A Captioning Handbook for Higher Education

Regulations, Benefits, Solutions and Recommendations

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Abstract

The proliferation of new media, growing importance of distance learning, ubiquity of lecture capture, increased enrollment of ESL learners, and growing regulations and litigation over accessibility has most higher education campuses renewing their focus on captioning. This white paper is intended to provide a guide to offer campus executives, technology managers, accessibility coordinators, and other decision makers the information they need to make informed decisions.
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Introduction

Papers about captioning rarely make anyone’s recreational reading list, so it is likely safe to assume your search for information about captioning is motivated by a real need. Whether your interest is motivated by a need to accommodate a specific student or a campus-wide mandate to increase accessibility, this paper is intended to offer some practical guidance on the questions that you will likely encounter. While captioning itself is not overly complex, understanding the broader legal, economic, and technical context around captioning can help guide the decisions facing you. The questions you will likely encounter as you work through your search include:

- Why do I need to caption my content?
- What do I need to caption?
- What alternatives are available?
- How much will it cost?
- How can I create a cost-effective, timely, efficient, and compliant captioning solution?
- How do I know if my solution is compliant with federal and state regulations?
- What additional value can I extract from these efforts?
- Where do I find funding?

This white paper will explore the modern captioning landscape and provide decision makers with the information they need to make informed choices.

The Regulatory Landscape

As this paper will highlight, there are a large number of reasons to caption your video content. In general, these reasons have to do with making your content more usable and useful to a larger viewing audience. That said, the other major motivation for captioning is compliance with accessibility legislation. At one time, questions of compliance with closed captioning laws was primarily an issue for broadcasters, but over the past decade or so educational institutions have become significant producers of video content and are increasingly subject to regulations about making that content accessible. To understand how your campus is affected, it's useful to provide a quick overview of laws that govern accessibility. Closed captioning regulations can be roughly divided into two categories: Broadcast regulations and Accessibility regulations.

Closed captioning used to be important only to major television networks. The proliferation of new media has made it a major concern for college campuses.

Broadcast Regulations

Broadcast regulations are the FCC's domain and apply to content on broadcast TV (and more recently the retransmission of that TV content over the internet). Beginning in the early 1980s, with the
creation of the National Captioning Institute, major networks such as ABC, NBC, and PBS began to voluntarily broadcast some of their programs with closed captions.\textsuperscript{11}

In 1990, Congress passed the first law governing closed captioning. It required televisions with screens larger than 13 inches to contain the circuitry that is necessary to display captions. That law had a 25-year phase in period and finally applied to all broadcast TV content in 2005. Since January 1, 2006, all new English-language video programming, including live broadcasts (with a few carefully carved-out exemptions), must contain captions. The introduction of new media has shifted the landscape; today captioning is far more complex.

In 2010 Congress passed the Twenty-First Century Communications Video Accessibility Act (CVAA) and expanded the scope of broadcast captioning regulations to online video. New FCC regulations that were put into place under this act mandate that “all video devices that receive or display video programming transmitted simultaneously with sound, including those that can receive or display programming carried over the Internet” must provide closed captioning capabilities. The CVAA specifically applies to video that was originally broadcast on television, but it has broad implications for hardware and software manufacturers because it stipulates that any IP video player must now be capable of displaying closed captions in a standardized way. In 2014, the FCC adopted the Closed Captioning Quality Order, which mandates certain standards for the quality of captioning.\textsuperscript{iii}

**Accessibility Regulations**

The broadcast captioning regulations provide an historical backdrop for captioning, but have minimal impact on most educational institutions; outside of schools running broadcast TV stations, these regulations do not directly apply to schools. However, Accessibility Regulations have a much more direct impact. As the Internet has become the unifying medium for the access of almost all information today, federal and state governments have begun to create regulations surrounding closed captioning of online and IP-delivered video.

