



Equal Learning Opportunity for All

*Open Captioning for Video Content
Improves Accessibility and Efficiency*

Overview

Increasing accessibility for students within a post-secondary learning environment is an ongoing challenge for the thousands of colleges located in the US. To varying degrees, educational institutions are seeking to improve and enhance campus facilities, services and courseware to be more fully accessible to people with disabilities as well as address all cognitive learning styles. Inver Hills Community College, a community college located in Inner Grove Heights, Minnesota, and part of the Minnesota State Colleges and Universities System (MnSCU) is an educational institution at the forefront of improving accessibility for its students. The college's charge, for more than forty years, has been to improve its community by providing higher education for a variety of learners. With more than 70% of students from underrepresented populations and 20% first generation college students,⁵ Inver Hills Community College strongly believes that fulfilling this principle means making education accessible to all.

Recognizing the need for a flexible learning platform that encourages collaboration, while allowing for easy integration with other educational technologies, Inver Hills and MnSCU began using the Brightspace integrated learning platform in 2003, and MnSCU has since become one of D2L's most significant customers, with Brightspace the declared standard for learning management across the entire MnSCU system. At Inver Hills, a Brightspace course shell is provided for every course taught online, face-to-face, or in a blended format (973 courses in total). Instructors use the platform to support a range of teaching functions, from posting content such as PowerPoint® presentations and video content through Kaltura to posting grades via the Gradebook tool, to conducting interactive classroom discussions online.

AT A GLANCE

Client	Inver Hills Community College
Students	5,558 ¹
Level	Postsecondary
Solutions	Online and Blended Learning solution
Partners	Kaltura ² , Automatic Sync Technologies ³

CHALLENGE

- Improve accessibility to address all learning styles and hidden disabilities
- Better understand the impact of videos with open captioning on student performance

SOLUTION

- Integrated solution incorporating Kaltura Video Platform and video player and Automatic Sync Technologies' CaptionSync delivered via the Brightspace platform

RESULT⁴

- Seamless implementation connecting Automatic Sync's CaptionSync service, Kaltura Video Platform and the Brightspace platform
- Open captioning of 56 videos for two courses completed with three day turnaround and 100% accuracy

¹Based on fall 2014 enrollment statistics provided by Inver Hills Community College

² Partner solutions include Kaltura Video Platform, Kaltura MediaSpace social video portal and Kaltura video extension for Brightspace

³ Partner solutions include CaptionSync™ from Automatic Sync Technologies

⁴ All results and figures provided by Inver Hills Community College

⁵ All results and figures provided by Inver Hills Community College



Challenge

HELP TOMORROW'S WORKFORCE ACCESS BETTER EDUCATION TODAY

Minnesota State Colleges and Universities play an essential role in growing Minnesota's economy and opening the doors of educational opportunity to all Minnesotans. According to MnSCU's 2013 "[Charting the Future for a Prosperous Minnesota](#)" report, 74% of careers in Minnesota will require some post-secondary education by 2020.

MnSCU's online delivery of courses has grown significantly over the past decade, with 22 percent of full-time equivalency students enrolling in online and blended courses.⁶ Technology is also having a transformational impact for students taking face-to-face or blended classes.

SELF-ASSESSMENT IDENTIFIES ACCESSIBILITY OPPORTUNITY

Recently, Inver Hills Community College administration established an Accessibility Task Force to review various aspects of accessibility on campus. In the spring of 2013, Inver Hills conducted a six-month self-assessment on its web accessibility using NCDAA's benchmark and planning tool called GOALS (Gaining Online Accessible Learning through Self-Study). As an outcome of this self-assessment project, the Accessibility Task Force recommended that Inver Hills Community College instructors using videos for online learning should begin using captioning to improve accessibility for students and to continue supporting all cognitive learning styles.

"Nearly 25% of Inver Hills classes are offered online; an attractive option for people with disabilities, learning issues or social anxiety," explains Rebecca Graetz, EdD, an instructional designer at Inver Hills Community College.

"However, few students self-report a learning disability, and when they get to college there is an even greater reluctance to report, because they don't want anyone to know. So it is not at all uncommon for an instructor to be unaware of a student with a learning disability – especially in an online learning scenario."

