
During the fall of 2013 a small group of librarians and graduate student staff at the R.B. House Undergraduate Library, UNC Chapel Hill, began a project to reimagine our online tutorials. Drawing on the literature on instructional explanations, narrative in education, and multimedia learning, we decided to build new tutorials that provide narrative-based explanations related to steps of the research process. Beginning with Developing Your Topic, the videos focus on the larger concepts, principles, and processes related to information literacy, serving as a set of learning objects complementary to classroom instruction. This project details the process of developing the first video, from identifying goals, to drafting the story and script, to creating visuals and recording sound.

Headings:

Web-based instruction -- Design.

Computer-assisted instruction.

Storytelling in education.

Information literacy.
BUILDING CONCEPT-BASED VIDEOS FOR LIBRARY INSTRUCTION

by
Julia G. Feerrar

A Master’s project submitted to the faculty
of the School of Information and Library Science
of the University of North Carolina at Chapel Hill
in partial fulfillment of the requirements
for the degree of Master of Science in
Library Science.

Chapel Hill, North Carolina
April 2014

Approved by

______________________________
Brian Sturm
Acknowledgements

Many thanks to Jonathan McMichael, Dr. Brian Sturm, Anna Sandelli, Kim Vassiliadis, Amanda MacDonald, Jennie Goforth, and Dr. Jeff Greene.
Contents

Introduction .................................................................................................................................................. 3
Review of the Literature .............................................................................................................................. 6
Approach and Methods .............................................................................................................................. 12
Future Efforts and Implications ................................................................................................................. 25
Appendix A. Inspiration from Example Videos ......................................................................................... 26
Appendix B. Outline: Developing Your Topic .......................................................................................... 30
Appendix C. Storyboard Drafts: Developing Your Topic .......................................................................... 31
Appendix D. Storyboard: Developing Your Topic .................................................................................... 32
Appendix E. Script and Visuals: Developing Your Topic ......................................................................... 33
Appendix F. Video Two Materials: Building Your Knowledge Base ....................................................... 35
References .................................................................................................................................................. 37
Introduction

Academic librarians face challenges in developing effective instructional programs that are timely for students and customized to their needs. Having relatively little time with students, librarians work to balance a range of educational goals during reference consultations and library instruction sessions. These goals relate to facilitating mastery of the conceptual process of research, practical skills in information seeking and evaluation, and the tools and resources available for putting skills into practice (Kuhlthau, 2004). For example, a librarian working with students on selecting research topics might want students to understand topic selection as a series of decisions based on personal interests and information available, to be able to practice strategies for generating and choosing topics, and to become familiar with a few relevant resources.

In an attempt to relieve some of the content load from interactions with students, many academic libraries have developed online research tutorials. In some cases, these tutorials supplement “one-shot” instruction sessions (Colosimo & Kasuto, 2012; Lindsay et al., 2006), while in others they actually replace instruction, particularly for distance learners (Brumfield, 2008; Lindsay et al., 2006; Lo & Dale, 2009). Most library tutorials focus on particular tools, guiding students in the use of specific library resources such as the online catalog or research databases (Bowles-Terry, Hensley, & Hinchliffe, 2010; Brumfield, 2008; Lo & Dale, 2009). Though popular, this tutorial model often misses important aspects of effective instructional explanations, such as concepts, principles, and context (Renkl, 2011; Wittwer & Renkl, 2008). Tools-based library tutorials may not
reflect the educational goals of librarians who wish to guide students in a fuller, contextual understanding of the process of research. Additionally, tools-based library tutorials must be updated following changes in the technologies and interfaces they describe.

In an effort to address these issues and to reimagine library tutorials as effective instructional tools, a small team of librarians and graduate student staff members at the University of North Carolina at Chapel Hill is developing a new series of short, conceptual videos. Inspired by Lee LeFever’s Common Craft videos, the new tutorials provide narrative-based explanations related to steps of the research process (LeFever, 2013). Beginning with Developing Your Topic, the new videos focus on the larger concepts, principles, and processes related to information literacy. The process-oriented nature of the videos makes them broadly applicable to a variety of assignments and courses, leaving opportunity for an instructor to customize their use. I have been heavily involved with the planning and creation of these videos and will detail our process, decisions, and the research behind them in this project.

**Setting**

The R.B. House Undergraduate Library at UNC Chapel Hill serves the unique needs of undergraduate students. Through collaboration with other campus libraries, departments, and units, the Undergraduate Library (UL) “acts as a testing ground for undergraduate teaching and learning initiatives” and works to build an “intellectual crossroads for students, faculty, and the community” (“About the Undergraduate Library”). The UL librarians focus on supporting undergraduates in their core courses and often introduce students to UNC’s library system.
In the fall of 2012, changes to the First Year Writing program at UNC strengthened collaboration between the UL and the Department of English and Comparative Literature. All entering first years are now required to enroll in English 105 English Composition and Rhetoric, which introduces students to college writing and research in the disciplines. Every English 105 class must receive information literacy instruction during the semester. UL librarians and graduate student staff members collaborate with English instructors to provide the vast majority of this instruction, which most often involves “one-shot” instruction sessions that are customized to individual assignments. The growing numbers of English 105 classes needing library instruction provide an exciting challenge for the UL, as well as other campus libraries: maintaining the personalization necessary for facilitating student learning in a manner that is accessible to an increasing number of students.

