Alvin Sherman Library Staff Publications

Alvin Sherman Library, Research, and Information Technology Center

2015

# Making it work: Creating a student-friendly repository for instructional library videos.

Jamie Segno
*Nova Southeastern University*, js1830@nova.edu

Michelle Keba
*Nova Southeastern University*

Michael Schofield
*Nova Southeastern University*

**Making it Work: Creating a Student-Friendly Repository of Instructional Videos**

**Michelle Keba**
**Jamie Segno**
**Michael Schofield**
**Nova Southeastern University**

## Abstract

This case study investigates how a team of librarians at Nova Southeastern University (NSU) worked together to assess and optimize their library's current instructional videos in order to create a mobile-first video hosting platform, known as LibraryLearn. Instructional library videos serve as invaluable resources for students who are not present to partake in synchronous library training. However, once a library has produced a substantial number of videos, the need to organize and routinely update these videos can become a rather daunting challenge, especially when facing obstacles such as loss of original video files, decentralized access points, and viewing incompatibilities among different browsers, operating systems, and mobile devices. In order to enhance user experience and maximize productivity, the development of the LibraryLearn video platform helps to overcome issues regarding usability, accessibility, and incompatibility in order to provide students with "on demand" library instruction.

## Introduction

Instructional library videos are an essential component of distance librarianship and serve as invaluable resources for students who are not able to partake in synchronous library training. However, the need to organize and routinely update these videos can become a rather daunting challenge, especially when facing obstacles such as loss of original video files, diverse formats, decentralized access points, viewing incompatibilities among different Internet browsers, operating systems, and mobile devices, and inconsistent project leadership. This case study analyzes how a team of librarians assessed their library's existing instructional videos in terms of user experience and content creation, implemented a uniform procedure for producing library tutorial videos, and designed a centralized, device agnostic platform for hosting instructional videos known as LibraryLearn.

## The Setting

Nova Southeastern University (NSU) is the eighth largest not-for-profit private institution in the United States and has been a pioneer in distance education since 1972 (Office of Institutional Effectiveness, 2013). The NSU Library system is primarily comprised of four branches: (1) the Alvin Sherman Library, the Research, and Information Technology Center (Sherman Library), (2) the Health Professions Division Library, (3) the Law Library, and (4) the Ocean Sciences Library. Because NSU awards associate's, bachelor's, master's, specialist, doctoral, and professional degrees in education, business, social sciences, health professions, law, marine sciences, and other disciplines, each library branch specializes in serving the research needs of its respective programs. The 325,000 square-foot Sherman Library serves as the university's main library on its main campus in Fort Lauderdale, Florida, and operates as a joint-use facility through a unique relationship between NSU and the Broward County Board of County Commissioners.

Currently, NSU offers distance education programs in 12 countries, 16 states, and Puerto Rico (Office of Institutional Effectiveness, 2013). Course delivery varies by program ranging from traditional face-to-face meetings at the main or regional campuses to programs held exclusively online or with a blended instruction approach. All programs, whether local or distance, are supported by the NSU Libraries. Of the nearly 27,000 students enrolled in Fall 2012, approximately 21% were undergraduate, 64% were graduate, and 15% were professional students. An estimated 22% of NSU students attend classes outside of Broward County, Florida, of which, 2% attend classes at international sites. To best serve these unique student demographics, NSU librarians utilize a combination of synchronous and asynchronous library instruction, such as video tutorials and recorded workshops, to help students learn how to efficiently use the library for their research.

**The Problem**

Although the NSU Libraries have created an abundance of helpful instructional videos on how to use research tools and resources, the librarians did not have a consistent method for presenting and maintaining these videos. Thus, students were exposed to diverse video formats that often hindered the ease and fluidity of viewing multiple recordings, disrupted accessibility compliance, and resulted in incompatibility issues among different browsers and mobile devices. Moreover, librarians lacked an efficient process for inventorying and updating existing videos, which often resulted in duplicated work efforts and diminished productivity. Additionally, the lack of a centralized location for storing video files often resulted in the loss of data upon staff departures. In order to overcome these challenges, a team of NSU librarians came together to investigate best practices for creating, maintaining, and hosting videos as well as how to lead a video reorganization project through transformational change.

