Hello

I'm Trevor Boland

I work as the Digital Officer in AHEAD

Previous experiences:

- Assistive Technology Officer in Higher Education

- Lecturer in an Access programme

- Special Needs Assistant in Primary / Secondary

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Disability and Belonging.

As diversity and learner variability increase, the prevalence of students with disabilities may similarly increase leading to the necessity for more students being accommodated or employing Assistive Technology (AT).

According to the Learning Disabilities Association of Ontario (2015), **"Living with a learning disability can have an ongoing impact on friendships, school, work, self-esteem and daily life"**.

ASSISTIVE TECHNOLOGY AND UNIVERSAL DESIGN FOR LEARNING - Dawn Rose

Assistive Technology Enables

Assistive Technology **enables people** to live healthy, productive, independent, and dignified lives, and to participate **in education, the labour market and civic life.** WHO

Note: Assistive Technology is in Checkpoint 4.2 of the UDL framework #ATandUDL

Where is Assistive Technology (AT)?

Smart phones

◆ Apps – App Stores
◆ Inbuilt >> Settings >> Accessibility

Desktop / Laptop

◆ Software
◆ Websites
◆ Google / Office 365
◆ Browsers>>Chrome/ Edge
◆ Inbuilt >> Dictation / Magnify

Tablet / iPad

◆ Apps – App Stores
◆ Inbuilt >> Settings >> Accessibility

Devices

◆ Dictaphone
◆ Livescribe pens
◆ Magnification
◆ Braille devices

AT Hive – Raise AT Awareness

- AT Hive is an Assistive Technology Resource, in the AHEAD website.

- It aims to raise AT awareness and how to use it.

- To date a collection of 50 technologies (websites, apps, browser plugins...) about reading, writing, organisation, communication and more.

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Website: www.ahead.ie/ATHive

DAWN
Disability Advisors Working Network

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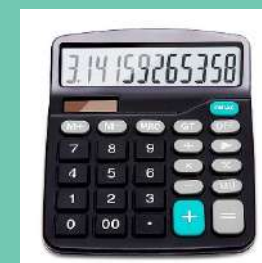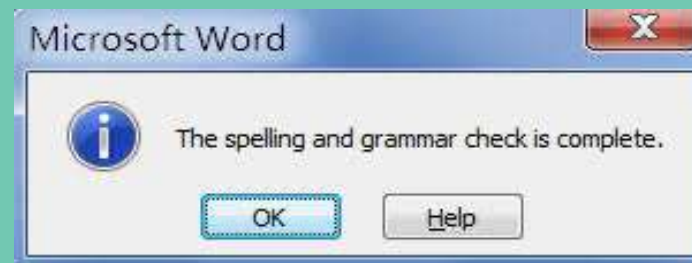
✈ www.ahead.ie/ATHive
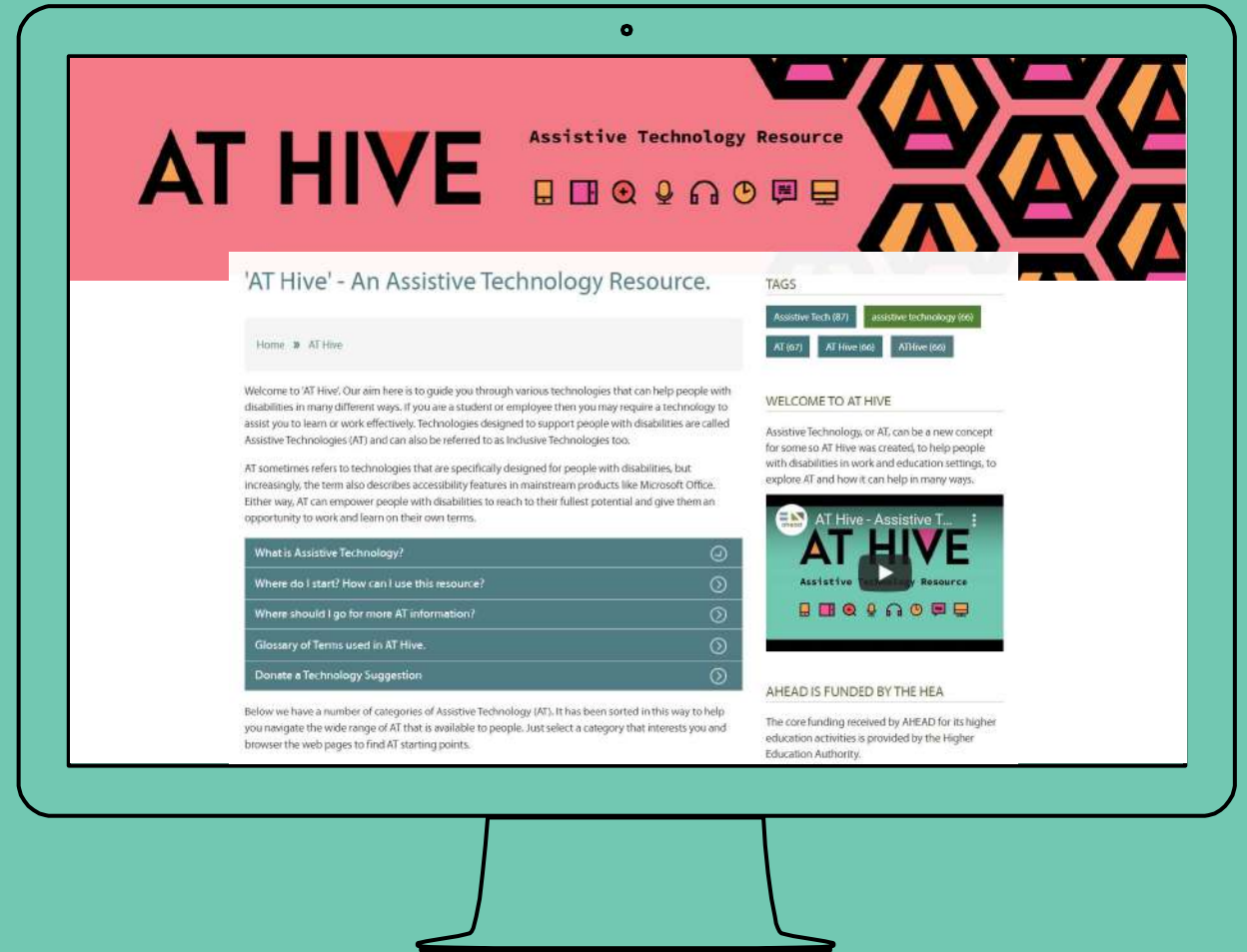
Assistive Tech (AT) is Everywhere

