Information Literacy in the Wild

Edited by Kristin Fontichiaro
Foreword by Jeffrey MacKie-Mason

First Espresso Book Machine Edition | December 2011

University of Michigan Library | Ann Arbor, Michigan

Printed by the Espresso Book Machine
University of Michigan Library
Ann Arbor, MI
www.lib.umich.edu

Cover Image: Encadré (Jardim Botânico, Rio de Janeiro) by Frederic della Falle, used with a Creative Commons Attribution-Non-Commercial license.
http://www.flickr.com/photos/33432224@N00/2285253737

This book was published non-commercially, with copies printed at cost. For a free download of this book in eBook format, visit http://www.smashwords.com/books/view/115254 .

Special thanks to our classmate Kristel Wieneke for designing the book cover and managing the Espresso Book Machine process.

For our Mentors

Table of Contents

Foreword

This year marks the sixteenth year of the School of Information (SI), an interdisciplinary school in which our students, staff, and faculty believe in the mission of helping "people use information and technology to build a better world" (http://si.umich.edu/aboutsi/history-and-mission). Even in these few years we have experienced a monumental change in how we serve the world: technologies have developed, information has exploded, and people now carry massive computing power in their back pockets.

Librarians have historically been on the front lines of making those connections. Our school was built upon the long tradition of the School of Information and Library Science, and approximately 25% of our master's students select Library and Information Science as their specialization today. At SI, we hold fast to the ideals upon which librarianship was founded, but we do not rest on the achievements of the past. For example, instruction is the new librarian frontier, and we are delighted that SI now offers two courses focusing explicitly on teaching and learning in information-rich environments. We encourage the future librarians in our midst to think boldly about how they can leverage those ideals to best serve patrons and students and to put patron needs -- not library traditions -- at the forefront of their practice.

This book presents work by the students of SI 641, "Information Literacy for Teaching and Learning". This course was developed with the core belief that students should be active participants in their own learning. In addition to field experiences, students were invited to vote on guest speakers, request changes in the syllabus to better meet their needs, use class time to test-drive a project, and push back on classic theory and practice. Many of the students in the class are future librarians, but in the following pages, you will also meet their colleagues from the School of

Education, where the course is cross-listed as EDCURINS 575. The class's diversity contributed to new understandings and realizations as the students mashed up their divergent backgrounds, experiences, aspirations, and influences, both in libraries and "in the wild." They examined teaching, learning, information resources, and strategies from multiple angles. Their findings lend a fresh perspective to the existing body of literature.

At SI, we believe that our work should result in impact. We hope you will learn something that affects the way you do your job, and help our students have more impact by sharing this with others. If something here surprises, delights, or spurs you to change, please share that with us at informationliteracyinthewild@umich.edu.

I want to acknowledge our terrific students, who wrote the book you are about to read. But I also want to acknowledge Kristin Fontichiaro, their professor, who joined our full-time faculty just last year. Kristin is an influential leader in the field of information literacy, and has already made a deep impact on our curriculum and our students. She inspired and supported them in this venture.

Jeffrey MacKie-Mason
Dean, School of Information
University of Michigan
December 2011

The View From the Front of the Room

Kristin Fontichiaro

They barely fit. The class was supposed to have eight students, all future librarians. Now there are twenty-eight. An education PhD student, another in Educational Studies. Some future teen librarians; others who see academic libraries as their future. School librarians. And what about those secondary Pre-service teachers? What do these folks all have in common? How do I respectfully and robustly challenge such a diverse group? And they barely fit in our classroom, which we have already changed twice as class enrollment unexpectedly tripled in the days leading up to the first day of class.

I will say this again and again in the early days of SI 641 / EDCURINS 575: Information Literacy for Teaching and Learning: there is so much diversity, and how will we tackle the concepts when we come from such different places?

When I had taken on this class a few months prior, I knew it needed to break the molds of its past. For many years, it had been considered useful for school librarians only; indeed, the course remains the official teaching methods course for those seeking the teaching endorsement in school librarianship. A course redesign a few years prior had formally articulated that the course was suitable for all kinds of librarians and information specialists, and for two years, the course, while remaining small in enrollment and primarily taken by school library students, had shifted focus from the practicalities of teaching in K-12 environments to a more theoretical focus on academic libraries. The course needed to fall somewhere in the middle. To teach well, librarians would need the theoretical underpinnings both of information literacy and of educational practice, but they would also need to see how those theories are

applied in the practice of good teaching and, more importantly, robust learning for their future students.

Theory wasn't enough. One needs only walk through a third grade classroom or academic library learning commons to see that students are, as a whole, not implementing librarian-taught lessons. Theory doesn't matter if it does not (or cannot) change practice. Why did we have so many students sitting politely through database instruction, only to open Facebook and do an open Web search as soon as the librarian's eyes were turned? Why were so many college papers citing introductory sources or documents of questionable authority? And, as long as we're being honest, did we have confidence that their teachers had a strong-enough command of information resources of varying levels of authority and synthesis versus merely reporting information?

Surely, a class of eight students, if seminar discussion were coupled with extensive field experience, could begin to crack the code. We are fortunate here at the School of Information to have students who are highly motivated, experienced working in the field, and deeply interested in the future of libraries and librarians. I envisioned the class, cozily sitting around a conference table, sipping lattes, debating readings, and sharing findings from their field experiences. I envisioned us collectively authoring an eBook, carefully crafting our pieces, our brows furrowed in the most academic of ways. The kind of seminar that you see in hazy footage as filmmakers remember the Goode Olde Days of Oxford. Studious. With fewer than a dozen students, completely possible.

Fast forward to the first day of class. Remember? It's crowded. I'm doing the math: 28 field experience placements, not 8. No more Oxford seminar. And yet, the code still needed to be cracked, the conversations had, and the alternatives explored. And this is exactly the diverse group needed to start decoding.

Thanks to the tenacity of the students whose voices you will read, we dove in anyway. We compensated for the large class size when some students sought out their own field placements, took regular

advantage of office hours when they needed or wanted individual feedback, and engaged in small group conversations in lieu of the imagined conference table chatter. Some shared their experiences in class regularly; others used their weekly "prof letters" to me to share their insight about their readings, our class discussions, and individual field placements. These in-class activities, coupled with a Diigo social bookmarking group, which allowed any student to share a resource with the rest of the class, slowly but surely developed our assessment of the instructional landscape. It was a bit noisy, but it was working (and there were even a few lattes, coupled with a rather large quantity of Twizzlers and hurried lunches).

Field experiences for this course spanned multiple settings and multiple patron groups. School libraries, secondary classrooms, public library storytimes and activities for adults, and the campus language center. Classes in psychology, education, communications, and English (online!). Online simulations and hands-on teaching in a campus museum.