**Review of the Literature**

As methods for library instruction evolve, librarians have found innovative ways to incorporate technology, including instructional videos, to meet the needs of students. Over the years, studies have identified best practices for creating instructional videos. Many of these studies (Anderson & Mitchell, 2012; Bolorizadeh, Brannen, Gibbs, & Mack, 2012; Bowles-Terry, Hensley, & Hinchliffe, 2010; Ergood, Padron, & Rebar, 2012) agree that the length of instructional videos should be brief. Anderson and Mitchell recommend that tutorials be modular in design and distinct so that they may be viewed separately or in groups. As for content recommendations, Bowles-Terry et al. suggest that the most important information should be introduced at the beginning of the video in a clean, straight-forward manner. Tutorials can also be standardized through the use of a common introductory slide and a final slide with a summary of the video's major points (Ergood et al., 2012). Videos should also include captions to not only meet accessibility standards but to also assist viewers who do not have access to computer speakers as well as English language learners who might benefit from processing the information both visually and aurally (Bowles-Terry et al., 2012; Ergood, Padron, & Rebar, 2012).

Once a video has been created, the location and findability of the video is also an important consideration for a video's effectiveness. If students are unaware that a video exists, it stands to reason that they will be unlikely to view and utilize the video. Several studies (Bolorizadeh, Brannen, Gibbs, & Mack, 2012; Bowles-Terry, Hensley, & Hinchliffe, 2010; Ergood, Padron, & Rebar, 2012) recommend linking videos in places where students will most need the information, such as embedded within course syllabi, online subject guides, and database web pages.

In addition to effective manual promotion, such as linking to or embedding videos, the crux of findability depends on the availability of browse, search, and view screens for all digital library objects within an application (Clark, 2013; Ellis & Callahan, 2012). McGrane (2012) stresses the importance of the social layer to findability, wherein content might be discovered when shared on social media. Because the likelihood of content appearing within top search results partially depends on the number of times that the content has been shared, this knowledge should inform the design and content in such a way that encourages sharing. McGrane asserts that "mobile is social, social is mobile;" thus for content to be seen it needs to be shared, and for it to be shared it needs to be mobile-friendly (p. 27).

As librarians begin to create instructional videos, managing and updating the videos becomes an essential and time-consuming task. Bowles-Terry, Hensley, and Hinchliffe (2010) note that keeping all librarians aware of instructional videos and their locations can become a challenge in large library systems. Additionally, Anderson and Mitchell (2012) recommend that tutorials be easy to update even for librarians without advanced technological skills. Content strategists agree that the ease with which content is created is crucial not only for its quality and currency but also for the ability to tailor how it is presented based on circumstance (Ellis & Callahan, 2012; McGrane, 2012). The term "content modeling" is used to describe a content-management process that modularizes each segment in order to iron out inconsistencies, eliminate the potential for confusion, and more finely control how content is viewed. As a result, content creators can be guided through a step-by-step process rather than be given an otherwise blank slate with no instruction.

As new technologies and information about best practices evolve, librarians will most likely find that they will need to reformat their videos and instructional materials. While several studies (Anderson & Mitchell, 2012; Bowles-Terry, Hensley, & Hinchliffe, 2010; Mestre, 2010) encourage librarians to create multiple formats that would appeal to students' various learning styles, a recent study by Mestre (2012) found that students prefer and perform better when using a static web page tutorial as opposed to a screencast tutorial. Accordingly, an ideal platform would include both static and dynamic content. Bolorizadeh, Brannen, Gibbs, and Mack (2012) also highlight the increasing use of mobile devices. According to a survey conducted by the Pew Research Center as of May 2013, 63% of adult cell phone owners reported that they use their cell phones to access the Internet (Brenner, 2013). In June 2013, the Pew Research Center also reported that a majority of Americans own smartphones (Smith, 2013). Because mobile devices are becoming the primary method of Internet access, a device agnostic design has become an increasingly important consideration for librarians to ensure that their videos will be mobile-friendly.