To begin, institutions that receive federal funding are subject to Sections 508 and 504 of the Rehabilitation Act. These regulations mandate that any U.S. federal agencies or any programs or activities that receive federal funds must provide equal access to any data, communication, and technology in comparable fashion to that which would be accessible to those without disabilities.\textsuperscript{iv}

Most recently, Title III of the Americans with Disabilities Act (ADA) has been expanded to include online places of public accommodation. Title III of the ADA provides that “no individual shall be discriminated against on the basis of disability in the full and equal enjoyment of the goods, services, facilities, privileges, advantages, or accommodations of any place of public accommodation,” and guidance from the Department of Justice indicates that this includes Web sites and the online delivery of education.\textsuperscript{v}

For an ever-increasing number of higher education institutions, local and state laws will further expand upon federal laws. Many states (including NY, TX, MO, NC, VA, IL, OK, and CA) already have comprehensive policies.
From these laws it is clear that lecture recordings and other critical academic materials must be made available to students with disabilities in a way that is equal to those students without disabilities – for hearing impaired students, this means closed captioning.

But what about other content, such as Web site videos, YouTube content, or other forms of new media? Recent litigation demonstrates that institutions of higher education may be responsible for captioning an increasing volume of content.

**Accessibility Scrutiny and Litigation is Increasing**

Recent lawsuits demonstrate a trend towards litigation against public accommodations that fail to meet accessibility standards – this can be a major concern for higher education institutions.

Groups such as the National Association of the Deaf “encourage [their] members to complain... whenever captions are absent or unreliable.”

In 2010, Penn State was the subject of an accessibility lawsuit because of “the widely inaccessible nature of technology used on the campus.”

> Recent litigation, and opinions of expert disability rights attorneys, demonstrates that any school-controlled content portal must be made accessible to all students.

More recently, Netflix has been the subject of a lawsuit that has raised concerns for many higher education campuses.

The National Association of the Deaf filed a suit seeking to force Netflix to add captions to videos on its "watch instantly" streaming Web site.

Under ADA regulations, a "place of public accommodation" must meet certain requirements for access and use by people with disabilities. Netflix attempted to have this suit dismissed, arguing that it is not a public accommodation such as a physical video rental store, and that because its service is offered to people inside their homes, it is under no obligation to provide special services to people with disabilities. U.S. District Court Judge Michael Ponsor disagreed and upheld the suit, stating in his ruling that it was incorrect to argue that Netflix was not a place of public accommodation simply because of the digital nature of its products.

For higher education campuses, this means that there is increasing concern over what content must be captioned, as campuses are becoming increasingly digital in nature. What about content on the university website? What about YouTube content? What about presentations at school events or commencement addresses?

Charlotte Lanvers, a Staff Attorney for the Disability Rights Education and Defense Fund, explains that:
“If content is sitting in an archive somewhere, there’s no need to caption it; however, as colleges and universities manage the content on their Web sites they have an obligation to ensure it is accessible. Anything that is being actively used in class or available to the student body at large must be equally accessible to one and all – this obviously includes tools such as lecture capture and slides. For audio visual components of Web sites, the captions must be available all the time, not just on request only. It also means that other school controlled content portals must be accessible as well.”

While school policies vary widely, some rules of thumb are that content should be captioned if it is:

- Academic content shown to a known student population when there is an accommodation request;
- Academic content shown to an unknown population (e.g. Distance Education), regardless of whether there is an accommodation request;
- Publicly presented content (e.g. video that is on the public website)

The good news is that, while litigation and regulations have increased, new captioning solutions have emerged. Today, the benefits to captioning material extend far beyond simple governmental compliance – and provide an opportunity for increased campus revenues and extraordinary ROI.

**Making New Media Accessible**

Two significant trends in video production and distribution have dramatically accelerated over the past decade. The first is the migration of broadcast distribution to internet distribution and the emergence of several internet-based video hosting platforms. The second is the availability of a plethora of excellent video recording and editing tools that has enabled just about anyone to be a video producer from their desktop; the production of media for display on desktop and mobile devices has never been easier. These two trends have dramatically decentralized media production and distribution.

> Internet distribution and inexpensive video tools are making video ubiquitous.

