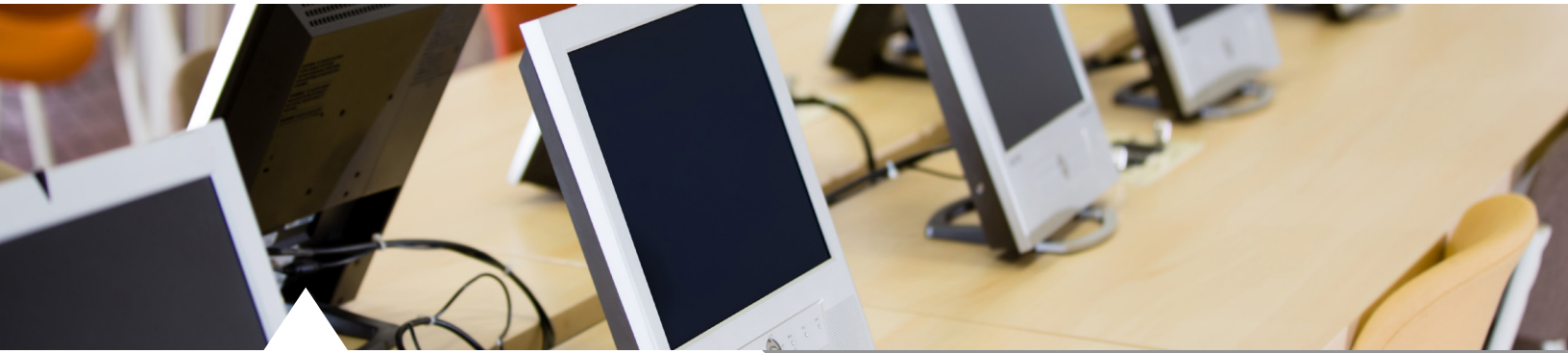


» “No university in the world has ever risen to greatness without a correspondingly great library... When this is no longer true, then will our civilization have come to an end.”

— LAWRENCE CLARK POWELL

Strategic Library™



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Going to the Dogs

» One College Library's Program to Encourage Reading Literacy

BY SARAH MAILLOUX AND BRAD MATTHIES

ABSTRACT

In the summer of 2017, the Casper College Library was asked to develop a reading literacy program involving Casper College students. The library partnered with the Casper College Office of Student Financial Assistance, work study students, education students, and the local Humane Society to develop a shelter reading program for children in the local community.

INTRODUCTION

When the Casper College Library was approached by the Office of Student Financial Assistance to develop a reading literacy program, we jumped at the opportunity. The program had to utilize work study students, give them educational and meaningful job duties, while also supporting the mission of the college and library. Libraries have long championed reading literacy so the programming choices were many. How should

we plan a program that was innovative, fun, encouraged reading literacy, and would involve students at a largely commuter campus? The answer: we'll go to the dogs!

DEVELOPING THE PROGRAM

The research indicates that reading to dogs has very positive results. Children who read to dogs improve their literacy and fluency skills because of the nonjudgmental audience that dogs provide.¹ Schools that implement therapy dog reading programs see improvement in student engagement and other academic behaviors while students simultaneously learn valuable lessons in empathy, respect, and compassion.²

If it is beneficial for humans to read to animals, is it also beneficial to the shelter animals? Research says that shelter dogs who listen to human voices on a regular basis reduces the need for stress-relieving methods such as ThunderShirts and anti-anxiety medicines.³ Overall, reading to shelter dogs can lessen their anxiety and

ACADEMIC LIBRARIANS
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make them more adoptable.⁴ So with the benefits confirmed for both the children and the dogs, a shelter dog reading program appeared to be a win for all involved!

After reading a Dodo article about how the Humane Society of Missouri had a thriving shelter dog reading program,⁵ we approached our own Humane Society. Our local Humane Society director was interested in our idea; he had wanted to try a similar program but lacked the time and staffing to implement it. By partnering our library with the Humane Society, we would be able to help contribute to the quality of life of the shelter animals, provide service-learning opportunities for our college students, and help improve the literacy skills of the younger students in our town. And so Tales with Tails was born!

The Humane Society of Missouri willingly shared their program guide,⁶ complete with suggestions for implementing a new program. We used their basic program, but had to modify some of their suggested steps to fit with the layout of our shelter.

We decided to call our young participants “Readers” to convey our respect

for the time and effort they are giving to improving the lives of the animals. We knew that we needed to have books available for these Readers and with a minimal cost, we set up a small library of animal-themed books across a wide range of reading levels that reflected the mission of the shelter. Once word got out about the program, a group of parents and a local author also donated books to the shelter library, doubling the size of the collection. And of course, the Readers were encouraged to bring their own books, too.

At our local shelter, the dogs each reside in their own chain-link kennel in a large room. The shelter director wanted the Readers to remain outside of the kennels to keep them safe. Positioning the Readers outside of the kennels also teaches the children to respect the personal space of others while at the same time, the dogs can make their own choice about whether to approach the children or not. Eventually the dogs learn to willingly approach the front of their kennels on their own and as they become better socialized to humans, their stay in the shelter tends to be shorter.⁷ This, of course, is one

of our program goals: helping these shelter dogs become socialized in order to find their forever homes.

To further ensure participant safety, the shelter director requested adult volunteers to supervise the Readers, which led to service-learning opportunities for the students at our college, especially our education majors. We named our volunteers “Walking Dictionaries.” Giving our volunteers this title let the children know that the volunteers were there to help and not to judge. We instructed our Walking Dictionaries to supervise for safety and answer any questions the Readers might have about their books, but otherwise appear as if they are not listening to the Readers. This assured our Readers that the adults were not there to correct any reading “mistakes” or be judgmental about the reading in any way. In turn, this gave our Readers the freedom to read to the dogs on their own terms.

PROGRAM DAY

Our pilot program started during Spring Break with the shelter’s existing group of Youth Volunteers, ages 10-17. To accommodate the shelter’s physical space, we limited the number of Readers to 15 in each session. During each session we also held orientations for both our Readers and our Walking Dictionaries. Our Readers learned the safety guidelines of the program, why their reading is so beneficial to the animals, and how to judge dog body language. A shelter employee toured the Readers through the dogs’ living areas and each Reader was able to choose a dog to read to. Our Walking Dictionaries were instructed on safety guidelines, dog body language, and how to supervise the Readers in a non-judgmental manner.

And so began day one. Having previously learned how to sit sideways with the dogs--and with dog treats and books in hand-- the kids began reading. To everyone’s surprise, all barking stopped! Many of the dogs approached the front of their kennels to get closer to the Readers and their treats. A few chose to remain at the back of their kennel where they were more comfortable, but the overall response of the dogs was amazing. Out in the lobby, the shelter employees even noticed the distinct decrease in sound level and overall lack of barking. On the second day, the same thing happened; the dogs settled down very quickly once the kids started reading to them. Our last day of the pilot program was our most successful



because we had reached Reader capacity and ran out of available dogs to read to. That same day, we also had a breakthrough with a dog named Pam. During the previous two days of reading, Pam was very active, nervous, and instigated most of the barking. A young Reader chose to read to her and she instantly responded to him by sitting down near the front of her kennel to listen to him read and receive treats. Given that a shelter employee had to sit in the kennel with Pam to calm her during previous sessions, this was truly amazing. By the last day of the pilot we knew that our program was a success. In a concrete room with less than ideal acoustics, all we could hear were the 12 Readers intently reading to the dogs.

After the reading was over, we ended each program day by allowing the children to physically interact with a friendly dog. A shelter employee would select a well-socialized dog and allow the children to

pet and talk to the animal while under supervision. We also used the time to ask for program feedback using a plus/delta chart. Feedback from everyone involved in the pilot was positive: the Readers liked helping the dogs, the parents liked the reading practice, the shelter appreciated the enhanced awareness of their mission, and we just had fun. By the end of the last pilot day, two local teachers had already contacted the shelter asking if they could bring their classes in to read.