In order to continually incorporate emerging technologies and current best practices into asynchronous library instruction, librarians need to develop an efficient system for project management that is guided by effective leaders. As the digital age expands, the need for effective leadership is an increasingly important component of librarianship, especially in regards to innovation and creative problem-solving (Germano, 2011). Accordingly, the American Library Association (2009) identifies transformational leadership as a core competence of the profession and recommends that graduates from ALA-accredited master's programs in library and information studies should comprehend and utilize this leadership style. Transformational leadership emerges when leaders and followers elevate one another to progressive levels of motivation and engagement, which ultimately produces a transformation effect upon all participants involved (Burns, 1978). As a result, transformational leaders operate as agents of change that guide followers toward new perspectives, ideas, and innovation (Bass, 1998). When drafting the core competences, the concept of transformational leadership primarily refers to leading change in libraries (Hicks & Given, 2013).

Integral to this transformation process is the development of high performing teams, which requires a thorough understanding of team dynamics (Curphy, 2008). Though transformational leaders do not always possess managerial authority, they create cultures of change by utilizing the individual strengths of others (Germano, 2011). Transformational leaders embrace creativity, are willing to take risks, lead by example, re-examine current policies, and think in terms of "the big picture." Accordingly, transformational library leaders can achieve cooperation among team members to participate in a change project by expressing a shared vision, demonstrating reliability, communicating effectively, abating anxiety, and encouraging feedback (Düren, 2013). Ultimately, transformational leadership can help libraries adapt and evolve, especially when embracing modern technologies and new processes regarding user experience (Germano, 2011).

### The Library's Solution

To expand upon the existing process for creating instructional library videos, the Sherman Library's Director of Distance and Instructional Library Services (DILS) held a day-long retreat in February 2013 to discuss opportunities for enhancement. At the retreat, librarians from the Sherman Library's DILS and Reference departments reviewed current issues regarding instructional video presentation and maintenance. These discussions included a thorough evaluation of the advantages and disadvantages of various file formats such as flash and mp4, hosting sites such as YouTube, TeacherTube, iTunesU, and Vimeo, and available video editing software at the library, which included Camtasia and Captivate. Additionally, this investigation included an analysis of best practices at other institutions as well as standards in web design produced by the World Wide Web Consortium (W3C) regarding accessibility and usability. Internal guidelines and current processes were also examined relating to video inventory, updates, quality, content, length, and file storage. Lastly, discussions included methods for assessing the effectiveness of the instructional videos in terms of user experience, student satisfaction, and student understanding.

In order to meet the needs of all local and distance students, the retreat concluded with a decision for the library to build a centralized platform to self-host its instructional videos, which would be governed

by consistent procedures for presentation and maintenance.  Accordingly, an Instructional Video Working Group was established to design the platform, draft policy guidelines, and implement these changes.  As a result, the project transpired in four main stages: (1) planning, (2) development, (3) beta trial, and (4) live release.  In the planning phase, which occurred during the Spring 2013 semester, the working group assessed student needs, investigated video options, and provided instructional design feedback regarding the platform template.  During the development phase, which occurred during the Summer 2013 semester, the working group established documentation of guidelines, shared file directory structures, standardized file naming conventions, controlled vocabularies, and content creation instructions while the web librarian built the platform.  Upon completion, the project entered the beta trial phase during the Fall 2013 semester where librarians could begin to add content and provide feedback.  After the platform's live release to students in the Spring 2014 semester, the working group will shift its focus to usability testing with local and distance users.

**Building a Working Group**

The process for designing a student-friendly repository required a transformation in how the NSU librarians created instructional videos.  While autonomy in video production would still be encouraged, NSU librarians now needed to consider their actions in relation to an overarching procedure.  To lead this transformational change toward a more collaborative process, the Instructional Video Working Group was integrated as a subset of the library's Online Media Committee, which oversees librarian-created online content.  Although the decision to establish the working group was announced during the retreat, the operational logistics for assembling the team still needed to be addressed.  Accordingly, the committee's co-chairs utilized the Rocket Model of Team Performance as a prescriptive framework to build an effective, high performing team.  Using the metaphor of a rocket, this model identifies six interrelated components that influence results: talent, mission, buy-in, norms, morale, and power (Curphy, 2008).