Despite the diversity of placements, each student had three field requirements. First, they were to spend twenty hours in 'observation': watching a mentor teach, helping the mentor plan for teaching, perhaps co-teaching, or simply working on the many clerical tasks all teachers engage in when preparing for learning. Secondly, they had to teach two face-to-face classes, either the same class twice (with the benefit of being able to revise and rethink for the repeated session) or two distinct sessions (with the benefit of getting more planning practice and artifacts for their employment portfolio). Finally, in partnership with a mentor, they were to think about digital teaching and learning, and create an online learning module. Some created pathfinders, instructional materials for parents and teachers, learning modules, narrated PowerPoints, an information literacy online assessment, a scavenger hunt app, and more.

The essays in this chapter span those experiences. Some, like Katy Mahraj's "Iterative Instruction" or Ander Ericsson's "Looking at the Information Needs of Pre-Service Teachers," look systemically at

information literacy issues. Others, like Kara Fribley's "From Black and White to Gray: Addressing Information Literacy Skills in Web Evaluation" or John Cole's "Hook," unpack small moments of a lesson. Two essays look at nefarious low-level "bird units": one from the perspective of a physics classroom (Joshua Skodack), and another from a public library perspective (Caroline Mossing). Some use humor, like Kyle Tecmire's "Database-a-phobia," and others, like Emily Johnson's essay on school librarians and assessment or Curtis Lee's call to action in social studies classroom, are intensely serious. Lady Gaga makes a guest appearance in J.J. Pionke's essay on teaching synthesis, a counterpoint to Katherine McMahon and Kristel Wieneke's essays of the power of storytime and early literacy activities in children's rooms of public libraries. The stories are authentic, unvarnished, and real.

As I write this, the last day of the semester has sunset, and soon this band of adventurers will disperse, but in each essay, the author leaves behind a message they felt would resonate with other future or practicing librarians or educators. My takeaway? Trust your hunches. Adult learners have rich past experiences that enhance their new learning. Diversity of perspective and employment enhances rather than detracts. For those lessons, and for the delight of exploring with such a thoughtful group of learners, I am deeply grateful.

Kristin Fontichiaro is a clinical assistant professor and coordinator of the school library media program at the University of Michigan School of Information. Her work focuses on quality instructional design relating to informational resources and technology. Contact: font@umich.edu.

Part I: Information Literacy in the Wild

Database-A-Phobia: The Silent Search Killer
Signs, Symptoms, and Ways to Cope

Kyle Tecmire

Have you ever found yourself saying, "just Google the answer" in regards to finding any type of information? Do you find yourself thinking that Google, Bing, or Yahoo is the only credible way to find information? Does the word 'database' send a chill down your spine? If so, you probably are suffering from a relatively new search-threatening condition called database-a-phobia. Database-a-phobia is a condition that threatens the integrity of information searches, and results in the missing of credible and pertinent information and information sources caused by the avoidance of information databases.

There is no doubt that in today's world the growth of the Internet has provided an information base that was previously inaccessible to the populous. Adding the advances in search engines such as Google, Bing and Yahoo to this has made finding and access information seemingly effortless. However as a result of these advances, most individuals miss out on a vast array of intriguing and credible resources. By relying solely on search engines, information seekers overlook or remain ignorant to the wealth of information offered by information databases. In this chapter, I will look to outline the signs and symptoms of this condition, as well as what a person can do to overcome it.

SIGNS AND SYMPTOMS

The large majority of people living with database-a-phobia live their whole lives without realizing they suffer from the disorder. Most rely on search engines like Google to find and fill their information needs, never realizing how much they're missing. Up until six months ago, I myself was one of these people. I believed that all the

information I needed could be found on Google and that, thanks to the research paper I did in 11th grade American Literature, I would be able to "tell" which sites/sources on the internet were credible simply by looking at them. This theory was disproven after I found out that Wikipedia was a less credible source, one in which users provided the information. I went through my entire college career like this: finding and using sources from Google, and actively avoiding anything that was deemed a "database". The thought of having to identify the right database, use the right keywords, and spend more then 10 seconds looking for the right information quickly deterred me from ever pursuing the use of databases for resources.

No one can argue that search engines such as Google have made finding almost anything on the Internet a non-concern. Simply typing in a certain keyword, question, or phrase will result in a plethora of results and resources, making searching the Internet a breeze. This is all fine and well when the researcher is looking for the best sales on TVs, shoes, or for a certain recipe. However, when looking for credible sources or scholarly articles, Google doesn't quite do the trick. In this department, finding and searching the right database will result in much more targeted, applicable, and creditable resources.

THE ROAD TO RECOVERY

After admitting to myself that I suffered from this condition, I set out to find ways to cope with it as to avoid another Wikipedia citation incident. However, when I Googled database-a-phobia, I found nothing that could help me. That's when I knew I had to fight this on my own. It took me six months but I can proudly say I have my database-a-phobia under control, and I look forward to helping others suffering from this condition. To do this, I have devised a three-step process to help guide those suffering from this condition to rich, successful-search-filled lives.

STEP ONE: ACCEPTANCE

The first thing a person must do to overcome database-a-phobia is to accept the fact that search engines including Google, Bing, and Yahoo aren't the only portals to information online. Although they pop-up everywhere and are easily accessible, they are not the sole access point for information. One suffering from database-a-phobia must accept the fact that using a proper database, although not as convenient, can yield a wealth of validated and credible sources. For example, imagine that a student is looking for a scholarly article on a topic such as, "How to differentiate instruction in middle school studies." Searching Google would bring up a lot of results, but they might be a mix of anecdotal and scholarly resources. However, if the student were to look into a university or school's collection of databases, they could search specific keywords such as "differentiated instruction", "middle school", and "social studies" and arrive with multiple articles that both address the topic and are considered credible sources. This search may take more time, but the benefits far outweigh the costs.

One must also accept that although search engines are seemingly the easiest and quickest search resources, they not only yield sources that are credible but also a large amount of non-credible sources as well. Therefore, despite their quick and targeted search results, sifting through the results to find credible sources adds to the overall research time and leaves little room for the citing of those non-credible sources. Search engines can serve as a good preliminary search for keywords or references to credible resources, but they may not be the primarily or final method of search for scholarly or specialty work.

STEP TWO: EDUCATION

Once a person suffering from database-a-phobia has completed their acceptance phase, the next step is to get educated on what they're unfamiliar with: databases. A database, unlike most Internet search engines, requires precise and tactical use in order to yield the full

results one desires. If you search Google for the phrase "how to search a database" you will receive about 1.58 million sources regarding how to search a database properly. However, as mentioned earlier, some of these results may not be credible sources and even more are opinion pieces. What we can gather from this search, however, is that many people struggle with using databases.

The best way to locate proper databases as well as learn how to search them is by asking someone who's trained to use them. Librarians, media specialists, and fellow researchers are great people to ask for assistance. Don't try to learn the proper use of databases on your own or "on the fly", as this will result in a major relapse into your previous state of database-a-phobia. Also keep in mind that this is not a quickly learned skill. Searching a database for information requires a lot of patience and time but can be sped up through reaching out to a professional, such as a librarian. As a pre-service teacher myself, I have found that contacting a librarian for help has made my database use much smoother, quicker, and much less frustrating, thus helping me cope with my database-a-phobia.

