

Assistive Technologies All Around Us

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**Do you live your life completely
without assistive technology?**

Do you use an assistive technology?

- Some assistive technologies might not be recognized as such.



Quiz: Who uses assistive technology?

- A. People who use screen readers
- B. People who wear hearing aids
- C. People who wear glasses or contact lenses
- D. All the above

Voice-Activated Assistants

- Help control smart devices
- Set reminders
- Get information
- Purchase products
- Real-time updates
- Control media playback
- Integrate with other devices



Smartphones

- Voice-to-text
- Screen readers
- Gesture navigation
- Magnification
- Customizable display settings
- Assistive touch
- Hearing aid compatibility
- Closed-captioning
- Speech recognition



Wearable Technology

- Fall detection
- Emergency SOS
- Health monitoring
- Voice control
- Haptic feedback
- Customizable watch faces
- Noise alerts
- Accessibility shortcuts



Ergonomic Keyboards and Mice

- Reduced strain
- Alternative typing methods
- Adjustable angles
- Contoured mice
- Customizable buttons
- Reduced key travel
- Ambidextrous design



What are some other examples?

Definitions and Perceptions Matter

Assumptions Impact the Lives of People with Disabilities

The Medical Model

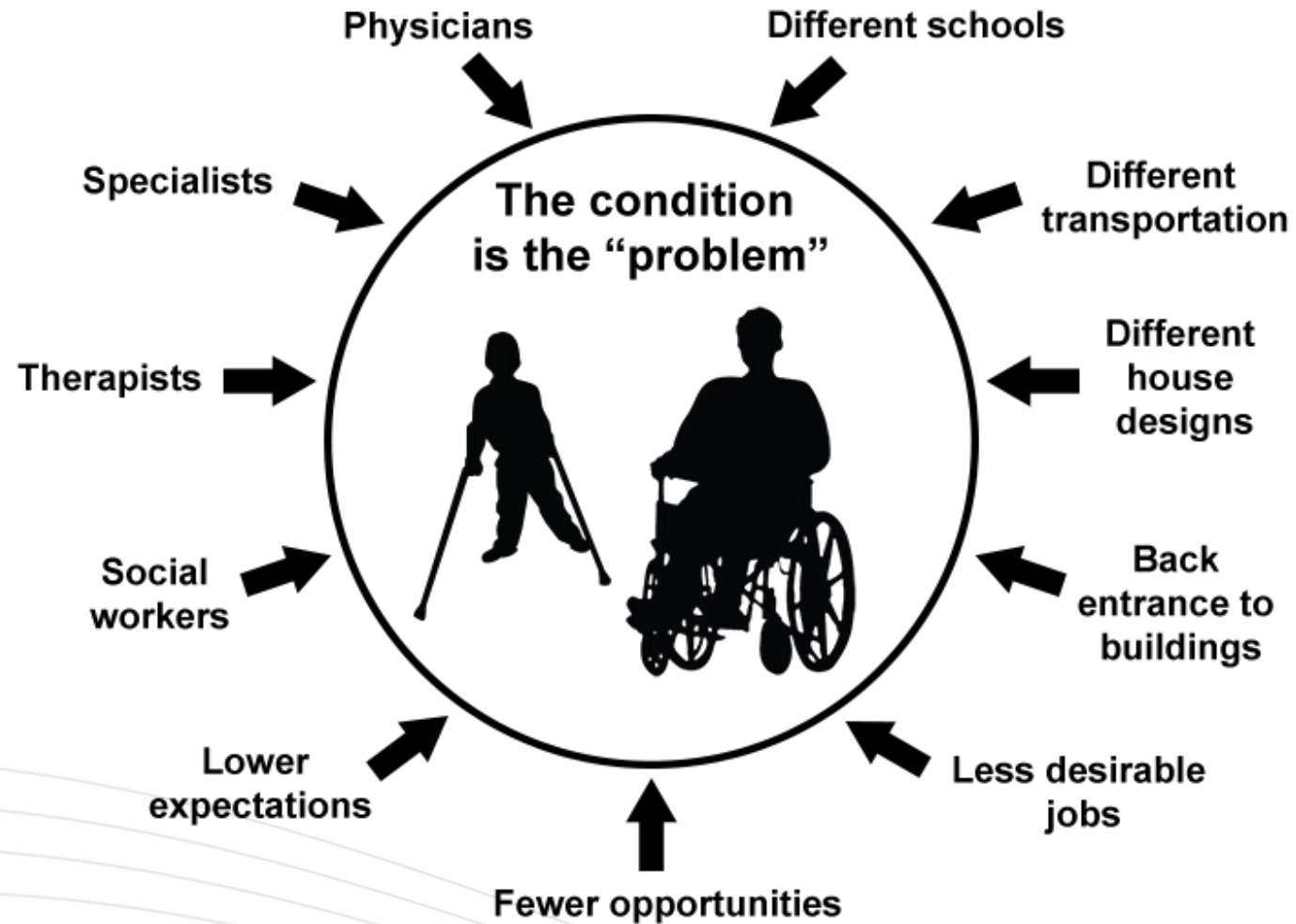


Image credit: Deque

Strength of the Medical Model

- Recognizes physical conditions
- Guides medical treatments
- Informs government assistance
- Provides clarity

