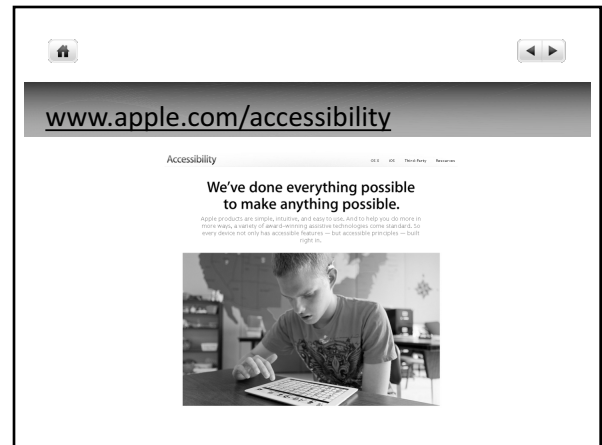
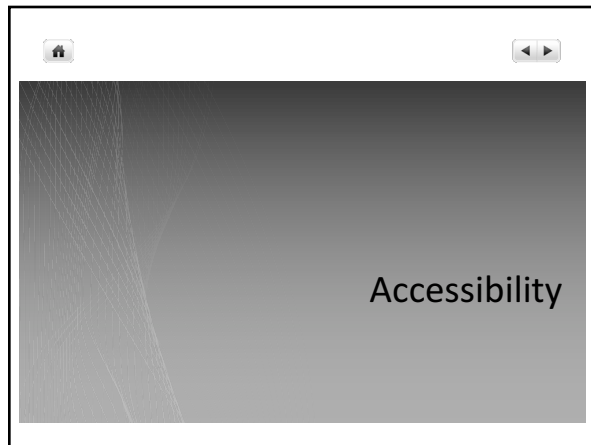
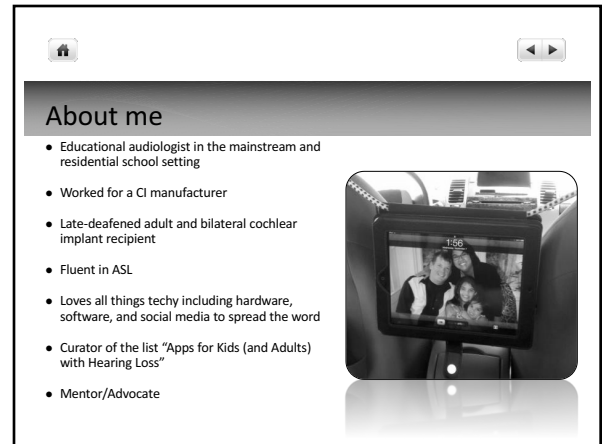
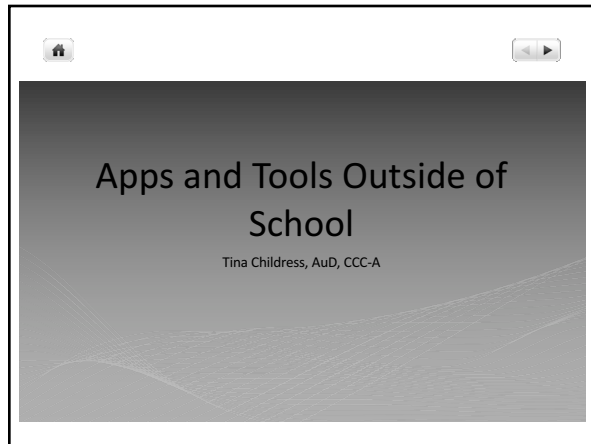




Hearing

- Closed Captioning for movies on iTunes
 - Can search in iTunes on iDevice or computer by using "closed caption" (but with no quotes)
 - CC not on Previews!





<http://support.apple.com/kb/ht4613>

Hearing

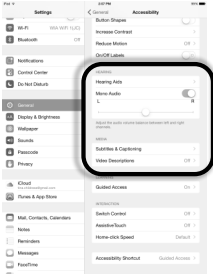
- Mono Audio
 - Route both L/R channels to each ear, adjust volume balance for L/R channels
- Notifications
 - Badges and banners
 - Flashing lights and vibrations
- Siri
 - Can use an AAC app to voice to Siri





<http://support.apple.com/kb/ht4613>

Where do I find these features?



