Intersection between Cognitive Disabilities and the User Experience

https://tinyurl.com/aserl-cog

Patrick Patterson
Introduction

Importance

Cognitive Disabilities

User Experience

Ways to Improve Content

Resources
How many people identify as having a disability in the United States?

a. 10 Percent  
b. 15 Percent  
c. 25 Percent  
d. 33 Percent
# Importance - Disability by Year

<table>
<thead>
<tr>
<th>Type</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>12.6</td>
<td>12.9</td>
<td>12.4</td>
<td>12.8</td>
<td>11.1</td>
</tr>
<tr>
<td>Cognitive</td>
<td>10.8</td>
<td>11.4</td>
<td>11.5</td>
<td>12</td>
<td>10.9</td>
</tr>
<tr>
<td>Independent Living</td>
<td>6.5</td>
<td>7.0</td>
<td>6.8</td>
<td>7.0</td>
<td>6.4</td>
</tr>
<tr>
<td>Hearing</td>
<td>5.3</td>
<td>5.6</td>
<td>5.9</td>
<td>5.9</td>
<td>5.7</td>
</tr>
<tr>
<td>Vision</td>
<td>4.5</td>
<td>4.7</td>
<td>5.0</td>
<td>5.0</td>
<td>4.9</td>
</tr>
<tr>
<td>Self-Care</td>
<td>3.5</td>
<td>3.8</td>
<td>3.5</td>
<td>3.8</td>
<td>3.0</td>
</tr>
<tr>
<td>Any Disability</td>
<td>24.6</td>
<td>25.6</td>
<td>26.0</td>
<td>26.7</td>
<td>24.8</td>
</tr>
</tbody>
</table>

Disability and Health Data System (DHDS) Data Guide - https://dhds.cdc.gov/
## Importance - Disability by Age Group 2020

<table>
<thead>
<tr>
<th>Type</th>
<th>18 to 44</th>
<th>45 to 64</th>
<th>65 and Above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobility</td>
<td>4.1</td>
<td>15.3</td>
<td>25.5</td>
</tr>
<tr>
<td>Cognitive</td>
<td>11.8</td>
<td>10.2</td>
<td>9.3</td>
</tr>
<tr>
<td>Independent Living</td>
<td>4.8</td>
<td>7.2</td>
<td>9.6</td>
</tr>
<tr>
<td>Hearing</td>
<td>2.3</td>
<td>6.1</td>
<td>15.9</td>
</tr>
<tr>
<td>Vision</td>
<td>3.4</td>
<td>6.1</td>
<td>7.3</td>
</tr>
<tr>
<td>Self-Care</td>
<td>1.5</td>
<td>4.6</td>
<td>5.2</td>
</tr>
<tr>
<td>Any Disability</td>
<td>18.4</td>
<td>26.7</td>
<td>41.6</td>
</tr>
</tbody>
</table>
Importance - Personal Experience

Adaptive Technology Center - Indiana University

   Around 250 students with Cognitive Issues
   3 Visually Impaired

North Farmington High School - Media Center

   Non-Native English Speakers
   Learning Disabilities

Adjunct Instructor
Journal of Physics Special Topics

A2_9 Trajectory of a falling Batman

D.A. Marshall, T.O. Hands, I. Griffiths, G. Douglas

Department of Physics and Astronomy, University of Leicester. Leicester, LE1 7RH.

December 9, 2011

Abstract

The film Batman Begins shows the character of Batman gliding using a rigid form of his cape. This paper assesses the feasibility of such a glide and finds that while a reasonable distance could be travelled if gliding from a tall building, the speed at which Batman would be travelling would be too dangerous to stop without some method of slowing down.
Cognitive Disabilities Overview

Dyslexia

Autism

Attention Deficit Hyperactivity Disorder - ADHD

Learning
Related Terms

Spatial Memory
Cognitive Impairment
Neurodiversity
Cognitive Overview

Barriers

- Complex Layouts
- Long Paragraphs of Text
- Unusual Words and Complex Sentences
- Media that you can not stop or turn off

Ways to Assist People

- Keep Interfaces Clean and Simple
- Provide Alternative Formats
- Make it Easy to Get Help
Barrier - Complex Layout
Barrier - libraryh3lp

https://uolibraries.ask.libraryh3lp.com/

**Frequently Asked Questions**

**How can I print?**
2767 views  Last updated on Sep 01, 2022

All of the libraries on the Eugene campus have printers for UO students, faculty, and staff to use. Follow the steps on this webpage to print from a library computer or your own laptop. You will need to have your UO ID card charged up with Duck Bucks to pay for your print job. Community members can purchase a print card and add Duck Bucks at the kiosk near the Checkout/Reserves Desk in Knight Librarv.

**As a community member, what UO Library resources are available to me?**
1661 views  Last updated on Mar 30, 2023

Members of the community who are not current UO students, faculty, or staff may participate in the Oregon Card program, which allows borrowers to check out up to 10 items, place holds on items, and make interlibrary loan requests for a fee.

**How do I access online articles?**
Barriers

Unusual Words

Lexical Simplifier - Barriers to Complex Words

Complex Sentences

It was extraordinarily obvious to the multiple guests who had been in attendance at the party that in no way could it be concluded that he found the gathering in the least diverting or entertaining.
How to Make Content Easier to Use

Help People Find Things
Create Clear Content
Help People Focus
Assist People in Avoiding Mistakes
Provide Help and Support
User Experience

How Something Works

How we interact with something
User Experience Principles

Affordance

Keep Things Simple

Provide Signposts and Clues

Provide People with the Information they Need
Affordance
Affordance
Affordance
Provide Signposts and Keep Things Simple

https://www.bbc.com/sport/athletics/calendar/2022-07

Athletics Calendar

Fri 15 JUL
World Championships
15 JUL - 16 JUL
Provide People with the Information they Need
Improve Content

Typography Example

- Type of Font - Arial
- Font Size - .875em
- Line Height - 1.5
- Letter Spacing - .105em, .12 times the font size
- Spacing Between Paragraphs - 1.7em, double the font size
Improve Content

Readability

Word Choice - Vocabulary

- Avoid - ILL, Amendment
- Use - Interlibrary Loan, Change

Headings

- Use - Borrowing Policy, Get Help
- Avoid - Pandas are Black and White and Cute
Improve Content

Space Around Items

Contrast

Links

Avoid - click here, read more

Use - Please see the Borrowing Policy for more information
Overview of Improving Content

Headings

- Use Large Font Size
- Avoid underlining and italics

Layout of Content - Paragraphs

- Left Justify Text
- Use bullets

Writing Style

- Avoid Long Sentences
- Be Concise
Icons
Principles

Creating Accessible Content Makes things Easier to Use
Less is More
Digital Divide
Resources

**Colour Contrast Analyser (CCA)**
https://www.tpgi.com/color-contrast-checker/

**Disability and Health Data System (DHDS) Data Guide**
https://dhds.cdc.gov/

**Accessibility Do's & Don'ts Posters**

**Kurzweil**
https://www.kurzweiledu.com/

**Law and requirements plainlanguage.gov**
https://www.plainlanguage.gov/law/

**Making Content Usable for People with Cognitive and Learning Disabilities**
https://www.w3.org/TR/coga-usable/
The Web must allow equal access to those in different economic and political situations; those who have physical or cognitive disabilities; those of different cultures; and those who use different languages with different characters that read in different directions across a page.

Tim Berners Lee and Mark Fischetti