STEP THREE: PRACTICE

Like anything else, learning to maximize the effectiveness of a database takes time. Learning effective keywords and search criteria takes practice; and just when you think you've mastered database searching, you use a new database and have to relearn it all again. This is an important point to note: individual databases don't contain every resource ever created; they are limited in their range and therefore you may need to utilize additional databases. However, once you have built up a fair amount of database schema, you will be able to transfer what you've learned from one database to another making the learning curve much smaller.

Learning to live with database-a-phobia is a day-to-day battle. With bigger, faster search engines appearing everyday it makes it hard for database-a-phobes to not be tempted to revert back to their search engine ways. That is why it is vital to a person dealing with

database-a-phobia to remember the reasons they have to overcome their fear of databases: 1) Databases offer a wide array of academically credible sources, and 2) Databases can filter out non-credible sources as to avoid any potential for poor or weak citations.

To those of you suffering from database-a-phobia I say: "The effort is worth the reward." Stay vigilant in your pursuit for credible and valid sources, and never compromise your academic morals for fast yet spotty sources.

Kyle Tecmire is a pre-service teacher who is currently getting his Masters degree in Secondary Education at the University of Michigan. Upon graduating from the University of Michigan, Kyle hopes to obtain a teaching position in middle school social studies or high school economics. When he is not in school, Kyle can be found skateboarding, snowboarding, or spending time with his two incredible nephews, Jackson and Carson.

Primary Sources and the Inquiry Process in the Museum

Laura Gibbons

Before an internship and ensuing position with the University of Michigan Museum of Natural History, my content knowledge surrounding learning with objects and primary sources in general was limited to what was being discussed in my graduate courses in Educational Studies. To be sure, my content knowledge in this area was lacking. In about a dozen classes at the University of Michigan School of Education I hadn't so much as heard the term 'primary source' and certainly not as it relates to my chosen field of museum education.

But within the first month of a course entitled Information Literacy for Teaching and Learning at the UM School of Information I could put a name to the instructional strategies I had witnessed and facilitated at the museum. The educational approach taken by the museum isn't a technique based on fun and sometimes silly questioning amongst fossilized skeletons, as I had once thought – although those aspects are certainly captured in the approach – but a researched, informed navigation of historical and prehistorical objects used as spring boards for provocative engagement and interpretive thought.

The Museum of Natural History sits on a corner of Geddes Avenue busy with foot traffic, perhaps equally supplied by University students and surrounding K-12 schools who visit frequently with their classes. During the museum's Learn it! Do it! days, these K-12 groups explore activities and learning stations surrounding a central theme that are manned by docents trained to engage students in the museum's subjects by way of inquiry. The museum's Education Director, Kira Berman, facilitates docent training using a similar model. At times, docents are asked to think of a particular instance when a lesson or experience resonated strongly with them. What was unique about that lesson? Whether it involved physical movement, a self-guided discovery, or employed the use of prior

knowledge and a past experience, most docents will agree that, in their own experience and those of the students they reach, an exploratory approach and the emphasis of connectivity of subject matter to students' own lives creates a lifelong impression of successful learning (Beck and Cable 1998). Docents learn quickly how to aid in visiting students' interpretation of the museum's objects.

These are the foundational concepts of constructivism, a model that John Dewey upheld for its success in leading students to hypothesize, explore, reflect, and make meaning of the information to which they are exposed, There seems to be a natural merger of the concepts that comprise constructivism and the inquiry process; a student-led approach to education by design employs an inquiry-driven philosophy (Dewey 1939). I used this approach to the design of learning experiences as a basis for my work as I created activities and materials used to supplement the museum's educational program. Furthermore, recognizing that prior knowledge is a key component of constructivism, I targeted the creation of pre- and post-visit activities and materials for K-12 classes planning a trip to the museum as an objective of this work.

This piece of curriculum development is important to the museum's educational mission and relates to a comment that Kira made to a group of docents training for their first year at the museum: she emphasized that visiting students should never feel as though they had "flunked the museum". Students should feel successful as they weave in and out of exhibits, past the Giant Clam and around the resident Mastodons. In order to experience this success, students should feel knowledgeable enough to grasp concepts they are exposed to at the museum. There is no better way to prepare them for this success than to provide them with prior knowledge about the content they will encounter.

After preparing materials for these educational events, I was provided the opportunity to facilitate one of the activities I had created. Dinosaur Discovery Day is an open event, free to the public, which includes ten to fifteen learning stations and activities

introducing visitors to all things dinosaurian. For several hours I engaged participants in an interdisciplinary lesson on the paleontological process of assigning names to dinosaurs. I was fortunate in teaching for such a long period of time at once, reassessing my approach as needed and gaining experience in tailoring the lesson towards an array of audiences with different needs and levels of prior knowledge. Most participants I taught were familiar with the dinosaur names I used as examples before the lesson began, and I purposely began the activity using students' most popular favorite dinosaurs: *Triceratops, Stegosaurus,* and *Tyrannosaurus rex*. Because of this high-interest beginning to the activity, students were actively engaged and excited to learn about some of their favorite dinosaurs. How did these dinosaurs get their names? I inquired aloud to the group. Many were spot on in their answers: after the dinosaurs' features! If I encountered a group with little prior knowledge or reserved engagement, I encouraged students to explore the objects involved in our lesson, a *Stegosaurus* plate and *Tyrannosaurus rex* tooth, to scaffold their thinking and provide physical evidence of these dinosaurs' features.

I led students in an activity in which they took the place of the first paleontologists to find the bones of these three dinosaurs. What did they notice first about the skeletons? What were the dinosaurs' prominent features? We went on to assign names based on the Greek and Latin roots for the dinosaurs' unique traits: *Stego*, meaning plated; *Tri* and *Cera*, meaning three and horned; and so on. Students then drew their own imagined dinosaur and gave it a name using the same method. Building an activity based on student interests and prior knowledge, as I did to give the activity a constructivist basis, played a large role in the success of this lesson. The creative conclusion – as students imagined their own dinosaur – and exploratory nature of the process itself – as students took on the role of paleontologist and searched for the root words to describe their dinosaur – allowed the inquiry-based nature of the activity to resonate with students.

Referencing the foundational concepts of an inquiry-based approach to education and the constructivist philosophy has proven

to be a key piece of the puzzle in the creation of curriculum materials and in the practice of teaching (Stripling 2003). The museum environment, paired with the advantage of prior knowledge from an experience, general interest, or a formal lesson, is poised to approach inquiry-based education with resulting success. The objects and groupings of objects found in the museum, when used as primary sources in constructivist- and inquiry- based activities, elicit questioning and critical thinking that can help students interpret, analyze and critique, infer, tell stories, and draw conclusions about the broader concepts relative to the primary sources.

The takeaway for educators, whether in a museum or library setting or using primary sources in the formal classroom, combines the demonstrated success of the inquiry model with the ease of generalization across content areas to produce a knowledgeable and engaged student capable of making meaning and synthesizing evidence resulting in a broad conceptual grasp.

