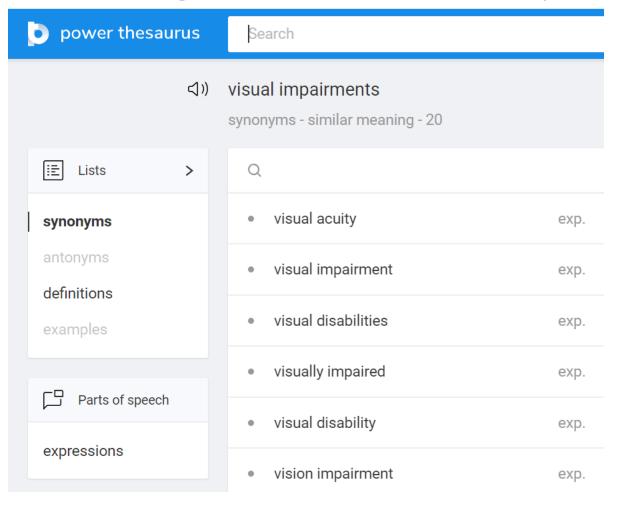# Teaching students with Visual Impairments. Assistive technology

Prof.dr.eng., dr. marketing Angela Repanovici

DECIDE project leader
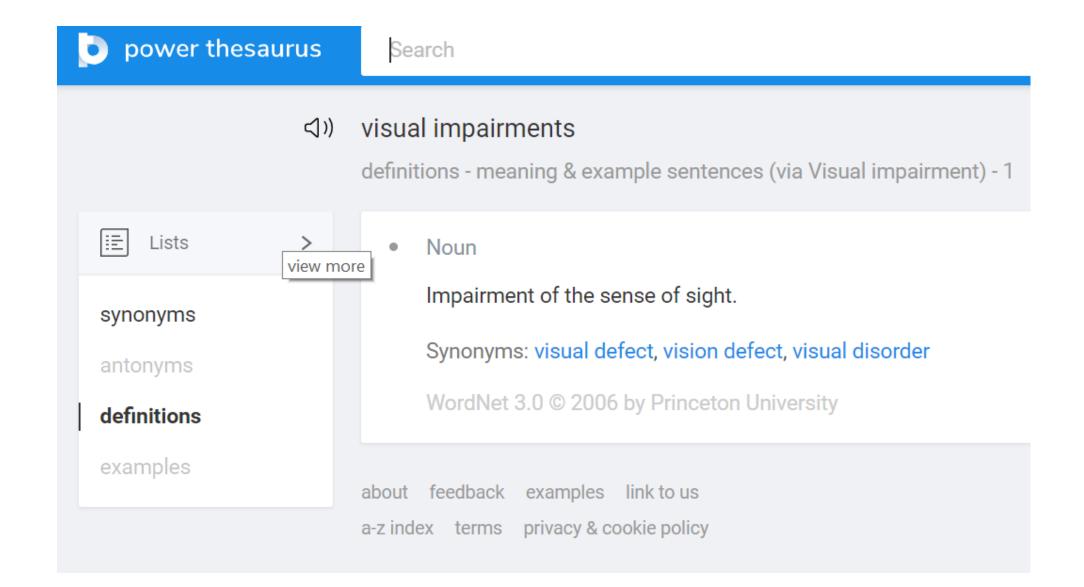
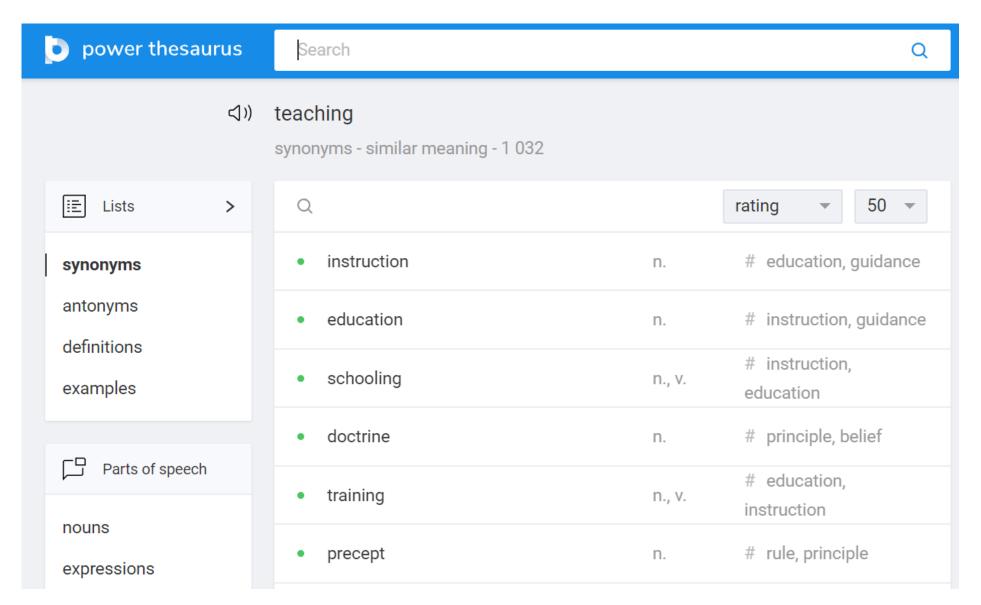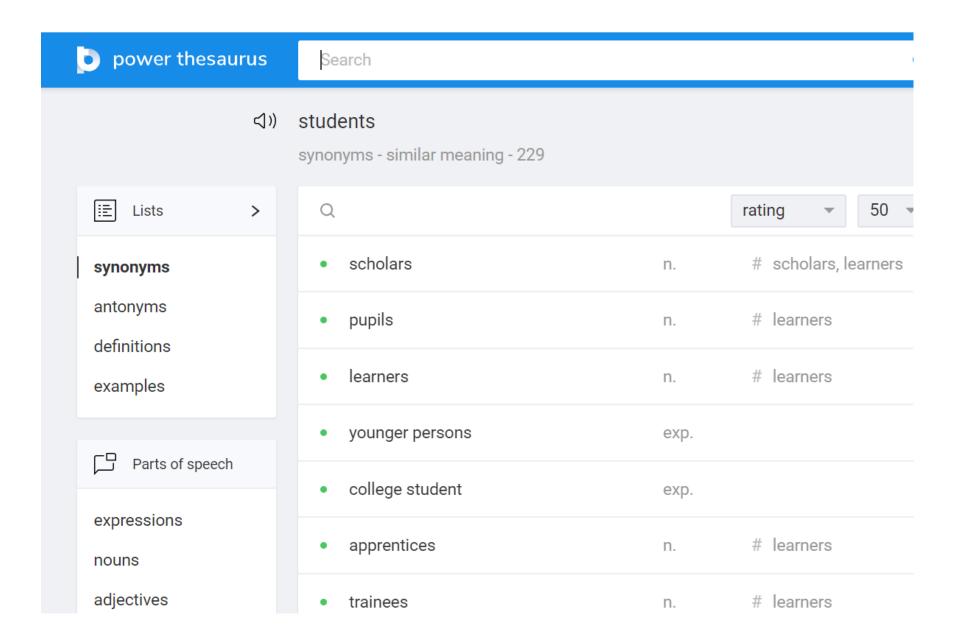Transilvania University of Brașov, Romania

