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Assistive Technology Newsletter

Tech Talk

Helping children learn to their full potential

District Name:

Assistive Technology Team:

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AT Support for Deaf/Hard of Hearing

Communication Methods/AT:

The method by which a student who is Deaf or Hard of Hearing (Deaf/HH) communicates with others depends upon communication philosophies, communication communities, degree of hearing loss, the student's fine motor skills and the ease with which the student uses the method. While some individuals use speech and listening to communicate, others rely on sign language, and some use a combination of assistive listening devices, cued speech and sign language. There is no one method that is best for all students.

Relative to the method(s) chosen, there are many assistive technology (AT) tools that support individuals who are Deaf/HH. Generally, these tools or devices fall into two categories, those that convey information visually and those that enhance auditory information.

Convey Information Visually with AT:

AT devices that convey information visually include those for visual alerting, converting spoken language to text and supporting telecommunication. Visual alerting devices provide characteristically audible information in visual or vibratory ways. They include special alarm clocks, smoke detectors, doorbells, timers and phone alerting equipment. Some devices are designed with built-in lights or vibrators. Others adapt or connect to existing equipment. Technologies that convert spoken language to text include captioning and real-time transcription devices. Captioning assists individuals who are Deaf/HH with access to media using closed captioning.

Real-Time transcription provides instant translation of the spoken word into English text. There are also technologies that translate the spoken

language to the spoken word.

Telecommunication provides individuals who are Deaf/HH with increased access to communication via text or video. This includes access to phones.

Enhance Auditory Information with AT:

AT devices that enhance auditory information for better understanding are designed to overcome distance, background noise and reverberation. They include sound field amplification systems and accessories to connect hearing aids to media such as phones, music players, computers and tablets. Digital transmission systems transmit sound at a constant volume via digital wireless transmission signals from a microphone worn by a teacher to a student's personal amplification system.

UDL Solutions for Deaf/HH:

Many schools have implemented universal design for learning (UDL) principles when putting AT solutions in place for students who are Deaf/HH; these are solutions that improve access for all students. Computers, televised announcements, closed captioning, sound field amplification systems, and interactive whiteboards are assistive solutions.

To learn more about how your child might benefit from AAC, contact your child's IEP team leader.

Using AT at Home

Vibrating Alarm



Use a FitBit with a Smart phone to wake up using the vibration feature'

Closed Captioning



Closed captioning and subtitling will display on your television. You can access closed captioning under the settings menu

Parent Question

What adaptations can be made in the classroom for my child who is Deaf/HH?

Your child's teacher can help make auditory information easier to understand in the classroom by:

- gaining the child's attention prior to speaking
- speaking clearly
- repeating/rephrasing information
- doing checks for understanding
- repeating peer comments
- providing preferential seating to the front and away from ambient sound sources
- reducing noise with carpeting, large rugs and ceiling tiles
- using student work to cover brick walls
- using captioning for all multi-media presentations (video/audio)
- sharing print copies of presentations
- employing a buddy system for taking notes
- using sound field systems
- using assistive listening devices to amplify sound

Resources

- Harris Communications:
<https://www.harriscomm.com/>
- MN Dept. of Human Services Deaf/HH Division:
<https://mn.gov/dhs/people-we-serve/children-and-families/services/deaf-hard-of-hearing/>
- Minnesota Department of Education - Deaf and Hard of Hearing:
<http://education.state.mn.us/MD E/dse/sped/cat/dhh/>
- National Association for the Deaf:
<https://www.nad.org/resources/education/k-12-education/additional-resources/>
- National Institute on Deafness (NID) and Other Communication Disorders – Assistive Devices for People with Hearing, Voice, Speech or Language Disorders:
<https://www.nidcd.nih.gov/health/assistive-devices-people-hearing-voice-speech-or-language-disorders/>

Parent Question

What strategies are effective for keeping my child who is Deaf/HH informed and safe in school?

The school should have an effective way for students who are Deaf/HH to get the information from all school announcements. Strategies for providing the information in an understandable way could include sign language interpretation, print-based announcements and written transcripts.

Deaf/HH students will also need a way of immediately recognizing fire alarms, intruder alerts and severe weather events. A visual alerting system with light flashing capabilities is an effective technology for providing recognizable emergency information. The teacher should also be made aware that cues may be required to ensure that the student is aware of the alerting information. Direct instruction about the function and correct action associated with emergency alarms is necessary for some students. Information identifying supports that need to be provided for your child in school should be included on the adaptations page of your child's IEP. The Deaf/HH teacher in your district is an excellent resource for information regarding adaptation

Captioning

Captioning is the process of taking the audio content of video and converting it into text to be displayed on a screen. Captions not only display spoken dialogue or narration; they also include speaker identification, sound effects, and music description. Types of captioning include:

Open Captions (also known as Same Language Subtitles): Placed directly onto the film, they are always visible to the viewer. Located on a separate bar below the film, they are created in such a way that they don't interfere with the picture.

Closed Captions: Encoded within the video signal, the text only becomes visible with the use of a decoder that is built into most televisions and streaming services. It can be turned on or off.

Real-Time Captioning: Created in real-time as the event is taking place, real-time captioning is used for emergency alerts, breaking news or captioning during class lectures. In the classroom, it is used by a captionist who inputs the information for students to see on a computer or iPad at their desks. The two most commonly used real-time captioning services are CART and C-Print. CART (Communication Access Real-time Translation) provides word-for-word written text of all auditory information. C-Print, developed for students, is not word for word transcription, but meaning for meaning of all auditory information.

Remote Captioning: Created for Deaf/HH individuals who need real-time captioning services when the captionist is in a different location.

"Speech-to-text" is an umbrella term used to describe an accommodation where spoken communication and other auditory information are translated into text in real-time. A service provider types what is heard and the text appears on a screen for the consumer (student) to read.

Benefits of Captioning:

Captions help students with word identification, meaning, acquisition, and retention. Reading of subtitles establishes a systematic link between the written and spoken word. Higher comprehension skills are found for viewers who use captions than for those who do not.