This democratization of video has, of course, led to much more video being both created and consumed. It has also meant that standards for everything from video format to production quality are not as easily created or enforced. The loosening of standards manifests in many attributes of video production and distribution, but two are of particular interest here:

- In contrast to broadcasting, there is no single common format of captioning which satisfies the requirements of all video players. The proliferation of video formats, caption file formats, and video players, along with variable support for captioning by video players means that some technical understanding of captioning is often needed to navigate the process of captioning the video;
• Without a single, centralized distribution platform for content, who owns the responsibility of captioning the video is a bit less clear and compliance monitoring is exceedingly difficult.

**Making Educational Videos Accessible**

The use of online video in education – both distance learning and in-class teaching – has expanded tremendously in the past few years, so both of these issues are important for educational institutions. Neither of them is particularly daunting, but there is no one-size-fits all solution to either of these issues; institutions just need to be aware of them as they contemplate how they want to address captioning workflow.

It is important to understand that the captioning files you need are dependent on the video player you intend to use to play the video. *In contemplating your captioning workflow, an early step should be to determine what video format (or video platforms) you intend to support; this will help ensure your captioning workflow is able to generate the captioning outputs you need.*

Decentralizing the responsibility for captioning by simply mandating that anyone who produces video owns the responsibility of captioning it has a couple of useful advantages: it conveys that captioning is just another component of video production and the cost and burden of captioning should be just considered as part of the production cost, and it ensures that the party with the most knowledge of the video content is directly involved in the captioning process (helpful when the content is technical in nature). However, this approach also comes with a number of significant disadvantages that should be considered:

• Compliance assessment is more difficult – ensuring that video across the institution is captioned and compliant with regulations requires additional effort when the responsibility for captioning is decentralized.
• Technical expertise among content producers may be variable – because some technical understanding of what is required by the various video players and platforms to support captioning is helpful, and because technical expertise and experience may be variable across the institution, it may be less efficient in the long run for many people to learn about captioning rather than just a limited number.
• Economies of scale may be easier to obtain by centralizing the institution’s captioning needs.

Again, the balance of these pros and cons ultimately needs to be an institution-specific decision, but due to these considerations, it is probably going to be more efficient to centralize the captioning effort – creating a single gateway with the appropriate technical, procedural, and legal expertise to most efficiently caption content for the entire campus. Staffing requirements for this gateway can be minimized by automating as much as possible the handling of video and captions files. Automation is the key to efficiency and our belief is that intelligent use of automation can be effectively used to minimize costs. This topic is covered in more detail later in this paper.
The Extraordinary Benefits of Captioning

Today higher education institutions are faced with the extraordinary challenge of delivering content and information across an ever-expanding number of channels to an increasingly diverse student body that demands instant and ubiquitous access to their content and learning materials. This means delivering content:

- that is increasingly rich media to an audience that is increasingly remote;
- in new formats that are penetrating new audiences increasingly quickly;
- that is consumed by an audience that must absorb and comprehend information at an unprecedented rate;
- to audiences that are increasingly likely to be non-native English speakers; and
- that may use English terms that are not familiar, even to native speakers.

Captioning critical academic materials helps students and educators meet these challenges, and enhances the ability of viewers to extract meaning from video content.

Improved Student Comprehension

The benefits of using captioning to improve student comprehension, engagement, and performance have been proven in a multitude of studies. In his book The Closed Captioning Handbook, Gary Robson explains that “augmenting an auditory experience with captions more than doubles [student] retention and comprehension levels.”

In 2007, a study conducted by San Francisco State University delivered instructional video materials to students – 50% of the students received captions while 50% did not. When students were given instructional video materials with captions, they were found to be more engaged and responsive to questions, were better able to relate the information to their everyday lives, and demonstrated an improvement of one full grade point versus those students who were not exposed to captions.

Videos with Captions are Watched Longer

A study conducted by Knopf found that videos with captions are viewed 38% longer than videos without.

Captioning Supports Learning for ESL Students

Second-language learners can more quickly assimilate material in written, rather than oral, form. Captioning also gives them the opportunity to review confusing materials or reference difficult or complex scientific terms that they may have had trouble translating without a written reference.