Non –Tech

- Pencil Grip
- Eyeglasses
- Walking Stick

Low-Tech

- Spellcheck in Word
- Mouse
- Calculator
- Remote Control

Microsoft Word

The spelling and grammar check is complete.

OK   Help

High-Tech

- Google Home / Amazon Echo
- Siri / Google Assistant / Cortana
- Nest Thermostat

Hi, how can I help?
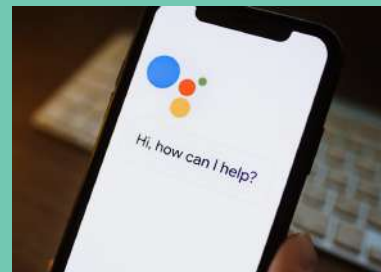
Early Assistive Technology

A Roman artificial leg, made of bronze, was found in a grave in Capua, Italy (dated 300 BC).

A Captain from Napoleon army, Barbier de la Serre: created early braille of a sort (18th Century), raised dots which allowed a code that soldiers could decipher messages in darkness. Louis Braille expanded on this idea to create modern braille.

The use of ear trumpets for the partially deaf, dates back to the 17th century. By the late 18th century, their use was becoming increasingly common.
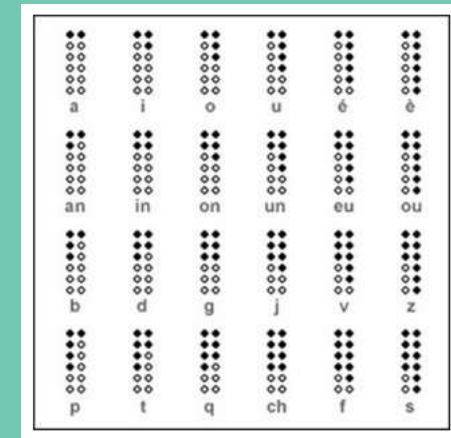
Very early assistive devices

The first traces of AT is a piece of equipment designed to assist a person in walking and was created in ancient Egypt.