arepanovici@unitbv.ro

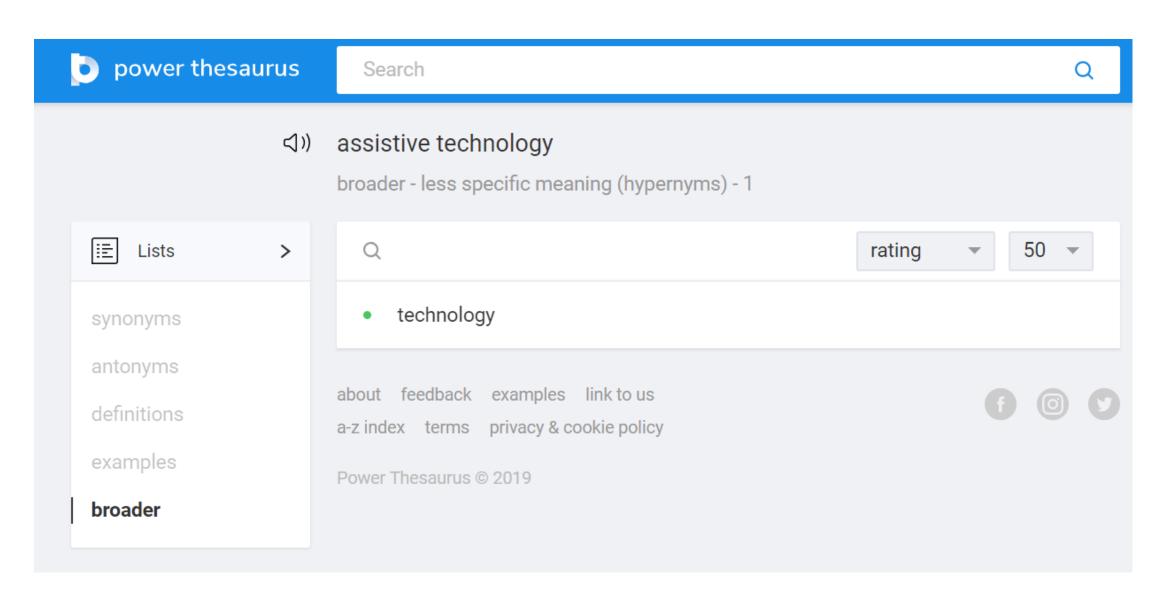# Teaching students with Visual Impairments. Assistive technology

power thesaurus

Search

🔊 visual impairments

synonyms - similar meaning - 20

🔍

📋 Lists >

synonyms

antonyms

definitions

examples

💬 Parts of speech

expressions

- visual acuity — exp.
- visual impairment — exp.
- visual disabilities — exp.
- visually impaired — exp.
- visual disability — exp.
- vision impairment — exp.