Allows for More Flexible Access to Learning Materials

The ubiquity of wireless environments means that students demand everywhere access to their core course materials. Coffee shops, libraries, and other environments may not be conducive to sound. Captions mean that students can access their material in any environment.
Ability to Increase Revenues and Learning Outcomes from Distance Education

The number of students who choose distance education over formal classroom instruction grows every year, yet many institutions fail to make their distance education programs fully accessible to a wide range of students. Captioning distance learning means that students better comprehend critical academic materials, and the programs are more accessible to disabled and ESL students.

As these cases demonstrate, captioning video content improves learning outcomes, improves student retention, and can help your institution attract a broader student population. As a result, the benefits of captioning extend beyond learning outcomes to the actual bottom line of higher education institutions.

Captioning Increases Revenues and Improves Public Relations

Giant leaps in technology, processes, and the potential uses of captioning means the ROI of captioning for higher education campuses is greater than ever before.

In years past, broadcast captioning generally cost $500 to $1,000 per hour of content. Today many excellent solutions exist for less than $200 per hour.

Many higher education institutions also find financial support for their captioning programs from an ever-increasing number of state and federally funded grant programs. For example, California colleges can seek funding from the Distance Education Captioning and Transcription grant (DECT), which provides California community colleges with funding for live and post-production captioning and transcription.

Not only have costs come down and alternative sources of funding emerged, but captioning can also create a direct impact on an institution’s bottom line.

Improved learning outcomes, the ability to enroll additional distance-learning students and the ability to accommodate students with different kinds of learning preferences means that institutions benefit from increased enrollment and student retention.

Captioning commencement addresses and other public lectures further enhances an institution’s reputation by displaying an outward message of commitment to accessibility and diversity.

However, in order to capitalize on the tremendous benefits of captioning, it is critical to choose the right captioning solution.

The Paramount Importance of Accuracy

More than any other feature, a near-flawless degree of accuracy in a captioning solution is of the highest importance. ADA guidelines specifically state that persons with disabilities must be given “effective communication that offers full and equal enjoyment.” The quality of information that is
provided must be of equal quality to that offered to people without disabilities. While the ADA is careful not to provide any hard and fast rules, Charlotte Lanvers, a Staff Attorney for the Disability Rights Education and Defense Fund, explains that “given the ADA’s regulations, a very high standard of accuracy will be required, particularly given the requirement of accurate information in the context of good pedagogical practice.”

“ADA guidelines mandate that persons with disabilities must be given “effective communication that offers full and equal enjoyment” to all content. This means that an extremely high level of accuracy is required in captioning.

Research conducted by Automatic Sync Technologies, which was initially funded by a Small Business Innovation Research (SBIR) grant from the Department of Education, demonstrates that even small changes in the accuracy of information severely affects comprehension.

The following is a sample document with no errors.

Everyone loves a booming market, and most booms happen on the back of technological change. The world’s venture capitalists, having fed on the computing boom of the 1980s, the Internet boom of the 1990s, and the biotech and nanotech boomlets of the early 2000s, are now looking around for the next one. They think they have found it: energy.

This passage demonstrates a 10% error rate.

Boot hoses a booming market, gloved capote booms happen heart the back of technological change. The world’s venture capitalists, house fed gem’s the computing boom of the 1980s, the Internet boom of the 1990s, and the biotech and nanotech boomlets of the early 2000s, are now looking around for the road one. They gaunt they have found bubonic: energy.

This passage demonstrates a 20% error rate.

Kazakhstan banter a booming estate, and most systemically happen on the back of technological bleed. The world’s venture capitalists, Italians fed on seltzer computing boom kingdom the 1980s, the Internet levy of paddy 1990s, and the harder and nanotech boomlets of the early 2000s, eroded now looking around for the buckle one. They think they limitless methodology it: energy.

Analysis on comprehension and attention focus indicates that with an error rate greater than 3%, readers are barely able to comprehend the main concepts and facts presented. At 10% or greater, the text is largely unintelligible.
After reviewing the passages, the effect on comprehension is obvious.

The impact on comprehension rates is demonstrated in the following chart. Readers were asked to subjectively rate the intelligibility of a passage on a 10-point scale. They were presented with various passages, with various random error rates.