Pharao Tutankhamun needed a walking stick and was unable to stand unaided.

Image: A piece of painted limestone estimated from 1335 BC, is one of the oldest representation of an underarm crutch.

Types of AT in Education Today

Val
Dyslexia

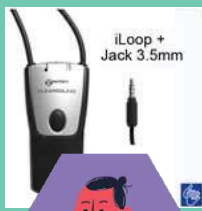Livescribe pen

Aideen
Hand Impairment

Dragon

Rogerio
VI

Optiverso

Eric
HI

Maria
Blind
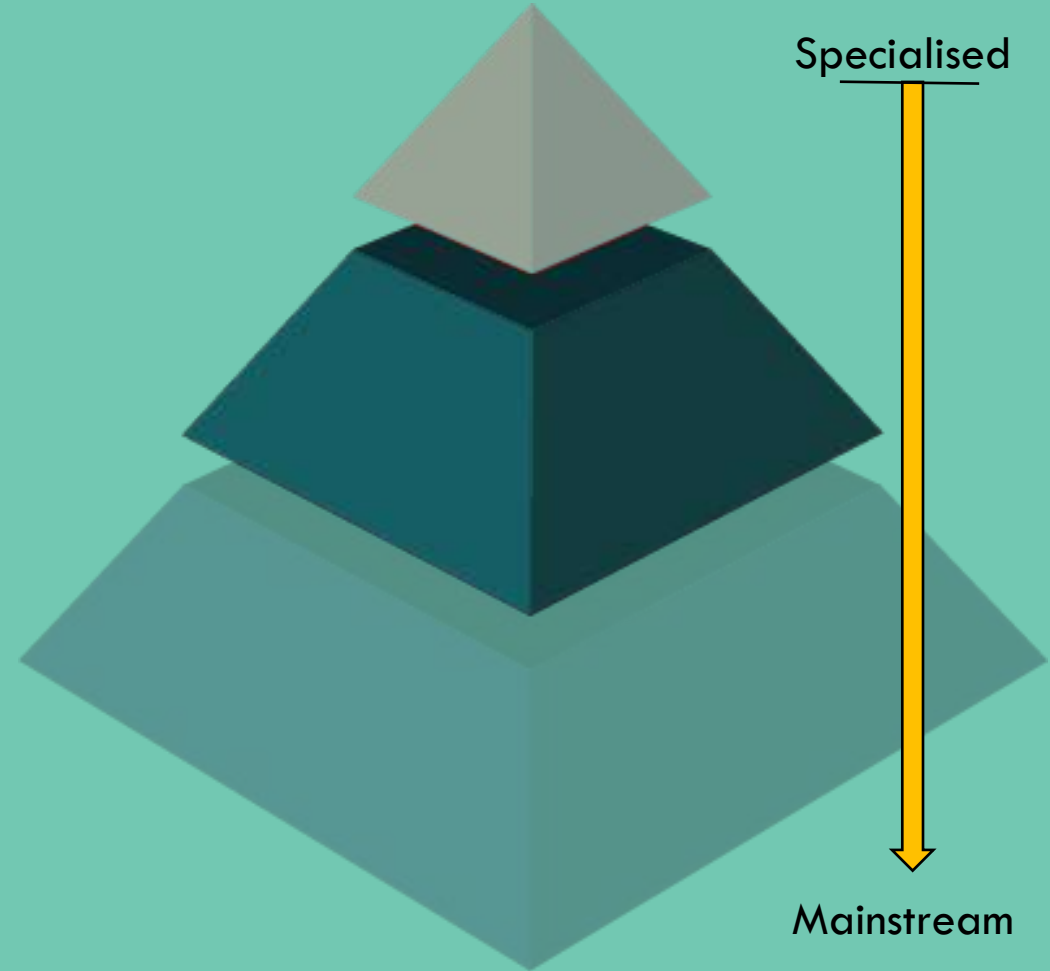
Current AT Inclusion Pyramid.

