



# Inclusive and accessible T&L

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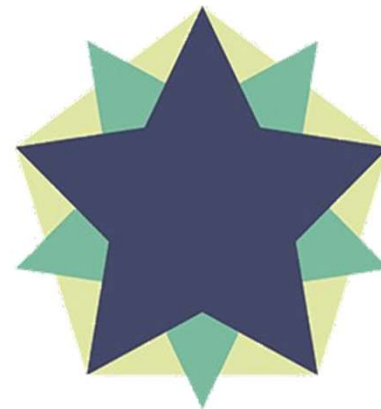
University of Manchester

# But also ....



**deaf since  
birth**

**NADSN**



**Co-chair of  
disabled  
staff network**

**What makes a good student?**

**[www.menti.com](https://www.menti.com) 5932 7388**

# What expectations / assumptions do we make about our students?

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Passion for the course and the topic	Independent learner	Motivated
Is mobile	Can take notes quickly	Is good at networking
Can lift heavy equipment	Has a great short term memory	Changes topics easily
Can reach the lab bench	Doesn't need to use the toilet	Can travel easily
Has 20/20 vision	Can work in a laboratory	Is white
Has supersonic hearing	Has no other responsibilities outside university	Can think all the time
Has effective communication skills	Can cope with tight deadlines	Keeps quiet when appropriate
Can walk up steps	Has endless energy	Is a native speaker
Doesn't need quiet space	Can work in a group	Has no dietary requirements / medication needs / adjustments
Can sit for extended periods	Doesn't need to take time off	Understands all our cultural references
	Is male (engineering)	

# What expectations / assumptions do we make about our students?

Passion for the course and the topic

Is mobile

Can lift heavy equipment

Can reach the lab bench

Has 20/20 vision

Has supersonic hearing

Has effective communication skills

Can walk up steps

Doesn't need quiet space

Can sit for extended periods

Independent learner

Can take notes quickly

Has a great short term memory

Doesn't need to use the toilet

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Has no other responsibilities outside university

Can cope with tight deadlines

Has endless energy

Can work in a group

Doesn't need to take time off

Is male (engineering)

Motivated

Is good at networking

Changes topics easily

Can travel easily

Is white

Can think all the time

Keeps quiet when appropriate

Is a native speaker

Has no dietary requirements / medication needs / adjustments

Understands all our cultural references

# What is disability?

*A physical or mental impairment that has a 'substantial' and 'long-term' negative effect on your ability to do normal daily activities.*

Equality Act 2010

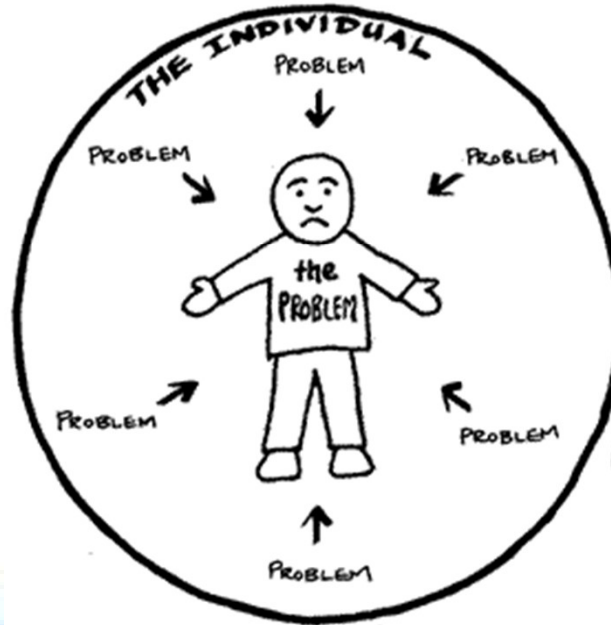
Visual, Hearing, Learning, Neurodiversity,  
Physical, Emotional, Cognitive