At error rates greater than 3%, comprehension is severely compromised. To ensure maximum accuracy and compliance with governmental regulations, a high level of accuracy is necessary in your solution.

**What to Caption?**

Ideally, all video material would be captioned, but campuses produce vast quantities of video and it may not be economically feasible to tackle it all at once. So how do you decide what material needs to be captioned? Once again, this decision has to be made within the framework of the specific constraints of your institution, but in general, most institutions will likely want to assemble a prioritization list to ensure the most important video is captioned first. This list will typically consider factors such as:

- Urgency: is the video needed for a specific accommodation?
- Usage frequency: is the video to be shown once, or is it expected to have a long lifetime?
- Audience: is the video intended for students, staff, or public viewing?
- Purpose: is the video for core instruction, supplementary/review, or general information?
- Workflow: Is the video easily captioned or are there technical challenges?
- Budget: are funds available for captioning?

Weighing these factors yields a captioning prioritization that often looks something like this:
As discussed earlier, compliance scrutiny and litigation is increasing, so the ultimate goal of institutions should be to caption all content; this prioritization list should be viewed as what content to caption first, not what content can be ignored.

**Available Captioning Solutions**

Campuses that are evaluating potential solutions have several options to consider.

*Create an Internal Captioning Department*

Internal captioning departments are not a common solution due to the significant challenges in setting up an efficient operation. The first step is to determine which department will be responsible for this task and how it will be funded. A workflow will need to be created for requesting and producing captioned videos. Captioning is a labor-intensive task, with typical estimates of 10 to 16 hours of labor needed for each hour of video captioned. In addition to the significant labor costs involved, the budgeting process also needs to consider costs such as equipment, software, space, and administrative overhead.

Some campuses have experimented with using students to caption lecture capture and other materials; however, the quality of transcriptions and inconsistent availability of students have proven this approach to be largely ineffective.

*Les Balsiger, Director of the Center for Learning Technologies for Laramie County Community College,* explained, “Using students for transcription and captioning of video is not a good approach. It’s nearly impossible to train them to do it accurately and efficiently, and turnover is too high. It’s better to pay trained professionals, get it done quickly, and get it right the first time.”

Students are typically available only 10 - 12 hours per week. As a result, schools must juggle multiple students in their transcriber pool in order to keep turnaround time acceptable and consistent. Schools must also provide infrastructure such as computer workstations and office space for each student, along with supervisory staff and technical support staff. Benefits, taxes, and other overhead

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**Eight Critical Questions to Ask Before Choosing a Captioning Solution**

1. Does the vendor use professional transcribers, crowd-sourcing, or speech recognition in the process? What steps are taken to ensure high quality captions?
2. How easily will it integrate with my lecture capture platform and my departmental workflow?
3. How long does it take to provide captions?
4. How easy is it to get up and running?
5. Is the captioning service provider reliable and easy to work with?
6. What is the cost per hour? Examine extra charges for faster turnaround and difficult audio, as these can occur frequently.
7. Are there any setup charges or extra fees for special content?
8. What media formats and caption are provided?
typically add 30% – 40% to the costs. By the time the total cost has been calculated, most campuses find that in-sourcing is more expensive than outsourcing, and provides much lower quality results.

**Speech Recognition Software**

Speech recognition software is sometimes used by universities that are looking to cut costs; however, the inaccuracy of these solutions makes them a poor choice for an academic environment in which correct captioning is critical.

The best of these solutions still displays a high degree of inaccuracy. In the academic environment, this inaccuracy is often exacerbated by ambient noise, topic-specific vocabularies, and speakers with accents. Research conducted by the National Institute of Standards and Technology (NIST) confirms that even the best speaker-independent speech recognition systems do not approach the accuracy of human transcribers.\textsuperscript{xiv}

In addition, Automatic Sync Technologies’ Small Business Innovation Research (SBIR)-funded research demonstrates that even the 3% – 5% error rates produced by speaker-trained speech recognition systems are significant enough to dramatically impede comprehension. The reality is that, in most cases, training a speech recognition system with speech profiles for all faculty members that are involved is expensive and impractical.