The Rocket Model emphasizes that successful work teams include the right number of members that possess clearly defined roles and the skills necessary to achieve team goals.  The two main criteria for selecting the working group members are primary job function and related skills, which led to a team comprised of instructional librarians across the four branches of the NSU Libraries that possessed knowledge of student needs, video editing, and basic web design.  Once the working group was assembled, the team began to meet twice a month to discuss various components of the project.  The committee's co-chairs served as the project's leaders where they acted as agents of change and represented the project's key sponsors that reported directly to the library's web team with input from the working group regarding instructional design.

The working group established its mission at the first meeting and was clearly expressed the mission on the committee's internal LibGuide, which was used as a shared workspace and communication tool.  Early in the process, the group developed an aspirational yet achievable project timeline with benchmark goals to help the project stay on track.  Buy-in among team members was achieved through a combination of shared vision along with specific, realistic team goals.  As the meetings progressed, norms emerged regarding decision-making, policy drafting, and member accountability.  The committee's internal LibGuide, which displayed meeting agendas, minutes, action items, draft policies, and goal timelines, helped enable project transparency and facilitate communication.  Additionally, electronic surveys were available on the internal LibGuide to provide members an opportunity to candidly submit anonymous feedback if they opted not to share their ideas and opinions aloud during the group meetings.  For members unable to attend the meetings in person, an online meeting room was set up using Blackboard Collaborate.  By making these discussions as inclusive as possible, group morale remained high.  Finally, the working group was continually empowered by the library's administration, which viewed the project as a high priority and provided group members with the time and resources necessary to achieve their goals.

**Establishing Best Practices**

Based on the research presented in the Review of the Literature section of this paper, the librarians established video creation guidelines for five key areas: video management, length, content, location, and format.

**Video management.**  In order to track which videos had already been created prior to the video reorganization project, the working group generated an inventory of the NSU Libraries' existing instructional videos.  This inventory was produced as a shared spreadsheet so that it could be utilized by all NSU librarians and updated every time a video is created or modified.  This spreadsheet includes all pertinent video information such as video title, format, original creator, and date last modified.  In addition to updating the spreadsheet, the library's Systems department created a shared media file that could be accessed by all NSU librarians.  Accordingly, all original video files and their components (i.e. thumbnail images, sound files, transcripts, etc.) are now saved to the shared drive where they can be accessed from any office computer.  The use of a shared media file helps prevent the loss of video files if the original creator should ever leave the library.  The shared drive also helps facilitate collaboration among librarians working on the same video project.  As the number of videos in the shared drive grows, order is maintained through a strict folder directory and file naming standard.

**Video length.**  In accordance with the literature, videos are kept short and to the point (Anderson & Mitchell, 2012; Bolorizadeh, Brannen, Gibbs, & Mack, 2012; Bowles-Terry, Hensley, & Hinchliffe, 2010; Ergood, Padron, & Rebar, 2012).  If several videos are needed to fully cover a topic, the videos are to be created in a modular format as recommended by Anderson and Mitchell.  These modular videos can then be displayed in the "Related Videos" section of the video hosting platform.

**Video content.**  All videos now begin with a common introductory title slide with the NSU Libraries logo and are produced in a widescreen (16:9) format.  This standardization gives the videos a cohesive and branded appearance.  For the video content, important information is introduced at the beginning of the video in a clean, straightforward manner and is utilitarian rather than overly flashy (Bowles-Terry et al., 2010).  Closed captions are also included in order to comply with federal accessibility standards.  Throughout the video reorganization project, the working group's leaders documented all of these requirements and related best practices in a "Guide to Making Instructional Videos."  This guide has been uploaded to the library's online knowledge base and has been made available to all NSU librarians so they can easily refer back to policies as they work on creating videos.