- partially sighted people
- low vision
- visually handicapped
- blind
- visual deficiencies
- vision impairments
- sighted people
- sighted persons

- sighted persons
- sight impairment
- partially sighted
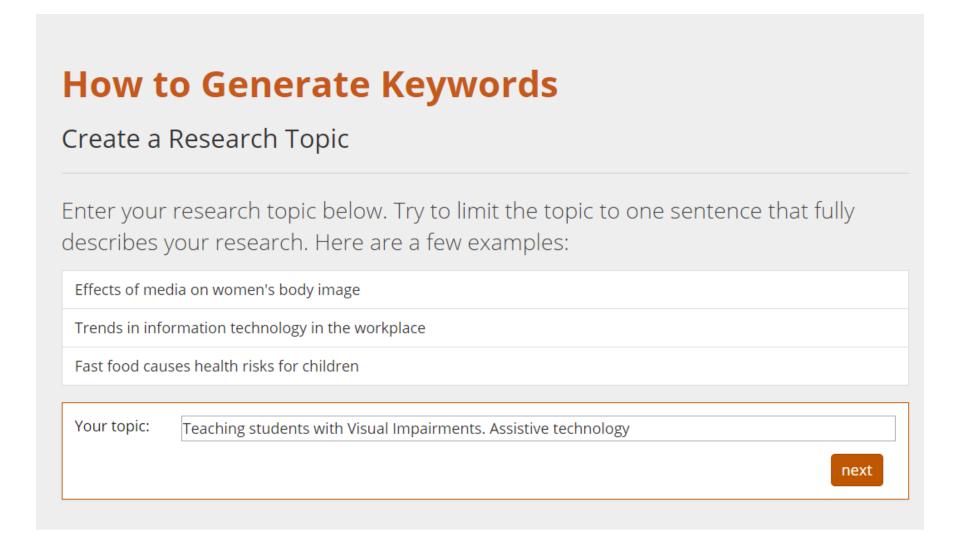- partially-sighted
- vision disabilities

https://www.powerthesaurus.org/

Teaching students with Visual Impairments. Assistive technology

How to Generate Keywords

Create a Research Topic

Enter your research topic below. Try to limit the topic to one sentence that fully describes your research. Here are a few examples:

Effects of media on women's body image

Trends in information technology in the workplace

Fast food causes health risks for children

Your topic: Teaching students with Visual Impairments. Assistive technology

next

https://utdirect.utexas.edu/apps/libraries/key/nlogon

Key Concept 1: Visual impairments

Key Concept 2: Teaching

Key Concept 3: Students

Key Concept 4: Assistive technology

next

How to Generate Keywords

Related Keywords for *Visual impairments*

Your key concepts are:

- Visual impairments
- Teaching
- Students
- Assistive technology

Now, try to list at least 1 related keywords for each of your key concepts. These might be synonyms, broader terms, more specific terms, etc.

Let's begin with your first key concept, *Visual impairments*:

Keyword 1: blind

Keyword 2: low vision

Keyword 3: visual dissability

Keyword 4: visual aquity

Now your second key concept, *Teaching*:

Keyword 1: instruction

Keyword 2: education

Keyword 3: training

Now your third key

Keyword 1: scholars

Keyword 2: learners

Keyword 3: trainees

Now your fourth key concept, *Assistive technology*:

Keyword 1: tehnology

How to Generate Keywords

Your Keywords

Below is the list of keywords you have generated. You can use these keywords as search terms when researching your topic.

Topic	Teaching students with Visual Impairments. Assistive technology			
Key Concepts	Visual impairments	Teaching	Students	Assistive technology
Related Keywords	blind low vision visual dissability visual aquity	instruction education training	scholars learners trainees	tehnology

How to Use Your Keywords

Now that you've created your list of keywords, you will need to combine them using BOOLEAN operators (AND and OR). In your example, the combined keywords would look like this:

Visual impairments OR blind OR low vision OR visual dissability OR visual aquity

AND

Teaching OR instruction OR education OR training

AND

Students OR scholars OR learners OR trainees

AND

Assistive technology OR tehnology

Searching: **Academic Search Complete** | Choose Databases

EBSCOhost

(Visual impairments OR blind OR low vision OR vis   Select a Field (optional) ▾   **Search**

Please enter search term(s).