CONCLUSION

Moving forward, we are planning monthly programs to complement the shelter's existing Youth Volunteer program and we are also investigating ways to incorporate local K-12 classes during the school year. Based on our success, we would encourage college librarians to give this program a try. Tales with Tails promoted our college's

mission of supporting lifelong learning in the community and the library's mission of advocating for reading literacy. It gave our college students worthwhile job and service learning experiences and actively engaged our community's children in a fun and meaningful way. Finally, the collaboration and partnership with another community organization was rewarding and had the added benefit of helping shelter animals become more adoptable through socialization. Simply put, this program was rewarding for all who were involved! ■

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FOOTNOTES:

1. Jean Kirnan, Steven Siminerio and Zachary Wong, "The Impact of a Therapy Dog Program on Children's Reading Skills and Attitudes toward Reading," *Early Childhood Education Journal* 44, no. 6 (2016): 637-651; Judy A. Rollins, "Brilliant, Absolutely Brilliant: Reading to Dogs," *Pediatric Nursing* 42, no.2 (2016):58.
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Academic Librarians Supporting Digital Storytelling in the Sciences

BY ELISE GOWEN

ABSTRACT

Science curricula in academic settings increasingly emphasize the importance of fostering students' science communication skills through coursework and projects. One technique used to build students' multimedia communication skills is digital storytelling. Digital storytelling allows students to tell a subjective story that engages an audience's interest and empathy using a mixture of visual and audio cues. In the process, students develop their own skills building an emotionally engaging narrative through the interaction of words and imagery, skills that are not usually exercised in a STEM curriculum. At some institutions, instructors of this technique have partnered with librarians, who can offer valuable assistance in the form of copyright support, resource guidance, and technical support. This paper will discuss how science librarians can provide support for digital storytelling in the curriculum.

STORYTELLING AND SCIENCE

The significance of science communication skills has taken on new prominence in recent years. Educators increasingly acknowledge that it is important for academic institutions to produce graduates who can communicate the value of their research. Science funding agencies expect scientists to be able to articulate not just the intellectual merit of a research proposal, but the broader impacts of their proposed research on society. The National Science Foundation's (NSF) Broader Impacts criteria, used to assess the merits of proposed research, highlights the ability to communicate findings as an impact:

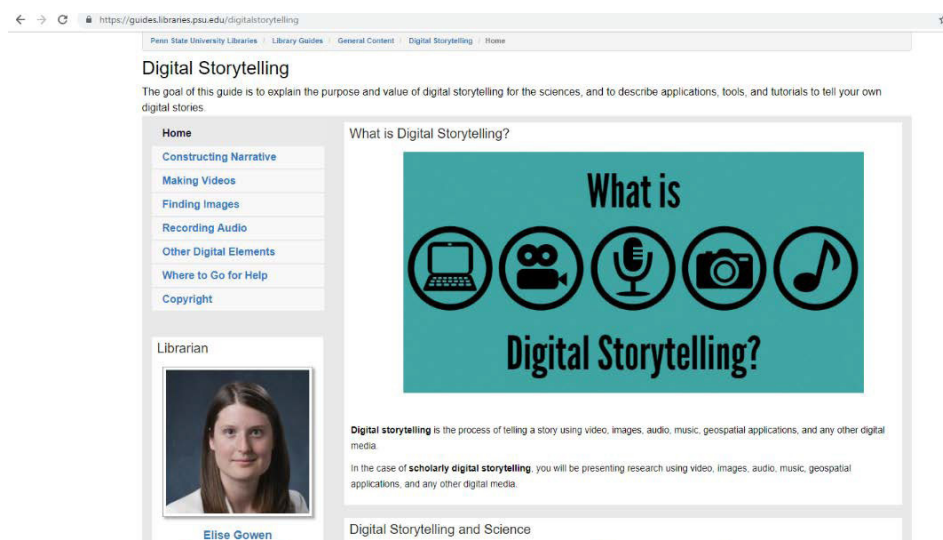


Figure 1: Front page of Penn State's "Digital Storytelling" library guide.

Broaden dissemination to enhance scientific and technological understanding, for example, by presenting results of research and education projects in formats useful to students, scientists and engineers, members of Congress, teachers, and the general public (March 2007).

The NSF leadership has further elaborated on these ideals through speeches from key leaders, like Dr. Alan Leshner, who noted the importance of moving beyond traditional models of communication as mere dissemination of information, instead moving towards something more ambitious: "public engagement—communicating with the public rather than at the public on scientific research" (National Science Foundation 2018).

With such goals in mind, academic institutions are exploring how to train students and scientists in effective science communication (Besley et al. 2015). Researchers

have discussed storytelling as a way for science communication to connect with and engage audiences: "Storytelling can be an essential tool to effectively reach a target audience with scientific results. Through a story or a narrative, context is provided to the audience and complex scientific data can be easier to understand and analyse" (Sundin et al. 2018).

Those who advocate for the value of storytelling in communicating science have noted, however, that storytelling can be distrusted by scientists: "Viewed as baseless or even manipulative, stories are often denigrated with statements such as, 'the plural of anecdote is not data'" (Dahlstrom 2014). The potential of stories to misrepresent science through simplification or manipulation of the complexity of scientific findings should not be ignored (Scott et al. 2013). There are responsible ways of utilizing narrative to illustrate sound scientific concepts and to engage audiences.

Cognitive science has found that narra-

tives are easier to process and recall than purely informational writing. Brains actually engage with narratives differently than they do with non- narrative statements of facts, allowing them to open themselves to persuasion and more effortlessly retain facts when stimulated with a story (Schank & Abelson 1995). Emotionally engaging stories hold audiences' attentions and make audiences more likely to take related action as a result of listening to the story (Zak 2015). Additionally, most audiences have been trained to consume and respond to scientific findings in the context of mass media sources such as news articles and broadcasts, which package those findings as stories (Dahlstrom 2014).

Science educators have explored how science communication, particularly the art of science storytelling, can both make students better communicators and increase understanding of the content itself (Jarvinen et al. 2012; Train & Miyamoto 2017). One study found that after teaching science communication skills to science students, the students showed increased confidence and perceived abilities (Train & Miyamoto 2017). Even students who are

going to be researchers and expect to only communicate with other scientists need to communicate the value of their research to employers and funders. To be hired and to receive funding, new scientists must have the ability to tell a story about the value they add to the organization as well as an ability to communicate effectively to diverse audiences, such as laypeople and policymakers, and to communicate in a diverse, global scientific community. Academic institutions are attempting to prepare their science graduates to be better communicators by creating additional curricular requirements, assigning projects designed to build students' communication skills, and providing additional instructional support in this area (Jarvinen et al. 2012).

There is additional evidence that multimedia communication in particular can build students' communications skills and content knowledge. In their careers, students will be expected to employ a mix of visual, verbal, and written skills throughout a variety of media formats (Jarvinen et al. 2012). At the intersection of digital multimedia technology and traditional storytelling techniques is digital storytelling, which

is well situated to allow students to explore their voices as science communicators for the first time.

DIGITAL STORYTELLING DEFINED

Digital storytelling was developed in the 1990s by a group of artists and educators interested in exploring the then-nascent digital technologies that put multimedia audiovisual storytelling in reach of the masses for the first time. This collective, based in the San Francisco area, developed the principles underlying digital storytelling that remain in place to this day (StoryCenter 2018). The organization that grew out of this original collective, StoryCenter, notes that digital storytelling was conceived as a tool for self-expression, and its core principles remain tied to values such as democratizing stories and developing a diversity of stories. The University of Houston's Educational Uses of Digital Storytelling website quotes digital storytelling pioneer Daniel Meadows describing digital storytelling as "short, personal multimedia tales told from the heart" (Educational uses... 2019). Digital storytelling emphasizes the personal perspective of the storyteller, and it is this that

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PRESENTER: Loida Garcia-Febo is an international library consultant and the immediate past president of ALA. As researcher and expert on topics such as human rights, advocacy and services to multicultural populations, she has served communities as an academic, public, school, and special librarian in Puerto Rico and New York. She has completed two terms on the IFLA Governing Board, and is currently a member of the Management of Library Associations Section. Garcia-Febo is the recipient of the 2015 REFORMA Elizabeth Martinez Lifetime Achievement Award. She was named a Notable Member of ALA's International Relations Round Table, received the ALA Elizabeth Futas Catalyst for Change Award in 2010 and was named a Library Journal Mover & Shaker Freedom Fighter in 2007. Garcia-Febo holds a BA in Business Education and MLS from the University of Puerto Rico. She was born, raised and educated in the Caribbean island of Puerto Rico.



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» Recognition of the value of scientists who can spin a story is nothing new. Many of the preeminent scientific educators and communicators of the second half of the twentieth century have shared this skill.

most distinguishes digital storytelling from simple video-making. In digital storytelling, students also learn to experiment with how to weave together images, video, audio, and language to communicate ideas. Students also build technical skills in the software needed to create such videos, and a better understanding of how visuals and sound interact to create meaning for users.

The seven elements of digital storytelling taught to new creators, as defined by Lambert (2009), are: “point of view, dramatic question, emotional content, the gift of your voice, the power of the soundtrack, economy, and pacing.” These seven elements work together to serve as a starting framework for students to build their video.

