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Developing a Distance Learning Closed Captioning Solution on your Campus

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Introduction

According to the Centers for Disease Control, as of 2012, 15% of Americans over the age of 18 report some level of hearing loss (Blackwell, Lucas, & Clarke, 2014). This statistic, coupled with federal, state, and local efforts to push more and more adults into higher education programs, creates the perfect storm for colleges and universities who do not yet have adequate deaf and hard of hearing services available to students.

Recently, several studies have indicated the need for captioning and transcripts for student populations beyond the traditional DHH subgroup. Two studies from Oregon State University's eCampus Research Unit provide a clear picture of the state of captioning on campuses in the United States.

Implementation of & Solutions for Closed Captioning in U.S. Institutions of Higher Education: Results from a National Study reports the majority of respondents noted that their institutional response to closed captioning implementation is more reactive than proactive (16 respondents) or primarily reactive (9 respondents). In other words, for most institutions in the study, closed captioning implementation is done only after accommodation is requested. The largest number of respondents (20) noted that no aspects of captioning are centralized at their institution. A little over a quarter (13 respondents) noted that a centralized policy exists for captioning. Almost the same number (11 respondents) noted that a centralized operations team exists for captioning. One in five institutions (9) noted that a centralized budget exists for captioning. be in compliance with the law (37 respondents), to avoid potential litigation (35 respondents), and in response to accommodation requests (33 respondents).

The other study, *Student Uses and Perceptions of Closed Caption and Transcripts: Results from a National Study*, reports that 98.6% of students said they found captions helpful. 75% of students who use captions do so as a learning aid. Many of these students are not members of the Deaf and Hard of Hearing (DHH) community. In fact, according to this study, 66% of English as a Second Language (ESL) students and 61% of students with a learning disability find captions helpful.

Clearly, colleges and universities must respond to the needs of students to create engaging and relevant multimedia with accurate captioning.

Described and Captioned Media Program

Captioning is more than just a text overlay added to a video. According to WCAG 2.0 guidelines and multiple court rulings, captions must be synchronized, equivalent, and accessible. While these three criteria seem straightforward, the implementation of them can cause novices to create captions that do more harm than good. For this reason, the National Association of the Deaf (in partnership with the Department of Education) created the Described and Captioned Media Program. The DCMP publishes and updates a "Captioning Key" with guidelines for closed and open captions. Any university solution for captioning should utilize this valuable resource whether they are requesting captions from a vendor who bases their practices on these guidelines or employing campus staff to create and edit captions.

Legal Requirements

Section 504 of the Rehabilitation Act of 1973 is a federal law designed to protect the rights of individuals with disabilities in programs and activities that receive federal funding from the U.S. Department of Education (United States Department of Education, 2018). Examples of federal funding at public colleges or universities are grants and any type of federal student financial aid.

Title II of the American with Disabilities Act of 1990 protects individuals with disabilities from discrimination on the basis of disability in services, programs, and activities provided by public colleges and universities. Title II extends the prohibition on discrimination, established by section 504 of the Rehabilitation Act of 1973, to public colleges or universities regardless of federal funding (United States Department of Justice, n.d.).

Kennesaw State Method

Prior to 2016, Kennesaw State relied on a speech to text appliance was used for machine generated captions. Student assistants were employed to clean up the files and return them to faculty. This process involved no fewer than 12 steps on the part of faculty, many of them quite time consuming. The university needed a solution that to meet the following needs:

- reduce the number of steps faculty must take to get videos captioned,
- allow faculty to request machine-generated captions that they can edit,
- allow faculty to request professionally captioned files, and
- remain within the prescribed budget.

After adopting Kaltura's MediaSpace as the university's instructional video repository, the Distance Learning Center (DLC) and University Information Technology Services (UITS) partnered with vendors Kaltura and Cielo24 to embed Cielo24's closed captioning tool into MediaSpace while creating a custom editor to allow faculty to edit caption files inside of MediaSpace. This system also allows the Distance Learning Center to have videos professionally captioned by the vendor's team. The project was not without hiccups, and the KSU team regularly worked with the vendors' developers to make sure the system could provide administrators, faculty, and staff with all of the functionality envisioned by the team. The DLC team lead was often heard saying, "Why would I ask faculty to use this if YouTube's editor is easier for them to navigate? Let's make some changes..." The process took a year to complete.