Through the development of new, conceptual tutorials, we hope to support both the personalization and scalability of our instruction program. From the beginning of the project, we aimed to build tutorials that would help instructors to explain the “why” of research—the consistent, big picture concepts—in ways that are easily accessible to new undergraduates. In practice, the new tutorials would allow instructors to then focus more on the “how” of research and to customize instruction to particular classes and assignments.
Review of the Literature

Library Tutorials and Instructional Explanations

Building online tutorials is a popular practice in academic libraries. In an attempt to address the immediate information needs of students, most library tutorials focus on tools and resources for research (Bowles-Terry et al., 2010). These tutorials demonstrate the use of specific library resources, covering topics such as finding books in the catalog or requesting items through interlibrary loan (Bowles-Terry et al., 2010; Brumfield, 2008; Lo & Dale, 2009). Tool or resource-based tutorials often take the form of short, two- or three-minute videos, created using screen-capture software (Bowles-Terry et al., 2010; Brumfield, 2008). Some libraries have created longer, interactive modules involving opportunities for practice and self-assessment (Ganster & Walsh, 2008; Lo & Dale, 2009; Reece, 2005). Whether tutorials take the form of a short video or a longer module, many librarians view online tutorials as doing the “grunt work” of teaching students the basics of using common information retrieval systems (Bowles-Terry et al., 2010, p. 19).

While tools-based tutorials present the basics of using particular resources, they often neglect the “why” behind these “how” fundamentals of library research. These tutorials may be successful in teaching students to use individual resources, but if educational goals include an understanding of broader research concepts and contexts, they fall short. Educational psychologists Wittwer and Renkl (2008) argued that learners who receive only the solution to a problem or the “surface features of a phenomenon” may not be able to deepen their understanding or to transfer their learning to other
situations (p. 55). Students are likely to overlook the principles behind the explanation (Wittwer & Renkl, 2008). Following Wittwer and Renkl’s research, librarians building tutorials in order to provide effective instructional explanations should focus on concepts and principles, rather than “algorithmic step-by-step explanations” (Wittwer & Renkl, 2009, p. 54).

The language program at Brigham Young University offers a useful model for video tutorials that focus on concepts and principles. The Brigham Young University Technology Assisted Language Learning Group (BYU TALL Group) developed video-based dramatic narratives to explain grammar, vocabulary, and usage to English as a second language (ESL) learners (South et al., 2008). Instead of presenting short snippets of conversation, as previous language tutorials had done, the BYU TALL Group constructed full narratives to provide more context for larger language concepts (South et al., 2008). In many ways, the process of learning a new language resembles the development of new vocabulary and conceptual understanding required for information literacy and library research. When introducing students to new concepts related to information literacy, I think it makes sense to follow this model of explanation.

The Power of Story in Education and Learning

Most striking in the BYU TALL Group’s example is their use of narrative to engage students and provide concept-focused explanations. Story is a powerful educational tool and instructors often utilize stories to provide students with examples or to engage them with humor. According to cognitive psychologist, Daniel Willingham (2009), the human mind seems particularly tuned to understand and remember stories. Psychologists sometimes describe stories as “psychologically privileged,” meaning that
“they are treated differently in memory than other types of material” (Willingham, 2009, p. 52). Drawing on previous studies, Willingham presented three central reasons for this psychological privileging: stories are inherently interesting because learners make inferences and problem-solve in order to understand them, stories are easy to comprehend because their structure is familiar, and stories are easy to remember because they are based on cause and effect relationships (Nathanson, 2006; Willingham, 2004). Furthermore, stories help learners to connect personally to material, and to make sense and meaning of topics related to their experience (Branaghan, 2010).

The feeling of being “lost” or transported into the world of a story is a familiar one for many learners (Green & Brock, 2002). Research in cognitive psychology has suggested that stories are inherently absorbing and interesting to readers and listeners (Willingham, 2004). In a study of undergraduates, Britton et al. (1983) found that subjects reading stories responded more slowly to external stimuli than they did while reading expository passages. Britton et al. argued that this difference in response rate indicates that participants were more absorbed while reading narrative passages. Kim (1999) found that readers’ interest in stories was influenced by the degree to which they made inferences in order to comprehend. In Kim’s study, participants rated narrative passages as more interesting if the reason for the final action was not explicitly stated. In other words, stories are inherently interesting because learners make inferences in order to understand them; comprehending a story takes a degree of problem-solving that engages students without discouraging them (Willingham, 2004).

Stories are also often easier for students to understand than other forms of communication because they include familiar structures, sequencing, and repetitive
vocabulary (Willingham, 2004; 2009). Graesser et al. (1994) found that story structures, particularly the causal relationships between events, improved speed of comprehension for readers. The researchers used a speak aloud protocol to test reader comprehension and inference formation, finding that the “narrativity” of the passages compensated for other elements such as grammatical complexity, vocabulary, and topic familiarity (Graesser et al., 1994). Story structure also guides the attention of the reader or listener, further aiding understanding (Branaghan, 2010).

The narrative structures that aid comprehension also contribute to ease in memory. Schank and Berman (2002) have suggested that the knowledge people use most often is actually stored as stories in their brains’ memory structures. According to Schank and Berman’s (2002) conception of story-based memory, everything a person experiences constitutes a “case” of that particular kind of experience and he or she organizes and indexes these cases in memory; similar types of experiences are grouped together, creating generalized concepts. For example, after attending multiple movies in multiple theatres, a person develops a general narrative of what ‘going to the movies’ is like (Schank & Berman, 2002). Schank and Berman posited that this indexing encourages people to remember stories over more abstract, disparate forms of information (2002).