**Video location.**  As recommended by Bowles-Terry, Hensley, and Hinchliffe (2010), librarians are now aware of all available videos because they are hosted on a centralized platform.  Self-hosting the videos was chosen over using a hosting service, like YouTube, in order to retain more control over the videos and to ensure that NSU's international students would not be impeded by blocked sites.  (YouTube, for example, is blocked in several countries around the globe.)  Additionally, unlike YouTube, the LibraryLearn platform possesses the ability to generate persistent URLs for individual videos, which can then be linked at the point of need where students are most likely to use them.  These permanent URLs will not change, even when a video is updated.  As a result, librarians no longer have to spend time manually redirecting links to videos.  Moreover, students can easily bookmark videos and will always be led to view the most up-to-date version without encountering broken links or outdated materials.

**Video format.**  For the videos to be viewable on the widest array of current and future devices without requiring a plugin, they are formatted as both MP4 and WEBM files and embedded with the HTML5 <video> element without Flash fallback.  By utilizing these formats, producing and maintaining videos remains relatively unencumbered while ensuring compatibility with more than 80% of global browser usage ("Can I Use," 2013).

## Developing the Video Platform

Design can often be an afterthought, especially in academic projects, but it is important to underscore the fundamental role that design played in shaping the conversation from a platform that passively bundled library videos together to one that actively improved the quality of the content.

**Mobile-first and flat.**  Color schemes and graphics are ancillary, but the early axiomatic decision to create a repository that was mobile-first and flat determined not only much about the potential accessibility and usability of the website but how it is to be maintained as browsers and devices

evolve.  Establishing this simple baseline early in the development of the project was an important factor regarding the time required to manage content.  Ultimately, this decision translates to fewer human hours spent over the long haul in a discipline where budgets are universally tight.

"Mobile-first" technically refers to the structure of a cascading style sheet (CSS), but it also describes the philosophy with which project development was approached.  Everything about LibraryLearn was made to perform well on screens that fit in the palm of a hand.   In a world of ever increasing device complexity, designing for one specific device is no longer feasible.  One cannot anticipate how or with what equipment a patron will connect to the library, so ensuring that the site performs and behaves predictably across a large array of devices meant that the design would be light on graphics and multimedia except for the videos themselves.  Grigorik (2013) reports that for every one-second of load time there is a 65% bounce-rate increase; because buffering a five minute video on a slow connection is already time consuming, it was decided that complicating the rendering of the website with graphics, gradients, or box-shadows would be detrimental.  This premise basically defines "flat design:" a simple color scheme with a substantial amount of white space on a flat plane, without depth.

As a starting point, this design provides several benefits regarding usability.  First, the website loads quickly.  Second, LibraryLearn is more manageably backward compatible with older but popular browsers, like Internet Explorer 8, because its core design makes minimal use of newer browser features.  While the user experience can be made better for modern browsers, mobile-first helps ensure that the website is functional for the widest possible number of browsers and devices.  Third, the project leaders are required to make key decisions about which content is to be included on a page because there is only one column of real estate and patrons will scroll only so far.  These conscientious decisions will ensure that the layout remains free of clutter.

**Fine-tuning the content management system.**  Sensibly producing videos with related handouts, guides, screenshots, transcripts, related video series, etc., could require a lot of content.  One way to help maintain this content is through the use of content modeling.  McGrane (2012) describes content modeling as a method of breaking content into manageable and malleable chunks so that specific portions can be arranged in various templates as befit the circumstance of the user.  Because much of the library's web presence was already part of a larger WordPress network, the working group decided to develop LibraryLearn as a custom theme for WordPress.  While this decision provided library staff with a familiar interface, the out of the box WordPress is inadequate for such fine control because it only allows users to create a new post or page where all content is entered in a single text area.  Thus, a custom WordPress theme needed to be tailored to the NSU Libraries' specific needs.

