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EMERGING TECHNOLOGIES

DIGITAL VIDEO REVISITED: STORYTELLING, CONFERENCING, REMIXING

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Five years ago in the February, 2007, issue of LLT, I wrote about developments in digital video of potential interest to language teachers. Since then, there have been major changes in options for video capture, editing, and delivery. One of the most significant has been the rise in popularity of video-based storytelling, enabled largely by innovations in video production and distribution. Another major shift has been the greater array of options for capturing video on inexpensive camcorders, built-in webcams, and, especially, mobile phones. This has in turn enabled new possibilities for video conferencing. Finally, the greater availability of video-capable devices and options for video sharing has led to an ever increasing presence of video alongside text and images in all manner of Internet-based publishing.

NEW DEVICES, NEW USES

In the 2007 column I wrote about the competing standards for high-definition optical discs, HD DVD and Blu-ray. Blu-ray won that battle soon after, but has been something less than a success in supplanting traditional DVDs. Video producers and packagers have largely ignored the capabilities that the network connection and much larger storage capacity of Blu-ray enables, including multiple camera angles, easy access to auxiliary materials, or client/server and peer-to-peer networking. The potential of Blu-ray Java Interactivity (BD-J) remains largely untapped. This past year saw the release of Easy3D BD-J, an authoring/editing system which allows standard Blu-ray discs to register and display 3-D graphics, when available. One of the other much-hyped arrivals five years ago were handheld HD (high-definition) cameras, which record either on miniDV tapes or on miniDVD and are capable of showing 1080i resolution video. These cameras at the time were prohibitively expensive; newer versions are available but still at prices starting at 300 to 400 USD. Today, sales of such high-end camcorders pale in comparison to the number of smaller devices capable of recording video. Particularly popular have been the Flip video cameras, which Cisco earlier this year announced would end production. The Flip Ultra, introduced in late 2007, has been consistently the best-selling camcorder on Amazon.com, selling for around 150 USD. The Flip camera has proven to be popular as well in education, with its simple controls and low-cost making it ideal for student video projects.

Given its popularity, it seems possible that the Flip might have continued life after Cisco. But today it faces increased competition from the video capabilities on many mobile phones. The quality of video recording on phones varies greatly, from grainy, choppy video on basic models to smooth, high definition video on higher end smartphones. The iPhone 4S, for example, can capture video at 1080p resolution, and features image stabilization, excellent lowlight shooting, and sophisticated autofocusing. Android-based phones also feature excellent video capabilities. The maximum length of video depends on the phone's memory capacity, but could be considerable on many newer phones. Phones still cannot match the quality and features of dedicated camcorders, but their small size and constant availability trumps such considerations for many people. Ease of transfer is another selling point, with the ability not only to transfer through USB or Wi-Fi to a computer, but also directly to upload the video to sites such as YouTube, or to send it by email or text messaging.

The greatly expanded availability of video recording today points to a general trend in the use of video, away from professionally produced video using high-end equipment to more affordable and casual production and use. Anyone browsing YouTube sees immediate confirmation of that trend. It is evident as well in the use of video in language learning. I'm not aware of any language learning applications which

take advantage of the advanced capabilities of Blu-ray video. On the other hand, there are no end of examples of projects using basic video technology. In particular, student-created video projects abound. The American Hebrew Academy, for example, used Flip video cameras to improve Hebrew language instruction. The description of their experience is, I believe, largely typical. Initial reaction to the video projects was disappointment over the relatively poor quality of the video and audio. But the teachers who participated in the project gradually came to the awareness that professional-level quality was not necessary for the project to be successful and to reach its goal of improved language learning. They also discovered that shorter videos, limiting in their case student videos to a maximum length of two minutes, were more practical and efficient. They also discouraged extensive editing of student videos. The results showed improved vocabulary retention (their primary goal), as well as enhanced student engagement in learning Hebrew.