In line with Schank and Berman’s position, many studies have shown that stories are easier to remember than other forms of rhetoric or discourse (Willingham, 2004). When reading or listening to a story, people make connections based on causality and this focus aids memory (Nathanson, 2006). Graesser et al. (1994) found that study participants remembered about 50 percent more from story passages than from expository passages (Graesser et al., 1994). In a foundational study, Bartlett (1932) asked students to
recall a folktale weeks after they initially read it. Some of the events in the folktale had no apparent causal connection to other events and participants dropped these elements in their recall (Bartlett & Kintsch, 1932). Similarly, Gentner (1976) studied participants’ recall of audio recordings of non-fiction narrative prose, finding that information with causal relationships was easier for participants to remember.

In addition to being comprehensible and memorable, good stories engage learners in imagination and empathy (Witherell et al., 1995). According to Witherell et al. (1995) readers of stories “enter empathically into another’s life and being” (p. 40). Learners relate most strongly to aspects of a narrative that speak to their personal experience (Schank & Berman, 2002). Branaghan (2010) has described this empathy-inducing nature of stories as “self reference”; learners tend to look for similarities between themselves and the characters in the story (Branaghan, 2010, p. 21). Some narratives even place the learner as the central character in the plot (Branaghan, 2010). Self referencing, which occurs when a learner connects with material on a personal level, builds the learner’s motivation in paying attention to the story and also aids in memory encoding (Branaghan, 2010). Because stories allow learners to connect to ideas through the perspective of another individual, they encourage listeners and readers to experience meaning (Sousa, 2011). Stories contextualize information, inviting learners to see the significance or application of the ideas involved (Egan & McEwan, 1995)

**Harnessing the Power of Story for Tutorials**

As tools for providing instructional examples, stories help to improve student interest, understanding, memory, and personal connection to concepts (Willingham, 2004). Willingham (2004) recommended incorporating storytelling in the classroom as a
way to introduce new ideas. Furthermore, Schank and Berman (2002) suggested that instructors introduce stories “just in time,” meaning that they are directly relevant to helping learners to achieve goals (p. 306). With both of these recommendations in mind, librarians can incorporate story into research tutorials as a way to engage students and introduce concepts related to information literacy. Narrative-based tutorials could be a very useful way to prepare for or begin library instruction, providing instructors and students with a shared language to use when further discussing ideas and building understanding.
Approach and Methods

Assessing Needs and Developing Goals

The new tutorial project at UNC began with a multi-department desire to reimagine our library tutorials to be more useful and accessible to students. According to librarians at the Undergraduate Library, the previously created tutorials were rarely used. The tutorials, which included tools-based videos and a longer text-based introductory module, were buried on the library website. Although much of the content remained relevant, librarians rarely utilized or promoted the tutorials during instruction or in consultation with students. To begin to address these issues, I worked with a small team of library staff to explore the needs of our students, instructors, and program, and to identify goals for a new tutorial model. The initial team included Undergraduate Experience Librarian Jonathan McMichael, User Experience Librarian Kim Vassiliadis, and User Experience graduate assistant Anna Sandelli.

As we discussed the possibility of new library tutorials, the tutorials team saw two ways forward: create videos that address specific points of need and integrate them at the corresponding service point (e.g. a video that pops up within the library catalog or within a particular database) or reimagine the tutorials as more conceptual explanations that could apply to multiple classes. While the point-of-need videos would have been an interesting project, we saw the conceptual approach as a more exciting, timely opportunity to address our needs at UNC. Due to the recent changes in the first year writing program at UNC and increased library outreach, demand for information literacy
instruction has grown. The library has been challenged to create successful, scalable learning environments for an increasing student body. Instructional videos would serve all stakeholders, supporting students in understanding a process that can be quite daunting, assisting librarians in planning and providing instruction, and helping course instructors to understand student prior knowledge and common research challenges.

By selecting a more conceptual, explanatory approach, rather than a service point-of-need approach, we hoped to provide students with a fuller, more contextualized model for the research process. As educational psychologists Wittwer and Renkl (2008) have argued, effective instructional explanations first focus on big-picture concepts and framework, rather than step-by-step procedures. This helps learners to transfer their understanding to other situations (Wittwer & Renkl, 2008). We aimed to develop tutorials that would support library and course instructors in explaining the “why” of research—the consistent, big-picture concepts—in ways that are easily accessible to first year students. We would focus on ideas that come up again and again, packaging them within the context of engaging narratives. Then, when used before or during instruction, the new tutorials would help instructors explain concepts succinctly before moving into the “how” of research and hands-on work.

To identify important concepts for the content of the videos, we reviewed English 105 assignments and identified the main information and skills students need in order to complete their projects. Drawing on the tasks involved in common English 105 assignments, as well as ACRL Information Literacy Competency Standards, we identified five major features of the research process:

- Topic Formation (Define proper scope and scale of information need)
• Understand the assignment
  • Identify interests
  • Explore options

• Preliminary Research (Establish a base of knowledge about that topic)
  • Continue to explore options
  • Narrow to a particular focus or question (or sometimes broaden your focus)
  • Identify key terms and ideas

• Keyword and Resource Selection Strategy (Use that knowledge base to develop a search)
  • Expand key terms
  • Ask: Who would be talking about this? Where? - (And search there)
  • Understand different types of sources

• Synthesis (Evaluate and integrate new findings)
  • Evaluate search results and adjust strategy as necessary
  • Select and evaluate specific sources
  • Summarize sources and articulate utility

• Use and Citation (Ethically and correctly use and attribute sources)
  • Integrate information into paper or project
  • Use proper citation

(adapted from McMichael, 2013)

We determined that these features would guide the core content of the tutorial videos, acknowledging that multiple videos may be necessary to cover just one feature. For
example, preliminary research alone involves building background knowledge, identifying information needs, identifying useful resources, and generating initial keywords: a great deal of content for a short video.