As is, WordPress inseparably bundles different types of content together in a single block using a template hook called the_content().  If the corresponding video content (i.e. handouts, images, transcripts, video series order, etc.) should ever need to be changed, then the entire entry would need to be manually edited within that block.  This inability to control content at a granular level presented the following obstacles:

- The layout of the content would be fixed and could not be manipulated, whereas NSU librarians wanted the ability to optimize for different screen sizes.
- Different headings, sections, or content-types within the_content() template could not be properly semantically marked up with HTML5 or microdata, which facilitate both the findability and accessibility of the content to search engines and screen readers.
- The default WordPress editor is, essentially, just a title field and a WYSIWYG editor with no further instruction for the content creator. While WordPress's user-friendly interface is preferred to other options, the information required for each individual video was complicated enough that staff would have to constantly refer to external instructions, which would slow and add tedium to the process.  Additionally, without being able to validate specific fields, such as the presence of a transcript or the two required video formats, it would be easier for sub-par or otherwise broken content to slip through the cracks.

Without getting too specific or technical beyond the scope of this paper, the project leaders concluded that the right option for this repository was a highly customized-to-the-task theme.  Accordingly,

the most important function was to break apart content into manageable chunks, which was done by creating a custom post-type. In addition to the two default post-types (a "post" and a "page"), a third post-type called "instructional video" was created with a unique editor. In this new template, the top section of the form includes a brief, step-by-step overview of the entire video creation process, which ultimately helps save time and increase productivity by eliminating the need for staff to make external references to procedural guidelines. The rest of the content has been divided into seven custom fields, which store the content chunks on their own and are accessible from anywhere in the template array:

1. Special Templating: a drop-down list of options that allow staff to change the template based on the makeup of the video; once selected, the template identifies which individual components (i.e. the webm, mp4, srt / vtt, and thumbnail) need to be uploaded or exported (from Adobe Captivate, YouTube, etc.).
2. Checklist: a list of unchecked boxes that must all be ticked before the video can be published; this field is used to ensure and remind staff to include all of the individual components.
3. File Name: a field where staff link to the actual video files (mp4 and webm), which are hosted on an external media server.
4. Accessibility: a required checklist that ensures the presence of captions or a transcript.
5. Description: a brief, hand-crafted summary of the video and related content, which is extracted for search results and external embeds.
6. Subjects: a controlled taxonomy of subject headings that is in sync with other aspects of the library web presence such as the electronic library, database indices, and LibGuides; these specified subject categories, along with a custom API, help dynamically syndicate "relevant" videos to different parts of the website. (For example, a "Basics of Business Research" video could automatically be pushed to any page where a patron is looking for business articles, if desired.)
7. Related Materials: a field where handouts or relevant links can be attached or shared.

By making these customizations, librarians are guided through the process for adding content with helpful reminders of what components should be included. Ultimately, the content modeling strategy helps to increase efficiency and productivity in uploading and maintaining the instructional videos on the platform.

## Conclusion

Based on an extensive literature review and effective project management, the NSU Libraries created a device agnostic platform for hosting library tutorial videos in order to meet the instructional needs of its unique student demographics. In terms of user experience, NSU students now possess a centralized, search-friendly location for finding instructional library videos that features a clutter-free interface that can be accessed on all mobile devices. Moreover, the LibraryLearn platform provides librarians with persistent URLs for each individual video, which allows them to easily link and embed videos within course syllabi, LibGuides, and at other points of need. Since the persistent URLs will not change even when a video is updated, students can bookmark videos to always view the most up-to-date/current version. The platform's customized design also possesses the capability to automatically query for topically relevant videos, which can be pushed directly to the user.

While this video reorganization project required a transformational change in how the NSU Libraries produced instructional videos, a standardized process for content creation helped ensure consistency and increase productivity. Moreover, the customized WordPress dashboard has been enhanced through content modeling to provide staff with step-by-step guidance on the new publishing procedures for instructional videos. As the project continues, the Instructional Video Working Group will shift its focus to usability testing in order to determine the effectiveness of the platform. With a systematic process for creating and maintaining videos established, the working group will move forward by tracking how often the videos are viewed, documenting user satisfaction with the content, and assessing whether users are learning from the videos.