A student video project for learning Russian points to some other important components of effective use of video in classroom settings (Nikitina, 2011). Students collaborated in small groups and were given clear outcomes for the projects in terms of language use (target language only, comprehensible to all students), content (topics and vocabulary from the course syllabus), and participation (all members of the groups to appear and speak). Most teachers are likely to echo this emphasis on giving clear instructions for such projects, which can otherwise become amorphous. Another prerequisite for successful student video projects is the preparatory work needed before the students start shooting any video. This may entail some instruction and training in the use of the equipment and software. Most likely it will also require linguistic preparation, introducing or reviewing vocabulary, phrases, or structures students may need for their projects. The pre-production work will probably center around writing a script to be used in the video, although, depending on the proficiency level of the students, the dialog or content might instead be prepared orally and rehearsed. To help generate ideas for dialogs and scripts, one author suggests a number of possible group games (Dal, 2010). In fact, the interactions within the working groups can be as valuable a part of the learning experience as actually creating the video. The same study lists a number of possible types of video-based projects, including a photo story (video built around images using a program such as Microsoft Photo Story 3), short presentations (students introducing themselves or discussing briefly a topic), interviews, sketches, mini documentaries, or dramatizations. No matter what the content, the process of preparing for, shooting, and then collectively viewing and discussing the video provides a nice opportunity for task-based, student-centered language learning.

The kind of student videos used depends in part on student proficiency levels and on the language learning goals for the project. Video use in the classroom has traditionally targeted development of listening comprehension skills, but student-created videos may involve considerable writing and speaking as well. One study, in which ESL activities centered around a feature film, saw improved listening comprehension, but also improvement in working with targeted grammatical structures (Wilcox, 2009). One of the additional desired outcomes in that project was cross-cultural understanding, which the study reports, was communicated effectively through the film and the associated learning activities. This was also a goal in a study with intermediate level Japanese learners who created video projects (Goulah, 2007). In this case, the goal was to create within the students a general awareness of cultural issues (global political conflicts, environmentalism) and more specifically of Japan's role in international concerns. The student groups in this model were instructed to use the target language exclusively, both in video preparation and production. This came with the added benefit of students learning specific vocabulary associated with video production, something appropriate to higher-level language learners. The author also discusses the benefits of video in having students learn about gestures and body language in the target culture. This is an area in which there does not seem to have been recently much research activity, but gestures are important from both a cultural and communicative perspective. I remember fondly working with an excellent videodisc (now on DVD) on this topic, "In the German Body" by Carolyn Fidelman, which students found both enjoyable and informative.

Around the time videodiscs were being used, the first computer-connected cameras were becoming available. Particularly popular was the Connectix QuickCam, which was ball-shaped and connected through a serial port, later through USB. Today, webcams are often built into laptops or monitors. Video compression algorithms have come a long way since the days of CUSeeMe and its 15 frames a second. Better video codecs (a portmanteau of "compressor-decompressor") and faster networks allow applications like Skype to have moved from audio-only conferencing to video, not only on desktops but on mobile devices as well. For language learning this has enabled video-enhanced tandem learning, a significant enhancement over the previous text or audio exchanges. Free videoconferencing programs like Skype, Oovoo, or MSN Live Messenger offer more than just video chat capability; they also feature some combination of whiteboards, file sharing, webcam recording, video-messaging, and desktop sharing. Increasingly, they also include links to social networking sites. Commercial conferencing products such as WebEX, Adobe Connect, or Wimba Live Classroom offer additional features and better video quality. There are also a number of web-meeting applications like Yugma or Vyew, which can also be used for video chat.

DIGITAL STORYTELLING

Another indicator of the trend towards personal videos created with lower-end desktop software is the emergence of digital storytelling. What is designated with this term is normally something more than a quickly slapped together YouTube video. Rather, what this entails is a more involved and thoughtful process, in which the creator narrates a deeply personal story with the help of video or a series of still images. The length of the video varies but tends to be fairly short, 3 to 5 minutes. The stories are usually drawn directly from personal experiences and come with considerable emotional investment. This is, in fact, one of the benefits of digital storytelling for language learning, namely that it is not just a class assignment but links into students' real lives, an important element of effective task-based language learning. The rising popularity of digital storytelling in the last five years may be tied in part to the availability now of a technological infrastructure that makes these kinds of projects much more practical, from inexpensive video recording and widely available video editing (iMovie for the Mac, Movie Maker for Windows), to free storage and delivery through YouTube or one of the other video collector sites. The phenomenon might also reflect the need in our fractured real-life communities to find connections through online sharing, just as we do through Facebook or other sites of social gathering and exchange.

