Cindy Camp, MA, an interpreter certified in mental health, has taught English at Jacksonville State University and the University of Phoenix. Also certified as a C-Print captionist and trainer, Camp has provided access services for students who are deaf or hard of hearing for over 30 years. She welcomes questions and comments about this article at *ccamp@dcmp.org*.

Accessibility and Enrichment:
Captioned Media Promotes Literacy

By Cindy Camp

Videos, generally a fun and effective teaching tool, can be a source of stress for students who are deaf or hard of hearing—especially when shown in classrooms in which a handful of deaf or hard of hearing students find themselves surrounded by students who hear. In fact, for deaf and hard of hearing students, video watching may be a source of anxiety and frustration, and it may increase these students' feelings of isolation. The reason for this is simple: Most educational videos are not accessible.

There are several factors that contribute to this lack of accessibility:

- **Captions**—Even when videos are captioned, they may present challenges for deaf and hard of hearing students. Too often the captions are low quality. The font, the color, and the size make them difficult to read. Worse, sometimes captions are not accurate. The situation is especially acute with videos viewed on YouTube, particularly those videos that rely on automatic captions. Students are forced to try and make sense of flowing words, often without punctuation and often with serious errors.

- **Interpreters**—For students with an interpreter, videos may be presented with the expectation that they will be interpreted into American Sign Language (ASL). Done correctly, this can be helpful. A skilled interpreter, paired with a skilled and cooperative teacher, can give students access to the content of the video through the students' preferred language. However, if sound, spoken dialogue, and visuals proceed quickly, students may find themselves with visual overload, trying to process

Photos courtesy of the Described and Captioned Media Program

Left: Camp displays DCMP resources during a summer 2023 conference in Williamsburg, Va.

what is being explained in conjunction with looking back and forth from the interpreter to the screen. Captions, even if they are present and well done, add another level of information to be processed. The stimuli may overload the ability of an individual to process it.

- **Teachers**—Too often hearing teachers with general education backgrounds and overflowing classes of students have no idea what it means to be deaf or hard of hearing, let alone be a deaf or hard of hearing student in a classroom. Some teachers hand out worksheets and tell students to fill them in while they are watching a video (Mather & Clark, 2012). This is an

unreasonable demand for students who experience the world predominately visually.

In the worst case, a deaf student surrounded by hearing peers is expected to watch a video, read and process subpar captions, watch an interpreter, and answer questions on a paper about information to which they have limited access—daily. It does not have to be this way. Deaf, hard of hearing, and hearing students can all benefit from high-quality captions.

High-Quality Captions
Meeting the Challenge

The Described and Captioned Media Program (DCMP, *https://dcmp.org*), funded through the U.S. Department of Education and administered under the

National Association of the Deaf, has researched how to provide captions in the most accessible format. The standard closed-captioned format of all capital letters in a black box was found to be really challenging, especially for emerging readers (Udo & Fels, 2010). The most accessible style of captions is upper- and lowercase text, white letters with a drop shadow, over a translucent gray box (DCMP, 2021). Complete captioning standards can be found on the DCMP Captioning Key web page (*https://dcmp.org/learn/captioningkey*).

While captions are a great accessibility tool, they do not help young children who cannot yet read or older children who do not read on grade level. When these children are deaf or hard of hearing, this information can be

Above: Children can view accessible videos on their tablets if desired. **Below:** The first screen shows a video, *Meet the Helpers: Medical Emergencies—Paramedic*, while the second screen shows an ASL interpreter for that video.

presented in ASL. DCMP has always tried to provide videos in ASL, and hundreds of videos exist in our collection. Teachers and families can access thousands of videos through registering for a free account with DCMP at *https://dcmp.org/signup*. However, few of these videos are educational videos and few are produced in ASL.

For this reason, in 2021 DCMP's technology team began working on a way to display two videos in separate players, where one player shows the video and the other shows the interpreter signing. At the same time, the U.S. Department of Education recognized the need for Deaf children to have access to content in their native language and approved a pilot program. The result is a pop-up player that allows two video screens to be displayed and synchronized. One screen shows the original video, and the other screen shows the ASL signer. The window with the ASL interpreter can be resized and

moved around the screen to wherever the student prefers. The video can also be slowed by 50 percent or 75 percent, allowing students extra time to process the information if needed. Slowing the video does not distort the audio, so students who have residual hearing can use it.

DCMP uses native Deaf signers who provide ASL interpretation. This has multiple benefits, especially for deaf children who grow up in areas in which they do not see Deaf adults. By watching educational videos that are signed by Deaf adults, these children have access to native ASL users. Additionally, parents, teachers, and those who work with the children can

use these videos to improve how they discuss concepts with them. These individuals can also see how a signing Deaf adult would explain a concept and that sign language, like spoken language, has regional differences.