Laura Gibbons is a Public Programs Assistant at the UM Museum of Natural History and a candidate for her Master's degree in Educational Studies at the UM School of Education. Her education philosophy is grounded in John Dewey's view of experience and education and their simultaneity, and she designs interdisciplinary programs and curriculum based on this principle.

REFERENCES

Beck, Larry and Ted T. Cable. 1998. *Interpretation for the 21st Century: Fifteen Guiding Principles for Interpreting Nature and Culture.* Urbana, IL: Sagamore Publishing Inc.

Dewey, John. 1939. *Logic: The Theory of Inquiry*. London: George Allen & Unwin, Ltd.

Stripling, Barbara K. 2003. "Inquiry-Based Learning." In *Curriculum Connections through the Library*, edited by Barbara K. Stripling and Sandra Hughes-Hassell, 3-39. Westport, CT: Libraries Unlimited.

Guidance in the Information Jungle

Joanna Price

It's a jungle out there. Information comes at us from all directions, 24 hours a day, 7 days a week, on our phones, our screens, and our TVs. How do we bushwhack through it all? Our palms get sweaty just thinking about it.

So let's start at the very beginning, what is perhaps the most important anxiety-provoking aspect "information literacy" (IL) itself. "IL" is a professional term for librarians, but meaningless for everyone else. Explaining how the words “information” and “literacy” relate to something they can understand is more time consuming than using a different phrase. That phrase I suggest is: “problem solving with information.” See, don't you feel better already?

Take library work, for example. Let's say you need to cite a source. The problem you face is figuring out what data you need about the source and how that data should be formatted. Finding the answers to those questions can be done with Google or by asking a librarian or friend. Then you apply the information by creating the citation and solving your problem.

But not all information problems have to do with things that occur in the library. It turns out that IL is sort of about everything. There is nothing in the world, it seems, that doesn’t involve searching for and applying relevant information. And the thing about real life is that it’s ambiguous, and patrons come across many information problems in their lives. Some of them are academic—like recognizing themes in a literary work or determining which information is necessary to solve the word problem they’re working on. Some impact real life: in an economic recession, your patron has been laid off and is wondering if there is governmental support for families like his. There are big information problems and small ones. When you want to change your tire, you need to find

information (What tread do I need? Snow tire or all-season? How long will I keep the car?) and then apply it. Or when you want to bake a pecan pie for Thanksgiving, you need to find the recipe, buy the ingredients, and follow the directions. Any problem that involves searching for information is a problem librarians want to help their patrons learn how to solve. When you know how to solve problems through finding information and applying it, that's information literacy.

But until then? Our pulses race.

Today, we have more information being produced than any individual will ever consume in his or her lifetime. So you end up with this other Terry Gilliam-esque fear of simply disappearing inside all the information and never finding your way out again. This may be more poignant than you'd think at first glance. If we assume a basic desire to be productive in this world, we can acknowledge one of the greatest blocks to that desire is anxiety, or fear of failure. One of the greatest causes of that anxiety is in trying to find and understand information. It only stands to reason that if you're comfortable with any particular process, you're more inclined to do that process.

So what can librarians do to ease the barrier of anxiety and help patrons move from little information to new knowledge? Maybe an answer comes from outside libraries. Through my placement at 826 Michigan, a non-profit that works to help kids understand the pleasure of reading and writing, I learned something very important about bridging the gap between potential and realization, particularly when it comes to anxiety. 826 doesn't just talk about stories: they employ them in powerful ways. A story, or a narrative, distracts the mind from anxiety. At a typical 826 session, kids would come into the workshop and be told that they were there for a tax workshop. A tax workshop? For children? Indeed, so it would seem, as the staff launches into how to fill out IRS forms. The anxiety level goes up as children are faced with something they understand to be a "grown up" activity -- an activity that even raises the anxiety of adults.

About two minutes into the tax spiel, a voice comes over the intercom. It's the 826 Monster, and unless he gets stories right away, he's going to be very angry. The staff instantly "freak out," and confess that while they're experts at tax forms, they don't know a lot about telling stories! Could the kids come up with some stories to keep the 826 Monster from getting angry? Suddenly, the atmosphere in the room changes. Stories? Kids are really good at making up stories, and definitely better at stories than taxes! There is a sudden switch in the power dynamic—from something they know nothing about to something they're experts in. But what captures them is that they are now a part of a story: there's a monster who needs stories: feed him! Inside that narrative, they're not too worried about how good at making up stories they are, they're too involved in the story they're in! Inside a story, we feel freer to act, less anxious.

This experience provokes important questions for librarians: How can we replicate this with our patrons in other instructional settings? How can we transform anxiety-laden instruction to delight-filled engagement? How do we create worlds of delight when learners have such a wide range of prior experiences? How do we plan something that can be scaled up or down to provide the appropriate level of challenge? Is it even something that is compatible with who we see ourselves or our institutions to be?

As a society, we are doing the best we can to respond to these questions with the systems that we have. We work to balance our own information needs with the larger needs of society. It's no easier for our students. As instructors, we have to teach that information literacy is not a question of turn-based combat. Every day is a new day in the information jungle, and there is no finish line. "That's okay," I can see myself reassuring my future students with a wink. "Welcome to the good fight. We're in this together."

Joanna Price is a second-year student at the University of Michigan School of Information.

Iterative Instruction

Katy Mahraj

PERSPECTIVE

Libraries cannot be effective without good instruction: the passion, ability, and resources to communicate information and build knowledge. Library instruction can be effective at generating long-lasting results (Daugherty and Russo 2011; Wang 2006), but developing the relevant, engaging, and innovative learning experiences that yield such outcomes is an ongoing challenge. The resources and services that libraries traditionally provide contend with increasingly more abundant and alluring alternatives. Daily life is now replete with competitors for information seeking and access, learning, leisure, and community. As information professionals, how do we respond to this environment? We must adopt an entrepreneurial stance.

There is a spectrum of potential approaches to entrepreneurship in libraries. At one end, we can transform our mindset and methods for strategic planning and decision-making. Moving deeper into the literal meaning of entrepreneurship, we may develop partnerships with businesses and even build our own spin-off ventures to generate revenue. In this chapter, I focus on the most widely applicable and foundational change: adopting an entrepreneurial mindset. To me, this means being rapidly responsive to our environment in innovative ways.

As a graduate student at the University of Michigan School of Information, I have engaged in an environment that places strong emphasis on user-centered, iterative design of systems and services. This approach can be applied to projects across multiple domains, including business, government, education, and health. The fundamental goal is to maintain responsiveness to environment. As a result, the systems and services designed through this strategy are likely to have high relevance, impact, and appeal for end users. This

approach represents an entrepreneurial mindset because it requires ongoing contextual awareness for the purpose of agile, creative, outcome-driven design.