Point of view is the personal perspective of the creator. In most science writing, the scientist is a dispassionate observer—their personality and their personal stake in the topic should be invisible. In contrast, the intellectual exercise of digital storytelling is to make the scientists themselves the focus. This element of digital storytelling asks students to consider and express their perspective as an individual, teaching students to address subjectivity head-on when speaking about their findings and bringing in why it matters to them.

A dramatic question is the central question or narrative tension driving the story. It is what the story ultimately is about, and should be something that can grab and keep the viewer’s attention.

Emotional content flows out of the combined power of the question and the point of view. The viewer should be engaged by both, and should be moved to empathize with the perspective of the creator.

The gift of your voice refers not just to point of view, but also to the unique way that the individual speaker tells their story, choosing language and framing that no one else could. It encourages the creator to think of the unique way they express themselves as a strength and not a liability.

The power of the soundtrack highlights the importance of incidental music and other sound effects in setting a mood.

More than ever, **pacing and economy of time** is a crucial element to teach students.

Many contemporary formats, like YouTube videos, have trained consumers to expect information to be presented in punchy, bite-sized formats that do not demand too much time. This, more than anything, may be crucial for digital storytelling learners to master, since concise storytelling that is honed for impact teaches storytellers to strip away extraneous detail and find the central point of the story.

All of these elements are crucial to a successful digital story.

DIGITAL STORYTELLING AND SCIENCE EDUCATION

Recognition of the value of scientists who can spin a story is nothing new. Many of the preeminent scientific educators and communicators of the second half of the twentieth century have shared this skill. The late Stephen Hawking brought research about black holes into the public consciousness through an ability to frame scientific breakthroughs in the understanding of physics as a series of compelling stories. While science documentaries like *Cosmos: A Spacetime Odyssey* with Neil deGrasse Tyson are a familiar format for audiences, digital storytelling is different from these, distinguished by its emphasis on the subjective perspective of the creator and building an emotional connection with the viewer.

Digital storytelling grew out of the arts and humanities, and with its emphasis on personal and emotional storytelling may seem to have little to offer science communicators. However, as the sciences are reckoning with the need to persuasively communicate findings to lay audiences, it is precisely these human elements of emotional appeal and human experience that are important for students to identify and communicate in their research. Digital storytelling can teach science students to think about how their personal experience relates to and informs their research and how to articulate their stake in the work. The process of creating digital storytelling videos teaches students how to situate themselves in their own research stories.

A digital story evokes empathy for the presented perspective, and there is some

preliminary evidence to suggest that digital storytelling can be effective in achieving these ends for STEM students. As Hill and Grinnell have noted: “In the sciences, in particular, storytelling can help humanize and situate scientific data in real-world terms” (Hill & Grinnell 2014). One field within STEM where this has been borne out is in the medical and public health field. One study found that storytelling might help to build empathy for patients, specifically marginalized patients, among medical students (Gubrium 2009). Another advocated the value of exposing medical experts to public health-related digital storytelling efforts by potential patients, explaining that “Recognizing digital storytelling workshop participants as ‘knowers’ offers public health researchers and practitioners the potential to disrupt commonly accepted hierarchies between experts and members of local communities” (Gubrium et al. 2014). Another study found that medical students who watched digital storytelling videos created to highlight the experiences of those living with disabilities reported improved attitudes towards those subjects, and also agreed that the format helped with understanding and knowledge retention (Malhotra 2017). There is also some evidence that when STEM students create their own digital storytelling, they further build their understanding of the applicability of the skills they learned in their academic work and their careers (Hill & Grinnell 2014).

Some scholars in science education have advocated for digital storytelling as a tool to draw in students who might not otherwise be interested in science topics. “Indeed, the story aspect of digital storytelling practice ‘humanizes’ technology, gives it a personal and relational aspect that stands to attract a wider and more diverse group of students” (Hill & Grinnell 2014). Other researchers have highlighted the potential for digital storytelling to help STEM students prepare to work in a more diversified environment (Daily & Eugene 2013), and to draw in STEM learners from diverse backgrounds (Ball et al. 2015). In Daily and Eugene’s study, researchers developed a framework that targeted three constructs for learning, two

» Librarians have generally been absent from the conversation around building science communication skills in science students. However, librarians have valuable support to offer to science programs that incorporate digital storytelling lessons into their curricula.

broadly associated with the humanities and one with STEM: emotional self-awareness, empathy, and computational thinking. They argue that all three can be developed by teaching students to tell stories in a computational medium like digital storytelling (Daily & Eugene 2013).

LIBRARIANS AND DIGITAL STORYTELLING

Librarians have generally been absent from the conversation around building science communication skills in science students. However, librarians have valuable support to offer to science programs that incorporate digital storytelling lessons into their curricula.

The topic of digital storytelling, and the opportunities for librarians to play a role in supporting it, remains an under-explored topic within the field of library studies, and what few articles do exist are even more unlikely to be written by academic librarians, as opposed to public librarians or school librarians. There are good reasons for academic libraries to be involved, however. In their 2008 book *Fostering Community through Digital Storytelling*, Ohio State University librarians Fields and Diaz (2008) advocate for the role of libraries in campus digital storytelling initiatives, noting that, “unique among campus units, the academic library not only supports the teaching, learning and research needs of faculty and students but it is a teaching unit in and of itself.” They maintain that the library has “unique gifts to share: content, expertise, institutional repositories, and technology.”

Fields and Diaz (2008) highlight the role the library can play in promoting and preserving works of digital storytelling, and identify key roles that their academic library plays in supporting digital storytelling:

- Education - providing workshops and learning opportunities to introduce faculty and students to digital storytelling.
- Outreach and assessment - support interdisciplinary promotion of digital storytelling in the form of showcases and conference presentations, and evaluations

of the effect of the program on teaching and research.

- Preservation - making the stories created at the university publicly accessible.
- Acting as a clearinghouse for information.

The library at the University of Nevada in Reno is an academic library that has explored a hands-on role in designing academic digital storytelling assignments, with a librarian collaborating with a media specialist and a course instructor to plan what students would learn and do (Blithe et al. 2015).

While the University of Reno serves as an example of how librarians can become deeply embedded into the process of digital storytelling, this degree of presence in the creation process is not necessary to make a difference. Another example of engagement can be found at Penn State’s College of Earth and Mineral Sciences (EMS), where various instructors in the college have begun incorporating digital storytelling into instruction in response to a broader push towards strengthening students’ communication skills. The librarians were initially approached by the College of Earth and Mineral Sciences’ Writer-in-Residence, a writing tutor who has been using digital storytelling to teach EMS students how to express themselves and communicate scientific concepts. The Writer-in-Residence asked us to develop a library guide directing users to free images and video footage that students could incorporate into their videos, as this was one area of Digital Storytelling she felt she needed particular library support. As we worked with the College’s Writer-in-Residence, this initiative developed into a LibGuide that offered guidance on every step of the process, from constructing a narrative to filming and recording audio, to editing and archiving one’s video. The LibGuide may be found here (Figure 1). The success of the LibGuide and its usefulness in classes led by the Writer-in-Residence resulted in further collaborations with instructors in the College of EMS. We were invited to

speak in other classes on finding resources to help improve digital storytelling. We also hosted consultation sessions with students who had further questions about finding public domain images and navigating copyright. The librarians have since taken the initiative to introduce digital storytelling to other Penn State and local communities and encourage the use of digital storytelling through workshops at conferences. These different models of engagement show that there are a number of ways for librarians to engage and support digital storytelling for science students.

PRACTICAL IMPLICATIONS FOR LIBRARIANS

As the librarians at Ohio State University observed, librarians are uniquely situated in the academic world to provide interdisciplinary support in digital storytelling. There are a number of challenges facing science students and faculty undertaking a digital storytelling project for the first time. This section will discuss the issues that librarians should be aware of, and the steps they can take to support students and faculty in advance. Science faculty who are interested in teaching students digital storytelling skills may not have the background in copyright awareness and finding audiovisual media resources to provide instruction and support in these areas, but librarians do.

Librarians often have a grounding in communication beyond a single discipline, which can help with introducing students to the idea that what might be inappropriate in traditional science writing may actually be appropriate in other settings. Additionally, librarians can find and collect relevant resources that fall well outside of the STEM world, operating as interdisciplinary guides to resources.