AND ▾   [   ]   Select a Field (optional) ▾   Create Alert

AND ▾   [   ]   Select a Field (optional) ▾   Clear ?

Refine Results

«

Search Results: 1 - 10 of 84   Date Newest ▾   Page Options ▾   ➔ Share ▾

Current Search

Boolean/Phrase:

(Visual impairments OR blind OR low vision OR visual dissability ...

Limit To

☐ Full Text

☐ References Available

☐ Scholarly (Peer Reviewed) Journals

1949   Publication Date   2019

Show More

1. Preferences and Reading Performance of People with **Low Vision** using a Portable Electronic Magnifier versus a Smartphone Magnification App.

Academic Journal

By: Vezinaw, Chloe M.; Matchinski, Tracy L.; Elias, Saly. *Optometry & Visual Performance.* Mar2019, Vol. 7 Issue 1, p53-58. 6p.

Subjects: REHABILITATION of **blind** people; COMPARATIVE studies; CORRELATION (Statistics); **LOW vision**; READING; RESEARCH funding; SELF-help devices for people with disabilities; T-test (Statistics); **VISUAL** acuity; ACTIVITIES of daily living; AIDS for people with disabilities; SENSORY disorders; PRE-tests & post-tests; SMARTPHONES; MOBILE apps; DESCRIPTIVE statistics

2. Making Physics Courses Accessible for **Blind Students**: Strategies for Course Administration, Class Meetings, and Course Materials.

Academic Journal

By: Holt, Megan; Gillen, Daniel; Nandlall, Sacha D.; Setter, Kevin; Thorman, Paul; Kane, Suzanne Amador; Miller, Christa Hixson; Cook, Chelsea; Supalo, Cary. *Physics Teacher.* Feb2019, Vol. 57 Issue 2, p94-98. 5p. DOI: 10.1119/1.5088469.

Subjects: BLIND students; AMERICANS with Disabilities Act of 1990; STEM **education**; PHYSICS **education**; TEACHERS' assistants; SELF-help devices for people with disabilities

Journal of Visual Impairment & Blindness

5. Improving Observation and Practicum Experiences for a Preservice Teacher with **Visual Impairment** Through the Use of **Assistive Technology**.

Academic Journal

By: Lima, Jonathan M.; Ivy, Sarah E. Journal of **Visual Impairment** & Blindness. Nov/Dec2017, Vol. 111 Issue 6, p587-592. 6p.

Subjects: INTERVIEWING; MEDICAL preceptorship; PROFESSIONAL employee **training**; SELF-help devices for people with disabilities; RATING of **students**; TEACHER-**student** relationships

📄 **PDF Full Text** (152KB)

9. Information Behaviour of **Students** Living With **Visual Impairments** in University Libraries: A Review of Related Literature.

Academic Journal

By: Mutula, Stephen; Majinge, Rebecca M. Journal of Academic Librarianship. Sep2016, Vol. 42 Issue 5, p522-528. 7p. DOI: 10.1016/j.acalib.2016.06.019.

Subjects: INFORMATION-seeking behavior; **STUDENTS** with **visual** disabilities; ACADEMIC libraries; EMPIRICAL research; **STUDENT** assignments; Libraries and Archives

🌐 **Full Text Finder**

13. Art Educators' Use of Adaptations, **Assistive Technology**, and Special **Education** Supports for **Students** with Physical, **Visual**, Severe and Multiple Disabilities.

By: Coleman, Mari; Cramer, E.; Park, Yujeong; Bell, Sherry. Journal of Developmental & Physical Disabilities. Oct2015, Vol. 27 Issue 5, p637-660. 24p. DOI: 10.1007/s10882-015-9440-6.

Academic Journal

Subjects: ART **education**; STUDENTS with disabilities; SELF-help devices for people with disabilities; SPECIAL **education**; SURVEYS; TEACHERS

18. Teachers of **Students** with **Visual Impairments** and Their Use of **Assistive Technology**: Measuring the Proficiency of Teachers and Their Identification with a Community of Practice.

By: Yue-Ting Siu; Morash, Valerie S. Journal of **Visual Impairment** & Blindness. Sep/Oct2014, Vol. 108 Issue 5, p384-398. 15p. 2 Charts, 4 Graphs. DOI: 10.1177/0145482X1410800504.