Specialised

- Dictation / Voice Typing
- Immersive Reader / Read Aloud
- Online Group Work / Video Calling
- Live Closed Captions
- Presentation Coach
- Spelling & Grammar
- Organisation
- OCR – Lens apps
- Notetaking
- Other – VLEs – Read aloud / Mp3s

Mainstream

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AT – Levels the Playing Field

AT is identified by educators as an essential tool in education because it '**levels the playing field**' and assists teachers with helping students meet their goals

(Chambers & Berlach, 2015).

Literature highlights many benefits which can include ... heightened self-worth and improved academic outcomes

(Chambers & Berlach, 2015).

Assistive Technologies, Inclusion, And Participation For Students With High Functioning Asd - Deandra Christopher

Level Playing Field

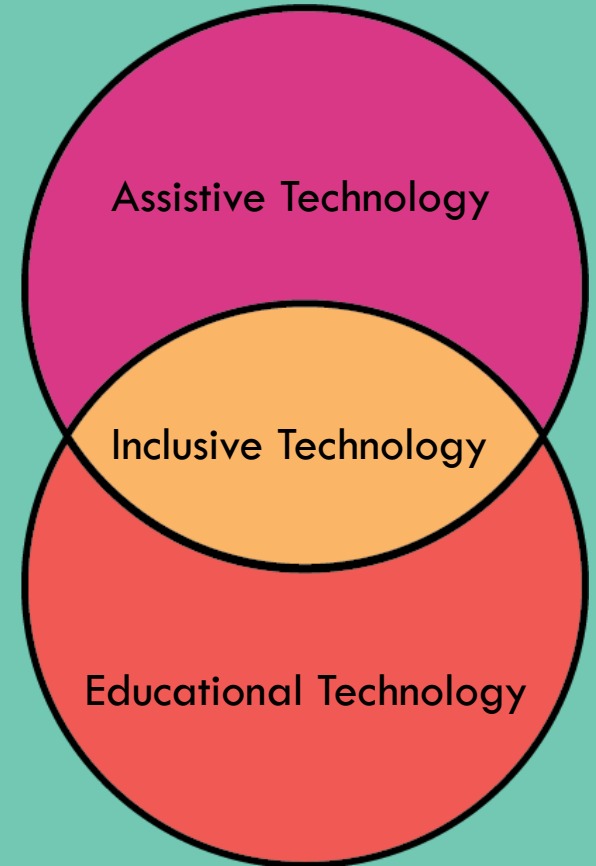Assistive Technology

Present Ability

Blurred Lines of AT

'It was generally acknowledged that **assistive technologies and mainstream technologies are converging ... applications originally developed as AT, such as speech recognition, have crossed over into the mainstream, while mainstream technologies are being used as AT**.'

(National Council for Special Education NCSE Report 2016)

Microsoft - 'Immersive Reader' - Reading / Readability

Online Word and Google Docs – 'Dictate / 'Voice Typing'

Blackborad Ally website – Document into an MP3

If AT tools can be for all – can we call it Inclusice Technology?

Assistive Technology

Inclusive Technology

Educational Technology

AT in Office 365 and Windows

Support Needed	O365 Solution	Link to Resource
Reading	Immersive Reader	AT Hive link with text and video
Writing	Dictate	AT Hive link with text and video
Organisation	Calendar & Planner	AT Hive link with text and video
Magnify	In-built in laptop	AT Hive link with text and video
Collaboration	Word and PowerPoint	AT Hive link- Word & PowerPoint
Communication	Teams (Closed Caption)	AT Hive link with text and video
Videos with Captions	Stream	AT Hive link with text and video

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UDL 3 Principles & 9 Guidelines

Engagement – The why of learning

For purposeful, motivated learners, stimulate interest and motivation for learning. (Irish?)

Representation – The what of learning

For resourceful, knowledgeable learners, present information and content in different ways. (Mp3s)

Action & Expression – The how of learning

For strategic, goal-directed learners, differentiate the ways that students can express what they know.

