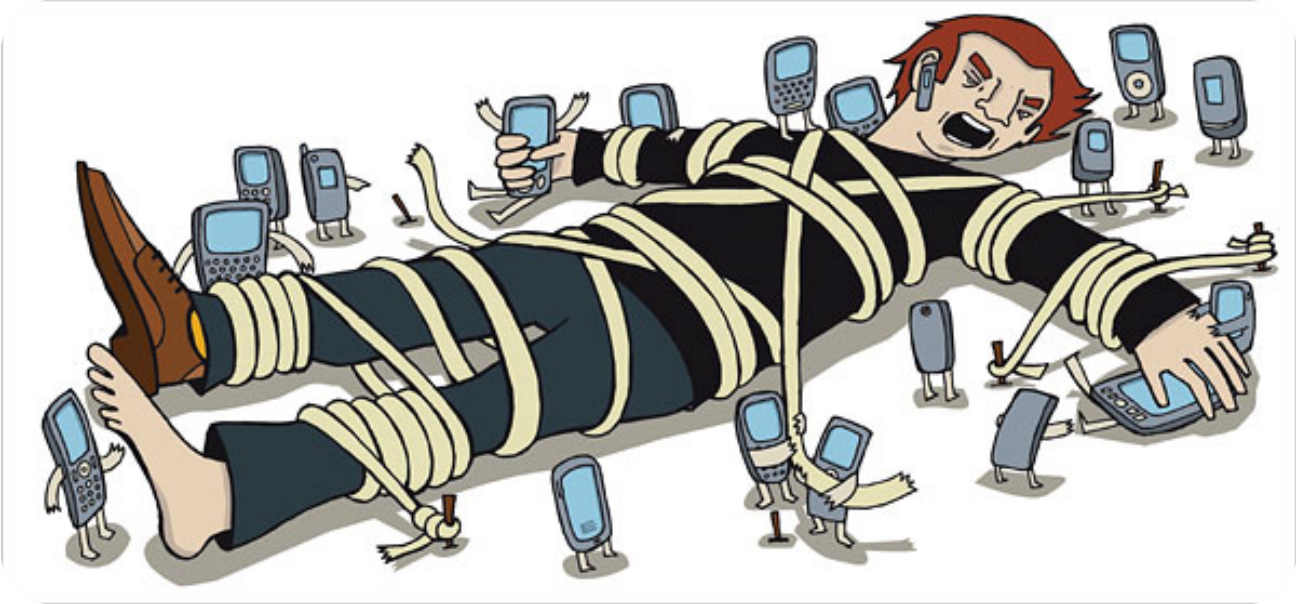
Learn, live, work and play: Mobile assistive techno supporting users with learning disabilities (LD)

Anika Meyer
(Department of Information Science, University of

WHO FEELS LIKE THIS SOMETIMES?



1 EXPLOSION OF MOBILE TECHNOLOGIES

Mobile technologies have become an extension of our thoughts in our everyday lives, wellbeing and activities.

Mobile technologies include: ‘iPods, MP3 player, Personal Digital Assistants, USB Drive, E-Book Reader, Smart Phone, Ultra-Mobile PC and Laptop / Tablet PC.

Thus resulting in……

Cloud-based applications and information and communication technology (ICT) devices have made the accessibility and integration of assistive technologies (ATs) on mobile applications considerably easier.

2 MOBILE APPLICATIONS TAKING OVER THE WORLD

- Transformed the means in which we interact with mass media – as our daily activities and doings can now be accomplished on our mobile devices or, to be more exact, with mobile applications (also referred to as apps) (Kerr, 2014).

- Statistics regarding available mobile applications in July 2015:
  - 1.6million in the Google Play Store
  - 100 billion apps in the Apple App Store
  - 340 000 apps available in the Windows Phone Store

(Statista, 2016)

A total of 92.88 billion free mobile apps were downloaded in 2015

2 MOBILE APPLICATIONS TAKING OVER THE WORLD

- "No matter where in the world you live, whether you are talking about patients, consumers, or healthcare providers, mobile is revolutionizing the future of healthcare" (Duffey & Erbs , 2014).

- Mobile technologies are not new to healthcare; many physicians and nurses and students in healthcare utilise smart mobile devices and tablets to assist them in their daily hospital duties, and for offering guidance to and communicating with their patients.

- For instance, supporting students with learning disabilities (LDs) such as speech and text recognition applications and read aloud applications.

Health libraries – more than others – need to be sensitive to the needs of users including students with disabilities.

3PURPOSE…

Highlight the pivotal role that health librarians can play in providing appropriate guidance and information regarding mobile AT services to healthcare students with LDs.

- ❑ Value of mobile ATs to students with LDs.
- ❑ Role of health librarians.
- ❑ Mobile AT applications available.