Academic Journal

Subjects: CORRELATION (Statistics); PROFESSIONS; QUESTIONNAIRES; RESEARCH funding; T-test (Statistics); **VISION** disorders in children; AIDS for people with disabilities; CONTINUING **education** units; COLLEGE teacher attitude; CHILDREN; CALIFORNIA; Professional Organizations

📄 **PDF Full Text** (592KB)

19. Benefits of the use of ICT in school activities by **students** with motor, speech, **visual**, and hearing **impairment**: A literature review.
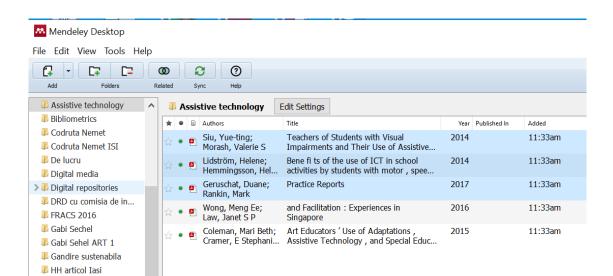
By: Lidström, Helene; Hemmingsson, Helena. Scandinavian Journal of Occupational Therapy. Jul2014, Vol. 21 Issue 4, p251-266. 16p. DOI: 10.3109/11038128.2014.880940.

Academic Journal

Subjects: ACADEMIC achievement; CHILD psychopathology; COMPUTER assisted **instruction**; INFORMATION **technology**; MOVEMENT disorders; SELF-help devices for people with disabilities; SOCIAL participation; SYSTEMATIC reviews (Medical research); CHILDREN; PSYCHOLOGICAL aspects

📄 **PDF Full Text** (266KB)

(Siu and Morash 2014; Lidström and Hemmingsson 2014; Geruschat and Rankin 2017; Wong and Law 2016; Coleman et al. 2015)

Coleman, M.B. et al., 2015. Art Educators ' Use of Adaptations , Assistive Technology , and Special Education Supports for Students with Physical , Visual , Severe and Multiple Disabilities. , pp.637–660.

Geruschat, D. & Rankin, M., 2017. Practice Reports. , (December), pp.587–593.

Lidström, H. & Hemmingsson, H., 2014. Bene fi ts of the use of ICT in school activities by students with motor , speech , visual , and hearing impairment : A literature review. , (January), pp.251–266.

Siu, Y. & Morash, V.S., 2014. Teachers of Students with Visual Impairments and Their Use of Assistive Technology : Measuring the Proficiency of Teachers and Their Identification with a Community of Practice. , (October), pp.384–399.

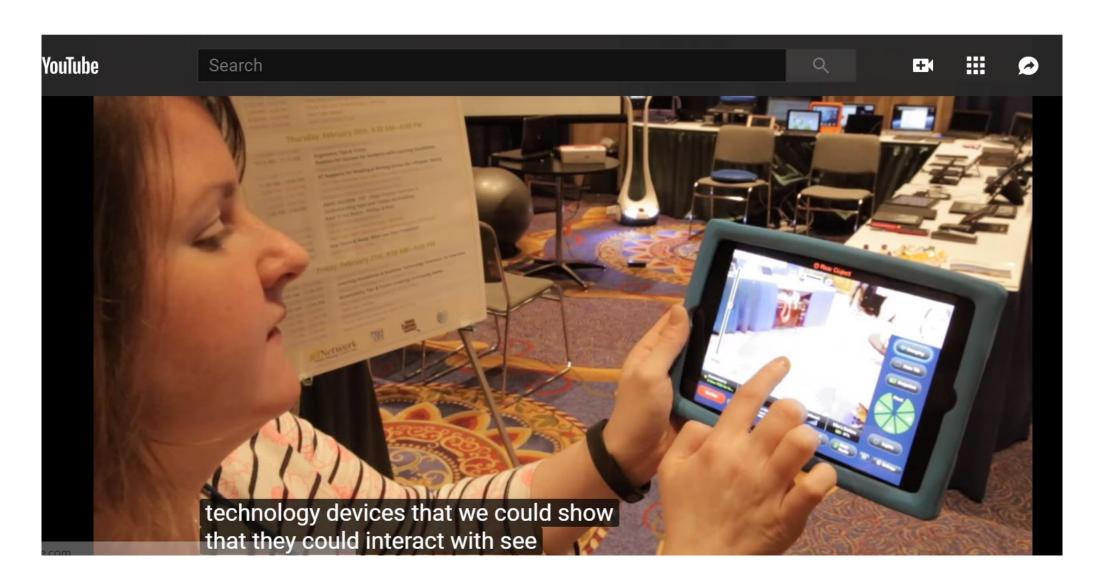Wong, M.E. & Law, J.S.P., 2016. and Facilitation : Experiences in Singapore. , (June), pp.195–201.

https://www.youtube.com/watch?v=lfMhGvETVwI

Search Paths to Technology

Fulltext Search [   ] [Search]

Devices	Format	Peripherals	Learning Medium
iOS iPad/iPod/iPhone (770)	Resources (1284)	Refreshable braille display (171)	Auditory Learner (910)
Windows Computer (326)	Teaching Strategies and Activities (765)	Keyboard (70)	Visual Learner (756)
Android tablet/phone (278)	Personal Experiences (722)	Switch (22)	Tactile Learner (471)
Mac Computer (257)	Video (Created by Adult) (372)		Learner with Multiple Disabilities (179)
Other (81)	Manuals/Commands (351)		Learner with Physical Disabilities (158)
ChromeBook (66)	News (185)		Emerging Reader (127)
Windows 10 (47)	Software Updates (121)		Learner with Deafblindness (64)
Braille NoteTaker (46)	Article/Research (55)		
iOS 11 (17)	iBooks (52)		
Chrome OS (9)	Audio Clip (4)		

Perez, L. (May/June 2015). From accommodation to accessibility: Creating learning environments that work for all, *EDUCAUSE Review,* 50 (3).