The result of this partnership is a closed captioning system integrated into MediaSpace that provides faculty with speedy machine generated captions and an embedded editor for faculty to use to "clean up" these files. The process is very easy and very simple. Faculty do not have to download and upload files. They can create, edit, and share videos directly in this environment. During the month of May 2017, just one month after the system was fully implemented at KSU, 4,011 minutes of video and audio were captioned using the system's machine captioning tool. Presumably, these minutes of video/audio would

have gone uncaptioned without this tool. In just one month, the project made 4,011 minutes of video more universally accessible. If we apply those numbers to the entire year, the impact is huge.

Kennesaw State has a practical solution to remove accessibility barriers to multimedia now, thus making them one step closer to ensuring an accessible instructional environment for diverse learners. The impact of this project within the University System of Georgia (USG) has also been substantial. The captioning system was adopted by the USG and most of its 20+ institutions. Many of those institutions use the tool created by this collaboration on a daily basis.

University of Central Florida (UCF) Method

The Center for Distributed Learning (CDL) has worked for years with the Student Accessibility Services (SAS) office to offer immediate need accommodations for students in distance courses (Bastedo, Sugar, Swenson, & Vargas, 2013). A course requiring a transcript or caption file would be handled by SAS while CDL would work with the faculty to display the appropriate file based on the type of media. Since implementation of this workflow, the number of online courses with a student who identifies as deaf or hard of hearing have doubled; straining the effectiveness of this process.

A self-formed working group at CDL spent Fall 2017 researching institutional closed captioning strategies and practices from across the U.S. higher education landscape in order to develop a proactive, before a student accommodation is required, closed captioning strategy for online courses at UCF. Adopting a proactive position benefits all learners while reducing the amount of work that has to be completed for an immediate need accommodation. Designing a clear process for faculty while being scalable, systematic, and sustainable was a challenge. We were informed that resources would not be sufficient to caption all multimedia in all online courses. It was agreed upon by the research group that faculty would submit a proposal to have multimedia captioned in a course. A committee of representatives from two different faculty support units would evaluate the proposal based on the number of files, instructional content value, and reusability. This process fits the culture of UCF as it is similar to other service and awards programs on campus. CDL would then facilitate the submission of multimedia to vendors for captioning and integrating into the course. This process would repeat every semester. If a faculty member was not fully funded, they could apply for the next term. Our proposal was accepted by leadership and was funded to start in Fall 2018.

A complicating factor for captioning at UCF is the lack of a centralized video repository. Multimedia is presented from various sources and in different formats. The most common source of multimedia is YouTube. To address this issue, UCF adopted the open-source video player named Able Player. Created by the DO-IT Center at the University of Washington with funding from the National Science Foundation, Able Player is a customizable HTML5 video player that can overlay audio descriptions and closed captions over a variety of multimedia formats (Thompson, 2015). A CDL instructional designer and software developer worked together to create an integration in the Canvas LMS to display YouTube videos in Able Player with CDL or SAS provided caption file in the Web Video Text Track (WebVTT) format. The provided WebVTT files are hosted in a database for organization and reusability. This method

provided CDL will a legal way to provide closed captioning for YouTube videos that the faculty do not own.

Conclusion

There are multiple paths to the goal of providing equal access to DHH students. The two methods presented reflect institutional culture and resources. The key to a successful captioning plan relies on the ability to adopt best practices to meet the needs of both students and the institution.

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About the Presenters

John Raible is an Associate Instructional Designer at the University of Central Florida's Center for Distributed Learning. In this role, he works with faculty to transition courses from face-to-face to the blended or online environment. His research areas includes accessibility for online learners, and the use of OER materials. In addition to his ID role, he has taught online and blended courses at both the community college and university level.

Jordan P. Cameron is the Assistant Director for Academic Accessibility at the Distance Learning Center, Kennesaw State University. As the resident accessibility expert at KSU, she collaborates with all units on campus to provide guidance in the areas of procurement, testing and evaluation of software/hardware, policy development, and professional learning. Jordan is also a part-time faculty member in the Bagwell College of Education's Department of Instructional Technology. She teaches graduate courses on professional learning in schools and technology implementations.