(Assessments – choice, Dictation)
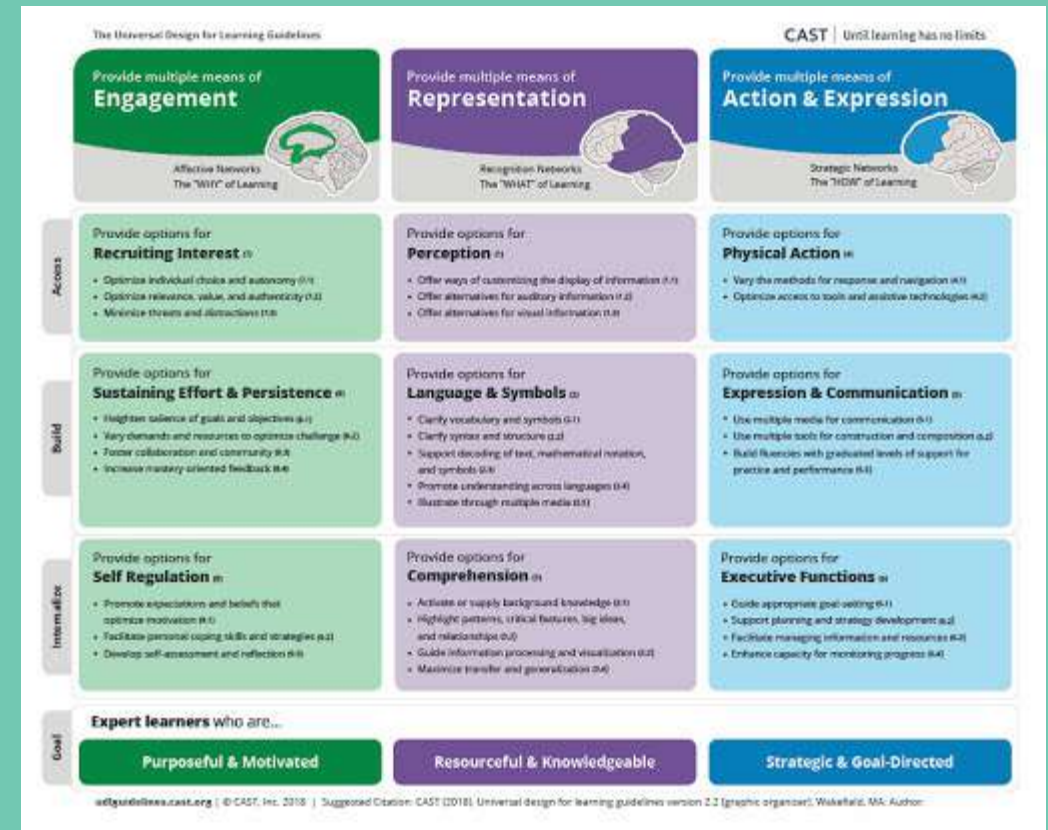
UDL – is and isn't List

What it is:

- A research-based quality teaching and learning framework.

- A lens with which to examine your practice – a mindset/checklists.

- Anticipate learner variability and provide multiple paths to successful outcomes that can overcome barriers to learning.

What it isn't:

- A checklist for you to tick things off to be accessible.

- A box ticking diversity exercise.

- Something completely new that you have to do on top of your usual work. Instead, UDL should help you to tweak and deliver your programmes.

UDL
☑ Mindset
☑ Guide
☑ Remove Barriers
☐ Variability
☐ Inclusion

Core Beliefs of UDL

This work begins with **asset-based beliefs(:** It views diversity in thought, culture, and traits as positive assets. Teachers and students alike are valued for what they bring to the classroom rather than being characterized by what they may need to work on or lack) about students and the power of design to eliminate barriers. A UDL Practitioner believes:

- **Variability** is the rule, not the exception. Students may need to learn in different ways, using different materials, and share what they have learned in different ways to reach the same goals.

- All students can work toward the same **firm goals** and grade-level standards when provided with adequate challenge and support.

- All students will become **expert learners if barriers are removed** and they are given opportunities to **self-differentiate**.

Mirko Chardin (L) and Katie Novak (R), authors of *Equity by Design: Delivering on the Power and Promise of UDL,* discuss how UDL can be used as a framework for equity in the podcast.

UDL and AT

Universal Design (and particularly the branch that focuses on education, UDL) has goals similar to those of AT, including the overarching goal of increasing the access, participation, and progress of students with disabilities

Assistive Technology and Universal Design for Learning: Two Sides of the Same Coin

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UDL & AT - Relationship

The **purpose of UDL and assistive technology work is to overcome barriers** and provide students with disabilities access to the general curriculum. (Rose, Hasselbring, Stahl, and Zabala, 2005).