There are many resources for digital storytelling on the Web; particularly useful for educational purposes is the digital storytelling Web site created at the University of Houston. Another important resource is the San Francisco bay area based Center for Digital Storytelling, which originated the concept. In the classic process outlined by the Center, the first step is to present a potential digital story to a small group (a "story circle") as a kind of try out and opportunity to gather suggestions (or go back to the drawing board). Next is storyboarding, planning out the sequencing and narration of the story and gathering the resources to be used (audio, images, video). Resources for the story can come from online sources such as Flickr for images or YouTube for video, or may be drawn from self-created media. Once all the materials are collected, the author writes a script and works out the mechanics of telling the story including timing and transitions. Audio editing software (such as Audacity or GarageBand) is used to record the narrative. The story can be read from a script or narrated freely. As in presentations, the more natural the speech, the better, so using notes is preferred to reading. Normally the author will personally narrate the story, although other voices may be included. Usually a music soundtrack will be playing in the background. The narrative and music are mixed with the video, alongside any still images and titles using desktop video editing software. The saved digital file is then posted to the Web for sharing. Examples can be viewed from the University of Houston Web site, or from the Center for Digital Storytelling. Sample digital stories highlight global citizenship, the author's Vietnamese roots, or a study abroad experience. The digitales site features stories grouped in a number of categories including docudramas, family history, and personal expression. Examples of stories created in Spanish by U.S. high school students are also

available online. Marco Torres has posted student videos in English and Spanish, such as one about a student's Latino neighborhood. Rudolf Raward authored a digital story hosted on YouTube in the Panau language of Papua New Guinea. This is part of the Enduring Voices project from National Geographic, which uses digital stories and other strategies to help save endangered languages.

Clearly such projects can be quite demanding in terms of technology (video/audio editing, titles creation, music synchronization) and require a significant investment of time and energy. If used in educational settings, production values are likely to be reduced significantly. Judith Rance-Rooney (2009) in her assessment of digital storytelling for language learning cautions against overemphasizing the technical side of the process, suggesting concentrating instead on the essence of the process—a compelling story engagingly narrated. Storytelling projects can be an effective means of documenting language proficiency. They can show both students' ability in writing and in formal, rehearsed speaking. Rance-Rooney has found that the process can be intensely engaging to learners and can be a way to empower normally shy students. Virtually all accounts of the use of digital storytelling in education emphasize how highly motivating it can be to students. It also takes advantage of students' use of online social sharing and interest in video. It's not surprising that a number of authors have pointed to the use of digital storytelling as a helpful step in the direction of autonomous language learning (Stanley & Dillingham, 2011; Hafner & Miller, 2011).

To be effective in this medium, students need to stretch the boundaries of their language ability. As one study points out, students have little trouble talking about everyday topics such as home, university life, or travel, but often have considerable difficulty expressing emotion or voicing opinions (Hayes & Itani-Adams, 2011). Effective transitions between sentences or ideas tend to be problematic for language learners as well. The kind of language and structure needed in storytelling move students from textbook to real-life language. According to a study by Hafner and Miller, an important motivating factor for video projects is the awareness that students are writing for a real audience who will view the video, not just for their professor. Posting the videos on YouTube or making them available in an open personal portfolio can serve that purpose. Unfortunately, as Hafner and Miller point out, "it is not uncommon in educational settings for teachers to hide students' work behind a protective firewall within an institutional intranet or learning management system. Such practices, understandable as they are, make it impossible for students to interact with a wider audience, and may therefore bring the meaningfulness of the coursework into question" (p. 81). This is the same issue that can arise when student portfolios are created within a closed system such as Blackboard.

In addition to using desktop media editing software for authoring digital stories, there are an increasing number of Web sites which provide on-line story creation. Many of these such as Little Bird Tales, Storybird or Grabba Beast are designed for elementary or middle school students. Others have a special capability or a particular focus, such as the 3-D capability of Stage'D!, the historical orientation of Primary Access, or the art history emphasis of Picture A Story. Storyjumper features the option of producing a bound print copy of your story, Bitstrips enables creation of a personal comic strip. Other sites offer an array of tools or options. Creaza, for example, is a suite of tools that include mind-mapping, cartooning, as well as audio and video editing. There are a number of websites which have reviewed storytelling tools and software, including the AASL list of best educational tools, the iLearn annotated list, Digital Storytelling by Chris Smith, and a survey by Danny Maas of web-based tools. One of the more recent developments in this area has been the emergence of storytelling authoring apps for tablets, especially for the iPad. A site put together by Apple Distinguished Educators provides information and resources for the iPad. One teacher has written on his experiences with the Story Patch app with his students. Apple has released iPad versions of both GarageBand and iMovie and recently introduced iBooks Author (Mac only), and easy-to-use tool for creating interactive e-books for the iPad.