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Even trained speech recognition solutions have extremely high error rates – and are generally considered beyond the threshold of acceptability for academic environments.
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With the error rates for speaker-independent speech recognition systems in the 20% to 40% range, money and time spent on these systems is basically wasted. In fact, exposing captioned content with such high error rates to students or the public could become an expensive embarrassment, projecting a public image that is inconsistent with the image that higher education institutions strive to maintain.

While editing inaccurate captions is always an option, it has proven to be more expensive and time consuming in the long run. When editing transcripts with more than a 5% error rate, the cost of editing and correction is higher than simply starting over.\textsuperscript{xv}

<table>
<thead>
<tr>
<th>Source</th>
<th>Typical Error Rate</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Transcriber</td>
<td>0.5% to 1%</td>
<td>No problems</td>
</tr>
<tr>
<td>Student Transcriber</td>
<td>Variable</td>
<td>Much worse than a professional</td>
</tr>
<tr>
<td>Speech Recognition: trained</td>
<td>3% to 5+%</td>
<td>Varies from acceptable to poor</td>
</tr>
<tr>
<td>Speech Recognition: untrained</td>
<td>205 to 40%</td>
<td>Unintelligible</td>
</tr>
</tbody>
</table>

\textsuperscript{xiv} Research conducted by the National Institute of Standards and Technology (NIST) confirms that even the best speaker-independent speech recognition systems do not approach the accuracy of human transcribers.

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Third-Party Solution Providers

In order to ensure accuracy, compliance, and ease of deployment, many schools will turn to third-party providers; however, not all providers are created equal. Many companies use a hybrid approach, combining error-prone speech recognition software or crowd-sourcing solutions with the oversight of an editor to monitor accuracy. This hybrid approach, while economically beneficial for providers, introduces the potential for inaccurate closed captions.

Consider the game of telephone, in which each player whispers a selected sentence to the next player. Each time information is passed the opportunity for errors increases. When beginning the editing process from an inaccurate document, the opportunity for additional errors is introduced and amplified.

The most accurate solutions utilize trained transcriptionists to ensure that not only are the correct words transcribed, but that the original intent of the speaker is also captured. It was in response to this need that Automatic Sync Technologies introduced its landmark captioning technology, CaptionSync, which was developed specifically for higher education campuses.

Recommendations for Action

Captioning is often tackled piecemeal on campuses, creating barriers to ensuring compliance, accuracy, or efficiency. This makes it difficult to ensure you are delivering accessible content to your students, and it impedes your ability to respond to enforcement actions or litigation over accessibility. The following actions will help guide your caption to a more systematic, thorough, and efficient captioning effort:

- **Establish a policy** – this is a key first step; make a clear statement that you intend to provide accessible content, and that content producers are expected to ensure that accessibility is incorporated into their production process.

- **Choose whether to in-source or out-source** – most schools choose to outsource for the reasons cited earlier. Do not consider speech recognition software as a viable solution path as going down this path will almost certainly guarantee wasting a significant amount of money and time.

- If you choose to in-source, **assign a manager** and ensure you budget adequate resources for space, equipment and labor. This is not an endeavor that should be considered a part-time or extra task for someone to take on – it will take a dedicated effort to get a good result.

J. Ian Weber  
Senior Manager Academic Technology & Media Services  
Rochester Institute of Technology (RIT)
• If you choose to out-source, **choose a captioning provider**. Pay attention to quality, as poor quality captioning does not yield an accessible product. Avoid vendors who use speech recognition or crowd-sourcing as a key part of their process as such approaches will not reliably generate good quality product.

• **Determine what video players and/or video platforms you need to support.** You should expect this list to change over time, but ensuring you understand what you need to support will help ensure a successful outcome.

• **Educate and inform** – given the decentralized nature of video production, success will require awareness and cooperation from all potential video producers on campus. While a captioning policy is a necessary step, it is not sufficient: spend the time to educate constituents not only about how to caption, but why captioning is important and what they stand to gain from doing it. Involve your captioning vendor in this process, as they can be a helpful ally.