STEM librarians can support digital storytelling initiatives through instruction, programming, and consultation in the following areas:

Copyright Instruction

Digital storytelling often involves incorpo-

» Once students have a strong foundational grounding in the kinds of legal restrictions that exist on what materials they can incorporate into their video, librarians can then direct users to resources.

rating creative work beyond what the students themselves have created: soundtrack music, sound effects, video clips, and still images are all integrated into a typical digital storytelling video. Students are encouraged to make use of these pieces of media, but must understand how to use them fairly and legally. Librarians have an important role to play in explaining copyright concepts, including introducing students to fair use, public domain, and Creative Commons licenses as they relate to multimedia. In my own digital storytelling instruction, I was invited to discuss these issues with meteorology students in a 400-level undergraduate class. These students had never had to explore the legal issues around creating works that incorporate copyrighted creative material by others before. Many students at this level are already familiar with the concept of plagiarism, but know little or nothing about copyright. The distinction between these related-but-distinct concepts must be explained, as well as the different consequences for their violation. As I note to students, plagiarism is an ethical violation, while copyright violation is a legal issue. I also explain the ways that others' intellectual property can be used without running afoul of copyright laws. This is a challenge, especially for STEM students, because there are guidelines but no quantifiable rules that can absolutely tell students where the line falls in fair use. Instead, students must understand that fair use is a judgment call, and they must use their own best judgment based on the guidelines as they exist, or get permission if fair use is in doubt. Beyond fair use of copyrighted material, students are introduced to other categories of copyright, and taught the value of Creative Commons licenses and public domain works in finding resources that can be freely incorporated into a work.

Finding Audiovisual Resources

Once students have a strong foundational grounding in the kinds of legal restrictions that exist on what materials they can incorporate into their video, librarians can then direct users to resources. Finding audiovisual resources, particularly of

a STEM nature, that are not necessarily preserved in arts and humanities databases, poses its own unique set of challenges for students. Librarians can offer tips on finding legally usable audiovisual resources: music, sound effects, stock footage, stock images, and more. Often this will take the form of teaching students both how and where to search—free repositories are frequently changing, going in and out of existence, and going from free to pay-to-use over time. As a result, it is not enough to compile a static list of resources, but to teach students the skills to find what they need in an ever-changing internet landscape.

Finding Tutorial Resources

In addition, librarians are well situated for putting users in touch with tutorials and guides that help them navigate different aspects of the video-making process. This includes putting students in touch with resources on writing and constructing a narrative as well as the technology of video making, such as audio recording, video recording, and video editing. The main form this has taken at Penn State includes creating digital storytelling guides that provide up-to-date lists of resources. Resources in this field are constantly changing, therefore it is important for any librarian planning to create a guide to keep updating it. This includes staying on top of technology, resources that are available around campus, and online resources.

At Penn State, I have developed a LibGuide (Figure 1) that supports students through every step of creating a digital story. The LibGuide starts with writing resources designed to help students learn the basics of how to construct a narrative, linking to resources on how to storyboard. The guide also provides information on what software and hardware resources are available to them once they start creating and editing video.

Providing Equipment and Technology

Libraries can also find and provide the technology itself to make digital storytelling possible, if that is within the budget and scope of the library's services. This includes

providing audio and video recording equipment, as well as professional-level video editing software. Some universities, like Penn State, have multimedia resources spread across different units, with both library affiliates and support units outside the library specializing in studio spaces, equipment rentals, and tutoring in the uses of video recording and editing software like Camtasia. In these situations, partnerships can be crucial in order to better collaborate and inform users of all the resources that are available to them. At many large institutions, technical resources exist that students and even faculty won't know about. Doing the work of compiling information about the institutional and community resources that exist for those who might be making videos for the first time is a valuable contribution.

Preservation

One of the challenges of digital storytelling is the ephemeral nature of digital videos. Libraries can address this by working with students and instructors to identify appropriate preservation solutions to the videos they produce. Many libraries already have procedures in place for preserving streaming videos and digital objects created by students and faculty. Library support for digital storytelling can include providing opportunities for students to upload their work to institutional repositories or working with instructors to identify appropriate online platforms for hosting videos.

Finding and Building Partnerships

For the above reasons and others, it is crucial for librarians to build partnerships with others in the university. This includes directly reaching out to faculty members who are working in digital storytelling to understand their needs. Copyright authorities on campus are often valuable potential partners and can be consulted for information or programming support. In addition, the units on campus already focused on multimedia creation are important potential partners and should be consulted by librarians looking to understand the scope of what resources are available on campus, and to understand where there might be

limits in digital storytelling support.

At Penn State, the Libraries' partnerships include our long-term collaboration with the Media Commons unit, which describes itself as an "initiative to enrich the teaching and learning experience through multimedia technology, classroom training and direct support for students, faculty and staff" (Teaching and Learning with Technology 2019). Media Commons launched the popular One Button Studio, which is a multimedia studio that simplifies the video recording process for new users while still allowing users to create quality video with high-end audio, lighting, and video equipment. The One Button Studio experience has proved popular with many students who are required to make digital stories for classes. The Libraries worked closely with Media Commons to move two of the five One Button Studios into the library and took over full support and operation of those two One Button Studios. This freed staff and operational budgets for Media Commons to focus on running the remaining Studios and on other projects. These partnerships have allowed the Libraries to build on existing structures and services at the university and provide more centralized support for students exploring digital storytelling for the first time.

CONCLUSION

Learning to tell stories is a crucial tool for scientists communicating their findings. Disinformation is spread with stories, but scientists can counter disinformation with compelling stories as well. While scientists have traditionally been discouraged from sharing their findings this way, science students can benefit from learning to translate their findings to the realm of multimedia stories, and librarians are well suited to support them in this.

In the program piloted by Penn State's College of EMS, surveys were conducted before and after the digital storytelling project to assess the students' attitude towards science communication.

Students reported greater understanding of the value of science communication skills after creating a digital story. Further research will be done to better understand the actual improvements in communication this project confers. Research is also needed to assess how librarian support affects the performance of students creating digital stories, and how librarians might better serve students and faculty working with

digital storytelling.

As new teaching techniques emerge to prepare scientists for a future in which they will need to communicate their ideas to the public, librarians should be aware of the role that they can play in giving students the tools they need to create effective digital storytelling videos. ■

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Our Read-a-Rama Summer

BY DR. MICHELLE H. MARTIN, CRAIG SEASHOLES, AND MELANIE BOERNER

Camp Read-a-Rama® uses children's books as the springboard for all camp activities. Started in South Carolina by Dr. Michelle H. Martin and Dr. Rachelle D. Washington to combat the effects of summer slide for the children who need it most, these one-week, themed camps seek to make the US more literate one child and one book at a time and teach kids how to "live books." Multidisciplinary programs that integrate reading, English Language Arts, writing, movement, outdoor play, STEAM, the arts, field trips, and more, Camp Read-a-Rama has served hundreds of children since its inception in 2009 at Clemson University. With Martin's move to the University of Washington's Information School to become the Beverly Cleary Professor for Children and Youth Services in 2016, she and Dr. Washington, with the support of the board of Read-a-Rama®, are working toward scaling up to national programming. They hope that libraries—a natural fit for this program—will be an integral part of that effort.

Essential elements of Camp Read-a-Rama are:

- Campers ages four to eleven from diverse backgrounds (racial, ethnic, socioeconomic, zip codes, etc.)
- Superior staff from diverse backgrounds
- Low staff-to-camper ratio (one to five for younger campers; no more than one to seven for older campers)
- 100% engagement programming
- Creative interdisciplinary and interactive activities that use books as the starting point
- Daily DEAR (Drop Everything and Read) Time
- Diverse literature
- Family engagement, usually through a weekly Family Literacy Night
- Community engagement—readers, guests, facilitators, field trips to theme-relevant sites

While Camp Read-a-Rama has been held in Clemson and Columbia, South Carolina



Campers creating a forest puppet theater story about their week at Camp Read-a-Rama at Dearborn Park International School. (Photo credit to Craig Seasholes, Seattle Public Schools)

and in Seattle, this was the first summer that the program had sites run by other directors besides Martin and Washington and also the first summer to have more than two sites. These new site directors are eager to share their successes, challenges, and plans for next summer.



Campers at the North Spokane Library listen attentively at DEAR time. (Photo credit to University of Washington Information School)

CAMP READ-A-RAMA AT DEARBORN PARK INTERNATIONAL ELEMENTARY

At Dearborn Park International Elementary (DPIE) in South Seattle, we took advantage of an expansive, if overgrown, forest in southeast Seattle for a two-week Read-a-Rama camp that inspired kids to reclaim trails and an outdoor learning area. Art Attack-themed stories like *Maybe Something Beautiful* by Isabel Campoy prompted painting, and Peter Reynolds's *The Dot* got kids thinking they too could just "make a mark and see what happens." When Seattle Tilth Alliance educator Maren Neldham urged kids to see forest rehabilitation and a healthy forest as yet another way to create beauty, our two dozen students began pulling ivy, trimming back blackberries and adding tree mulch to their trails that emerged in the forest adjacent to the school. Campers' enthusiasm buoyed them through two weeks of joyful work and play that re-established a learning area that the school now uses more frequently. Local authors Mark Holtzen and Sundee Frazier loved sharing their books with kids in our woodland amphitheater. Seattle School Superintendent Denise Juneau and State Senator Rebecca Saldaña also enjoyed our outdoor setting as they participated in Read-a-Rama Harambee Time with songs and storytelling ("haram-

bee” is a Swahili word meaning “coming together,” the way every Camp Read-a-Rama day begins).