VoiceThread is a collaborative audio authoring tool which allows users to start a story, which can then be continued by others through text, voice, or video. The ability to have online users participate in or

comment on a story is sometimes referred to as Web 2.0 Storytelling. This kind of process is familiar from YouTube, where comments in text or video formats are common. One of the better-known examples is the lonelygirl15 series of videos which purported to portray the life of an adolescent girl, but in fact were scripted and performed by an actress. The popularity of the videos resulted in a host of comments, blog posts, response videos, and parodies. Eventually, the lonelygirl15 videos became part of a complex story involving a secret evil organization. Subsequently, there were international spin-offs in Poland and Italy. A series of still images formed the starting point for "I found a digital camera in the woods," which invited readers to add a comment, interpret the pictures, and continue the story. Video remixes fit into this category as well, such as movie trailer recuts, in which the creator offers a totally different take on a classic movie by re-arranging the scenes or adding a new audio track. Scary Mary, for example, features Mary Poppins as the major character in a horror movie.

EMBEDDED VIDEO

One of the capabilities of digital video being increasingly used is the ability to embed video clips on a Web page, which also may contain text, images, JavaScript-based interactivity, or audio clips. Commercial web-based language learning sites use this kind of multimodal approach (Yabla, for example), as do many language teachers engaged in distance learning. Some have used the Victory Author system from Penn State for this purpose. For language teachers, the most common rationale for embedding video is to offer learners help in comprehending video, through annotations, dictionary lookups, notes, or comprehension questions. YouTube pioneered the kind of easy copy and paste embed that is now ubiquitous on the Web for sharing and incorporating video clips.

The flexibility of embedded video allows useful pedagogical adaptations of video clips, such as muting the audio, displaying or hiding the video, or calling up transcripts, or partial transcripts, on demand. With fairly basic JavaScript, it is possible today to create a Web page with such features, that in the past would have required considerable programming. One of the other useful functions is the ability to hide or show captions or subtitles. In fact, there are quite a few free and commercial tools for adding subtitles to videos, with annotated lists available online for Windows and for Macs. Tools are available to help in creating video transcripts, such as Transana and HyperTranscribe, available for both Mac and Windows platforms. Some transcription tools, such as Express Scribe, work with speech-to-text programs to generate transcripts automatically, although the results may vary considerably. This is true as well of the transcribing/captioning feature now in YouTube, which also allows the option of manually editing the generated text file. The captions can also be translated on-the-fly into over 50 languages, using Google Translate.

A recent article in this journal on the use of captioning offers good insights into the issues surrounding captioning, or same language titles, which are similar to those involved in using first language titles for second language film (Winke, Gass, & Sydorenko, 2010). The study found that captioning can be useful for learners at all levels, but videos need to be carefully selected according to learners' language proficiency. Another finding of the study was that the utility of captioning varies according to the target language. For some languages, displaying the captions the first time the video is shown proved to be most effective for helping comprehension, whereas for others, it was better to wait until a subsequent viewing. The study also showed that learners of languages using a different alphabet from their own particularly profited from the use of captioning. For speakers of European languages, for example, captioning video in Arabic and Chinese was particularly helpful. Deciphering word boundaries was greatly aided through captioning. As is the case with webcams, it would be useful to have more studies analyzing different uses of captioning and subtitling. Of particular usefulness are studies such as Winke, Gass, and Sydorenko's which take into account different proficiency levels and a variety of languages.