In this chapter, I explain how this strategy can be applied to libraries through developing a model of iterative instruction. This discussion is informed by reflections on the time I spent this semester observing and participating in instruction at the University of Michigan Taubman Health Sciences Library. The Health Sciences Library serves as "a valued partner, fully integrated into the work of the university and providing leadership in knowledge management for education, research, patient care, and community outreach" (University of Michigan, 2011). With liaison librarians assigned to the health system, research centers, medical school, and schools of nursing, pharmacy, dentistry, and public health, the Health Sciences Library provides instruction on diverse topics in several formats, including one-on-one consultations and workshops on database searching, citation management, grantsmanship, bioinformatics tools, and emerging technologies. My role this semester was to support the library's work by developing a range of instructional materials, including screencasts, surveys, polls, slides, practice exercises, handouts, and a research guide, as well as co-teaching in-person sessions.

THEORETICAL MODEL

Figure 1 illustrates the process of iterative instruction. Each step has its own goal, questions, tools, and product. An instructional project begins with information gathering through which we *research* our users and environment, including competitors, to construct a rich understanding of the context, audience, requirements, and resources shaping our work. Next, we *innovate* or develop a creative approach to the project based on our research. When our design is ready, we launch the prototype with users to *assess* how the design performs. We return to the drawing board to *iterate* or rapidly construct an improved design using assessment data. If our first attempt

struggled due to poor understanding of our users, we return to research. If our first attempt demonstrated a realistic understanding of the environment but poor design or implementation of design, we return to innovation. The process continues, time and again, until the project is perfected, and time and again beyond that because the world is always changing.

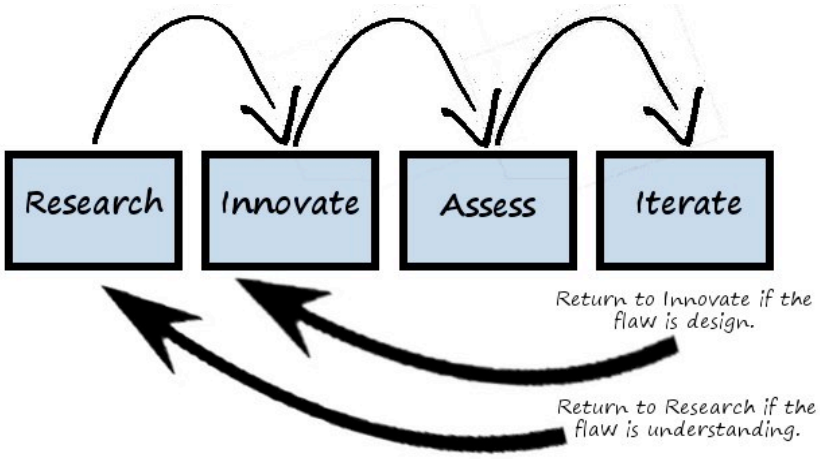

Figure 1: Theoretical Model.

RESEARCH

Goal	Articulate instructional objectives and context
Questions	Who am I teaching? What do they know and need to know? What resources do I have? What do I want to achieve in this project? What standards guide my purpose?
Tools	Self-reflection, surveys, questionnaires, informal conversations, observations, formal needs assessments, and other tools as necessary
Product	Anticipatory set

To create effective instruction, first we must test ourselves. This "test" consists of a series of questions that push us to explore our audience, context, and goals. Who is our audience? What are their perspectives and needs? What do they know and need to know? What do they think they know and need to know? What do we

seek to achieve? What is feasible to achieve with the resources and time that we have? What emotions do we want to evoke? What relationships? What standards, guidelines, or other investments shape our purpose? These questions are just a few examples! To perform this environmental scan, we may use a series of tools, including self-reflection, surveys, questionnaires, observations, and informal conversations, as well as formal needs assessments if necessary. Every lesson, from the short-term and simple to long-term and complex, requires that this foundational research be conducted to some degree. Starting with research helps us to achieve relevance to our audience and surroundings.

At the end of this phase, we should be able to articulate an anticipatory set that hooks our audience into the learning experience. An anticipatory set is a brief activity at the start of instruction that helps students engage in the lesson and develop a "mental readiness" for upcoming material (Wessman n.d.). Our ability to prepare a thoughtful anticipatory set signals that we have understood our audience and developed the foundation for a meaningful learning experience.

There are as many ways to build a productive anticipatory set as there are learners. To provide an example from my own experience, I was fortunate this semester to observe a librarian provide a deeply memorable and engaging opening in which she focused on breaking down misconceptions and redefining the library for the audience. To paraphrase, she stated that the library is not just a place for collections and assistance on formal projects. The library also provides services free of charge (helpful for a medical context oriented toward billing), including support for informal projects and learning. She emphasized that if there is ever a time that the audience feels there must be a better way to find, manage, or share information – there is, and the library is the resource to help.

Conducting research at the start of a lesson is rarely appropriate. For example, asking "What would you like to learn today?" at the start of a workshop to set the lesson's agenda telegraphs inadequate preparation to the audience, indicating that a thoughtfully prepared

lesson is not likely to follow. Instruction should certainly begin by facilitating audience input and engagement and help to reveal unpredicted audience or environmental characteristics to the instructor. However, a well-planned anticipatory set represents progress beyond initial research. We know that our audience's time is limited, and when an audience is dedicating time to participate in library instruction, we should give time in advance to understand their needs. When a satisfactory anticipatory set can be articulated, it is time to innovate.

INNOVATE

Goal	Develop a creative approach
Questions	What could we do? What should we do? What can we build on? What does the work of the future look like? What new work are we in a position to create?
Tools	Anything and everything
Product	Instructional design

Now we are ready to design the learning experience, pushing ourselves beyond the traditional and customary methods of instruction to develop more engaging and effective approaches. I will not discuss instructional design in any detail in this chapter; my peers in other sections of this book have devoted attention to the topic, as have myriad illustrious works in the scholarly and professional literature. My contribution to these analyses will be to urge readers not to believe, consciously or unconsciously, that adult learners do not need, crave, and deserve creative instructional design. We do, desperately!

The vast majority of instruction that I have observed in public and academic libraries relies heavily on direct instruction. It's lecture. After lecture. After lecture. There's an epidemic of death by PowerPoint out there in the wild. Learning experiences for adult learners, from undergraduate students to seasoned practitioners, must be fueled by the same dedication to creativity that is applied in the best K-12 school environments.

ASSESS

Goal	Build a deep understanding
Questions	What did we do? How well did we do it? Was the audience engaged? What did the audience learn? Is that learning long-lasting? Did they use the knowledge again, and if so, how and with what success?
Tools	Qualitative and quantitative assessment
Product	Evaluation report

It is difficult to assess our audience, especially when positioned as an "extra" in the curriculum with minimal time to teach everything there is to know about a resource, service, or skill. However, this difficulty does not diminish the importance of finding ways to involve assessment in our instruction. Without assessment, we cannot judge our impact on learning or achievement. We have taught into a black hole. Without assessment data, it is more difficult to iterate instructional design and much more difficult to make a case for our significance in a learning environment. The "sticky" value of our teaching – for example, whether it has translated into better research – is unknown.