  
  "Spend the time to educate constituents not only about how to caption, but why captioning is important and what they stand to gain from doing it."

• **Audio quality is very important** – as a captioning provider, we see a great deal of content that is simply unintelligible due to poor audio recording. If professional transcribers with specialized equipment are not able to make out what is being said, then just imagine how the rest of your viewers will fare. A bit of extra attention to what microphone to use and the quality of the audio recording will not only improve the accuracy of the captioning, but also make the content more approachable for all of your viewers. Simple, inexpensive lapel microphones work well and provide much better results than room microphones.

• **Determine how to fund captioning** – whether you in-source or out-source the captioning task, it will cost money; budgeting for this and figuring out how to fund it up front will be an important part of setting up the process. Some institutions provide a centralized funding source for captioning costs, while others bill the costs back to each department. Because captioning is usually added after production and accounted for separately, it can appear as a large cost on its own, but if you consider all of the costs involved in producing a video, captioning generally comes out to a fairly small percentage of the overall cost. Ultimately, captioning should really just be considered as part of the production cost for the video.

• **Automate the workflow** as much as possible! The biggest objections to captioning come from the perception that it is difficult, inconvenient, and time-consuming to do. Remove those objectives to increase the willingness of video producers to caption their content. Take advantage of built-in interfaces between lecture capture systems or video platforms and captioning vendors to automate the captioning workflow. If your captioning provider offers an API or software interface to their system, it is relatively simple matter to automate the submission of content for captioning automatically from a central Content Management
System (CMS) or Learning Management System (LMS). Such automated workflows can automatically select the correct caption formats for your needs, ensure caption files are returned to the correct location, and even apply business rules about what content needs to be captioned.

> Take advantage of built-in interfaces between lecture capture systems or video platforms and captioning vendors to automate the captioning workflow.

While these actions will put you on solid footing for implementing a captioning program on your campus, there are certainly some pitfalls to be avoided. Here are the most common problem areas to watch out for:

- **Copyright**: for campuses that want to caption content that they own copyright in is not an issue, but captioning content that you do not own can be problematic. In general, you need to obtain the permission of the copyright owner before you can caption material that you do not own. Many people cite “Fair Use” as a clause in the Act that allows them to avoid seeking permission, but the Fair Use provision does not circumvent the need to seek permission. This issue arises for both uncaptioned media that you purchased for use on campus, and for online videos (e.g., YouTube videos) belonging to other owners that professors may reference in a class. Of note: new legislation in the UK will make it permissible for universities to caption other owners’ content for the purpose of accessibility, so perhaps those changes are on the horizon in North America as well.

- **Inaccessible players**: While most video players and video platforms now support captioning, this is not yet universally true. Some video tools have such rudimentary support for captioning that captioning content on a large scale for them would be very inefficient. Support for captioning (and accessibility in general) should become a criterion in the selection process for video technology; campuses should avoid selecting (or even allowing) the use of technologies, players, or platforms that prevent or hinder the production of accessible content.

- **Cost control**: Automated workflows are great for reducing the barriers to captioning, but the downside is that they can be too successful. Campuses generate a lot of material, and if the captioning process is made too transparent, it can lead to bad surprises. This problem is fairly easy to address, but it needs to be considered as the captioning workflow is designed. Some workflows include an authorization step for each captioning request, while others include frequent periodic reviews of the caption expenditures to-date (make sure your captioning vendor can provide this information).

- **Physical media**: While most of the attention for captioning is now directed at online media, do not forget that your library likely has a collection of uncaptioned physical media (VHS or DVDs). Captioning physical media can be more technically involved than online media, so
make sure you consider how to tackle this material when planning your captioning infrastructure.

**One final recommendation: make sure you get full value from your captioning dollar.** Video platforms and players can use caption data in many ways beyond just displaying traditional synchronized captions. Caption data can be used to allow users to:

- search video content by text queries;
- skim through a text transcript and select the portion of the video they want to go to;
- select a word in the text to retrieve a definition;
- clip and share parts of the video with other users;
- translate the text data to another language;
- present the text data to web crawlers in order to have your video better indexed by search engines (SEO).