Video embedded in a Web page can be accessed through JavaScript and HTML. Until recently the video was most likely to be a Flash movie, which can be JavaScript-enabled if the Flash file was set up to

permit that kind of interactivity. In the 2007 column I highlighted the rise of Flash video, which had replaced QuickTime and Windows Media Video as the format of choice for Web delivery. This was evident in YouTube's use of streaming Flash. Now, however, YouTube videos are also available in the HTML 5 friendly H.264 format, one of the codecs of MPEG-4. Flash has been losing favor in large part because it is not supported on any of Apple's popular mobile devices. A December, 2011, study found that 80% of the video on the Web today is available for HTML 5 playback. Adobe has recently announced that it is discontinuing development of the mobile version of Flash. One benefit of HTML 5 video is that it does not require a browser plug-in like Flash but is directly incorporated into the HTML of the Web page (using the new <video> tag), which makes targeting and manipulating it through JavaScript easier and more powerful.

OUTLOOK: MORE REMIXING, MORE INTERACTIVITY

The 2007 column discusses the then recent popularity of YouTube, for both general use and for educators. YouTube in language learning was the topic of an LLT column by Joseph Terantino in last year's February issue. YouTube continues to be a rich resource for educators, particularly with the recent arrival of YouTube for educators. One aspect of YouTube, however, that usually generates scant attention among educators is the mashup or remix culture in which the site's videos play a significant role. Users combine media, by, for example, adding alternate soundtracks to clips from feature films. Until it was removed for copyright reasons, a Hitler scene from the movie Downfall was a YouTube sensation, with multiple alternative soundtracks, using Hitler's rant to comment on all kinds of issues. Conversely, users will create slideshows, image montages, or home videos to accompany commercially released songs. Sometimes what shows up on YouTube is a very personalized and customized mix of media from commercial sources and personal collections. Such videos drive copyright holders and their lawyers to distraction, but by and large the younger generation sees no problem with incorporating in this way copyright protected material, as long as it's not for personal gain or advancement. This explains the rather bizarre comment often attached to uploaded videos on YouTube, that "no copyright infringement is intended." Of course, such a statement in no way exonerates copyright violators, but it tends to highlight the very different perspective on copyright of the "digital natives." While some educators are likely to bemoan this attitude, it may be, as one commentator noted, on its way to becoming the majority view once this generation reaches maturity. Either way, it is important for educators to take note of such developments, as we seek ways to tie the formal learning environment to students' real lives.

From a language learning perspective, one can envision creating similar kinds of "bridging" activities to those described by Thorne and Reinhart (2008) as a means of leveraging student investment in remix culture. Just as Thorne and Reinhart advocate analyzing student language used in another kind of modern hybrid, fanfiction, the same could be done for videos, inviting students to analyze language aspects of online videos, including language registers, vocabulary usage, unusual collocations, and so on. One of the intriguing aspects of digital storytelling is the combination it provides of traditional literacies (writing, narrating) with new literacies (online search, video editing). Having students engage in digital storytelling can make a considerable contribution to the multimodal literacy needed in today's culture.

For many in today's youth culture, a compelling kind of online experience is what is known as interactive storytelling. Rather than having a set, predetermined, linear storyline, interactive storytelling incorporates game elements (3-D avatars, text-to-speech animation) to create an open ended narrative in which, as in computer games, the user controls the action and the narrative. In such stories, virtual, annotated characters interact with each other and with one or more real users, who type replies or directions. A recent study discusses different approaches to offering interactive digital stories for language learning, such as the graphic editing interface in Cyranus or Scenejo or the spreadsheet-like interface of Thespian (Müller, Iurgel, Otero, & Massler, 2010). In any case, this kind of media requires programming ability and a much more significant investment in time than linear storytelling. Interactive storytelling is not for

everyone, but it is certainly something that can be of great potential interest to an enthusiastic video game playing generation.

REFERENCES

Dal, M. (2010). Digital video production and task based language learning. *Ráðstefnurit Netlu - Menntakvika 2010*, 1–13. Retrieved from http://netla.khi.is/menntakvika2010/alm/021.pdf

Goulah, J. (2007). Village voices, global visions: Digital video as a transformative foreign language learning too. *Foreign Language Annals*, 40(1), 62–78.

Hafner, C. A., & Miller, L. (2011). Fostering learner autonomy in English for science: A collaborative digital video project in a technological learning environment. *Language Learning & Technology*, *15*(3), 68–86. Retrieved from http://llt.msu.edu/issues/october2011/hafnermiller.pdf

Hayes, C., & Itani-Adams, Y. (2011). Digital storytelling and student-centered Japanese language learning [Abstract]. *Canberra Langfest 2011*. Retrieved from http://langfest.anu.edu.au/index.php/als/alaa-alanz/paper/view/6121

Müller, W., Iurgel, I., Otero, N., & Massler, U. (2010). Teaching English as a second language utilizing authoring tools for interactive digital storytelling. *ICIDS'10 Proceedings of the third joint conference on Interactive digital storytelling*, 222–227.