Assistive technology is essential in the application of a UDL instructional design and, in return provides accessible Curriculum Content, helping to raise the value of Assistive Technology (AT; Basham, Israel, Graden, Poth, &Winston, 2010).

Curriculum

Accessibility

UDL

AT
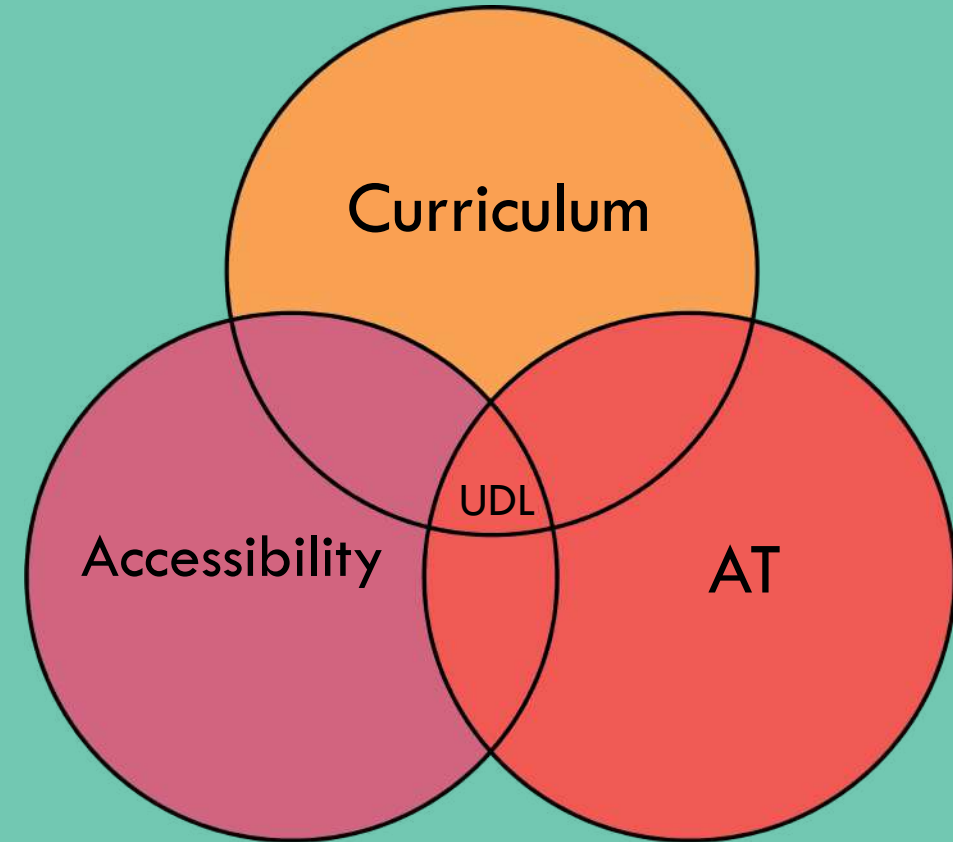
Assignments – Think about AT!

The Assignment brief. Then underneath the assignment brief you could add: `bit.ly/ATparagraph`

Technologies can help you with many aspects of your assignment, so we have a few technology suggestions for you:

- Reading online can be assisted with Immersive Reader – this reads information out loud.
- Reading paper-based information can be assisted with this free apps – Google Lens / Office Lens.
- To write your essay you can use the dictation tool in your online Word. Then use Immersive Reader in Word to read back your essay as a proof-reading support.
- Think about converting your essay into an MP3 to listen back to it on your device/Smartphone.
- Try the Spelling and Grammar tool in Word to help you create the best version of your essay.
- For Groupwork in Work click the 'Share' button and add your classmates.
- To practice your Presentations, try the Presenter Coach for feedback.
- For more tips about technology and how it can help your academic work go to AT Hive.
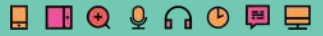
So, is Assistive Technology Everyone's Business?

- We are all using Assistive Technology in one way or another so it's already our business.

- We are all engaging with AT unconsciously in some way? By being more conscious about AT do we see more possibilities about how it can be used for students (and even staff) of all types?

- So many big leaps have happened to make AT mainstream, today think about the small leaps to make AT mainstream?

- Think about one type of AT you can bring to your work practice.

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Thank you