During this initial content-planning phase, our team also completed background research to identify examples of conceptual videos. We found that our needs and goals aligned well with Lee LeFever’s Common Craft Videos and to a growing genre of marketing tools called “explainer videos,” which usually combine simply animated graphics and a voiceover in the delivery of a central message. We found and reviewed eight example videos to develop a general understanding of what we found successful and unsuccessful in their content and execution (see Appendix A).

While watching and evaluating, we identified multiple features for successful videos, including a light-hearted tone for both narration and images, simple graphics in support of the central message, and running time between two and three minutes. The most essential feature of the successful videos, however, was the use of a simple narrative that included a single protagonist character or directly addressed the audience as “you.” In almost every video we watched, storytelling served to “hook” the audience and then to build context and meaning for the core message. This observation reinforced the approach we had in mind for research tutorials: to contextualize important research-related concepts by building short, engaging stories.

After identifying the needs of our students and library instruction program, and exploring models for creating effective explanatory videos, our central goal was to create videos that are conceptual, process-based explanations related to the research process. As instructional tools, rather than a form of service, these videos would be broadly
applicable to different courses or research projects. We planned to execute this vision through storytelling.

**Building the Story**

Stories are incredibly powerful educational tools. As educational psychologists have argued, stories aid comprehension, memory, and engagement (Brock, Green, & Strange, 2002; Willingham, 2004). A good story can be an important part of a successful explanation. But what makes a story, and the instructional explanation it supports, effective?

Lee LeFever, video producer and co-founder of the instructional video company Common Craft, asserts that good explanations—and good stories—require empathy; in order to provide an effective explanation we must be able to imagine the knowledge, experience, and feelings of our audience (2013). LeFever also suggests that explanatory videos begin by identifying a problem and then building a narrative explanation to solve that problem. As we approached our first tutorial video, we had both empathy and problem solving in mind. Students often experience uncertainty and confusion at the beginning of the research process, especially in choosing an initial topic for their research (Kuhlthau et al., 2008). We decided to begin with topic selection, and to focus on imagining student needs and anticipating their uncertainty and confusion. In the earliest stages of the Developing Your Topic video, I began to pose and attempt to answer the following questions: What are the tasks involved in forming a topic? What information and skills do students need? Are there any common misconceptions or issues involved with topic selection?
When beginning to develop or select a topic, students usually need to read and understand their assignment and then consider ideas that fit within its parameters. Ideally, they consider their own interests and then draw connections between their interests and the assignment. Forming a topic often involves using outside sources to develop ideas, identifying questions or gaps in understanding, narrowing or broadening a focus, and continuing to make choices. However, many of the students I have worked with in the library seem to think of topic selection as a single, simple task—as if they are picking an idea that already exists on a list of discrete possibilities. Some assignments support this mental model by providing a list of potential topics and offering students little guidance in considering their options or developing more narrow focuses. Without making informed decisions about their topic options, students often pick a topic they know little about or have no interest in, soon experiencing frustration and apathy (Kuhlthau et al., 2008).

Understanding topic formation as ongoing throughout the entire research process is an important mental shift for students. As students brainstorm, find information, select sources, synthesize, and build arguments, they continue to refine the scope of their projects. The challenge for instructors, then, is to explain topic formation without attempting to explain the entire research process. My initial storyboard drafts reflect this challenge as my explanations for topic formation drifted toward background research and identifying specific information needs (see Appendix C). I had to refocus multiple times asking, “What is the most essential message that students need in relation to topic selection?” After many storyboard drafts and conversations with my colleagues in the Undergraduate Library, I settled on the idea of initial topic formation as an active
decision-making process, like deciding among multiple paths towards an ultimate goal. This focus speaks directly to misconceptions about picking a topic as a simple, one-time choice.

Lee LeFever’s *The Art of Explanation* (2013) provided an essential framework for translating this central message into an instructional explanation for topic formation. In his book, LeFever discusses six elements that serve to “package” the explanations in his Common Craft videos. His videos begin with Agreement, a big-picture statement that helps to build the audience’s confidence from the first sentence of the narration. Then, the video moves to Context, which includes statements that move the agreement to a specific “place,” letting the audience know why it matters to them (LeFever, 2013, p. 49). Once Context is clear, the Story applies big ideas to narrative in a way that shows change, progression, or problem solving. Throughout the explanation, LeFever uses Connections (analogies or metaphors) and Descriptions (more direct communications about how things work). Finally, the video ends with a Conclusion that wraps up the message and offers next steps for the audience.

I used LeFever’s features as an outline for the video content (see Appendix B). The Developing Your Topic video begins with a statement of Agreement: *if you, the viewer, are working on a class assignment, you probably want to get a good grade.* Moving to Context, *you know there are multiple ways to get to that good grade—you could write many possible assignments and you are going to want to consider your options.* This serves as the central argument for the video, and the Story demonstrates its truth. The Story of the video follows Bob, a character I created as a nod to the eponym of Robert B. House Undergraduate Library. Bob has a research assignment and needs to
choose a topic. Initially, he gets stuck because he chooses a topic based on a suggestion from his instructor, rather than his own interests and knowledge. He is successful when he steps back, considers his options, and forms a topic related to his personal experience.