DCMP takes additional steps to ensure accessibility. Captions are structured to be accurate, consistent, clear, and readable. Students can change the size, font style, color, and background of the captions. The presentation rate is appropriate for the grade level of each video. Videos with speech that proceeds too rapidly to be effectively captioned are rejected. Further, audio description is added for students who are blind or have low vision. A transcript of the captions and audio description is available for viewing and downloading.

The availability of the transcript, captions, and ASL interpretation provides students with a multimodal approach to learning language as well as to accessing information presented in videos. Teachers can use the transcript to read through the video and pre-teach new vocabulary words. Students can
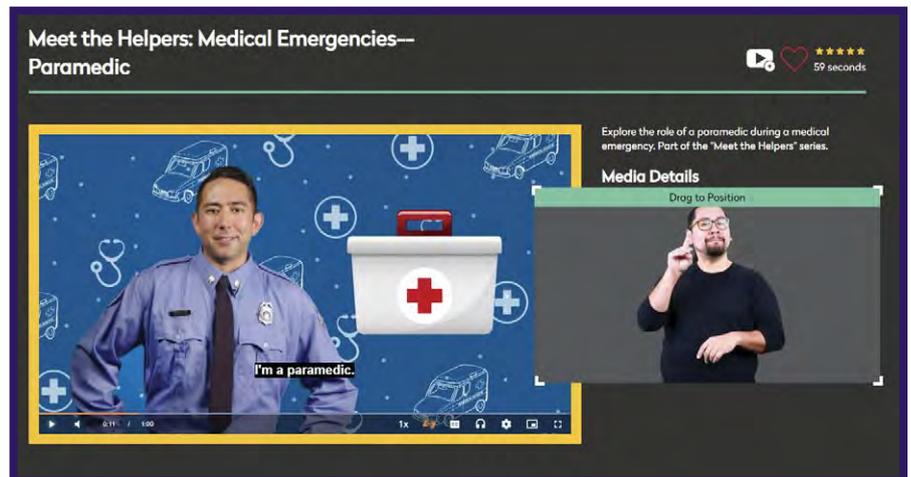
Right: Children can watch captioned movies, such as this one about dinosaurs, on a very large screen. **Below:** Anjel Piñero, the ASL signer for the "Alma's Way" series, is pictured here.

watch the video in ASL and then watch it again with captions. This approach allows students to build their comprehension as well as increase their literacy in written English.

DCMP Videos
For School AND Home

An article in the *American Annals of the Deaf,* "Developing Preschool Deaf Children's Language and Literacy Learning from an Educational Media Series," discusses the importance of early exposure to ASL through educational media (Golos & Moses, 2013). The study showed that students with even limited exposure to ASL benefited from watching educational videos that were signed. Their literacy in both ASL and English improved (Golos & Moses, 2013).

Recently, a teacher of the deaf/interpreter shared her experiences with a kindergarten student who we'll call John. John was limited in his use of both ASL and English. Although his initial language scores were those of an 18-month-old child, he was in a mainstream kindergarten classroom. The teacher/interpreter was hired to work with John as a communication facilitator and resource teacher alongside the general education teacher. At the beginning of the year, John did not engage much with his class or the curriculum. The teacher/ interpreter began to use DCMP ASL videos, choosing videos that mirrored the content that the class was covering. John became excited to learn new signs and
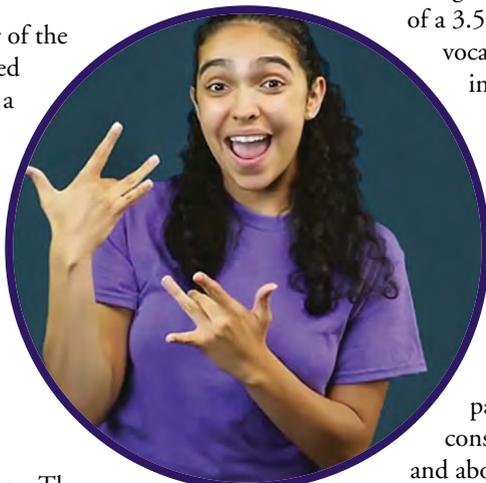
vocabulary. He was especially enthralled by videos such as *Because I had a Teacher,* in which he could see other deaf children like himself. In March when the class celebrated Dr. Seuss's birthday, the teacher/interpreter brought in DCMP's campaign "Read Captions Across America," and the entire class was able to enjoy five popular Dr. Seuss videos in English, ASL, and with captions. By the end of the year, John was testing at the language level of a 3.5 year old. His ASL vocabulary had increased significantly. He even began teaching his family proper signs. He was able to take spelling tests with his classmates and pass them with consistent scores of 90 and above. His parents signed up for an account with DCMP so John was able to watch videos at home as well as at school.

DCMP has videos on all educational topics that allow teachers and families to share knowledge in an accessible format with deaf and hard of hearing students, early learners through high school. It is not fair to ask our students to struggle as they try to make sense of what is supposed to be a seamless and even enjoyable learning experience. Students

are more able to reach their potential when they have access to the appropriate educational tools.

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