Review the following sections in the report World Health Organization: World Report of Disability, World Health Organization and World Bank.
•Understanding Disability (pgs 1-10)
•Disability-A Global Picture (pgs 19-46)

Disability Statement Definition

A statement placed on course syllabi indicating a faculty member's willingness to provide reasonable accommodations to a student with a disability.

An example disability statement that can be used/adapted for course syllabi:

Any student who feels s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office for Disability Services at 614-292-3307 in room 150 Pomerene Hall to coordinate reasonable accommodations for students with documented disabilities.

https://www.ada.gov/ada_intro.htm

Americans with Disabilities Act, as amended

The text of the law

Title II Regulations

The Department of Justice regulations that implement the ADA for state and local goverments

Title III Regulations

The Department of Justice regulations that implement the ADA for businesses and non-profit service providers

ADA Standards for Accessible Design

Enforceable standards under Titles II and III for new construction, alterations, program accessibility, and barrier removal.

Regulations Under Development

Find out more about any new regulations proposed by the Department as well as the Department's ADA Regulatory Agenda.

Guide to Disability Rights Laws

Find out more about the ADA and other laws that protect the rights of people with disabilities.
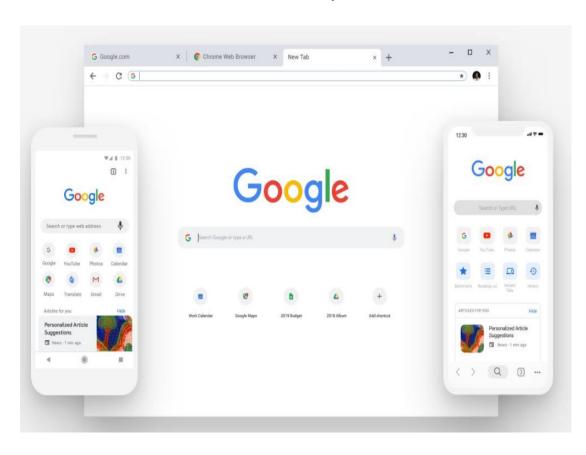
ADA Technical Assistance Materials

Information about the ADA and how to comply with the law

Screen reader

A **screen reader** is a form of assistive technology (AT)[1] which is essential to people who are blind,[2] as well as useful to people who are visually impaired,[2] illiterate, or have a learning disability.[3] Screen readers are software applications that attempt to convey what people with normal eyesight see on a display to their users via non-visual means, like text-to-speech,[4] sound icons,[5] or a Braille device.[2] They do this by applying a wide variety of techniques that include for example interacting with dedicated accessibility APIs, using various operating system features (like inter-process communication and querying user interface properties) and employing hooking techniques.[6]

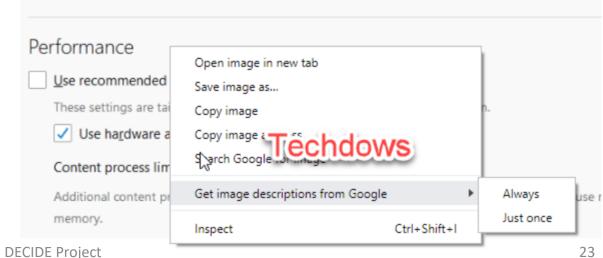# Google Chrome will soon allow users with screen readers to search for captions

TECHDOWS

Chrome to allow Screen Reader users to get image descriptions from Google

Last Updated: March 16, 2019   *By* VENKAT   *in* GOOGLE CHROME, NEWS   NO COMMENTS