The assessments we conduct gather the data we need to succeed in iterating, or improving, our work. There are multiple levels of information to mine via assessment (Grassian and Kaplowitz 2009). Assessment can focus on affective elements: whether students enjoyed the lesson, felt they learned from it, and felt the instruction was effective. Assessment can test whether students comprehend the material immediately following instruction and can apply the material to real-world scenarios. Assessment can focus on deeper, more long-term results such as whether students can transfer the knowledge to new tasks and settings and what impact the learning experience had on broader outcomes such as school and job performance.

Much too often, our assessments stop at the superficial level of affective response, sometimes due to time and resource constraints. For example, I have distributed surveys at the end of a session or

later via email with questions about the clarity and usefulness of the lesson. Feedback gathered at that level is ineffective to understand or assert the meaningful impact of our instruction. We have not actually gathered data on whether the participants do understand or can use the material. We have no comprehensive measurements, whether qualitative or quantitative, on how the instruction is impacting the audience's work.

ITERATE

Goal	Preparedness for growth
Questions	What do we need to improve? What do we need to make those improvements? What will we do next?
Tools	Time, energy, and attitude
Product	Decision and resources

At this point, it is time to decide our next steps based on our assessment data and make a commitment to growth. During this step, we reflect on data gathered during assessment to understand how well we researched our audience, how well we reflected that understanding in our design, and how effective our design was in achieving our objectives. We assess what areas of improvement our evaluation report or documentation highlights and define the resultant work we must perform as instructors. Do we need more information on our audience and environment? If so, we return to research. Do we need to improve our design or implementation of design? If so, we return to innovation.

During iteration, we also gather the resources needed to make change. For example, do we need more time, funding, manpower, leverage, skills, or technology? Iteration does not necessarily mean that we are modifying the same lesson for future use, though that certainly can be our focus. Rather, iteration means that we take the information gathered through our experience and plow that knowledge back into our understanding of our audience and instructional design moving forward. Above all, a commitment to

iteration means a commitment to responsiveness, strategic thinking, and growth: the fundamental driving forces of an entrepreneurial mindset.

CONCLUSION

The model of iterative instruction that I present in this chapter represents a preliminary understanding of a complex dynamic that varies from one context to the next. I hope that these thoughts spark reflection and enthusiasm in readers who are also dedicated to improving their practice as teachers and learners. As I move forward, I will assess and iterate this model as well as my own instruction. I look forward to reflecting back on this chapter in future years to review how well I have understood my experiences, the environments around me, and the work of information literacy instruction at this point in my career. Onward!

Katy Mahraj is a second-year Master of Science in Information student specializing in library and information science at the University of Michigan School of Information and completing the graduate certificate in health informatics at the University of Michigan School of Information and School of Public Health. With a growing range of experiences in information science and health informatics, her work focuses on developing expertise in the fuller range of information needs, applications, and technologies in health care and health sciences. You can find more information about her and her work at http://katy-mahraj.appspot.com.

REFERENCES

Daugherty, Alice L., and Michael F. Russo. 2011. "An Assessment of the Lasting Effects of a Stand-Alone Information Literacy Course: The Students' Perspective." *The Journal of Academic Librarianship* 37(4):319-326.

Grassian, Esther S., and Joan R. Kaplowitz. 2009. *Information Literacy Instruction: Theory and Practice*. 2nd ed. New York: Neal-Schuman.

University of Michigan Taubman Health Sciences Library. 2011. "About the Library." Last modified June 6. http://www.lib.umich.edu/taubman-health-sciences-library/about-library.

Wang, Rui. 2006. "The Lasting Impact of a Library Credit Course." *portal: Libraries and the Academy* 6(1):79-92.

Wessman, Leslie. n.d. "Madeline Hunter's ITIP Model for Direct Instruction." Accessed December 14, 2011. http://www.hope.edu/academic/education/wessman/2block/unit4/hunter2.htm.

Part II: Information Literacy in Public Libraries

Early Literacy and Reading Readiness in Public Libraries

Kathryn McMahon

The children's departments of public libraries have always focused on literacy. The traditional idea of children's library services is providing books, storytimes, and special programming, all while stressing reading and literacy. Recently, shifts in the economy, technology, and community needs have forced many libraries to modify their services. This has not affected the children's department in the same way as the rest of the library, and many children's departments remain places for books and storytimes. In order to remain relevant and stay connected to the needs of their patrons, children's departments also need to modify their services to adjust to the changing needs from the community. Information literacy and even reading literacy are no longer just about books. It would make sense then, if libraries no longer provided early literacy resources that are strictly book-based. Additionally, other ideas have changed in how to best provide early literacy to children.

In the past few years, the Public Library Association and the Association for Library Service to Children joined to create the Every Child Ready to Read® @ your library® program. This program recognizes that libraries are limited in how much they can directly teach early literacy skills to children. It focuses on educating parents and caregivers on how to teach their children early literacy skills, with the assumption that this will benefit children even more than the library solely providing the instruction (American Library Association, 2011). Although this is not a new idea, it has been expanding and has become important to include in all children's departments. As library services shift, incorporating these concepts will help libraries better serve their patrons and stay relevant.

This semester I had the opportunity to observe and work at the Main Branch of the Farmington Community Library (FCL), a public library in Farmington Hills, Michigan. I spent my time in

the Children's Services Department, observing and helping with storytimes, and shadowing at the children's reference desk. The FCL presents an excellent example of how libraries can provide a different form of early literacy resources to both children and their parents, while still maintaining excellent traditional services. While in the children's department, it was immediately obvious the importance that FCL places on reading readiness and early literacy. Not only do they provide the standard services of storytimes and books, they also have some unique features.

The Smart Start Center is the most noticeable aspect of the Children's Services Department's early literacy offerings. The center consists of nine interactive stations located throughout the department. Each station is designed to teach children a skill necessary to be ready to read. The information sheet on Smart Start states that it is "a hands-on, interactive learning environment for children 6 years and under and their adult guests… Multiple areas of child development are addressed in this environment because these skills are interconnected in advancing a child toward being ready to learn to read" (Farmington Community Library Smart Start n.d.).

The skills taught at each station are presented in a fun and interactive way. The Hear It! station has thirty world instruments. The Match It! station contains a memory game where children match tiles. The Touch It! station has a large pin screen that children can play with and use to create molds of their hands or face. Say It! has a touch-screen computer that has exercises that teach phonemic awareness. At Read it!, a magnetized board allows children to put together pieces to create words. Play It! gives children the chance to make up and act out stories, complete with changeable scenery. Build It!, for children who are still crawling, is designed to look like a construction site and contains foam bricks for building and playing with. The Fill It! station shows beads falling and filling wheels, cups and funnels. Finally, the Find It! station is made up of a globe that lights up and also a map of Farmington Hills (Farmington Community Library Smart Start n.d.).

Though my time observing in the department was limited and not always during busy times, these stations always had children and parents at them. The children were clearly having a wonderful time interacting with these stations.

