

SUPPORTING DYSLEXIC STUDENTS WITH TECHNOLOGY IN LEARNING

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Abstract:

Dyslexia is not something that a person 'grows out of', so dyslexic students need to develop ways of working that use their strengths and bypass their limitations. With the help of technology dyslexic students can learn on their own way. However the assistive technology is costly nowadays it can be assessed by these students due to rise of 1:1 technology and bring your own device (BYOD) programs in schools is making AT simpler and cheaper to access and much easier for teachers to integrate into the mainstream classroom. This technology has been an lighthouse for students to improve their skills in language. The learning future is bright for students with a learning disability who have access to technology to allow them to learn in the ways they learn best.

Key Words: Dyslexia, Technology, Inclusive education, Assistive technology and apps

1. INTRODUCTION

Writing difficulties is one of the most frequent complaints among dyslexic students. These days one say that much emphasis is given to spoken English rather than written , whereas the need of hour is to strengthen all four skills (LSRW) Diverse intervention skills have been proposed to improve reading and spelling skills of adults or children with dyslexia. Over the past several decades, education have exposed the use of digital technology to teach and the support the students. Most commonly, learning disabilities are described as a gap between the person's ability, and their demonstrated performance. There are many reasons for why a person may not be a proficient speller, however in case of student with learning disabilities Eden Shamir and Fershtman's note, "the reasons for poor spelling range from difficulties with executing and regulating the processes, deficiency in phonological processing, a slow learning pace, attention deficits, general motor co-ordination deficiencies and writing difficulties. Learners' achievement depends on the accessibility and convenience for a learner t he advancing technology then, has solved this problem. The increased mobile technology such as smart phones and other mobile devices has applied to support language learning, With these advantages of mobile tech have been studied .

2. AIM

This paper aims to ascertain the effectiveness and perceptions of learners in the utilization of apps on a smart phone in English spelling course a motivation of learners toward lessons. Learners can see and hear words in the phonic game and they have a chance to practice their spellings and pronunciations in many times so instructional designers can design their specific lesson subjects by creating interactive games including related words to that specific topic.

3. LITERATURE REVIEW

According to Macarthur(1998). Learners with dyslexia can write something on computer environment, they can hear what they have written with the help of word processor programs with the help of these programmes with the help of these programs, they are able to correct their mistakes on their own. Many word processor tools can support the dyslexia people to aid their memory. These people can also early portable devices like tablets, smart phones and laptops with additional speech support, word predictive options (Georgiev, Georgieva and smrikarov,2004).Saleh and Alias(2012),state that mobile comic applications can motivate and attract the attention of learners with dyslexia with the help of its powerful attractive images. They can organize the information in their minds and remember the information that is taught by teacher easily. Building relationship between lives of learners with dyslexia and images and story that are going to be used in comics is a best teaching strategy for them to form understanding on content and personalize it. Students who have learning disabilities are not accepted in schools and we have to know the problems they face. Inclusive education has a positive effect on the social functioning of students with learning disabilities and hence they are accepted as their facts without disabilities.(Parvi & Luftig,2001).It is not necessary that technology have to be used only for education, It can be used for day to day life. It can be used to help the visually impaired persons in guiding them to walk with voice assistance.

4. TECHNOLOGY

Technology Solutions about assisting students with dyslexia, here are some ways teachers and parents can assist their students using technology. Dyslexia is not something that a person 'grows out of', so dyslexia students need to develop ways of working that use their strengths and bypass their limitations. These technologies are rather to provide options for students to access resources and produce work without being hampered by their challenges with spelling and other language conventions. For work where the real aim is that students can show their content knowledge and ability to use higher order skills, some of these apps and programs can put them on a level playing field with everyone else.

This is commonly referred to as assistive technology (AT). In the past, AT has been expensive and obvious, but the rise of 1:1 technology and bring your own device (BYOD) programs in schools is making AT simpler and cheaper to access and much easier for teachers to integrate into the mainstream classroom. In many cases, a light (free) version is available so teachers can try out the app and see if it suits their learners.

4.1. Speech to text.

Something really simple but very liberating, especially for students in the middle primary age-range who are starting to need to research and work more independently but are still struggling with reading and spelling, is to teach them to use a voice command for internet searching. On an iPad or iPhone, ask Siri to search. In a Google browser window, tap the microphone button and speak.

iPads have a built-in dictation feature, which can be enabled in Settings, Once in an app and ready to type, users tap the screen and, when the keyboard appears, tap the microphone picture and start dictating. Users can give commands like 'new paragraph', but corrections need to be made manually. To finish dictating, tap done.

Setting up speech recognition in Windows 7, 8 or 10 is a little more complicated. Users need to set up a microphone and train their computer to understand their speech. There is a tutorial on the Windows website which takes users through how to talk to their computer so their voice is understood accurately. Over time, the computer builds up a profile of a user's voice, so accuracy should improve.

There are a number of programs and apps which also provide a speech-to-text feature. The best known of these is Dragon Naturally Speaking for PC and Dragon Dictate for Mac. There is an accompanying iPad and iPhone app, Dragon Dictation. There are many dictation programs on the market and many free apps, although the robustness of these apps varies.

4.2. Text to speech

IOS, the operating system on which iPads work, has a variety of settings which allow text to be read aloud. This could be an article in itself but, in short, to enable text to speech, go to Settings, General, Accessibility, speech.