Nikitina, L. (2011). Creating an authentic learning environment in the foreign language classroom. *International Journal of Instruction*, *4*(1), 33–45.

Rance-Rooney, J. (2009). Digital storytelling for language and culture learning. *Essential Teacher*, 5(1), 29–31. Retrieved from http://connect.nwp.org/sites/default/files/file_file/Judith_Rance-Roney_Digital_Storytelling.pdf

Stanley, N., & Dillingham, B. (2011, February). Making learners click with digital storytelling. *Language Magazine*. Retrieved from http://languagemagazine.com/?page_id=1684

Thorne, S., & Reinhart, J. (2008). "Bridging activities," new media literacies, and advanced foreign language proficiency. *CALICO Journal*, 25(3), 558–572.

Wilcox, K. (2009). The impact of student beliefs on the effectiveness of video in developing cross-cultural competence. *CALICO Journal*, 27(1), 91–100.

Winke, P., Gass, S., & Sydorenko, T. (2010). The effects of captioning videos used for foreign language listening activities. *Language Learning & Technology*, *14*(1), 66–87. Retrieved from http://llt.msu.edu/vol14num1/winkegasssydorenko.pdf

RESOURCE LIST

Digital Video and Language Learning

- Digital Video in the Language Classroom
- Improving Hebrew Language Learning through Video
- Digital Storytelling for Language and Culture Learning
- Flip Video Wikipedia

- Face-to-Face Project
- Yabla
- Victory Author

Digital Storytelling

- Digital Storytelling
- Center for Digital Storytelling
- The Educational Uses of Digital Storytelling University of Houston
- VCU-CTE-Making-Learning-Visible Digital Storytelling
- Flickr: Tell a story in 5 frames (Visual story telling)
- Digital Stories of Deep Learning
- Digital stories in the ESL classroom
- Historias Digitales MHS
- Web-based Digital Storytelling Tools & Online Interactive Resources: Danny Maas
- iLearn Technology: Digital storytelling
- iLearn Technology 31 of My Favorite Digital Storytelling Sites
- Digital Storytelling: Free ESL Materials
- BBC Wales A Guide to Digital Storytelling
- Educational Uses of Digital Storytelling
- Digital Storytelling ESL
- Storyboard Template
- Digital Storytelling for Language and Culture Learning
- Videos from Marco Torres

iPad Storytelling

- Authoring Content Directly on the iPad | UX Magazine
- ePortfolios for Learning: iPad Authoring Advances
- StoryKeepers iPad StoryTelling APPS
- Digital Storytelling with the iPad
- Options for Recording Stories on the iPad: Story Patch

Literacies and Remix Culture

- No Copyright Intended Waxy.org
- The Generational Divide in Copyright Morality NYTimes.com
- No copyright infringement intended
- Web 2.0 Storytelling: Emergence of a New Genre (EDUCAUSE Review)

- Digitally Speaking / Voicethread
- web2storytelling home
- I found a digital camera in the woods
- lonelygirl15 Wikipedia
- Scary Mary Mashup Movie Trailer
- HTML5 Based Video Availability

Software: Storytelling

- Audacity, GarageBand, iMovie, Movie Maker
- PicLits.com Create a PicLit
- ZooBurst
- Myths and Legends from E2BN
- Picture A Story
- Storybird Collaborative storytelling
- VoiceThread Group conversations around images, documents, and videos
- Stage'D!
- My StoryMaker: Carnegie Library of Pittsburgh
- Welcome to Fotobabble Talking Photos
- Home Creaza Education

Software: Video Annotation

- InqScribe Transcription Software
- Mac Subtitling Software Round-up
- Best free software for making video subtitles
- Universal Subtitles: Add Subtitles to YouTube videos
- Download free Movie Subtitles Searcher by OpenSubtitles
- Transcription Tools
- Transana
- HyperTranscribe
- Express Scribe
- Adding and Editing captions / subtitles YouTube Help
- EnhancED A Look at YouTube's Automatic Captioning Features