⁶ [Charting the Future for a Prosperous Minnesota Report](#)



Solution

ACCESSIBLE VIDEO USING OPEN CAPTIONING

Graetz began implementing a process for creating accessible videos using open captioning after being approached by instructor Carrie Naughton, a teacher of online developmental math, who requested help in developing professional quality video for her 'Introduction to Algebra' and 'Intermediate Algebra' classes.

Working with the Inver Hills Community College's IT team, Graetz leveraged technologies from Kaltura, Automatic Sync Technologies, and D2L, to ensure videos were efficiently and accurately captioned in a short time frame. Naughton's existing course videos used for online learning, located within the Brightspace platform, were first saved to the Kaltura MediaSpace video portal. As a Kaltura administrator, Graetz used the Kaltura Management Console and its integration with Automatic Sync's CaptionSync service, to tag videos that needed captioning. Videos were automatically uploaded to CaptionSync, transcribed by professional transcribers, captioned, and returned back to the instructor through Kaltura for use in Brightspace.

"We processed 56 videos and the captioning was 100% perfect. And it was really smooth and painless," says Graetz. "The Automatic Sync team was able to turnaround fully captioned, highly accurate videos in just three days. The process was quick, seamless and very, very efficient."

Naughton was equally impressed. "Rebecca was very helpful in coordinating end-of-year funding that allowed me to get all of my Introductory and Intermediate Algebra videos captioned. The process on my end was very easy and quick, enabling my students to easily watch my videos through Brightspace, on Kaltura's accessible video player."



ACCESSIBILITY PROJECT INSPIRES EDD THESIS⁷

As a researcher and specialist in instructional design, and a post-traditional student herself who returned to college as an adult in 2002, Graetz was inspired by the video captioning project to pursue the topic for her EdD dissertation – a body of work she successfully defended in September 2014.

“I have personal experience in what it takes to be a self-motivated learner, and know from my experience in education that the success of students who are in developmental courses will lead them to finish a degree and become successful in life,” says Graetz. “During this project I began wondering if there was any data out there showing whether captioned videos make a difference in the learning of students. To my surprise I determined there was very limited current data available.”

Graetz embarked on a research study of 209 (through attrition the success pool was reduced to 131) students to look at the impact of video captioning on their learning performance. Over a two-year period, performance of students accessing non-captioned videos in Brightspace was contrasted and compared to students accessing video with open captioning, with the final analysis based on student success as defined by passing grades from before open captioned videos and after open captioned videos. For the study data only student grades were analyzed, along with other demographic data such as gender, course and if the student was financial aid eligible. Data was de-identified to eliminate the risk of personal identification.

For the ‘Introduction to Algebra’ course, Graetz observed a 37% decrease in video clicks from 1072 (pre-captioning) to 402 (post-captioning), and a 55% decrease in viewing hours from 67 (pre-captioning) to 37 (post-captioning). The decrease in video clicks (which was not the expected outcome) suggests to Graetz that further study is warranted, and she believes that the reduced video view time may be a result of better design for all cognitive learning styles (visual, audio and kinesthetic) made possible through the use of captioned online videos. Therefore, Graetz concluded that captioned video assets actually increase the effectiveness of the media for a variety of learners, thus decreasing the time required with those videos.

While Graetz’s research findings point to a neutral study, this project has precipitated further discussions around the implementation process and the cost-effectiveness of professional captioning as it pertains to accessibility in online and hybrid courses.

⁷Study details, results and statistics provided by Inver Hills Community College

Results continued

ONE MORE PIECE IN THE STUDENT LEARNING PUZZLE

Naughton strongly believes the use of video has enhanced her students' online learning experience. "I believe that the captioning has truly enhanced the videos," says Naughton. "Students are better able to follow along while watching videos and students with language issues really benefit as well. I have had several students comment that the captioning has been really helpful. Since most of my students get their entire course content from watching my video lectures, it is really important that my students are able to access the videos easily and get the most out of the experience and I think that the captioning and the Kaltura platform have really helped."

"My belief is that there is an increase in student understanding, made possible through the use of more diverse multi-media learning tools – audio, video, and open captioning adds one more piece to the learning puzzle," says Graetz.

