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Five Technologies Deaf and Hard of Hearing Persons Use to Communicate

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Digital technology and the web have transformed how persons who are deaf or hard of hearing communicate with one another and the wider world.

Texting, online video chat, and sign language-to-text translation software continue to expand both communications and career options for those with hearing loss – a population now estimated at 32 million in the United States.

At the same time, traditional technologies such as TTY seem more antiquated with each passing month. Today, a deaf college student is far more likely to text or use FaceTime on their iPhone than call a service to have an operator speak their typed words to a hearing person. Course content is more often copied from a classmate – perhaps assigned by Disability Services – than read from the teacher's lips.

Technology poses challenges for those who prefer to lip read rather than use American Sign Language. Video speed and resolution on mobile apps is often high enough to sign, while even slight delays can make lip reading difficult. In these cases, such as when a Skype video call isn't too pixilated, the hearing person must use the chat box.

Following are five common methods deaf and hard of hearing persons use to communicate.

1. Amplified Phones

For persons who are hard of hearing, amplified telephones can provide the additional volume needed to make phone conversations more accessible and enjoyable. Most amplified phones have extra-loud ringers, are hearing-aid

compatible, and include features such as talking caller ID, visual ringers, large or illuminated numbers, and neckloop or headset jacks.

One popular model is the Clarity XLC2 DECT 6.0, an amplified cordless phone whose handset has a full-duplex speakerphone with a concave earpiece that amplifies voices up to 50 decibels (dB). The ringer amplifies to 95 dB. The XLC2 is also easy to see, with large, backlit buttons and a bright visual ringer. It features visual voicemail alerts, talking caller ID, auto-boost amplification, and a 3.5 mm neckloop jack.

2. FaceTime Video Calling

FaceTime, Apple's video calling software, provides the closest equivalent to a traditional phone call. It runs on Mac OS X machines (version 10.6.6 or higher) and iOS devices with a forward-facing camera. FaceTime's resolution (720 horizontal lines and a 16:9 Aspect Ratio on newer Macs) and processing speed (plenty fast to sign and lip read) make it one of the most popular communications methods among persons who are deaf.

To call a contact's iPhone, click their phone number. Click their email address to call their iPad, iPod touch, or Mac. An invitation is sent out, which, if accepted, initiates a video call. Once a call begins, the window frame and controls fade away. You can view the person you're calling in full screen or picture-in-picture mode, in which your image appears as well. FaceTime requires an Apple ID and an email address. It also requires Wi-Fi, which can limit availability.

3. iChat

iChat – built into Apple's OS X operating system – is a Skype-like instant messaging application that facilitates online chatting between two people or among groups. For Mac users who are deaf or hard of hearing, iChat offers a videophone alternative with resolution high enough for both lip reading and signing. iChat requires a mic and video camera. Most Macs come with both built in, but you can also use external ones. You will also need Internet access and an account with a messaging service such as AIM (AOL Instant Messenger, which is free), Google Talk, iCloud, MobileMe, or Yahoo.

4. Purple Communications Videophones and Relay Services

In addition to installing public videophones in major U.S. cities, Purple Communications develops crucial products and services to increase calling access among deaf persons. Purple Video Relay Service (VRS) software provides free sign language interpreters to enable deaf individuals and businesses to communicate in real time with hearing individuals over video desktop and mobile devices. Purple Text Relay is a free service in which a call assistant alternately speaks words a deaf person types, and types what a hearing person says.

Purple also provides real local 10-digit number access for video and text relay and interpreting services and a flat-screen monitor to facilitate instant communication between deaf persons and medical experts at hospitals. Other Purple services include on-site interpreting, video remote interpreting – where certified ASL interpreters facilitate conversation over a live web video connection, and ClearCaptions, which displays near real-time call captions on web browsers and iOS devices.

5. ASL Translation – the iCommunicator

The iCommunicator facilitates real-time conversations by combining technologies that translate or convert spoken words into sign language, voice into text, and text into speech. The solution combines software and hardware and can interface with a user's hearing aids, cochlear implant speech processor, or FM listening system. It includes a database of over 30,000 words and 9,000 sign language video clips.

When a hearing person speaks, the program translates his or her words into either text (using Nuance Dragon NaturallySpeaking) or sign language and speaks a deaf user's responses aloud to the hearing person.

Once translated, a deaf or hard of hearing user can look up words in the built-in Dictionary/Thesaurus or execute web searches – including one-click access to Google – to learn more about that word.

The iCommunicator is especially useful when a sign language interpreter isn't available. It can also increase literacy, make education more efficient, enhance employment opportunities that promote independence, and help schools and employers comply with federal mandates.

Resources:

FaceTime Fast Enough for Deaf and HOH to Sign, Lip Read, or Listen
http://assistivetechnology.about.com/od/DHHSC1/a/Facetime-Video-Fast-Enough-For-Deaf-And-Hoh-Callers-To-Sign-Lip-Read-Or-Listen.htm

Amplified Phones Help Hard of Hearing Enjoy Clearer Conversations
http://assistivetechnology.about.com/od/DHHSC1/tp/Amplified-Phones-Help-Hard-Of-Hearing-Enjoy-Clearer-Conversations.htm

Clarity XLC2 DECT 6.0 Amplified Cordless Phone
http://about.pricegrabber.com/search.php?form_keyword=Clarity+XLC2+DECT+6.0+Amplified+Cordless+Phone&mode=about_assistivetechnology

Use iChat to Talk Via Text, Voice, or Video
http://assistivetechnology.about.com/od/AccessibilityinMacOSX/qt/Use-Ichat-To-Talk-Via-Text-Voice-Or-Video.htm

Purple Communications Video Relay Service Gives Deaf Equal Telecom Access
http://assistivetechnology.about.com/od/ATCAT2/p/Purple-Communications-Video-Relay-Service-Gives-Deaf-Equal-Telecom-Access.htm

What is Video Relay Service?
http://assistivetechnology.about.com/od/ATCAT2/f/What-Is-Video-Relay-Service.htm

The iCommunicator Translates Speech into Text or ASL
http://assistivetechnology.about.com/od/DHHSC1/p/The-Icommunicator-Translates-Speech-Into-Text-Or-Sign-Language.htm