Weaknesses of the Medical Model

- Overlooks environmental factors
- Stigmatizes individuals
- Excludes some needs
- Adds bureaucracy

The Social Model



Image credit: Deque

Strengths of the Social Model

- Reduces stigma
- Promotes inclusivity
- Encourages creative design
- Benefits everyone

Weaknesses of the Social Model

- Downplays physical reality
- Ignores personal identify
- Limits open discussion

The Functional Solutions Model



Image credit: Deque

Strengths of the Functional Model

- Focuses on practical benefits
- Real-world approach
- Emphasizes innovation
- Builds accessible environments

Weaknesses of the Functional Model

- Innovative but limited
- Missed opportunities
- Social solutions matter
- Risk of irrelevance

The Economic Model



Strengths of the Economic Model

- Acknowledges work impact
- Highlights importance

Weaknesses of the Economic Model

- Creates stigma
- Emphasizes dependency
- Excludes some people

The Charity (or Tragedy) Model



Strengths of the Charity Model

- Can build empathy
- Encourages genuine help

Weaknesses of the Charity Model

- Creates unequal relationships
- Can hinder progress

Something to Think About

"All my life I have sought to understand the universe and find answers [...] I have been very lucky that **my disability has not been a serious handicap**. Indeed, it has probably given me more time than most people to pursue the quest for knowledge."

– Stephen Hawking



Assistive Technologies Don't Solve Everything

People who create digital environments and resources must create them with accessibility in mind.

True or False?

- There are many forms of disabilities that are not obvious to an observer.

Main Categories of Disabilities

- Blindness
- Low vision
- Color blindness
- Deafblindness
- Auditory
- Mobility, body structure
- Cognitive/intellectual
- Dyslexia/reading
- Math Disabilities
- Speech/Language
- Psychological/Psychiatric
 - Anxiety
 - Mood disorders
 - Schizophrenia
 - And many others
- Multiple/Complex

Designing for the Autistic Spectrum

Do

- use simple colours
- write in plain English
- use simple sentences and bullets
- make buttons descriptive - for example, Attach files
- build simple and consistent layouts

Don't

- use bright contrasting colours
- use figures of speech and idioms
- create a wall of text
- make buttons vague and unpredictable - for example, Click here
- build complex and cluttered layouts

Do...

use simple colours



write in plain language

Do this

use simple sentences and bullets



make buttons descriptive

Attach files

build simple and consistent layouts



Don't...

use bright contrasting colours



use figures of speech and idioms



create a wall of text



make buttons vague and unpredictable

Click here!

build complex and cluttered layouts



Designing for Dyslexia

Do

- use images and diagrams to support text
- align text to the left and keep a consistent layout
- consider producing materials in other formats (for example, audio and video)
- keep content short, clear and simple
- let users change the contrast between background and text

Don't

- use large blocks of heavy text
- underline words, use italics or write capitals
- force users to remember things from previous pages - give reminders and prompts
- rely on accurate spelling - use autocorrect or provide suggestions
- put too much information in one place

Do...

use images and diagrams to support text



align text to the left and keep a consistent layout



consider producing materials in other formats (for example audio or video)



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rely on accurate spelling - use autocorrect or provide suggestions



put too much information in one place



Designing for Anxiety

Do

- Give users enough time to complete an action
- Explain what will happen after completing a service
- Make important information clear
- Give users the support they need to complete a service
- Let users check their answers before they submit them

Don't

- Rush users or set impractical time limits
- Leave users confused about next steps or timeframes
- Leave users uncertain about the consequences of their actions
- Make support or help hard to access
- Leave users questioning what answers they gave

Do...

give users enough time to complete an action



explain what will happen after completing a service



make important information clear



give users the support they need to complete a service



let users check their answers before they submit them



Don't...

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Closing Summary

- **Assistive Technologies:** Many use assistive technologies unknowingly. They help but don't solve every challenge.
- **Impact of Perceptions:** Perceptions and assumptions shape the lives of people with disabilities.
- **Hidden Disabilities:** Many disabilities are unseen. Recognizing and accommodating for these is crucial.
- **Ongoing Efforts:** Continuous effort and awareness ensure full and equal participation for everyone.



Coming Next Month: Exploring Assistive Technology Solutions (Live Demo)

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2024 Assistive Technology Expo: Oct. 3

- Hosted by: NCDHHS Assistive Technology Program
- Date: Oct. 3, 2024
- Time: 8:45am – 5pm
- Location: McKimmon Conference and Training Center, Raleigh

[More info: cutt.ly/ATEXpo2024](https://cutt.ly/ATEXpo2024)

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