The information sheet available in the department describes what skills are developed at each station and how those skills fit in with the idea of early literacy. For example, the skill developed at Hear It! station is distinguishing between tones and sounds, which is "a building block to identifying the differences in letter and word sounds" (Farmington Community Library Smart Start n.d.). What originally looked like an area that is just there for kids to enjoy is explained as an educational tool. Without this explanation, parents would not know the actual benefits the library is providing.

The Smart Start program has dual instructional value. Not only does it help children get ready to read, but it also gives information and suggestions to adults who want to learn how to be knowledgeable, supportive parents. In addition to providing the activities and explanations at the various stations, the library also supplies handouts to supplement the stations. These handouts give some suggestions for activities parents can do at home with their children. They each start by stating, "these simple activities can be performed at home using common household objects and minimum time commitment" (Farmington Community Library, Hear It!). In this way, FCL stresses that parents teaching early literacy skills at home is important but does not have to be time consuming, expensive, or difficult. They make it accessible for everyone.

Additionally, FCL provides other reading readiness and parenting pamphlets, not related to the Smart Start Center, throughout the department and during storytimes. These include pamphlets sponsored and distributed by Every Child Ready to Read®, and other national, state wide, or local programs. The have become an important destination for parents who wish to teach their children the fundamental skills for reading readiness. These pamphlets have been supplemented by evening parent events that introduce

caregivers to literacy development strategies.

People's opinion of libraries is changing and libraries are no longer solely about books. They are being rethought as community centers that provide information and entertainment that extends far beyond books. While traditional children's services are still important to promoting early reading literacy, libraries can extend their services to include so much more. Following through on the ideas of Every Child Ready to Read® and starting innovative programs such as Farmington Community Library's Smart Start are good ways to work towards extending these services.

On the Smart Start supplemental handouts, FCL states, "through its programming, collections, and special features, the Farmington Community Library reinforces the belief that the parent is the first and best teacher of the child" (Farmington Community Library, Hear It!). This is something every library should consider. By working these ideas into their already existing services, public library children's departments can remain relevant in their communities and provide better services to their youngest patrons as they take their first steps toward literacy.

Kathryn McMahon is a second year student at University of Michigan School of Information, specializing in Library and Information Science. Her career plan is to become a children's librarian in a public library. She is currently a substitute librarian at the Canton Public Library in Canton, Michigan.

REFERENCES

American Library Association. 2011. About: Every Child Ready to Read." Accessed December 13. http://www.everychildreadytoread.org/about.

Farmington Community Library. Hear It!. Farmington Hills, MI: Farmington Community Library, n.d.

Farmington Community Library. Smart Start. Farmington Hills, MI: Farmington Commnity Library, n.d.

How to Tame a Bird Unit

Caroline Mossing

In the course of my studies, I had the opportunity to do some observation at a local public library. I was sitting with my mentor, a part-time librarian in the children's department, at the reference desk when a parent and child, who appeared to be in second or third grade, came up to us with a school assignment in hand. The parent showed us the assignment sheet, which contained a list of Native American tribes from which to pick for the project. On the sheet were additional instructions as to what information the report should contain.

I looked up the call number we needed, and the parent and I (the child wandered off at this point) found the appropriate tomes and picked out a few on various tribes. The parent flipped through some to see if they contained the appropriate information (houses, diet, and location), while I looked through tables of contents in others. The parent walked away with books on a couple of different tribes that complied with the parameters of the assignment, and, I can only assume, soon began writing the report with her child. I reflected, as the patrons walked off, on the fact that I had just seen one of the "bird units" (Loertscher 2005) so often discussed in one of my current courses.

A "bird unit" is what we call a school assignment that requires little to no critical thinking skills to complete but results in a simplistic but usually attractive product. I wondered what I could've done to make the process we just went through a little more useful in the long term for that parent and her child. This writing is the result of that reflection.

So, what can a librarian do when faced with a "bird unit" – both to make the resource location process more useful in the long term to both of the patrons and perhaps to encourage critical thinking skills on the part of the child doing the assignment? Primarily, I think,

bringing the child along on our search would be a good start. I saw, in my time at the reference desk, that many younger patrons didn't seem to understand the way the library's resources were organized. I could've shown the child the location, at least, of the fiction and nonfiction sections and explained how the nonfiction section within which we were searching was organized. While we were looking through books on the topic in question, I could've shown her (and confirmed that her mother knew) how to use the table of contents and index of each book to see if it contained the information she needed. Those skills, I'm sure, would continue to be useful to her throughout her academic career.

The biggest question for me, however, was twofold. How can I, as a (future) librarian, encourage students' critical thinking skills when presented with a project such as this, where the student is required only to pick out certain information and regurgitate it in the form requested by the teacher? Also, is it my place as a (future) librarian to do so? Concentrating on the first question, how to encourage critical thinking skills in a project that doesn't require their use, the solution would have to be quickly implemented, as a librarian's time with the student is limited by both the librarian's other responsibilities and the student and parent's timeline for finishing the project and for that day.

Working with the example above, I could, while explaining the Table of Contents and Index to the student and looking at the pages in which the needed information is contained, suggest leading questions about motivation, circumstances, why this particular tribe lives the way they do- the basis for their traditions, the climate and features of their geographical area, and the resources they have at hand. I could suggest to the student she imagine herself in their place and think about what her daily life would be like, how it would be similar to and different from her current lifestyle. That in-the-stacks informal conversation might engage her in ways that the task would not.

As to the second question, whether it is a librarian's place to encourage critical thinking skills, it's clear that libraries and

librarians are changing as time goes on. Instruction and information literacy are increasingly a major part of a librarian's job description, so that leads me to think that we, as educated professionals, are in some way obligated to pass on our knowledge to our patrons. I wonder, though, whether the patrons will agree and allow librarians to push the boundaries of their patron-perceived job description, or whether they will politely cut us off and go on to complete their assignment as quickly as possible.

Do patrons, or can they, see librarians as teachers as well as human search engines and guides through the mystery that is the physical library? For that matter, what is the role of the librarian in the mind of the patron?

This differs vastly between academic librarians and public librarians. Academic librarians tend to be specialized - reference librarians, subject specialists, archivists, curators of collections, and catalogers, for example. Does being an academic librarian give someone more authority, let them be more readily seen as educators? Of course, public librarians are definitely a huge part of an alternative educational system, with library programming commonly focused on technology, early childhood education, and information literacy, with other topics depending on the needs of the community.

School librarians, of course, have more authority but quite possibly a trickier environment in which to work. Nobody wants to offend a teacher they will have to work with again and again, but at the same time, as an educator and an information literacy professional, how can one avoid trying to change a student project for the better? This would be an appropriate time to initiate a subtle discussion with a teacher about challenging students' critical thinking skills. It's quite possible that a teacher might welcome a little help on the topic from a librarian who is both an authority on the subject and a willing co-teacher. This, of course, is totally dependent on the librarian and the teacher in question.

So, what will I do the next time I'm faced with one of these projects? I'll embrace the opportunity I've been presented to educate

patrons about the library itself – how to search the online catalog to find good resources and how to find the resources they've identified within the physical structure of the library. I'll explain how they can use text features to discover whether a particular book will meet their needs and to search within a book to get to the specific information they need. I'll try to encourage critical thinking skills, even if the project doesn't require them, by encouraging the child to think about the material in a way that she might not have otherwise.