Advantages and Concerns

Some advantages of iDevices

- Portable
- Easy to manipulate
- Stimulating
- Many apps to choose from
- Popular
 - Many accessories
 - Speakers, cases, stands, etc.
 - Can connect to aux input in car
- Commonly used in schools
 - Ability to access e-(text)books
 - Special education
- Good contrast for those with vision impairment
- Multi-modal (auditory / visual / tactile)



Prolonged and Sustained Use is Contributing to Early Hearing Loss

MAXIMUM IPOD LISTENING TIME PER DAY GUIDE
(Table Based on Figor and Portnuff, 2006)

% of Volume with Headphones	Maximum Listening Time per Day
100	5 Minutes
90	18 Minutes
80	1.2 Hours
70	4.6 Hours
60	18 Hours
10-50	No Limit



<http://www.generationdeal.com/>



Output Limiting devices (≤ 85 dB)

- Puro headphones
 - <http://www.purosound.com/>
- KidzSafe Headphones and earbuds
 - <http://www.kidzsafeaudio.com/>
- ETY-Kids5
 - <http://www.etymotic.com/ek5.html#>



Tips for Purchasing Apps



What should I look for?

- What's your goal for the app?
 - Check out my App List for options and reviews
- Ability to see screen images
- Ease of manipulating the screen
- Record keeping
- Price
- Genuine vs. Gimmicky





Things to Remember

- Once you buy an app, it's YOURS
 - Even if you delete it off of your device – it's still in the iTunes store
- Apple ID → up to 10 devices → 5 can be computers
- **Apps are being developed and retired every day**
- Update your apps
 - Ensure compatibility with your current iOS
- If you're having a hard time updating or downloading app, your iPad may be out of memory
 - Delete unused apps
 - Upload media to your computer or the Cloud
 - Special flash drive





Places to Go Shopping for Apps



Favorite Places to "Shop"

- iTunes
 - Insert search term (e.g., deaf, text, listening therapy)
- Google Alerts
 - Possible search terms in any combination: app, iTunes, deaf, hearing loss, hearing impaired, blind, vision, memory...
- <http://AppShopper.com>
 - Wish list
 - Will alert you if price goes down



Facebook

- Get daily updates via Newsfeed
- Great place to read reviews
- "Events" where they give away:
 - Promo codes
 - iTunes cards
 - iDevices(!)
- May need to do tasks like follow them on Twitter, like a certain page, share a post, etc.
- Especially during long weekends, holidays, and Fridays
- April/May (BHSM) and October/November (ASHA Conference) are popular months for events





Blogs, Websites, and Social Media

- Search for ones that look at a variety of developers in an area of interest to you
- Sometimes done by a single developer
- Sign up for their newsletters or emails
- See if they have a facebook page, Pinterest page, YouTube channel, or Twitter account
- Consider becoming a reviewer = FREE APPS!







Accessories



Quattro 4.0 Amplified Bluetooth Neckloop

- Caller ID is visible
- Removable Bluetooth omnidirectional microphone



<http://www.clearsounds.com/node/172>



Streamers

- Connect devices via Bluetooth
- Some allow you to attach and FM/DM receiver to the bottom
- Only works with specific companies





Direct Audio Input

- Hearing aid users
 - Will need an audioshoe (adapter) with 3-hole plug
- Monster iSplitter 1000
 - Allows two people to listen to the same signal
 - Separate volume controls
- Cochlear implant recipients
 - **WARNING:** if using with a cochlear implant recipient, device must be battery-operated (NOT powered by a plug into the wall)
 - Each manufacturer has their own proprietary cables



Ableplanet Headphones

- Many products to choose from (e.g., standard, noise-canceling headphones, wireless, bone-conduction, infrared, Bluetooth)
- Designed for people with hearing loss so less likely to have interference
- Cupped style is still recommended