The Connections in Bob’s story involve analogies between considering topics for his project and considering paths to take toward a destination. Furthermore, the audience can easily empathize with Bob’s frustration and confusion about his topic, connecting his experience to theirs. Descriptions related to the parameters of a ‘good’ topic are the most direct guidelines in the video. In Conclusion, Bob’s story demonstrates that choosing an initial topic or path is just the first of many decisions along the road to research success.

**Editing and Implementing the Story: Scripting and Graphics**

With the main arc of Developing Your Topic in place, I began to translate the story into a full, multimedia explanation. Instructional explanations take many forms, from spoken classroom instruction to written narrative. When building an explanation into a tutorial video, the content becomes more than a verbal message: it is a visual one as well. Educational psychologist, Richard E. Mayer (2009), has studied multimedia instructional messages, which he defined as “a communication using words and pictures that are [sic] intended to promote learning” (p. 30). As Mayer (2009) explains, the ways in which we construct a multimedia explanation as a learning environment depend on our understanding of how the human mind works—and more specifically, how learning occurs.

Mayer’s understanding relies on cognitive load theory. According to cognitive load theory, conscious processing of information occurs in working memory, which is limited and stores about seven elements or “chunks” at one time (van Merriënboer &
Sweller, 2005). Novel tasks and information place a *cognitive load* or strain on working memory. If cognitive load exceeds the capacity of working memory, long-term learning cannot occur and the information in working memory is quickly lost (van Merriënboer & Sweller, 2005). According to cognitive load theorists, the goal of instruction is to add to long-term memory in a manner that minimizes *mental load*, the cognitive strain that individual students experience (Kirschner et al., 2006).

Instructional content exerts three types of cognitive load on working memory: intrinsic load, extraneous load, and germane load (van Merriënboer & Sweller, 2005). Intrinsic load is inherent to whatever content is being learned and cannot be altered by an instructor’s intervention. In contrast, extraneous load is material that is not necessary for learning and should be eliminated. Finally, germane load involves the construction of schemas and processing of information; germane load taxes working memory initially, but it builds up schemas for improved future processing (van Merriënboer & Sweller, 2005). Instructors can encourage learning by focusing on limiting extraneous load and redirecting energy to the cognitive processes involved in germane load.

Following cognitive load theory, I wanted the tutorial videos to limit extraneous load and to focus on helping students to build new mental models of the research process. Mayer (2009) has suggested several principles for limiting cognitive load and encouraging mental model or schema formation. These principles are:

- The Coherence Principle: delete extraneous words, sounds, or graphics
- The Signaling Principle: highlight essential words or graphics
- The Redundancy Principle: delete redundant captions from narrated animation
• The Spatial Contiguity Principle: place essential words next to corresponding graphics on the screen or page

• The Temporal Contiguity Principle: present corresponding words and pictures simultaneously (Mayer, 2009, p. 86)

I kept many of these principles in mind while developing a script and corresponding images. While taking my content outline and adding transitions and refining language to form the first script draft, I thought carefully about Mayer’s arguments about Coherence and Signaling. I wanted to keep the script short, using and highlighting the most essential words and ideas. In order to keep students’ attention and focus only on the most important concepts, I wanted a script that could be read at a natural pace in less than three minutes (see final script in Appendix E).

During the entire design process for the Developing Your Topic video I was imagining general visuals for each idea, and creating storyboards to test their sequence and flow. As I wrote and edited the script, I imagined more specific visuals, ensuring that words would correspond with visuals in a way that made sense in accordance with Mayer’s Temporal Contiguity Principle. Each main idea would have at least one new image to support it (see final storyboard in Appendix D). When thinking about the execution of the visuals themselves, the tutorials team had two important parameters in mind. First, because this project would continue at the Undergraduate Library after I have graduated, whatever I did would need to be easily replicated by someone else. The tutorials team wanted consistency and reproducibility. Second, we wanted the visuals to support the message of the video as expressed in the script without distracting from it. In
line with Mayer’s Coherence Principle, the tutorials team wanted a clean, simple aesthetic.

We decided to explore Prezi, the free presentation software, as an option for building the visual elements of the video. Prezi offers the benefits of built-in transitions, themes, and stock images. It would allow us to create a consistent and reproducible video. After some exploration I discovered that we could easily add our own images and that we would be able to capture the Prezi later using screen capture software. Additionally, those with an .edu email address can access a free upgrade for Prezi, which allowed us to include the University Libraries logo in the corner of the video. Overall, this seemed like a great option for our needs and goals.

To build the visuals, I selected Prezi’s “blackboard” theme and used all white graphics for a clean look that would help students focus on the main message of the video. I used some of Prezi’s stock images, supplementing important missing pieces by creating my own in Adobe Flash and Illustrator. For example, I drew my own “Bob” character (see Fig. 1). Bob’s simple appearance is designed to make him relatable: Bob is
you, the viewer. He has no face, making the image itself more flexible. Students can imagine his expressions in accordance with the emotions described in the script, and empathize with his experiences.

While creating and editing the visuals, I read the script aloud with multiple team members to ensure Temporal Contiguity. This was a continuous drafting process; I showed the Prezi visuals and script to multiple librarians and graduate assistants, and then made adjustments to support the clarity of our message and visuals. For example, one librarian suggested adding hair to Bob’s friend to clearly differentiate him from Bob. I also adjusted the script to make the analogy between topic formation and considering paths clearer from the beginning by suggesting that we think about a good grade on an assignment as a destination.