## References

American Library Association. (2009). *ALA's core competences of librarianship.* Retrieved from

http://www.ala.org/ala/educationcareers/careers/corecomp/corecompetences/finalcorecompstat09.

pdf

Anderson, S. A., & Mitchell, E. R. (2012). Life after TILT: Building an interactive information literacy

tutorial. *Journal of Library & Information Services in Distance Learning*, *6*(3-4), 147–158.

doi:10.1080/1533290X.2012.705106

Bass, B.M. (1998). *Transformational leadership: Industrial, military, and educational impact*. Hillsdale,

NJ: Erlbaum.

Bolorizadeh, A., Brannen, M., Gibbs, R., & Mack, T. (2012). Making instruction mobile. *The Reference

Librarian*, *53*(4), 373–383. doi:10.1080/02763877.2012.707488

Bowles-Terry, M., Hensley, M. K., & Hinchliffe, L. J. (2010). Best practices for online video tutorials in

academic libraries: A study of student preferences and understanding. *Communications in

Information Literacy*, *4*(1), 17–28. Retrieved from http://www.comminfolit.org/index.php?journal

=cil&page=article&op=view&path[]=Vol4-2010AR1&path[]=112

Brenner, J. (2013). Pew Internet: Mobile. Retrieved November 17, 2013, from http://pewinternet.org

/Commentary/2012/February/Pew-Internet-Mobile.aspx

Burns, J.M. (1978). *Leadership.* New York, NY: Harper & Row.

Can I use …. (2013). Retrieved November 20, 2013, from http://caniuse.com/#search=video

Clark, J. (2013). Developing a digital video library with the YouTube data API. *Code4Lib*, *20*. Retrieved

from http://journal.code4lib.org/articles/7847

Curphy, G. (2008). *A guide to building high performing teams*. Retrieved from

http://www.leadershipkeynote.net/articles/index_a10.htm

Düren, P. (2013). Leadership in libraries in times of change. *IFLA Journal*, *39*(2), 134-139.

Ellis, S., & Callahan, M. (2012). Prototyping as a process for improved user experience with library and

archives websites. *Code4Lib*, *18*. Retrieved from http://journal.code4lib.org/articles/7394

Ergood, A., Padron, K., & Rebar, L. (2012). Making library screencast tutorials: Factors and processes.

*Internet Reference Services Quarterly*, *17*(2), 95–107. doi:10.1080/10875301.2012.725705

Germano, M.A. (2011). Library leadership that creates and sustains innovation. *Library Leadership & Management, 25*(3), 1-14. Retrieved from http://journals.tdl.org/llm/index.php/llm/article/view/2085/2958

Grigorik, I. (2013). *High performance browser networking*. Retrieved from http://chimera.labs.oreilly.com/books/1230000000545

Hicks, D., & Given, L. (2013). Principled, transformational leadership: Analyzing the discourse of leadership in the development of librarianship's core competences. *Library Quarterly*, *83*(1), 7-25. doi:10.1086/668678

Matthews, B. (2012). *Think like a startup: a whitepaper to inspire library entrepreneurialism* [White Paper]. Retrieved from VTechWorks, Virginia Tech University Library website: http://vtechworks.lib.vt.edu/handle/10919/18649

McGrane, K (2012). *Content strategy for mobile*. New York, NY: A Book Apart.

Mestre, L. S. (2010). Matching up learning styles with learning objects: What's effective? *Journal of Library Administration*, *50*(7-8), 808–829. doi:10.1080/01930826.2010.488975

Mestre, L. S. (2012). Student preference for tutorial design: A usability study. *Reference Services Review*, *40*(2), 258–276. doi:10.1108/00907321211228318

Office of Institutional Effectiveness, Nova Southeastern University. (2013). *2013 Fact book.* Retrieved from https://www.nova.edu/publications/factbook/2013

Smith, A. (2013). Smartphone ownership 2013. Retrieved November 17, 2013, from http://pewinternet.org/Reports/2013/Smartphone-Ownership-2013