**CaptionSync Offers Speed, Accuracy, Flexibility, Compliance, Industry-Leading ROI, and Improved Learning Outcomes**

CaptionSync by Automatic Sync Technologies was developed by Kevin Erler, Ph.D., and Brent Robertson, in collaboration with a team of expert advisors from higher education and with funding from a grant from the U.S. Department of Education. CaptionSync was specifically developed to address the unique needs of higher education.

Here are ten key reasons why we believe CaptionSync offers the best captioning value available:

1. **Near-Perfect Accuracy:** The need for accuracy in the academic environment is a primary concern. CaptionSync addressed this need by utilizing trained stenographers to transcribe all materials. In order to work with Automatic Sync Technologies, stenographers are recruited from the most demanding environments, such as court reporting. They must then pass a rigorous evaluation and are subject to constant quality control reviews. The result is industry-leading accuracy and captions that are 100% compliant with all closed captioning laws and regulations.

2. **Simple User Interface:** Administrators, educators, and campus technology staff don’t have time to manage complicated systems and processes. CaptionSync provides numerous options for uploading your video content, and provides a simple interface to enable users to select what they need. CaptionSync also provides account administrators flexible billing and reporting options to ensure they can stay on top of expenditures.
3. **Depth of Experience:** Automatic Sync Technologies has been providing captioning services to educational institutions for over 10 years. This rich experience allows us to provide unparalleled support and guidance through the captioning process.

4. **Cost Effective:** Automatic Sync Technologies’ organizational efficiency and proprietary processes mean that CaptionSync is not only extraordinarily accurate but also highly affordable, offering one of the best values in the industry.

5. **No Long-Term Commitments:** There are no license or setup fees and no long-term contracts. Pay for captioning only when you need it.

6. **Industry-Leading Speed of Service:** Captions are provided within three days of the request, guaranteed. When speed is of critical importance, 24-hour service is available. *Michael Levin, Director of Sales Operations at NBC Learn boasted, “CaptionSync is a great solution for our needs, allowing us to caption a vast amount of material in days, not months.”*

7. **Pre-integrated with Many Lecture Capture and Video Platforms:** CaptionSync is already integrated with many lecture capture systems, video platforms, and content management systems. Integrations include Echo360, Mediasite, Tegrity, Panopto, NCast, Kaltura, Brightcove, YouTube, Desire2Learn, ShareStream and DropBox.

8. **Simple API:** CaptionSync offers a simple API (integration interface) that allows users to integrate CaptionSync into their own custom workflows. Complete documentation on our API is available, as well as expert consulting to help you through the process.

9. **Broad Media Support:** CaptionSync can ingest a wide variety of media types, including most electronic media formats. It also offers a mail-in option to handle physical media.

10. **Output formats:** CaptionSync offers almost 70 different caption output formats, covering all major standard formats, several lesser-known formats, along with a couple specialty formats.

("Out of 10 high ranked caption vendors, only CaptionSync met all criteria for cost, format, fast turnaround, online submission, and support. It streamlines the process of captioning our public-facing materials and gives us the assurance it will be accessible.

Dean Brusnighan, Assistive Technology Specialists Purdue University")
**Contact Us Today**

To learn how CaptionSync can provide your campus with turn-key, cost-effective, industry-leading closed captioning, call today or visit our website to get started immediately.

Web site: [www.automaticsync.com](http://www.automaticsync.com)
Email: [info@automaticsync.com](mailto:info@automaticsync.com)
Phone: 1-877-AST-SYNC

**About Automatic Sync Technologies**

Automatic Sync Technologies, the leading provider of automated captioning for thousands of clients around the world, created the CaptionSync process. Funded in part by an SBIR (Small Business Innovation Research) grant, Automatic Sync Technologies pioneered the most cost-efficient, high quality, automatic captioning service available today. CaptionSync delivers all time-coded captioning file formats to you in minutes... all from one single submission.
Endnotes


4. Reference http://www.ada.gov/cguide.htm#anchor62335