Our experience at Dearborn Park showed how Camp Read-a-Rama is easy-to-run and offered valuable experiences for others who might consider hosting future Read-a-Rama camps in summers-to-come.

CAMP READ-A-RAMA AT NORTH SPOKANE PUBLIC LIBRARY

Fun fact: It takes around 250 rubber bands to blow up a watermelon. If you had come to Camp Read-a-Rama during Food Week at the North Spokane Library, you would have been able to see, hear, and even taste that sensory experience.

The Spokane County Library District saw a need in our community for summer enrichment beyond the basic summer reading program model, offering children more time to be fully engaged in reading and to explore the concepts they were reading about. In partnership with Spokane County United Way, we were able to staff camp with three AmeriCorps VISTA summer associates, which gave them summer learning opportunities and work experience while they filled the role of camp counselors. The Library District offered a half-day Camp Read-a-Rama for seven weeks with four themes (three of which were offered twice). Each week, camp offered spots for sixteen campers, and registration opened thirty days prior, usually filling up within ten minutes. In short, Camp Read-a-Rama rocked!

What worked: Since our library system doesn’t have the staffing capacity to fill the counselor positions, the AmeriCorps VISTA summer associates were essential to the success of the program. Planning, preparing, and implementing camp took over my full-time position, and I found that a schedule was necessary, all the while knowing that things wouldn’t always happen exactly as planned.

Camp was packed with activities and DEAR Time. This was necessary to keep the campers fully engaged the entirety of their time with us. The most popular activities were egg drop, AlkaSeltzer rockets, anything involving the iPads, and paint!

What we learned about programming: we would have done well to plan fewer themes and serve more campers. Multiple campers attended multiple weeks, even repeating themes. This was great fun for them, but with space for only sixteen campers each week, registration filled up quickly,



Making slime at the North Spokane Library (Photo credit to University of Washington Information School.)

and we would have liked the opportunity for more children to experience Camp Read-a-Rama. Our plan for next summer is to offer one theme for eight weeks at two different locations and partner with local schools to recruit campers. I also learned to find guest readers and presenters months in advance. People are busy during the summer, and we didn’t have nearly as many guests as I would have liked.

What we learned about books: I requested a large number of books to read for each theme and set them on a cart in our room. However, campers really wanted to choose their own books and explore reading choices. It quickly became apparent that setting aside time in the day’s activities for them to have that choice was crucial to their success. We made sure they could explore the library every day and find material that suited their interests.

A final thought: The most rewarding part of coordinating Camp Read-a-Rama was seeing the quick and deep relationships that formed between the counselors and campers around reading and learning. After a successful first summer, I’m looking forward to next year’s camp and implementing everything we learned.

CAMP READ-A-RAMA AT COMPASS ON DEXTER

While Dearborn Park’s two weeks of Camp Read-a-Rama in August got campers excited about reading just in time for a new school year, Compass on Dexter, an affordable housing complex for families who have previously experienced homelessness, enjoyed a week and a half of camp with the same themes: Art Attack and Animalia. The first

Seattle iteration of Camp Read-a-Rama took place at this site in 2017, and the kids and families at Compass were excited about the return of camp.

What did we do? We read Cynthia Leitich Smith’s *Jingle Dancer*, made jingle bell bracelets and anklets, and danced to songs played on the penny whistle by one of the staff; we sang “I Can Feel My Heartbeat” and carved hearts and other figurines out of bars of soap; we visited the Woodland Park Zoo; read poetry from Jack Prelutsky’s *The Dragons are Singing Tonight*; and made Japanese Fish Prints on fabric from fresh fish from the market. Why? Because Camp Read-a-Rama is about bringing books to life. During the first week of camp, the campers from Dearborn Park site and from Compass on Dexter came together at the Seattle Public Library for songs, a presentation from the children’s librarians, a library tour, and DEAR Time in the children’s section. Our two groups also crossed paths at the Seward Park Audubon Nature Center, sharing woodland walks with naturalist Ed Dominguez.

Co-founders of Camp Read-a-Rama, Martin and Washington directed the Compass site with four hired staff and one volunteer — all students in the UW iSchool’s MLIS Program — and two high school-aged CITs (Counselors in Training). Ballard First Lutheran Church, Gethsemane Lutheran Church and a host of individual donors provided funding for the Compass program to enable all Compass campers to attend for free, but we also opened registration up to families in the community since economic diversity, in addition to racial, ethnic, gender, neuro and other types of diversity has always been an important aspect of the program.



Camp Read-a-Rama founders Dr. Michelle Martin and Dr. Rachelle Washington join DPIE Read-a-Rama campers in an active morning Harambee Time. (Photo credit to University of Washington Information School)



CiKeithia Pugh from Seattle Public Library reading to Compass on Dexter campers during Harambee Time (Photo credit to Michelle H. Martin)

What do the Compass on Dexter campers say about Camp Read-a-Rama?

"Camp Read-a-Rama has to be the best summer camp I've ever been to!"

"My face hurts from laughing and smiling so much!"

"Being able to keep track of how many books have been read in a week was great!"

And keep track they did! During the first week, in three days, the twelve Compass campers read sixty-nine books; during the full week, twenty campers read 310 books!

WLA AND CAMP READ-A-RAMA

Read-a-Rama's partnership with Dearborn Park and North Spokane Library was sparked by the Fall 2018 WLA Conference in Yakima. Michelle Martin and her doctoral student, Liz Mills, led a Read-a-Rama pre-conference session to introduce the program model. They led participants through Camp Read-a-Rama-styled activities paired with books, songs, and hands-on learning. Melanie Boerner, Gwendolyn Haley, and Mary Ellen Braks from Spokane County Library system all attended, as did Craig Seasholes from Dearborn Park. They could all envision successful Camp Read-a-Rama programs at their sites and worked with Martin and Washington throughout the winter and

spring on the planning of their curriculum and to ensure that the essential elements of the program were in place. Martin and Washington visited the Dearborn Park site twice, and Martin visited the Spokane site mid-summer and debriefed with Boerner and the VISTAs to integrate more professional development into their already rich and positive camp experience.

CAMP READ-A-RAMA @ YOUR SITE?

Martin and Washington's mantra for Camp Read-a-Rama has always been: "100% engagement 100% of the time because dead time will kill your program." This is a program that keeps campers reading, singing, moving, learning, and always engaged. To learn more about Camp Read-a-Rama, visit www.Read-a-Rama.org. To learn more about research on Camp Read-a-Rama, visit: <https://read-a-rama.org/research/>. Interested in hosting a Camp Read-a-Rama site? Email Martin and Washington at campreadarama@gmail.com.

Camp Read-a-Rama 2019 Summer BY THE NUMBERS

- 9 one-week sessions (Seattle and Spokane) with themes Art Attack, and Animalia, STEAM (Science, Technology, Engineering, Arts & Math), Food, and an

author-focused Grace Lin theme

- 196 campers
- 1500+ books read
- 869 books given away
- 17 guest readers (including a superintendent and a state senator)
- 5 authors
- 3 field trips
- 46 total field trip miles traveled
- 1 guest dog

*Read-a-Rama is a 501(c)(3) based in Washington State. ■

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Camp Read-a-Rama @ Dearborn Park and Camp Read-a-Rama @ Compass on Dexter together for Seward Park field trip (Photo credit to Michelle H. Martin)

From Syndication to Misinformation

» How Undergraduate Students Engage with and Evaluate Digital News

BY CARA EVANSON AND JAMES SPONSEL

INTRODUCTION

Imagine the following: in order to teach students about the perils of misinformation, an instructor brings to class a fake news story about a pastor jailed in Vermont for refusing to perform same-sex marriages. The instructor plans on leading a discussion about how to evaluate the authenticity of this story. However, before the professor has time to clarify the context, students jump into a debate about the ethics of the jailing without first pausing to consider if all the facts are correct.

Today's information environment is rife with fake news stories, such as the example about the jailed Vermont pastor, and this classroom scenario really happened. At Davidson College, the researchers have been engaging faculty in conversations about fake news and students' abilities as information evaluators. During one of those conversations, a professor shared the anecdote above. This story stands out because it not only demonstrates instructors' aims to broach the issue of fake news with students but also underscores a crucial knowledge gap—educators do not always have a clear picture of how students consume and evaluate misinformation.