<http://shop.ableplanet.com>

HearAll Cellphone Amplifier

- Amplifies up to 40 dB
- Connects to your cellphone via Bluetooth
- Includes a clip for your car visor
- Ways to hear:
 - Use as a handset or speakerphone
 - Use T-coil setting



Serene Innovations RF-200 Cell Phone Signaler

- Works with cell phones and landline phones
- For cell phones, place the phone on the RF-200 cradle and it will flash when it detects the vibration of your cell phone
- Unique flashing patterns to distinguish between incoming calls or messages
- Indicator light lets you know when you have missed calls or messages
- Detects and alerts to WEA (Wireless Emergency Alert) public emergency broadcast warnings (if provided by wireless carrier)
- USB port for charging cell phone
- Ringer tone Hi-Lo-Off
- Bed shaker jack (bed shaker not included)
- AC powered with battery backup (4 AA batteries not included)



Wearable accessories

- General use
 - Check email/texts/facebook, etc.
 - Set alarms/receive notifications
- Specific to hearing loss
 - Control settings on hearing aid (cochlear implants?)
 - Use with apps that listen to sounds in the environment
 - Being adopted by the DeafBlind community



App List for Kids (and Adults) with Hearing Loss

The App List (<http://bit.ly/Apps4HL>)



- Accessibility
- Advocacy
- Audiology
- Classroom Tools
- Hearing Test
- Listening Therapy
- Media Player
- Personal Amplifier
- Sign Language
- Sound Level Meter
- Speech/Language
- Telecommunication
- Master List*
- Resources (e.g., favorite developers, blogs, and websites)

Apps for Kids (and Adults) with Hearing Loss						
View only						
A	B	C	D	E	F	G
	Title	Cost	Short description	Category	Company website	Date added to this list
SB HT	See Us All	\$9.99	Video resource with lots of pictures and animations. Note that this is an eBook, not an app, so you'll need to open this in iBooks.	Audiobooks	http://childrenspublishing.com/	7/8/2014
	See Us All	Free	Meant to be used in conjunction with HEAR, it's a non-invasive way to test a baby's hearing using the mother's voice to present Ling Sounds. Includes video for step-by-step instructions, user manual and a sound level meter.	Audiobooks, Hearing Test	http://www.seeusallapp.com/	4/7/2014
	See Us All	Free	This app is NOT accurate, funny way to show how to be an ear doctor.	Audiobooks	http://www.seeusallapp.com/	4/7/2014
	See Us All	Free	This app is NOT accurate but is a pretty funny way to depict some parts of a common implant surgery - they don't show half of your hair off anymore!	Audiobooks	http://www.seeusallapp.com/	4/7/2014
	See Us All	Free	Establishing app from Advanced Bionics with lots of tips and video clips for using the Bionics CI Q70.	Audiobooks	http://www.advancedbionics.com/ci70/	4/7/2014
	See Us All	Free	Two stories - See gets hearing aids and See gets a "Pinger" system. Not available on iTunes - must download using text. See also app that includes sound presentations for audiograms that you can hear. Animations of hearing in noise with and without FSK, examples for children as well as adults, counseling tools.	Advanced Audiobooks, Hearing Test	http://www.seeusallapp.com/ci70/	4/7/2014
	See Us All	Free	My favorite feature of this app is being able to enter in an audiogram and video is a variety of environments through the simulated hearing loss.	Advanced Audiobooks, Hearing Test	http://www.seeusallapp.com/ci70/	4/7/2014
	See Us All	Free	This is a variety of content audiograms that you can enter information.	Audiobooks	http://www.seeusallapp.com/	10/23/2013

Accessibility

- Voice-to-Text and Text-to-Voice
- Visual alerting systems
- Emergency notifications
- Subtitles






Google Translate

- Translate from one language to another
- Speak in one language and it will come up in another language
- Uses voice recognition software so must have an Internet connection (WiFi or data)
- Can listen to your voice again
- Can use to take pictures of signage



Google Translate

how would you like your coffee

¿Cómo te gusta el café?