# Disabilities

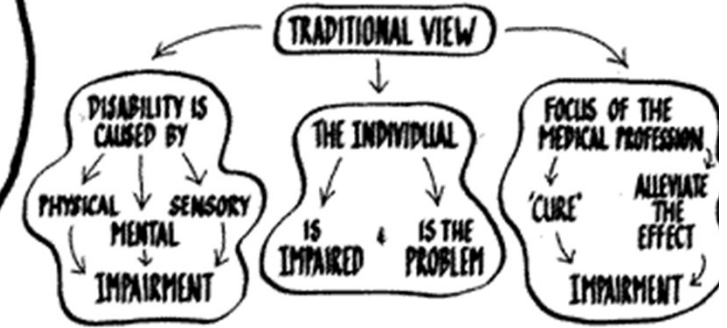


# I'M A PERSON  
NOT A DISABILITY

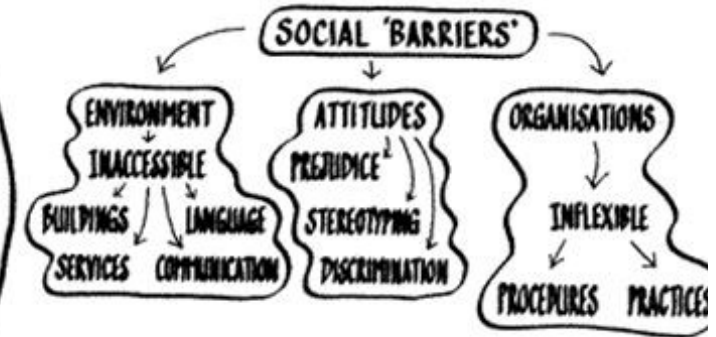
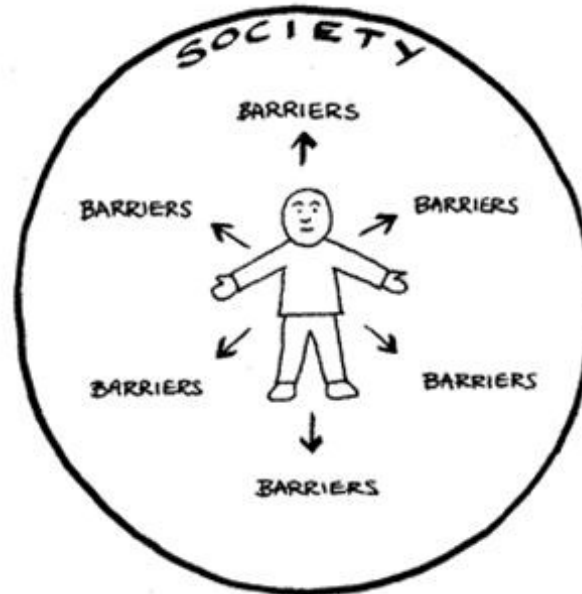
## THE MEDICAL MODEL OF DISABILITY



IMPAIRMENTS AND CHRONIC ILLNESS  
OFTEN POSE REAL DIFFICULTIES BUT  
- THEY ARE NOT THE MAIN PROBLEMS



## THE SOCIAL MODEL OF DISABILITY



**What can we do to remove barriers and create a positive, inclusive teaching and learning environment?**

# Design of teaching spaces



**Accessible design from the start and reporting issues!**

# Design of teaching spaces



Autism-friendly spaces

Quiet areas for cognitive impairments

Friendly lighting

Open Plan does not always allow this.....

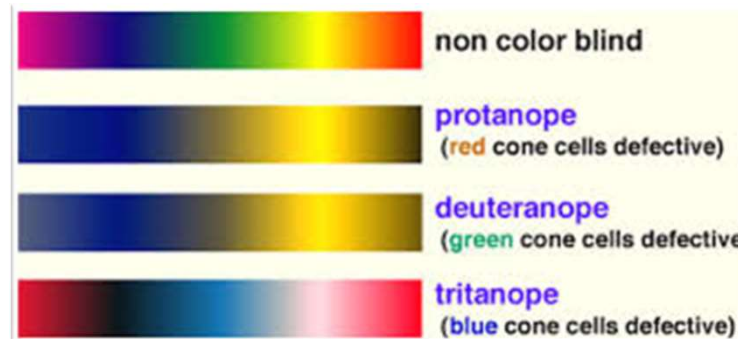
Accessible design from the start and reporting issues!

# Design of teaching content



Example: blind,  
colour blind

Accessible design



# Design of teaching content



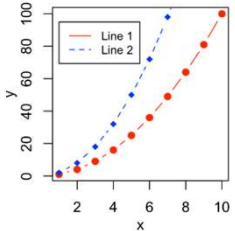
Example: D/deaf,  
hard of hearing

Accessible design



# Accessibility toolkit

It is a legal requirement to ensure accessibility in online content:  
Priority level 2 of the revised web accessibility guidelines W3C WAI  
(<https://www.w3.org/WAI/fundamentals/accessibility-intro/>).

<p><b>AaBbCC</b></p> <p>Sans serif font, size 12, left aligned, line spacing x 1.5</p>	 <p>Alternative text for all images</p>	 <p>Contrast ratio 4.5:1 for all colours used</p>	 <p>Can switch page orientation</p>
 <p>Colour not used to convey information</p>	 <p>Can zoom text an images to 200%</p>	 <p>Compatible with screenreaders</p>	 <p>Avoid use of animations</p>
 <p>Closed captioning for live/recorded videos</p>	 <p>All videos can be paused and rewind</p>	 <p>Don't use flashes in videos</p>	 <p>Audio description for videos with no audio</p>