Tags: ACCESSIBILITY

Soon screen reader users can ask Google Chrome to fetch image descriptions from Google, for "always" or "once" via an option in the image context menu. If selected, the image descriptions can always be read automatically by a screen reader or for that time only, this feature can be turned off later by going to Accessibility Settings.
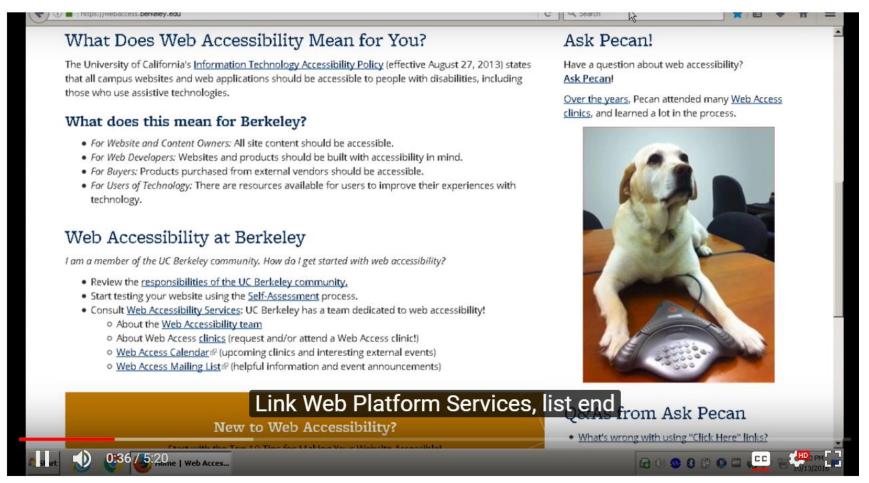
https://youtu.be/fBuPswP0B_M

New Perkins exhibition uses 3D printing to 'make sense of the ways we read'

"Touch this Page" teaches a modern lesson using 19th century literacy tools

Perkins School for the Blind is co-hosting an exhibition about multisensory reading experiences to showcase how the written word has historically been made more accessible to people with vision loss.

Hosted in collaboration with the Boston Public Library, Harvard and Northeastern Universities, the exhibit – titled "Touch this Page! Making Sense of the Ways We Read" – primarily features 3D-printed replicas of historic accessible books from Perkins' own archives.

"Touch this Page" enables sighted and non-sighted visitors alike to experience some of the earliest reading adaptations

touch this Page
making sense of the ways we read

ABOUT

Exhibition: Making Sense of the Ways We Read / Welcome to "Touch This Page!"

Welcome to "Touch This Page!"

Listen to Welcome to "Touch This Page!"

▶ 0:00 / 4:50 🔊 ⋮

Welcome to Touch This Page audio.wav

How are you reading these words?

3D printing file

Download the associated STL file for Welcome to "Touch This Page!"

DOWNLOAD

3D printing instructions ➤

Text file

Download the text description associated with Welcome to "Touch This Page!"
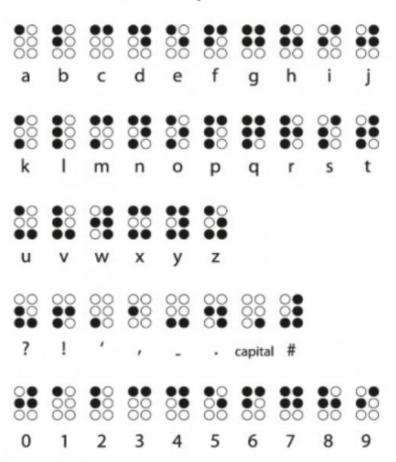
DOWNLOAD

New Testament
by touchthispage-models

https://www.touchthispage.com/exhibition/welcome-touch-this-page
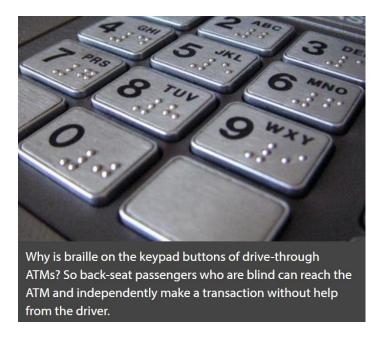
10 things you probably don't know about braille

Braille Alphabet

a b c d e f g h i j

k l m n o p q r s t

u v w x y z

? ! ' , - . capital #

0 1 2 3 4 5 6 7 8 9

Why is braille on the keypad buttons of drive-through ATMs? So back-seat passengers who are blind can reach the ATM and independently make a transaction without help from the driver.

January is National Braille Literacy Month, so it's the perfect time to explore the world's most popular tactile reading and writing system.

Braille is named after its creator, Louis Braille, and uses combinations of raised dots to spell out letters and punctuation. Around the world, people who are blind read braille with their fingertips and can write it using devices like the Perkins Brailler. But that's not the whole story about braille. For example…