**Recording Screen Capture and Audio**

When we decided to use Prezi to build the Developing Your Topic video, we knew we would need software to capture and edit the visuals; Prezi does not currently export to video. The options that emerged as easiest and most cost-effective were Camtasia, which we have on a few Undergraduate Library staff computers, and QuickTime, which is freely available on Macs. I decided to use QuickTime to capture the Prezi due to its accessibility on my personal laptop. However, based on my brief experimentation with Camtasia, I think we could have built a similar video with either software.

After I used QuickTime to capture a video version of the Prezi graphics, Jonathan McMichael recorded the voiceover for the script. We wanted a voice that would allow for consistent videos in the future and that would convey a relaxed tone, so Jonathan seemed like an obvious choice. With visuals and voiceover recorded, I edited the video in
iMovie, cutting out any unnecessary pauses in the visuals, and adding slight breaks in the voiceover as needed to ensure a natural flow and conversational pace. The Developing Your Topic video currently appears on the UNC Libraries Website at http://library.unc.edu/instruct/tutorials/topic/. It is also available via the UNC Library YouTube channel: https://www.youtube.com/user/UNCLibrary and via my personal YouTube account: http://youtu.be/tJ2RazRiSbk. Response from librarians in other departments has been very positive and we are excited to continue this project.
Future Efforts and Implications

Since finishing the Developing Your Topic video, we have continued the tutorials project by seeking staff buy-in and planning for new videos. We are well into the development of a second video: Building Your Knowledge Base (see Appendix F). We have also begun to experiment with utilizing the first video in the classroom. In two sections of English 105 working on developing initial research topics, I played the video at the beginning of class. The video helped me to introduce concepts and steps involved in topic selection and I drew on the theme of paths and decision-making throughout the class. The students seemed to understand and connect with the video; multiple students chuckled aloud, indicating their engagement. One of my colleagues at the Undergraduate Library would like to take a different approach, utilizing the video before class as part of a flipped or semi-flipped classroom model. While not sufficient instruction on its own, the video could be paired with another activity or worksheet that students complete before coming to the library for instruction. Then, during library instruction, students would have more time for hands-on activities and discussion.

Beyond development of our instructional use of tutorial videos, future efforts will include assessment of the videos as learning tools and possible expansion to other libraries on campus serving students with more advanced needs. While our exact model may or may not make sense in other libraries, I see the narrative, conceptual-based approach as easily transferable to any institution. This approach continues to expand library facilitation of student learning.
Appendix A. Inspiration from Example Videos

Anna Sandelli and Julia Feerrar

1. **Should You Trust Your First Impression? TED-Ed** Peter Mende-Siedleck, TED-Ed, 2013

<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begins with relatable narrative scenario (and places “you” in the scenario)</td>
<td>4:24 was a little long - my attention lagged after 3:00 min</td>
</tr>
<tr>
<td>Text for important or difficult words</td>
<td>Range of animation/graphics sometimes distracting</td>
</tr>
<tr>
<td>Conversational tone</td>
<td></td>
</tr>
<tr>
<td>Speed of narrator</td>
<td></td>
</tr>
</tbody>
</table>

Lessons learned:
1. Draw the viewer in by including them (“you”) in the narrative of an easily-imagined scenario (a sporting event)
2. Make sure graphics support the message, not distract from it
3. Draw attention to important terms/concepts with text
4. Use conversational tone and pace a little slower than normal speech

2. **How to Write a Resume** Howcast, 2008

<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pace and length (2:17)</td>
<td>Background music and animation sounds</td>
</tr>
<tr>
<td>Use of offbeat humor along same theme throughout</td>
<td>Abrupt ending; doesn’t seem to fit with rest of video and leaves it on a low note</td>
</tr>
<tr>
<td>Demonstrating examples through graphics</td>
<td>Text explanations are helpful but positioned oddly and disrupt flow</td>
</tr>
</tbody>
</table>

Lessons learned:
1. Consider beginnings and endings -- the sentence that seemed an abrupt ending to this video could have be an effective opening. (ie - “Did you know for every 200 resumes, only 1 interview gets granted? Here’s how to make yours stand out!”…)
2. Be careful of how elements fit together and if they work as a whole. Animation sounds may have worked better if they weren’t competing with music; text explanations may have been more effective if they were placed or formatted differently

3. **How to Give an Awesome (PowerPoint) Presentation** Wienot Films, 2011
<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Begins with a problem: “people give bad presentations”</td>
<td>Whiteboard animation looks a little messy</td>
</tr>
<tr>
<td>Uses narrative of single character to tell story of effective presentations / process</td>
<td></td>
</tr>
<tr>
<td>Humor - especially in graphics</td>
<td></td>
</tr>
<tr>
<td>Music signals beginning and end but fades during majority of video</td>
<td></td>
</tr>
</tbody>
</table>

Lessons learned:
1. Draw the viewer in with articulation of a problem
2. Articulate a process (creating effective presentations) with a simple narrative about a single character
3. Can use graphics to add humor
4. Simple graphics should also be clean and neat

4. [The Brain Science of Video](slideshare) Switch Video

<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Layout - clean, uncluttered feel that is professional without seeming “stuffy”</td>
<td>Slideshare format - wondered if this would be more effective as a video, rather than having to manually click through</td>
</tr>
<tr>
<td>Use of quotes and statistics (?)</td>
<td></td>
</tr>
</tbody>
</table>

Lessons learned:
1. Strive to combine professionalism/authority with fun in your presentation
2. Consider ways to convey not just that something is important or effective but why it is

5. [Plagiarism](Lee LeFever, Common Craft)