4 WHAT IS…

ASSISTIVE TECHNOLOGIES

"A rubric term that refers to assistive, adaptive rehabilitative devices, products, or equipment for helping people with disabilities" (Tripathi & Shukla, 2014). AT covers a comprehensive array of tools from simple low-tech devices (e.g. handrails and grips) to high-tech devices (e.g. robots and power wheelchairs)

LEARNING DISABILITY

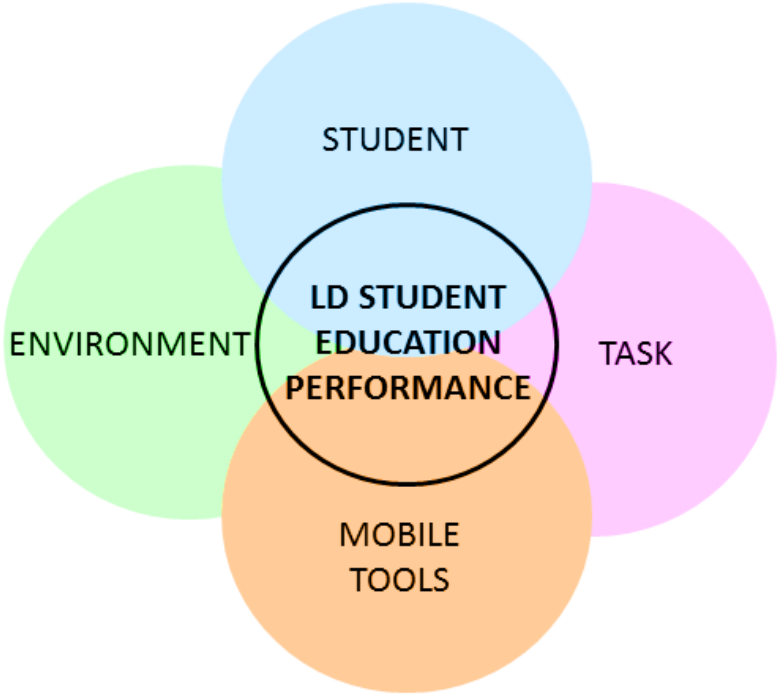
"'A neurological condition that interferes with an individual's ability to store, process, or produce information', which 'can affect one's ability to read, write, speak, spell, compute math, reason and also affect an individual's attention, memory, coordination, social skills and emotional maturity'" (Learning Disabilities Association (LDA) of America, 2015).

5 VALUE OF MOBILE ATS TO STUDENTS WITH LDS

- Available and accessible 24/7
- Customised and personalized
- Often instinctual and are designed for exact tasks and needs
- Can be inexpensive depending on the type of ATs, for example, low-tech devices (e.g. handrails and grips) are more affordable than high-tech devices (e.g. robots and power wheelchairs).
- Assist students to be more efficient (i.e. time management)

6 ROLE OF HEALTH LIBRARIANS - SETT

"The best way for a person to make use of assistive technology is to immerse them in it. Mobile assistive technology allows users to do this naturally" (Zabala, 2005)



7 EXAMPLES OF ATs

READING ASSISTANCE APPS

- **IDEAL Group Reader:** Digital talking book player that aids students in reading audiobooks, websites, make notes and transform reader files to match the users' needs.

- **AIReader:** Is a read-aloud book app that support Text-To-Speech (TTS), various book formats, configuring of display styles, search function, support external dictionaries, correct hyphenation for 20 languages, and quotes, bookmarks and text labelling.

- **The KNFB Reader:** Is a read-aloud book app that converts printed text into high quality speech that can read mail, receipts, class handouts, memos and many other documents, import, OCR, and read image-based pdf and jpg files, automatic text detection to enable hands-free operation, and can translation multiple languages.

7 EXAMPLES OF ATs

SPEECH ASSISTANCE APPS

- **DEAL Talking Tags:** Is a talking label maker/reader app, which is designed to support and accommodate the access needs of individuals who are blind through audible guidance in the form of talking tags.

- **Talk - Text to Voice:** Is a speech app that converts text to voice through talking what you type. Is multilingual and can read web pages, news and books.

- **Touch Voice +:** Is an advanced medical speaking app which allows speech impaired persons to communicate through providing over 4,100+ English speaking words and phrases with 37 common dialog categories, as well as, 80 basic picture image speaking ability, wide-ranging of living needs, and pain levels and emoticons for defining feelings.

7 EXAMPLES OF ATs

WRITING ASSISTANCE APPS

- **ListNote Speech-to-Text Notes:** Is an easy-to-use speech to text app which provides students with hands-free speech recognition, full screen and popup screen text editors.
- **Voice Writer:** Is an easy-to-use speech to text app which can send converted text via WhatsApp, Facebook, email, and any other services, thus reducing typing time and physical work.
- **Writer:** Is a writing app that delivers a distraction free and clean writing atmosphere without all the trouble of a word processor.

7 EXAMPLES OF ATs

REASONING ASSISTANCE APPS

- **Evernote:** Supports note-taking, capturing, organising and alert creation.
- **Google Keep:** Is a productivity app that quickly capture thoughts and get a reminder later at the right place or time. Speak a voice memo or add notes, lists and photos on the go and have it automatically transcribed, organised or added as a reminder.
- **SimpleMind:** Is a mind mapping app that turns students' android phone or tablet into a brainstorming, idea collection and thought structuring device.

8 Conclusion

- Healthcare and educational specialists utilise a diverse set of terms to refer to LDs (i.e. learning problems, learning difficulties, learning disorders and learning differences).
- One thing is certain that mobile AT applications should be viewed from a holistic perspective (i.e. SETT Framework) to focus on students' overall strengths, abilities and needs, rather than their weaknesses.
- As a result, the healthcare and mobile AT applications sectors play a significant role in driving the integration, design and personalisation of mobile AT applications to improve the quality of life, wellbeing and independence of individuals with LDs.

THANK YOU

Anika Meyer

anika.meyer@up.ac.za

(012) 546 0099