English Español

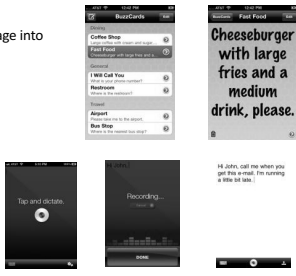
Ava

- Leverages cellphone use and voice recognition technology in group settings



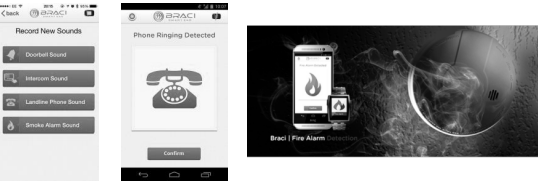
Text based communication

- BuzzCards
 - User types their customized message into phone and it shows in big font
- Dragon
 - Voice-to-text



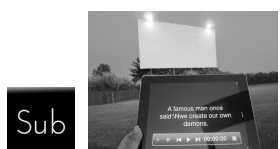
Braci

- Listens to the environment and can alert you on your cellphone, tablet or Pebble Watch



Captioning resources

- Subtitles Viewer!
 - For instances where no captioning is provided
 - Searchable database of captions for movies and TV shows
 - Rely on accuracy of others
 - WiFi/data needed to download the file and save to your iDevice but it's not needed to play it
 - "supposed" to be synced



Advocacy

- Materials to use with students



Sketch

- Take a picture of an environment and make notations (e.g., strategic seating)



RTS – Advocacy Board Game



Amplifier Apps

- Must-read article by Sam Atcherson (cited below)
- Out of 17 apps that were evaluated, 5 of them have OSPL90 values in excess of 130 dB
- Favorites based on ease of use, little to no acoustic delays (echoes), overall sound quality:
 - EARS
 - SoundAMP R
 - eHear
 - Microphone



<http://techdemon.wordpress.com/2012/06/04/amplifier-apps-for-consumers-with-hearing-loss-are-they-worth-it-part-one-by-sam-at-atcherson/>

Audiology – Cochlear Implants

- Advanced Bionics
 - <https://itunes.apple.com/us/artist/advanced-bionics-llc/id533826496>
- Cochlear Americas
 - <https://itunes.apple.com/us/artist/cochlear-ltd/id489503787>
- Med-El
 - <https://itunes.apple.com/us/artist/med-el/id455935145>
- Troubleshooting
- Listening Therapy
- Other resources



Not your grandpa's hearing aid...

- <https://support.apple.com/en-us/HT201466>
- Several manufacturers are working with Apple on this project
- Specific hearing aid manufacturers and models will interface with the iPhone directly (i.e., sans intermediary device)




Audiology – Hearing Aids

- Oticon
 - <https://itunes.apple.com/us/artist/oticon-a-s/id815526994>
- Phonak
 - <https://itunes.apple.com/us/artist/phonak/id621383955>
- ReSound
 - <https://itunes.apple.com/us/artist/resound/id585579327>
- Starkey
 - <https://itunes.apple.com/us/artist/starkey-laboratories/id336622271>
- Widex
 - <https://itunes.apple.com/us/artist/widex-a-s/id514579854>



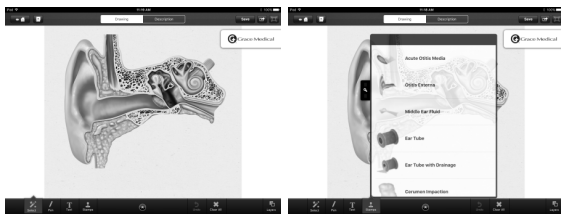
Audiology Counseling

- drawMD ENT
 - stamps
- Ear Anatomy
 - think of the poster in your office
- Ear ID
 - animations
- Alta Diary
 - Keep track of sounds you like/don't like






DrawMD ENT



Classroom tools

- Classroom organization, sharing screens
- Kid-friendly sound level meters
- PDF tools – picture to PDF, writing on PDFs
- Social story creator
- Web browsers that play Flash







Examples

- Super Duper Data Tracker
 - Multiple Students / Multiple, customizable goals
 - Calculates percentage
 - Email results
- Vocabulary Tracker Pro
 - Keep track of how many words your student uses