<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pace of narrator and length of time (2:30)</td>
<td>Narrator raises voice at end of sentences like a question</td>
</tr>
<tr>
<td>Begins with big-picture concepts - ideas</td>
<td>1 minute lead-up maybe a bit long</td>
</tr>
<tr>
<td>Narrative example: Cassie</td>
<td>Only very small text for ideas that need extra emphasis</td>
</tr>
</tbody>
</table>
Lessons learned:
1. If you’re including text make it large and readable
2. Engage viewer with use of “you” and narrative example
3. The narrator’s voice can be distracting / annoying - watch out for raising voice in a high/strained way


<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format - presentation of problem and solution; use of “you”</td>
<td>Narrator’s voice grated on me a bit; also occasionally felt it used element of guilt</td>
</tr>
<tr>
<td>Chunking things into steps, with intro, acronym and recap to help</td>
<td>Length (4:10) a bit long</td>
</tr>
<tr>
<td>Clean and simple graphics, written text</td>
<td>Use of medical studies - mixed bag?</td>
</tr>
<tr>
<td>Encouragement to get in touch</td>
<td></td>
</tr>
</tbody>
</table>

Lessons learned:
1. It can be helpful to not only outline specific steps, but have devices like acronyms and recaps to support these steps
2. Be careful of tone - there’s a difference between “we can work on this together” and “you should be better at this, but we’ll try to help…”
3. Encouraging people to get in touch at the end can be a nice touch for showing interest in viewers, as well as branding
4. Bringing in scholarly lit - is this effective? Detrimental?


<table>
<thead>
<tr>
<th>What works?</th>
<th>What doesn’t work?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>Lacks cohesion / clear message</td>
</tr>
<tr>
<td>Shows “I” point of view / thought process</td>
<td>Sometimes not quite enough time to read everything</td>
</tr>
<tr>
<td></td>
<td>Not a huge fan of the style of animation</td>
</tr>
</tbody>
</table>

Lessons learned:
1. Make sure people have enough time to read text
2. Without voiceover, I think we’d need too much text to get the point across

Timberland 10-Second Tech: Anti-Fatigue Technology
What works? | What doesn’t work?
---|---
Conversational and offbeat approach | Missed opportunity to tell whole story?
Branding (“10-Second Tech”) | A bit too much humor - announcer’s voice a little too infomercial-esque
Clean, simple graphics |  

Lessons learned:

1. Branding can be a useful tool, especially if it helps to convey that watching something will be a quick and painless experience
2. Think not only about your “hook” but what you’ll do with it next -- after the 30-40 seconds of humor in these, I would have been ready and willing to hear the actual story of the technology
Appendix B. Outline: Developing Your Topic

**Agreement:** [big picture statement, builds confidence from first sentence] If you’re working on an assignment, your vision of success at the end probably includes getting a “good” grade. [Maybe we could have a graphic of a paper with an A+]  

**Context:** [moves agreement to a specific place, lets audience know why it matters to them] At this point, there are multiple *paths* to that good grade -- there are many potential assignments that you could write (and some assignments have more potential paths than others). Choosing your *route* begins by having some idea of the general topic you want to explore. You’ll want to consider your options...  

**Story:** [applies big ideas to a narrative that shows change/progression] Meet Bob. Bob is working on a paper on contagious diseases. During class Bob’s teacher mentioned avian flu as a potential disease to study, so Bob went with that one. He figured it didn’t really matter what he chose and thought that once he chose it he was finished with topic selection. But as Bob started to do research, he got stuck. He realized that he didn’t know much about avian flu and that he wasn’t really interested in it. Bob has decided to reconsider his options. He pulls out his assignment and looks at the parameters. Then he makes a list of the diseases he can think of that fit the assignment. Bob then tries to break down *what he already knows* about the diseases on his list [how it’s contracted, prevention, treatment…]. One--malaria--stands out to him because he remembers that his friend contracted malaria during a trip to Africa. As he continues to think about what he already knows, he also identifies some gaps in his knowledge (he picks out things he needs/wants to know). Now Bob has identified some potential directions and knows what kind of info he needs to move forward…  

**Connections:** [analogies or metaphors] Picking a topic effectively involves exploration and consideration of different options...like different paths towards an ultimate goal. Even when you’re starting out, having at least a general sense of this destination in mind helps to guide you...you may not know exactly what it will look like, but you’re taking steps toward it.  

**Descriptions:** [direct communication focused more on how vs. why] Bob found that by considering different options he was able to chose a general idea that he was interested in and wanted to learn about (and that would matter to other people…?) Good topics: involve exploration and consideration, connect to class/parameters of the assignment, are interesting to you, and spark questions you’d want to answer (appropriate scope - comes in later).  

**Conclusion:** [wrap-up and next step] Topic selection should involve exploring and considering potential ideas. This exploration and choice of paths will continue throughout your research and writing process…
Appendix C. Storyboard Drafts: Developing Your Topic

So, you have to pick a topic...?

WHERE DO I START? [recent conversation]

INTERESTS QUESTION CONTROVERSIES

CONVERSATION TAKES YOU NEW PLACES

Many assignments begin by asking you to pick a topic...

Here’s Bill...

People can rent dreams (not really)

Bill's not sure what he thinks about them, but he's intrigued.

Questions:
How will this actually work?
Where problems might arise?

Subject specialist friend can say:

Current information

[trusted friend]

Have focused questions based on discovery

Subject advocacy friend?