The study is driving Inver Hills Community College to begin looking more broadly at the US college system to see if there are other educational peers performing this kind of accessibility and process work. Through this investigation it was determined that the State of California offers a sustainable grant for video captioning. This has since precipitated discussions at the Minnesota state level, to determine if MnSCU and Inver Hills can access sustainable funds to support this accessibility program on a go-forward basis.



At the end of the day, Brightspace's seamless integration with Kaltura and Automatic Sync, and the partners' ability to quickly deliver a flawless video captioning solution, is the true success story coming out of the Inver Hills initiative.

The use of video captioning to enhance online learning has also provided Graetz with the ideal topic for her EdD dissertation, allowing her to realize her own educational goal. "My entire dissertation is built around the implementation of this project," she says. "Over the two year period, we observed an improvement in student satisfaction thanks to the addition of open captioning on video-based content. And in my mind, even if one or two students are more successful because they have a video that is captioned and addresses all cognitive learning styles, then that is indeed a success."

ABOUT CAPTIONSYNC™

CaptionSync is an innovative, proprietary software service powered by Automatic Sync Technologies (AST), providing high-quality automated captioning with speed at a fraction of the cost of conventional captioning. The simple user interface accepts electronic submission of program media and returns standard-format caption files for web-media, a number of third-party video platforms, or for DVD authoring and broadcast. CaptionSync can simultaneously generate caption output for multiple types of media from a single submission. AST's CaptionSync utilizes trained professional transcribers to avoid the high error rates associated with speech recognition and crowd-sourcing solutions. AST stands apart from other providers of automated captioning for this reason.

ABOUT AUTOMATIC SYNC TECHNOLOGIES

Automatic Sync Technologies (AST) is an industry-leading provider of web-based captioning services for thousands of customers worldwide, enabling accurate video and rich media search and retrieval to public and private sector enterprise. Founded ten years ago and funded in part by an SBIR (Small Business Innovation Research) grant, AST automated captioning technology offers cost-efficient, high-quality, automatic captioning services. AST helps government agencies and educational institutions comply with regulations to make advanced communication services accessible to hard of hearing and deaf audiences. Contact AST by email at INFO@AUTOMATICSYNC.COM, online at WWW.AUTOMATICSYNC.COM, or call 1-877-278-7962.

ABOUT KALTURA

Kaltura's mission is to power any video experience. The company provides leading video technologies, including more than a dozen video-based Software-as-a-Service offerings, as well as an open and flexible Platform-as-a-Service for developing new video experiences based on hundreds of APIs for video ingestion, transcoding, meta-data management, distribution, publishing, engagement, monetization, and analytics. A recognized leader in the OTT TV (Over the Top TV), OVP (Online Video Platform), and EVP (Enterprise Video Platform) markets, Kaltura has emerged as one of the fastest growing video platforms, covering a wide range of use-cases. Kaltura is deployed globally in thousands of organizations and engages hundreds of millions of viewers at home, in work, and at school. Kaltura provides media companies with advanced video management, publishing, and monetization tools that increase reach and monetization, and that simplify production and publishing workflows. Kaltura offers enterprises video solutions that boost marketing and sales and improve internal and external communications, training, and collaboration. Kaltura enables educational institutions with disruptive online video solutions that improve teaching and learning, and increase engagement across campuses and beyond. Kaltura enables cloud computing providers and cable, satellite, and mobile operators to launch video-based services for both consumers and businesses. Kaltura is committed to its core values of openness, flexibility, and collaboration, and is the initiator and backer of a leading open-source video-management project, which is home for more than 100,000 community members. For more information visit www.kaltura.com, www.kaltura.org, or www.html5video.org.

About D2L

D2L is the software leader that makes the learning experience better. The company's cloud-based platform—Brightspace—is not a common one-size-fits-all learning management system (LMS). It's easier to use, more flexible, and smart. With Brightspace, you can personalize the experience for every learner to deliver real results. The company is also a world leader in learning analytics: its platform predicts learner performance so that you can take action in real time to keep them on track. Brightspace is used by learners in higher education, K-12, and the enterprise sector, including the Fortune 1000. D2L has operations in the United States, Canada, Europe, Australia, Brazil, and Singapore. | www.brightspace.com

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