Hearing Loss Simulator

- As with all simulations, must remember they are SIMULATIONS
- Some are designed to guide you towards a product
- Starkey HLS
 - Different configurations and a variety of listening environments



Simulations (audio or video) - online

- Bookmark your favorite sites for audio and video demonstrations
 - <http://del.icio.us/hlpuears/simulation>
 - <http://successforkidswithhearingloss.com/demonstrations>
- Will need Internet access
- Make sure you are using a compatible browser for Adobe Flash content
 - Puffin
 - SkyFire
 - Photon Flash
 - Browse2Go
 - iSwifter
 - Rover



Listening Therapy

- Largest section
- Awareness/Discrimination/Identification/Comprehension
- Quiet/Noise
- Books, games, exercises
- Customizable
- Data tracking built-in many of them







Listening Therapy

- AB CLIX
 - Start out with pre-assessment
 - Can track progress
- Auditory Verbal
 - Ling Sounds
 - Can track progress
- Auditory Workout
 - Following multi-step directions
 - Can track progress
- Hear Coach
 - Words / Numbers
 - Can track progress
- iAngelSound
 - Customizable
 - Can track progress
- Rehabilitation Game by Neurolec
 - Detection / Discrimination / Identification

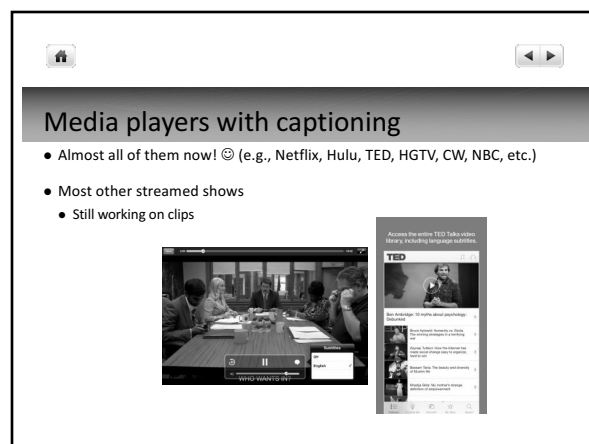
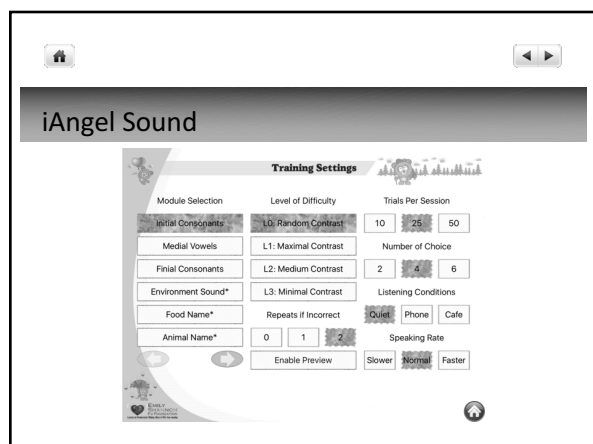
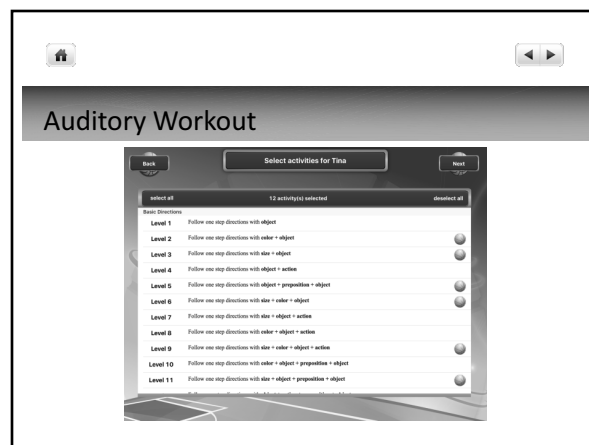
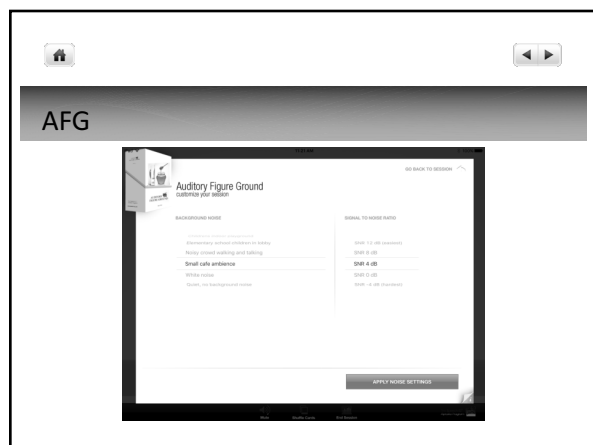
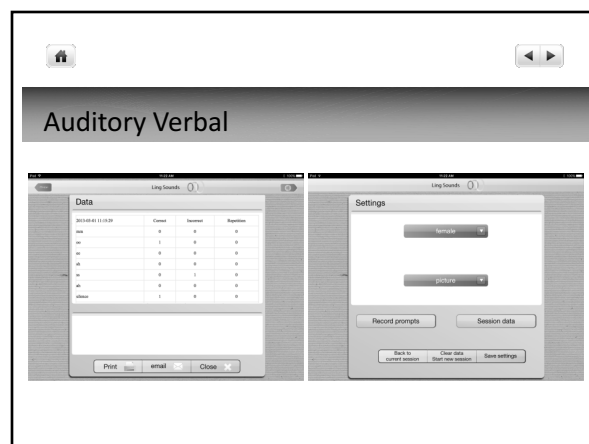
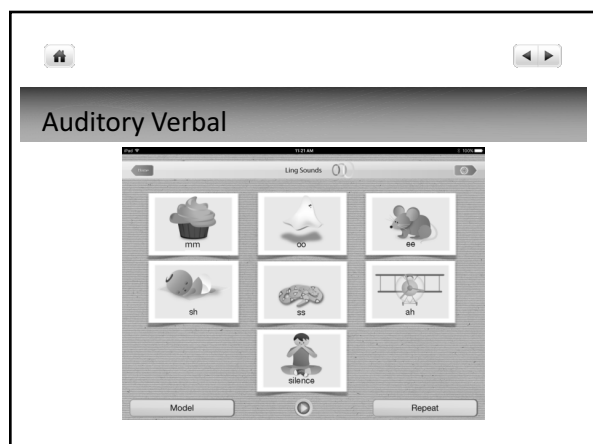
Listening Therapy