- Turning Speak Selection on allows users to select sections of text or particular words by tapping and holding down on the screen in any app where they want text read aloud. A box pops up which gives users the option to copy, define or speak that selection.
- Turning Speak Screen on allows users to then swipe down with two fingers from the top of the screen to hear the contents of that screen spoken. A little box appears here too, giving options to pause, fast forward or rewind, to speed up or slow down the rate of speech.

Many eBooks have a text-to-speech function. There are also other sources for talking books which can help a struggling reader to enjoy literature and the many benefits that being widely read brings.

Voice Dream Reader for iPad is a good option to import text from other sources to read aloud. It is integrated with many other programs, has a lot of features and is robust. One thing it does not do is optical character recognition (OCR), so to be able to scan a non-electronic document (such as a worksheet or homework page) and have it read aloud, then Prizmo or Read iris might be the answer.

Mac OSX (10.8 and later) has dictation and speech-to-text features which work in a similar way to the iPad features and can be accessed via system preferences.

For something that works on a PC, Word Talk is a free add-in for Microsoft Word, developed at the University of Edinburgh. It highlights and reads text in a Word document. Once the add-in is installed from the website, an extra tab labelled Add-ins will appear when Word is opened. That tab contains a toolbar with the available options, such as speak a word, speak a paragraph, speak from the cursor.

Text help produces Read & Write for Google, a Google app which provides text-to-speech, editing and translating tools. It is free for teachers, but there is a cost for individuals and schools. It is a good option for someone who wants to work with the Google suite of apps. There is an app version of Read & Write for Google which is free for the lite version. IRead Write is an iPad app also produced by Text help with text-to-speech and word prediction features, as well as a dictionary and a number of sharing and display options.

4.3. Text prediction

Text prediction is a feature commonly used on tablet devices and smart phones. Many people without a print disability use it routinely. Many of the programs and apps already mentioned include this feature, but another couple of apps which use it are Typ-O HD and Spell Better. These are quite simple apps without a lot of exporting options and extra features, but that can be a good thing for younger students and those who are easily distracted by a lot of clutter on the screen.

4.4. Reminders/organisation

Dyslexia often goes hand in hand with executive functioning challenges, so apps and programs which help people with dyslexia to plan, organise and remember are also useful. Because of the wide market demand, there are a huge number of possibilities here, such as the apps Nudge (by Simple Tailor), VoCal (reminders can be created using voice recording – no need to type), Alarmed and Forgetful. Google Calendar can be set to give reminders or alerts, as can Calendar for Mac and the Notifications feature on iPads and iPhones. These are all essentially time based.

There is another set of apps which can also give reminders based on geographic location, for example, when I arrive home, remind me to feed the fish. Some apps with this feature are Todoist, IFTTT (If this, then that) and Tasker. Smart watches also have reminder features and can be hard to ignore when they are attached to a person's arm!

4.5. Mind mapping

Good planning leads to a good outcome. Planning is especially vital for those with a learning disability and they often find a planning system which uses symbols, diagrams and maybe even audio more effective than one which is purely print-focused. Mind mapping is often recommended to enhance learning for all students, so this is another example of an AT strategy which can benefit the entire class, not just those with a disability.

With that in mind, here are some examples of mind mapping programs and apps:

- Popplet – a simple-to-use iPad app designed for students. There is a free version which allows one popplet (or mind map). Images, text and drawing can be included in a popplet and it can be exported via email or saved as an image in the iPad camera roll.
- Tools4Students and Tools4Students2 – each of these low-cost apps includes 25 different graphic organiser templates, for example Cause and Effect, Compare and Contrast, Main Idea and Detail, Problem and Solution. The developers consider the apps suitable for students in Years 4–12.
- Inspiration and Kidspiration – part of a suite of products for planning and mind mapping. The software is purchased by licence, but there are also iPad versions. Kidspiration is designed for K–5 and Inspiration for Grade 4 up. Like Tools4Students, there are templates to choose from or users can start a mind map from scratch. The finished products can be exported to a variety of other programs.

4.6. Simplification

Those with poor reading skills can struggle to research effectively, although their content knowledge maybe very good. Ads and banners on websites can be very confusing and distracting for some. The following suggestions either declutter the page, provide a simplified version of text or both.

Rewordify.com is a free website into which users can paste text or a url for a website. The site then substitutes words it judges to be difficult with a simpler word or phrase. It is a useful tool, although it does come up with some strange substitutions and the flow is often interrupted when a phrase is substituted for a single word. Single words can also be pasted in to get their meaning and there are other features which provide activities for learning vocabulary. More features are available for registered users, but it is not necessary to register to use paste and substitute functionality.

Readability.com is a free web and mobile app which declusters the web page to remove distractions which can be very... well... distracting for some students. Once the Readability bookmark lets are installed, an icon will appear on the browser toolbar. When the required page is open, users click on the armchair icon and choose Read Now. They will then be presented with a 'clean' version of the page. There are other features in Readability which allow users to mark articles on their reading list to read later and to send articles to a Kindle. The Readability.com option obviously needs a bit of setting up, so it is harder to use when users away from their own computer.

The previously mentioned Read &Write for Google includes a simplified and summarise button in its many premium features. Sadly, Google has removed the option to filter search results according to reading level, but the student's favourite research tool, Wikipedia, still has a simple English version for many of its pages.

5. CONCLUSIONS

Dyslexia person has their own talent, if they are treated with care they can learn as normal students. Even though technology cannot be afford by many students. By using technology in a right way their disability can be overcome. The learning future is bright for students with a learning disability who have access to technology to allow them to learn in the ways they learn best.

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