Situation theory/fan group friends

[trusted friend]
Appendix D. Storyboard: Developing Your Topic
### Appendix E. Script and Visuals: Developing Your Topic

<table>
<thead>
<tr>
<th><strong>Script - Initial Topic Formation</strong></th>
<th><strong>Corresponding Visuals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Chances are that if you’re working on an assignment for class, your ultimate vision of success probably includes getting a good grade.</td>
<td>Thought bubble with an A</td>
</tr>
<tr>
<td>Think about that good grade as a destination. And that there are many paths that will get you to that destination. This means there are many things you could potentially do that do that that would get you to that good grade.</td>
<td>Multiple paths - person on one end, A on the other</td>
</tr>
<tr>
<td>The choices you make about how you will complete your assignment are steps you take along these potential paths.</td>
<td>Fork in the path with trees</td>
</tr>
<tr>
<td>Of course, It can be hard to see all of your options from the beginning. How do you decide which path to take? Choosing your <em>route</em> begins by with having some idea of the general topics you will want to consider. And then you’ll want to explore your options.</td>
<td>EXPLORE</td>
</tr>
<tr>
<td>Let’s think of an example. Meet Bob. Bob is working on a paper on contagious diseases. During class, Bob’s teacher mentioned avian flu as a potential topic, so Bob went with that. He figured that it didn’t really matter what he chose and thought that once he chose avian flu he was finished forming his topic.</td>
<td>Bob</td>
</tr>
<tr>
<td>But as Bob started to do research, he got stuck. He realized that he didn’t know much about avian flu and that he wasn’t really <em>interested</em> in learning more.</td>
<td>Bob and his teacher</td>
</tr>
<tr>
<td>Bob has now decided to reconsider his options. He pulls out his assignment and looks at the parameters.</td>
<td>Bob with dead end</td>
</tr>
<tr>
<td>Then he makes a list of the diseases that fit those parameters.</td>
<td>Bubbles appear with “I’m not interested,” “I don’t understand,” “I don’t have enough info”</td>
</tr>
<tr>
<td>Assignment/paper</td>
<td></td>
</tr>
<tr>
<td>List of diseases</td>
<td></td>
</tr>
<tr>
<td>A couple of points are added to each</td>
<td></td>
</tr>
</tbody>
</table>
Bob then goes on to think of *anything* he already knows about the diseases on his list. This helps him *establish his knowledge base*.

One, malaria, stands out to him because he remembers that his friend contracted malaria during a trip to Africa.

Bob continues to think about what he already knows about malaria and what he doesn’t know about malaria. This helps him identify some of the gaps in his knowledge.

Now Bob has identified some potential directions for his paper and has a better idea of what kind of information he needs to move forward.

Picking a topic effectively involves exploration and consideration of different options…

like exploring different paths towards an ultimate goal.

Bob found that by considering different options he was able to avoid the dead ends brought on by not having enough information or not being interested in his topic.

He was able to choose a path that will be interesting and productive for him…and to identify questions that will lead him forward in his research.

As Bob’s example shows, good topics connect to the parameters of your assignment, are interesting to you, and spark questions you’d want to answer. Initial topic formation should involve exploring and considering potential ideas, as well as recognizing gaps in information as a way forward.

This exploration and choice of paths will continue throughout your research and writing process, as you approach your goal.
Appendix F. Video Two Materials: Building Your Knowledge Base

**Agreement:** [big picture statement, builds confidence from first sentence] Every idea is built on a conversation. A conversation about how and why we know...and why it matters. Lots of different people have these conversations: from experts, to journalists, to anyone who cares. These conversations give context to an idea and make it meaningful.

**Context:** [moves agreement to a specific place, lets audience know why it matters to them] So, when you’re looking for information, learning about something, or exploring a research question, what you really want to do is explore the conversations surrounding it.

**Story:** [applies big ideas to a narrative that shows change/progression] Bob is at party. He notices everyone around him enjoying the music and he wonders: why do people love music? He decides to ask the people around him what they think. One friend talks about the memories she associates with music. Others describe specific rhythm and lyrics. Another friend talks about the cultural aspects of music...

As Bob asks more and more people for their opinions, he realizes that there isn’t one clear answer to his question. He also realizes that he can group his friends’ answers together by different interests or emphases. Those with similar interests tend to be talking to each other (their interests connect them). Now Bob has some idea of the many ways people might talk about their connection to music. In other words, he has begun to build up his knowledge base. He can start to draw connections between the conversations and decide who he’d like to talk to more. He can start to participate in the conversation…

**Connections:** [analogies or metaphors] Bob’s party is a good model for the discourse or exchange of information that goes on about any topic. Any exchange of information is like a conversation...we can think about the conversations relating to a broad topic as happening at a large party where people converse in groups and move around to form new discussions. Scholars participate in conversations by writing articles and books. Just like Bob’s friends, they bring different perspectives depending on their own expertise, interests, and experience. Some of these conversations have been going on for a long time, so it can take a while to get caught up and understand what’s going on...

**Descriptions:** [direct communication focused more on how vs. why] Luckily, journalists, bloggers, and others listen in on these conversations as well. News sources report on the conversation, editorials and blogs analyze and add opinions, and encyclopedias summarize. This means that you can get an idea of what’s going on in a particular conversation by readings these kinds of sources...

**Conclusion:** [wrap-up and next step] Like Bob, you can explore these types of conversations to get a better understanding of several points of view on a particular idea. By building up this understanding, you’ll be better equipped to understand the conversation...and then to start to contribute…
References


Green, M. C., & Brock, T. C. (2002). In the mind’s eye: Transportation-imagery model of narrative persuasion. In T. Brock, M. C. Green, & J. J. Strange (Eds.), *Narrative impact: social and cognitive foundations* (pp. 315–339). Mahwah, N.J.: L. Erlbaum Associates.