- Learning English apps
 - Voice of America Wordbook
 - www.voanews.com
 - Test of English for International Communication (TOEIC) – Listening & Reading
 - Used for businesses and educational institutions
 - Variety of apps are available from different developers
- Mango Library
 - Learn a variety of languages!
 - Check with your local library
- Audible
 - Audiobook subscription services
- iTunes
 - Audiobooks
 - Podcasts



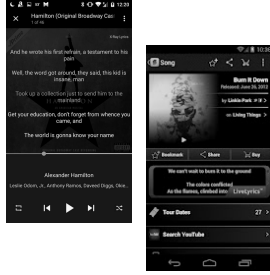




Music with lyrics

- Pandora
 - Internet radio
 - Desktop app will display lyrics
- Amazon Prime
 - X-ray Lyrics
- SoundHound, Shazam, MusixMatch
 - Listens to a song and will tell you
 - Name of the song
 - Artist
 - Album
 - Lyrics that are synced (if available)

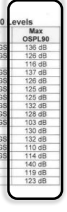


Personal amplifier

- For demonstration purposes – I always recommend seeing a professional
- May be the first step to being more aware
- CAUTION
 - Many of these apps can get too loud
 - <http://aubankaitis.com/?p=3535> (great article that discusses which apps are safe)

Table 1. Amplifier Apps and Their Measured Maximum OSPL90 Levels

App	Developer and Version	Price	Device	Max OSPL90 Levels
EARs	Ear Machine, v1.5	\$3.99	iPhone 3GS	126 dB
Ear Trumpet	Praxis Medicines, v1.0.5	\$3.99	iPhone 3GS	126 dB
EarHearHearHear	Kent Orinabo, v1.2	\$11.99	iPhone 3GS	126 dB
hear	MLA Mobile, v1.5	\$2.99	iPhone 3GS	127 dB
Hear	Loudly Apps, v1.2	Free	iPhone 3GS	126 dB
Hearing Aid	TAV Engineering, v1.0.2	\$1.99	iPhone 3GS	126 dB
HearClear	GrayWin, v1.0.2	\$2.99	iPhone 3GS	126 dB
HearClearly	Newport Avenue Group, v2.0	\$1.99	iPhone 3GS	126 dB
Hearing Aid	Hogreen Yang, v1.1	\$2.99	iPhone 3GS	126 dB
Microphone	Undercover Scientist, v1.02	\$0.99	iPhone 3GS	126 dB
Microphone	Reuben Big, v1.2	\$1.99	iPhone 3GS	126 dB
Microphone	PocketLab, v1.0.1	\$1.99	iPhone 3GS	126 dB
SoundAMP Lite	Ginger Labs, v2.14	\$0.99	iPhone 3GS	126 dB
SoundAMP R	Ginger Labs, v2.14	\$4.99	iPhone 3GS	126 dB
Super Hearing	Slings, v1.1	\$0.99	Android X	140 dB
VirtuAMP	Andro X, v1.1	Free	Android X	118 dB
VirtuBina Hearing Aid	VirtuBina, v1.0	\$0.99	Android X	123 dB

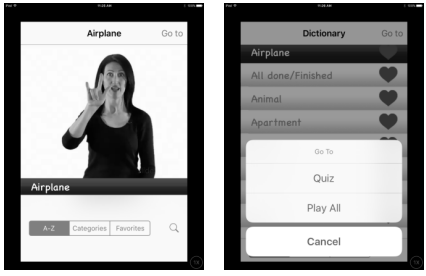



Sign language

- Marlee Signs
 - Free app with In App Purchases for other sets of vocabulary
- My Smart Hands
 - She describes HOW to make the signs
 - Quiz mode
- Fingerspell
 - Good for receptive practice
 - Slow → Deaf mode
- Everyday ASL series
 - Lots of vocabulary and idioms in their various apps



My Smart Hands



Sound level meters

- Caveats
 - Not as accurate as a professional SLM
 - Often need to be calibrated
 - Can be done somewhat crudely in our booth
 - They have been around +20 dB on average for me
 - See App List for comments about calibration
 - Many are gimmick-y



https://docs.google.com/spreadsheets/ccc?key=0Ajm1wq25X9dFFINGNvOHFu4HbNvX3Q3N3QU5UM1EhI=en_US&gid=11

Sound level meters

- TooLoud?
 - iTunes
 - Banner comes up when too loud
- SoundMeter+
 - Gives narrative at the bottom explaining the current listening environment




Speech/Language

- This list is NOT comprehensive
- Articulation
- Voice monitors
- Language expansion
- Lists of phonemes/words
- I will be adding more on APD





Telecommunications

- Video Relay Service (VRS)
 - Z VRS
 - Purple VRS
 - Sorenson nTouch
 - Convo Mobile
- Captioned Telephone
 - Hamilton CapTel
 - ClearCaptions
 - InnoCaption









InnoCaption

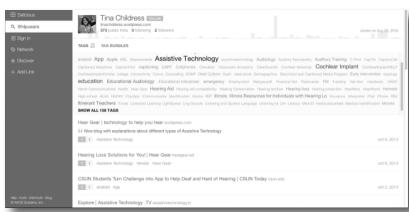
- Uses a live person (CART writer) to provide the text of the conversation
- Does NOT use voice recognition technology like other apps



Resources

http://del.icio.us/hlpuears

- Scores of links related to hearing loss
- Searchable via tags



Teachers Pay Teachers

- Lots of activities (e.g., worksheets, folder games) to choose from, especially for SLPs and TODHH
- Sign up to follow your favorite developer to find out about deals and sales
- Save the PDFs onto your iDevice and use them there instead of printing to save paper



http://www.teacherspayteachers.com/