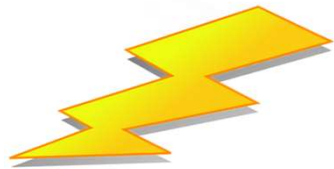
# Quick checks



Contrast ratio 4.5:1  
for all colours used

<http://juicystudio.com/services/luminositycontrastratio.php>

<https://developer.paciellogroup.com/resources/contrastanalyser/>



Don't use flashes  
in videos

<https://ds.gpii.net/content/photosensitive-epilepsy-analysis-tool>



**YouTube:** Can use automatic subtitling (if available) and edit for accuracy or enter a transcript and set timings.

Guide:

<http://ncdae.org/resources/cheatsheets/youtube.php>

**otter.ai:** If automatic subtitling is not available, on YouTube you can set up create a free account with AI media to use their otter tool to automatically record audio and generate a transcript to upload into YouTube or other captioning tools. Go to: [otter.ai](https://otter.ai)

**Microsoft365:** The new office365 has the Subtitling Text Add-In for Microsoft Powerpoint (STAMP). Instructions can be found here: <https://support.microsoft.com/en-us/office/add-closed-captions-or-subtitles-to-media-in-powerpoint-df091537-fb22-4507-898f-2358ddc0df18>



**N.B.** You only need to add audio description if your video has no audio at all or if images are not explained with audio. For most blended learning videos, this will not be the case.

**Guidelines:** The American Society for the blind have some good guidelines for audio description: <https://acb.org/adp/guidelines.html>

Best practise is to describe what you see for all images in clear simple language.

**3play plugin:** Free software for adding audio description and interactive transcripts that is compatible with most media platforms (including YouTube and Kaltura): <https://www.3playmedia.com/solutions/features/plugins/3play-plugin/>

Blog on use: <https://www.3playmedia.com/resources/popular-topics/audio-description/#howto>

# Inclusivity is important

- Students need to see themselves represented.
- Ask ourselves are we providing equal access to all students?
- We may make mistakes – but that's ok if we learn from them
- If unsure, ask – learn from lived experience!



# My own experiences...



**deaf since  
birth**

- **Subtitles (early pandemic and now)**
- **Communication in lectures (tools?)**
- **Embedding EDI & accessibility in curriculum (e.g use of BSL)**

# Inclusivity is important!

As a disabled person (with a physical disability), the use of sign language made me feel more seen and able to be an engineer.

The incorporation of sign language was really helpful, as a kinaesthetic learner putting actions to key words and topics helped me to remember them more.

Thank you for listening!

NOTHING ABOUT US  
WITHOUT US.



DISABILITY  
VOICES  
FOR LIFE

# Key players and their work

**NADSN**



**National Association  
for Disabled Staff Network**



**Chronically Academic**

Academic Mental Health Collective

A resource for grad students and post-docs

**Academic Mental Health  
Collective**



**American Astronomical Society  
Accessibility/Disability**

# Disability Inclusive Science Careers (DISC project)

Professor Gareth Pender  
Professor Kate Sang, PhD  
Intercultural Research Centre  
Heriot Watt University, Edinburgh



[k.sang@hw.ac.uk](mailto:k.sang@hw.ac.uk)  
Twitter: @katesang

DISC focuses on early career entry to the science sector. The aim of DISC is to improve the recruitment, retention and progression of postdoctoral disabled scientists through an online training portal designed to support employers with disability inclusion and reasonable adjustments.

**Disability and academic careers**

**Disability in universities**  
Efforts continue to ensure disabled students are able to participate fully in higher education. However, similar work is not undertaken to support disabled staff.

**Academic careers are...**  
characterised by:  
long working hours,  
travel and international mobility,  
precarious working,  
lack of gender diversity at senior levels,  
Flexible and autonomous working.

**This research:**  
Explored how disabled and chronically ill academics experience careers in UK universities  
Develop suggestions for improving the working lives of disabled academics

**Data collection**  
Skype & telephone with 26 academics  
Email responses from more than 30 academics

**Main findings**  
Being disabled is a second job: managing impairment effects, seeking adjustments to the workplace (which are difficult to secure)  
Fatigue is a strong feature of academic life and may be more so for disabled academics  
Disability not accommodated in recruitment and progression processes  
Internalised norm that disability and academia are incompatible  
Disabled academics can be powerful role models for students

**Recommendations**  
Specific flexible funding for disabled researchers  
Disability working groups within universities  
Training line managers in disability issues  
Need for disabled role models  
More awareness of disability amongst trade unions

Being disabled is like having a second job

Disability role models could encourage more disabled students to become researchers

<https://migrantacademics.wordpress.com/2017/05/18/its-like-having-a-second-job-disability-and-academic-careers/>

# Useful resources

## Dr Jonathan M Levitt

University of Wolverhampton  
J.M.Levitt@wlv.ac.uk



*Levitt, M. (2019). Investigating barriers to disabled people becoming academics or conducting research. Nordic Network on Disability Research Conference, Copenhagen, May 2019*

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#myscienceinquiry lead  
Prof. Rachel Oliver,  
University of Cambridge

*Accessibility in STEM: Barriers facing disabled individuals in research funding processes., <https://osf.io/uzsdk/>*