1. Braille started out as a military code called "night writing." It was developed in 1819 by the French army so soldiers could communicate at night without speaking or using candles. Fifteen-year-old French schoolboy Louis Braille learned about the code, and eventually developed the more usable, streamlined version of the braille alphabet we know today.
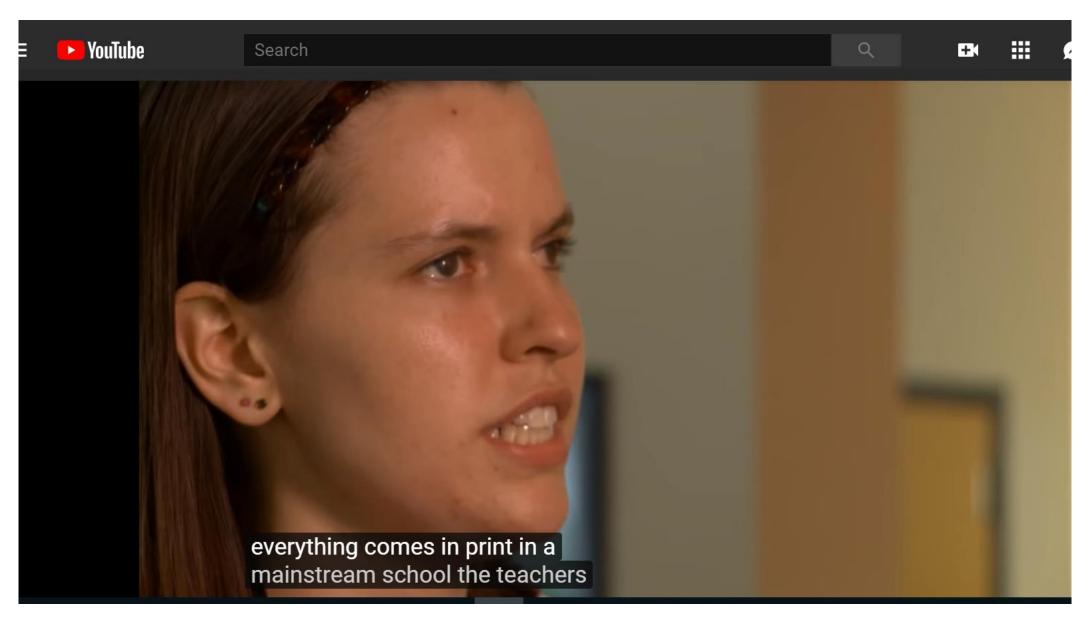
2. There's an <u>asteroid named Braille</u>. In 1999, NASA's Deep Space 1 probe flew past an asteroid while on its way to photograph the Borrelly comet. NASA named the asteroid "9969 Braille" in honor of Louis Braille.

3. Braille takes up more space than the traditional alphabet, so <u>braille books are much larger than their print counterparts</u>. "Harry Potter and the Goblet of Fire" is 10 volumes in braille, the "New American Bible" is 45 volumes and "Webster's Unabridged Dictionary" is a shelf-hogging 72 volumes.

4. <u>Braille is not a language</u>. It's a tactile alphabet that can be used to write almost any language. There are braille versions of Chinese, Spanish, Arabic, Hebrew and many other languages.

5. Most people who are blind <u>don't know braille</u>. In 2009, National Federation of the Blind cited statistics indicating that only 10 percent of Americans with blindness can read braille. That number has been falling as more people with visual impairments use audio books, voice-recognition software and other technology to read and write. However, the same study found that braille-literate people are more likely to attain higher levels of education and be employed.

6. There's a braille "Olympics." It's the annual Braille Challenge for students who are blind, sponsored by the Los Angeles-based Braille Institute. More than 1,400 students from the U.S. and Canada test their braille skills in categories like reading comprehension, proofreading and spelling. Winners in each age group walk away with monetary prizes – and braille bragging rights for a year.

7. Just because you're blind doesn't mean you don't have to learn math. There's a special version of braille just for mathematics called the Nemeth Code. It was invented by Dr. Abraham Nemeth and can be used to transcribe math, algebra and calculus.

8. Braille is the surprise plot twist in the 2010 movie "The Book of Eli." In the movie, Denzel Washington plays a loner who wanders through a violent post-apocalyptic wasteland with the last known copy of the Bible. At the end, you find out that the Bible is in braille and Washington's character is blind.

9. There are two versions of braille – <u>contracted and uncontracted</u>. In uncontracted braille, every word is spelled out. Contracted braille is a "shorthand" version where common words are abbreviated, much like "don't" is a shorter version of "do" and "not." Most kids start with uncontracted braille and then learn the contracted version.

10. There's a good reason why <u>braille is on the keypad buttons of drive-through ATMs</u>. The Americans with Disabilities Act (ADA) mandates that all ATMs must be accessible to people with visual impairments, and drive-through ATMs aren't exempt. That's so passengers who are blind, travelling in the back seat of cars or taxis, can reach the ATM and independently make a transaction without assistance from the driver.

10 things you probably don't know about BRAILLE

Braille is named after its creator, Louis Braille, and uses combinations of raised dots to spell out letters and punctuation. Around the world, people who are blind read braille with their fingertips and can write it using devices like the Perkins Brailler. But that's not the whole story about braille.

https://youtu.be/tv6sWAGSF2c

https://youtu.be/moiKTwxFyIU
The Central Library for the Blind

Рақмет сізге! Rahmat! Сипос!

Mulțumesc!

Thank you!

Go raibh maith agat! Ευχαριστώ!

Vielen Dank!