Considering the wide reach of fake news in digital environments (Allcott & Gentzkow, 2017), the researchers took a closer look at how the students at Davidson College engage with news in various digital formats. The researchers surveyed students on their news consumption habits and asked them to evaluate examples of news stories. The findings shed light on how undergraduates encounter and evaluate news in digital formats and has implications for how librarians and other educators teach students to detect misinformation.

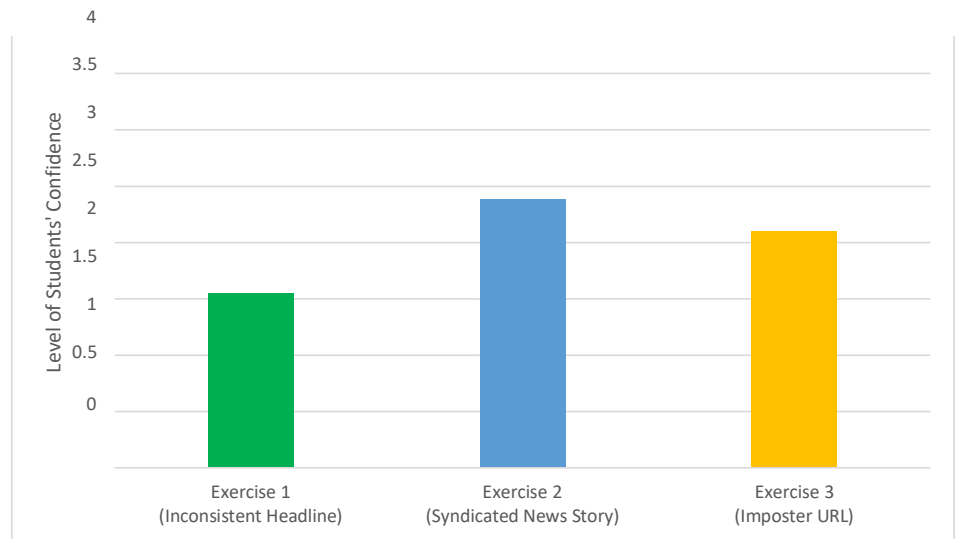


Figure 1: Mean Level of Students' Confidence in Claims

LITERATURE REVIEW

Kuhlthau's work in the 1980s and 1990s on the process of information-seeking and model of the student search process (Kuhlthau, 1988; Kuhlthau, 1991) has been foundational to subsequent research in this area. During the 1990s, the widespread accessibility of computers and the internet for student research led to a focus in the literature on electronic information and information-seeking (Kuhlthau, 1987; Oberman, 1991). Scholars pointed to the need for library instruction to help students learn and apply critical thinking skills to this new format (Dilevko & Grewal, 1998; Jacobson & Ignacio, 1997; Johnson, 1995;).

Recently, librarians have refocused on this issue of online information-seeking and critical thinking through the lens of misinformation in an increasingly digital environment. Fake news and its impacts have been broadly covered in the media since the 2016 presidential election, and librarians have taken the lead on providing instruction to students on how to best navigate and vet the news they encounter. From

pop-up workshops (Wade & Hornick, 2018) to assignments in credit courses (Neely-Sardon & Tignor, 2018) to research guides and webinars (Batchelor, 2017), librarians are creatively applying their expertise to the issue of news literacy.

This new focus on misinformation highlights a change in how librarians and other educators are teaching students to evaluate sources. A good example of this pedagogical shift comes from Caulfield's (2017) suggestion that students should engage in four evaluative "moves" in order to read sources more like professional fact-checkers. These moves or evaluative practices stand in stark contrast to popular checklist tools like CRAAP, which have been mainstays in library instruction ever since they emerged as tools in the 1990s.

This trend away from teaching checklist tools is not new. Critics of the checklist have underscored major weaknesses of the method, such as how it oversimplifies a nuanced process (Meola, 2004) or does not reflect the many different types of information-sharing sites that now exist (Ostenson,

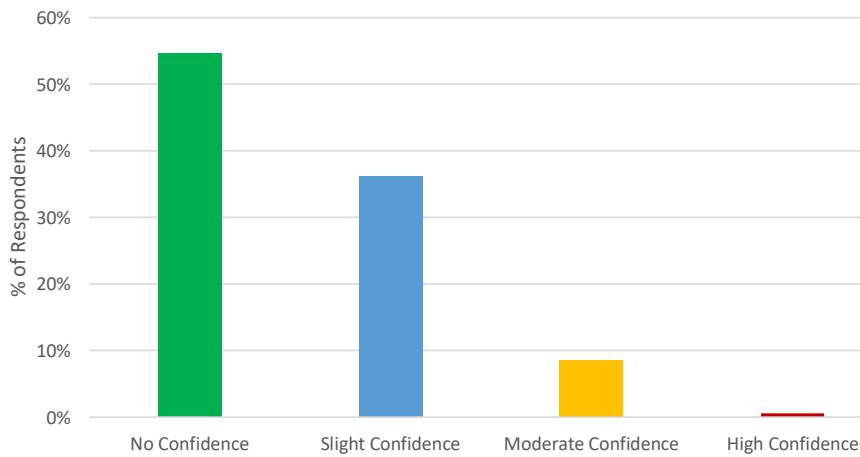


Figure 2: Level of Students' Confidence for Exercise 1 (Inconsistent Headline)

2014). These arguments hold more weight in the current fake news-saturated landscape, especially those suggesting checklist tools can produce false positives when used on certain questionable sources (Breakstone, McGrew, Smith, Ortega, & Wineburg, 2018; Caulfield, 2016). This move away from checklist evaluation tools, in conjunction with the recent emphasis on fake news in library instruction, suggests new approaches are needed to teach students to detect misinformation. While scholars have suggested other methods to replace the checklist, such as problem-based learning (Auberry, 2018), investigation into how students evaluate misinformation beyond a checklist system is still an emerging area of research.

Wineburg and McGrew (2017) and Silva, Green, and Walker (2018) have delved into the topic of how students evaluate misinformation. Wineburg and McGrew (2017) contrasted how undergraduate students and expert source evaluators—professional fact-checkers and historians—evaluate information. They found that students and historians “read vertically” by focusing only on the content in front of them, which leads them to be more susceptible to misinformation. In contrast, professional fact-checkers engage in “lateral reading,” by looking to outside sources for confirmation. Silva et al. (2018) investigated how students evaluate a variety of news sources, including biased news with inaccurate data. They found that students mainly based their evaluation on the sources in the article, previous experience, and bias judgment. Students in the study were given a chance to do some research on the claims in the articles, but this process had minimal impact on students’ mean scores for how they rated the reliability of each article.

Research on how students evaluate information and misinformation is vital for understanding how to help them become effective evaluators. Wineburg and McGrew (2017) and Silva et al. (2018) stand out in the literature because both involve study participants analyzing information and misinformation in its actual context. This present study aims to take a similar look at how incoming first-year undergraduate students evaluate digital news, including fake news.

BACKGROUND

Davidson College is a private, liberal arts college with less than 2,000 students located near Charlotte, North Carolina. Davidson has a traditional undergraduate student body, with most students between the ages of 17 and 22 years old. In summer 2017, incoming first-year students completed an hour-long mini-course for the library as part of an orientation requirement. The researchers’ aim for the mini-course was to understand how incoming first-year students consume and evaluate news in digital environments.

METHODS

The mini-course was administered in a course management system, Moodle, and consisted of a survey ([see Appendix A](#)) and a set of exercises ([see Appendix B](#)). Prior to administering the survey, the researchers obtained IRB approval from their institution. Due to the mandatory nature of the orientation requirement, 98% (n=511) of incoming first-year students completed the mini-course. The survey consisted of 9 to 14 branching questions, including multiple choice, Likert scale, open-ended response, and true-false. Of the survey questions, only four covered the topic of news consumption

and evaluation; the other questions asked students about their research attitudes and experience and are not relevant to the study at hand. Two of the survey questions were adapted from a 2014 Pew Research Center survey (Mitchell & Weisel, 2014). The wording of the questions, “Please click on all the sources that you got news from about government and politics from this past week” and “Click on all of the social networking sites that you got news from about government and politics from this past week,” was similar, but the researchers modified a few of the answer options to reflect current media trends. The remainder of the survey questions were created by the researchers.

Following the survey were three exercises, each containing a screenshot of a news story and three open-ended questions. The exercises aimed to identify students’ level of trust in each specific claim and to ascertain how students approached evaluation in different scenarios.

The questions corresponding to each exercise were “How would you evaluate the claim made in the story?,” “How would you rank your confidence level in the claim?,” and “Would you or would you not share the news story via social media or other means?” The news stories were presented as screenshots as the researchers’ goal was to provide a news evaluation experience for the students that was as authentic as possible. The researchers would have preferred to share the actual links with students, but screenshots were used instead to ensure a uniform and user-friendly experience. Students were still able to see advertisements, URLs, and other native elements as if they were reading the news stories in the actual setting.

