go on to university at some stage. Most schools do not have these two options available to students and it is usually the family who purchase the program for their student.

FAQ #2. What is the top need of students with dyslexia and other specific learning difficulties when reading, that could be met by inclusive equipment or assistive technologies in schools?

Reading support for when struggling students are working independently. When you are using text-to-speech technologies:

•   Ensure students have access to tasks sheets and reading materials in electronic formats.

•   Allow the use of headphones in the classroom for reading tasks.

•   Explore the text-to-speech opportunities available to you and try them out for yourself. Imagine what skills your students need to be taught to use such technology properly. Talk to your students and work one-on-one with them when using text-to-speech technologies, observing where their weaknesses are and scaffolding them to mastery of their listening skills.

•   Be aware of handheld devices like the C-Pen reading pen. To read more about the C-Pen go to http://www.speld-sa.org.au/about-the-c-pen-reader.html or OCR (Optical Character Recognition) scanner features in your scanner in the school which can turn text from a book in to an electronic document that can be read by a text-to-speech program.

Conclusion: There is no magic wand

The above information is only skimming over the vast quantities of technology available for students with SLDs. People often make the mistake of buying too many things, hence making the mastery of skill acquisition impossible due to not enough practise. It is important to note, a device or an assistive technology won't teach a student.

It is just as important that we have high expectations of students who are using technologies, but this can only happen if they are taught how to use their devices properly (which often doesn't happen). Once taught to use their device, students should be expected to use correct grammar conventions in their writing and use their assistive technologies to listen for where they have omitted words, or the text does not make sense. Their technologies should be used to improve their skills, not to mask their lack of knowledge through quick right click and insert spell check etc. A person with a SLD needs to be encouraged to use the assistive technology program over most tasks they are performing.