The researchers intentionally selected news sources that represented three distinct news formats, and each news story provided specific opportunities for evaluation. Exercise 1 contained a headline inconsistent with the text of the story; the researchers expected students to be able to identify this inconsistency. Exercise 2 contained a syndicated news story; the researchers wanted to explore if students would recognize the concept of syndication and how that would affect their evaluations. Exercise 3 was a tweet containing an impostor URL and a preview of a fake news story. Since impostor URLs are an emerging tactic of fake news websites, the researchers were curious if students would be able to identify it. Based on these characteristics, the exercises

will be referred to as Exercise 1 (Inconsistent Headline), Exercise 2 (Syndicated Story), and Exercise 3 (Impostor URL).

The researchers coded all qualitative data using a list of preset codes and emergent codes (see Appendix C). The emergent codes were developed as the researchers recognized themes appearing in the responses and the preset codes were informed by what the researchers expected to see from responses. For instance, one of the preset codes for Exercise 3 (Impostor URL) aimed to capture when students mentioned the impostor URL. If a student response specifically recognized that the URL was fake or expressed suspicion related to the authenticity of the URL, it was coded as “mentioned impostor URL.”

Other codes allowed for more nuanced qualitative analysis. Some codes examined how a student considered the story’s publisher, specifically whether they trusted the publication or were skeptical of it. For instance, one of the preset codes for Exercise 3 (Impostor URL) was “evaluates NBC (positive/negative).” One trigger for a negative code was any mention of bias associated with NBC (e.g., liberal leaning). A response coded as “evaluates NBC (positive)” would include terminology that indicated credibility or trust in NBC.

RESULTS

Survey

The survey and the exercise provided meaningful insights about how students engage with news in various digital formats. Regarding social media use, 82% (n=419) of students responded they had used at least one social media platform in the past week to get news about government or politics (see Table D1). The top sites represented in responses from the students, in order of popularity, were Facebook, Snapchat, Twitter, and YouTube. The survey and the exercise provided meaningful insights about how students engage with news in various digital formats (see Appendix D).

Student survey responses indicated they believe fake news is overall more a barrier for society than for themselves (see Table D2).When asked how much of a barrier they perceive fake news to be to society’s ability to recognize accurate information, the majority of students chose extreme or moderate on a Likert-scale, 41% (n=210) and 45% (n=230), respectively. However, when asked how much it is a barrier to their own ability to recognize accurate information,



Figure 3: Level of Students’ Confidence for Exercise 2 (Syndicated Story)

the majority chose moderate or somewhat, 27% (n=136) and 51% (n=262), respectively.

Exercises

A key finding from the exercises is that 24% (n=125) of students indicated that they would share the tweet presented in Exercise 3 (Impostor URL) via social media or other means. Their willingness to share this news story was higher than their willingness to share the news stories in the other two exercises; 12% (n=63) would share Exercise 1 (Inconsistent Headline) and 15% (n=77) would share Exercise 2 (Syndicated Story) (see Table D3).

Additionally, of those students who said they would share the story from Exercise 3 (Impostor URL), only 16% (n=20) reported high confidence in the claim.

Students trust in the stories from each exercise varied, which is evident in the mean of their level of confidence. Students reported their level of confidence on a scale of 1 to 4: no confidence (1), slight confidence (2), moderate confidence (3), and high confidence (4). The average response for Exercise 1 (Inconsistent Headline) was between no confidence and slight confidence (M=1.55). For Exercise 2 (Syndicated Story), students rated their level of confidence as slight to moderate (M=2.38). Students tended to have slight to no confidence (M=2.10) in the claim in Exercise 3 (Impostor URL) (see Figure 1). The mean responses provide only part of the picture, however. A closer look at students’ level of confidence within each exercise reveals notable trends (see Table D4).

Exercise 1 (Inconsistent Headline)

Exercise 1 (Inconsistent Headline) featured an article from the *Washington Examiner* entitled “Study: One Third of Vegetarians

Eat Meat When Drunk” (Takala, 2015). Only 14% (n=69) of students noted the claim made by the headline was inconsistent with the claims of the survey cited within the text. In contrast, students focused on other textual elements in the story: 44% (n=225) of students noted that the text referenced a marketing company, VoucherCodesPro, as the organization behind the survey and saw it as a sign of potential bias, and 36% (n=182) critiqued the methodology of the survey described in the text of the story.

Overall, student responses indicated low levels of confidence in the article’s claim that one third of vegetarians eat meat when drunk (see Figure 2). In total, 55% (n=280) of students had no confidence in the claim, and 36% (n=185) of students had slight confidence in the claim. Only 1% (n=3) reported high confidence in the claim, and 8% (n=43) reported moderate confidence.

In their analysis of the source, many students focused directly on the text itself. In particular, they examined how the article described the cited survey. For example, 36% (n=183) specifically questioned the methodology of the survey described in the article. Moreover, 44% (n=225) of students expressed concern that the survey was designed by a marketing company. Notably, not many respondents referred to other elements of the publication as a factor for their evaluation. Only 7% (n=34) of students considered the source of the article itself (Washington Examiner) and very few students (2%; n=8) mentioned the presence of advertisements.

Exercise 2 (Syndicated Story)

Exercise 2 (Syndicated Story) featured a story on the Breitbart website about an aircraft interception between a Russian and an

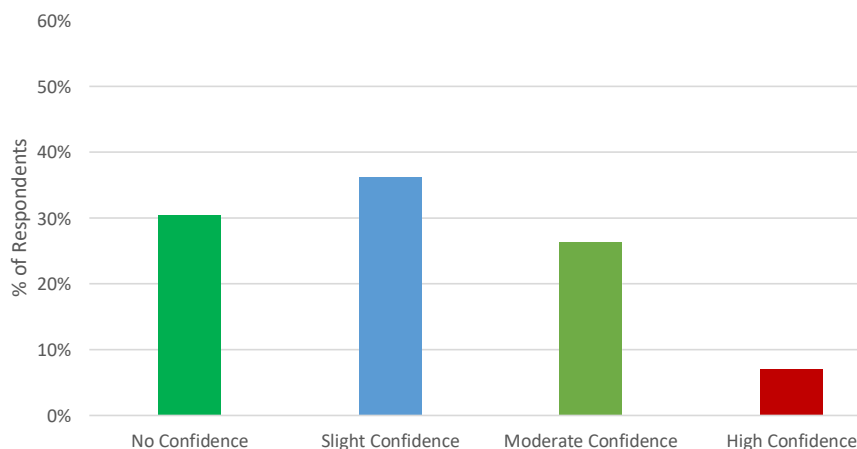


Figure 4: Level of Students' Confidence for Exercise 3 (Imposter URL)

American fighter jet over the Baltic Sea on June 19, 2017 (Associated Press, 2017). The story itself was not written by Breitbart but was syndicated from the Associated Press (AP). Responses split fairly evenly across the categories of moderate, slight, and no confidence, with 29% (n=148) reporting moderate confidence, 30% (n=152) reporting slight confidence, and 24% (n=125) reporting no confidence (see Figure 3). A smaller portion of respondents said they had high confidence in the claim, 17% (n=86).

In their responses, most students did not identify that the content was from AP. Only 15% (n=75) specifically mentioned AP as the source of the content. Of these 75 respondents, 79% (n=59) had moderate or high confidence in the claim made in the story. More than a third of student respondents (35%; n=177) referred to Breitbart in their comments, and the majority of these students (69%; n=123) indicated slight or no confidence in the story's claim. Thirty-six of the 177 students also mentioned AP News. A small number of students (2%; n=12) were confused by the byline and thought the name of the author was "A. P." Likewise, some students (10%; n=50) expressed doubt about the authenticity of the story's accompanying photo.

Exercise 3 (Imposter URL)

Exercise 3 (Imposter URL) was a tweet that linked to a story claiming a Vermont pastor had been jailed for refusing to perform same-sex couple marriage ceremonies (Bream, 2015).

The text of the tweet, authored by a Fox news correspondent, was accompanied by an embedded preview of a story from NBC.com.co entitled "Christian Pastor in Vermont Sentenced to One Year in Pris..." The claim

made in the embedded preview was, in fact, fake. NBC.com.co is an impostor website disguising itself as a legitimate news website. Regarding confidence in the story, 30% of students had no confidence in the claim (n=155), and an additional 36% (n=186) had slight confidence (see Figure 4). The rest of the responses mostly represented students with moderate confidence, 26% (n=134). A small number of students (7%; n=36) said they had high confidence in the claim.

Over a third of students (37%, n=190) struggled to recognize that the story came from an impostor source and mistook the story as coming from NBC. In their responses, students often paired NBC with terms like "reputable" or "credible." Only 7% (n=37) of students recognized the suspicious URL, NBC.com.co. Of those 37 students, 89% (n=33) had no confidence in the claim while the remaining 11% (n=4) had slight confidence.

Students also noted that the story was presented in a social media environment, and some indicated this presentation was a reason not to trust it (14%; n=72). Comments ranged from cautious skepticism about news on social media to absolute distrust of content communicated through Twitter. Some students factored in the authority of the person who tweeted the story, specifically referring to the fact that the author of the tweet was a verified twitter user (5%; n=26).

DISCUSSION

The survey and exercise findings have implications for understanding students' news consumption and evaluation practices. First, a large percentage of the students in this study indicated they are using social media platforms to access news. The news stories

they encounter on these platforms are packaged in a certain format (tweet, post, etc.), which brings an additional angle to the evaluation process. Also, considering Allcott and Gentzkow's (2017) findings about social media and the spread of fake news, these students may be more likely to encounter fake news stories than users who access news outside of social media. This exposure to fake news is important when combined with the finding that students overall indicated that they perceive fake news to be more of a barrier to society's ability to recognize accurate information than to their own ability to do so.

Although students' news habits may increase their likelihood of encountering fake news stories, students may be less aware of the potential barriers fake news poses for themselves. One finding underscores this issue—students reported a willingness to share fake news. Of all the stories students engaged with in the exercises, the story from Exercise 3 (Imposter URL) was the one they indicated they would most readily share. However, most who reported they would share the story were not completely confident in its accuracy. Eighty-four percent (n=105) of the students who indicated a willingness to share the story reported a level of confidence in the claim of moderate or lower. More research is needed to understand the reasons that underlie this datapoint and whether it may be related to its format as a tweet or other factors.

Each set of student responses to the exercises contained notable trends. One trend across all exercises was the tendency for students to mention that they would like to examine additional sources as part of their evaluative process. For example, 23% (n=120) of respondents in Exercise 3 (Imposter URL) explained part of their evaluative process would involve tracking down additional sources. Some students who thought the source was from NBC might have reevaluated that belief if they had had the opportunity to search for corroborating information. Due to the nature of the screenshots, students were unable to click on the links within the news stories and could not easily pull up corroborating evidence. Further research could build on the work done with think-aloud protocols by Wineburg and McGrew (2017) and Silva et al. (2018).

In their evaluations of the story from Exercise 1 (Inconsistent Headline), students generally mentioned factors from within

» **The findings from this study have implications for librarians and other educators. The major themes from Exercise 2 (Syndicated Story) and Exercise 3 (Impostor URL) fit well with the conceptual frames of the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education.**

the text of the story, such as sample size, response bias, and word choice. While most students did not analyze the inconsistency between the story's headline and text as the researchers had expected, they often looked to textual clues in the main body of the story. Students who relied solely on these textual elements were generally distrustful of the news story. Few students mentioned elements external to the main text of the story, such as advertisements or the source of publication, as influencing their evaluation. Since Exercise 1 (Inconsistent Headline) contained essential information for making an accurate evaluation within the text, students likely could have made an accurate evaluation if the text of the story had been presented to them without other contextual clues.

The context, specifically the story's syndication, was key for students to make an accurate evaluation in Exercise 2 (Syndicated Story). Students who mentioned Breitbart in their evaluations tended to distrust the story, while students who mentioned AP had higher trust in the story. Of the students who mentioned AP, some realized the story was syndicated.

Responses from these students included language like "republished in Breitbart" and "written by the Associated Press." Some other students, however, acknowledged the role of AP in the story—noting that the story "cites the Associated Press" or was "sourced from the Associated Press"—but did not include anything in their responses to suggest they understood the story was syndicated. Students who did not pick up on the syndication of the story, especially students who erroneously identified Breitbart as the creator of the story, tended to base their evaluation on factors that were not as key to the evaluation as the syndication. One striking example was a small set of responses that overanalyzed the content of the article. For instance, one student's response focused on the text:

Because of this recognized conserva-

tive slant, I would view the information in the article more critically in an attempt to recognize politically-charged claims... the use of the word in the title suggests a more violent, dramatic occurrence. This is a subtle yet effective way to draw the reader into the article.

Another response overanalyzed the story's featured photo: "I never trust news from Breitbart because they are so right wing and completely biased . . . the picture in the article appears fake to me." As was evident in the students' responses, knowledge of syndication as a process can be valuable to a student's ability to make an accurate evaluation; conversely, this lack of knowledge can be a barrier.

In Exercise 3 (Impostor URL), like in Exercise 2 (Syndicated Story), the context surrounding the story was important to making an accurate evaluation. Only a small number of students acknowledged that the story linked in the tweet was published on a fake news site, NBC.com.co. All of the students who recognized that the story was from the fake website either had slight or no confidence in the tweet's claim about the pastor. Similar to the students who focused on Breitbart as the perceived content creator in Exercise 2 (Syndicated Story), students who based their evaluation on NBC in Exercise 3 (Impostor URL) were less able to make an informed evaluation of the claim made in the tweet. Nearly half of the responses that mentioned NBC had moderate confidence in the claim. For some students, the notion that NBC was the source clearly played a role in how they viewed the tweet's claim. For instance, one student used the misidentified publisher to resolve other misgivings about the story: "I'm generally skeptical of news on twitter, but [the tweet author] appears to be citing a reputable source in NBC." Other students relied on the publisher information to bolster their justification for believing the claim made in the tweet: "[the claim] is not so absurd

that it is shocking or definitely false, and it also comes from a credible news source." The fact that many students missed the contextual clue of the URL underscores how agents of fake news and misinformation often target readers' overreliance on certain markers of credibility.

The findings from this study have implications for librarians and other educators. The major themes from Exercise 2 (Syndicated Story) and Exercise 3 (Impostor URL) fit well with the conceptual frames of the Association of College and Research Libraries (ACRL) Framework for Information Literacy for Higher Education. For instance, syndication relates to the frame "Information Creation as a Process." Students who detect syndication and factor it into their evaluation of a source are demonstrating an ability to consider "underlying processes of creation . . . to critically evaluate the usefulness of the information" (ACRL, 2015, p.14). By teaching about process-based elements of news media, like syndication, educators have an opportunity to help students grasp this important information literacy threshold.

The responses in Exercise 3 (Impostor URL) underscore the value students place on authority, especially in how they often cited NBC as a marker of credibility. This focus on authority brings to mind another frame from the Framework, "Authority is Constructed and Contextual." This frame encourages learners to be critical of social and knowledge systems because they are integral to what certain communities consider authoritative. While this frame highlights the importance of understanding the nuances of authority, it does not explicitly explore the implications of the type of false authority purported by fake news creators. The impostor URLs used by creators of fake news take advantage of readers' trust in established news authorities, which is a very different sense of constructed authority than what is spelled out in the Framework. In this sense, when educators are asking

their students to be critical of how authority is constructed, they should place emphasis not only on how authority is constructed within communities and systems but also on how bad actors can exploit authority within those systems.

LIMITATIONS

A limitation of the study is that students did not have the opportunity to explore additional sources before indicating their level of confidence in each story and whether they would share it. Many students indicated they would explore additional sources as a way to evaluate the claim, but, due to the nature of this study, the researchers were unable to take this aspect of evaluation into account. Additionally, the researchers provided screenshots of the news sources instead of links to the actual sources. While this approach was necessary to provide a uniform viewing and access experience for students and still include native content elements, like advertisements and the URL, it did not completely replicate the experience of reading the content in its original format. Because the orientation was required and had a time limit, the researchers were only able to present students with three examples of news media stories to evaluate. More time would have allowed for a greater variety of news media formats to be included and would have provided additional insights and data points.

CONCLUSION

Based on the data from this study, students are accessing digital news at high rates, particularly through social media channels. This finding is meaningful because of the complexities that digital news poses for readers, such as syndication and impostor URLs. This study indicates how these two features within today's digital news environment present challenges to students in their evaluation processes. Additionally, the prevalence at which students in the study indicated they would share a tweet containing an impostor URL highlights an urgency for educators to better understand how students evaluate digital news in order to help them learn to identify the fake news they may encounter.

The ability to effectively evaluate a claim made by a news source is a critical skill for students to develop. The opportunity for students to have authentic news evaluation experiences, to try out their skills in real time, and to learn to parse credible news from fake news will be vital

now and in the future. The information environment is continuously evolving; therefore, students need exposure to real and fake news in an educational environment where they can learn how to become adept evaluators of the news they will encounter outside of the classroom. ■

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