It's a start.

Caroline Mossing is a first year Master's student in the University of Michigan's School of Information, focusing on Library and Information Science, with experience teaching in a Mississippi public school.

REFERENCE

Loertscher, David V., Carol Kaechlin, and Sandi Zwaan. 2005. *Ban Those Bird Units: 15 models for teaching and learning in information-rich and technology-rich environments.* Salt Lake City: Hi Willow Research and Publishing.

Walking the Walk of InfoLit

Kristel Wieneke

The little boy kept bringing different plastic foods over to me—pizza, rice, green beans, and cake. "We're going to have a beach picnic!" he announced. The beach was the play sandbox and the play food was out as a part of the activity time after my cooking-themed storytime at Farmington Community Library-Farmington Branch (FCL). As I pretended to shake grains of sand out of my burger, I overheard his mother say to the head children's librarian, "He never talks this much to adults." Knowing that I had connected with at least one child during my storytime, knowing that I had successfully imparted some knowledge to my patrons—that was the best moment of the day.

I had the opportunity these last two months to observe some wonderfully talented children's library staff at work at FCL. Farmington's population is predominantly Caucasian with strong African-American (11.4%) and Asian-American (13.9%) minorities, bringing a great mix of ages, socio-economic backgrounds, and cultures to the library (Census 2010). The Children's Department presents on average 28 programs a month for young patrons and their caregivers, staying busy year-round. This number is even more incredible when the tiny staff is taken into consideration: this library employs 3 paraprofessionals and 3 librarians in the Children's Department. Thank goodness for volunteers, right?

The staff, and the library itself, make a firm commitment to developing "independent learning and a love of reading" in patrons from "early childhood" on (Farmington Community Library, 2011). Independent learning and a love for reading are crucial building blocks for later literacy development, so that when students graduate (from any level of school), the learning process does not end but continues, thanks to the skills those learners acquired early in life. When working with children from infancy through

preschool age, educators focus on developing the six early literacy skills:

- Letter Knowledge
- Narrative Skills
- Phonological Awareness
- Print Awareness
- Print Motivation
- Vocabulary (National Institute for Literacy, 2008).

Mastery of these skills forms the critical foundation for literacy. The library staff is deliberate about how it selects materials for programs and sequences them to support early literacy development. As a result, FCL's children programming for the young was one of the best settings in which a future public librarian like me could observe information literacy development.

With this in mind, I observed and absorbed for over 20 hours as the staff presented a music storytime, numerous weekly preschool storytimes, and even a monthly preschool storytime on Saturday (a great opportunity for the working caregivers to come to the library). As the culmination of all of this observation, I taught the same preschool storytime twice: once in the morning and then again in the afternoon. I struggled to create a storytime that matched the overall design of the department's planned programming. Some requirements, like including a nursery rhyme, were easy to fulfill ("I'm a Little Teapot" fit in nicely with my cooking theme). Others, like trying to use songs that patrons were familiar with to make them feel comfortable, while still trying to introduce new resources, made me feel as though I were balancing on a tightrope of expectations.

Additionally, I developed content for the children's website, as an additional resource to the parenting resources page. The new pages describe activities that parents can do with their young children

(birth through five years) to help them build the essential six early literacy skills. Wading through the multitude of activities intended to help build one of these skills, some found through research and others of my own making, I found myself confronted by a problem.

Did I know the Farmington patrons well enough to determine which activities would work best for them, which activities that could be easily incorporated into their families' everyday routines? I realized that the more complicated and arduous the task was—the less willing any mom, dad or caregiver would be to try it. Yet, I still needed to ensure each activity would actually teach a literacy skill.

The work was challenging, rewarding and, most of all, one of the best teaching experiences I have encountered. As a result of observing these best practices and trying them out myself, I have cemented my sense that there is far more that children's librarians bring to children than simply items to be checked out.

ON THE FRONT LINE OF EDUCATION

Until this experience, I never thought about librarians as educators, but we are: we are teachers of the community at large. When our young patrons practice the same nursery rhyme in storytimes each month, we teach listening and talking skills, as well as building their vocabulary. When we provide activity centers with carefully chosen toys after storytimes, we teach play skills and social skills. When librarians hold music storytimes or use songs in programs and children sing along, perhaps using egg shakers or lummi sticks, we teach music skills. By providing crafts during programs that require using scissors, pencils or even peeling stickers apart, we teach fine-motor skills. When we assist children with their computer questions, whether a game or homework, we teach computer skills. Sometimes children's librarians are called upon to teach all of these skills on the same day.

Our classroom is not restricted to formal programming; we can positively impact children's development at the reference desk, in an

interactive center, or with a puppet theater on the floor of our department. In this way, we are qualified to teach skills to patrons, especially those skills that will help them become fully literate.

PASSION

This is a key attitude to have, especially when your goal is to teach an aspect of information literacy. We want to welcome children into the world of literature, the community of the library, and the environment of learning. While simply entertaining children for 40 minutes doesn't require concentrated effort to plan, scaffolding and imparting skills (without making children feel like they are in class at school) requires more than just good planning. Even new librarians, fresh out of graduate school, have days when they do not feel like facing a rowdy bunch of kindergartners.

The morning of the two storytimes I taught, I woke up with a fever and the sniffles. All I could think was "I do not feel like reading and singing today." But just like Broadway, the show must go on. After all, it was Election Day, and children were home from school, so I was blessed with 81 participants at my morning session! I knew I had to rise to the challenge and I did. Halfway through the storytime, I realized, despite constantly blowing my nose, that I was having a ball and so were my boisterous patrons. So even if you cannot muster up passion—fake it! The kids will help you recover your enthusiasm and will absorb the tenets of your lesson far better. Stay positive by collaborating on new programs with colleagues, venting privately with colleagues about your bad days, and staying connected with your professional community. These activities will also ensure that you stay current on new trends in information literacy.

MEET THEM ON THEIR PATH

Building early literacy skills starts children walking on the path of information literacy—even if the child cannot physically walk yet!

Yet, most people outside the fields of education and librarianship haven't a clue there is such a thing as six early literacy skills. Librarians need to remember to avoid the trap of using library-land lingo with patrons. My recommendation is to not stress to parents the names of the six skills (unless they ask). During my research, I could not find a catchy acronym or acrostic to help me remember all six skills. The best summary of the meanings of the skills I found on the Dallas Public Library's website (n.d.):

> "Print Motivation -- I love books
>
> Print Awareness -- I see words
>
> Letter Knowledge -- I know my ABC's
>
> Vocabulary -- I know words
>
> Narrative Skills -- I tell stories;
>
> Phonological Awareness -- I hear words."

Excessively using jargon could discourage the caregivers from working on building these much-needed skills. We need to focus on modeling these behaviors in our storytimes and programs and teaching the parents activities that they can easily insert into their home routines. For example, FCL's children's staff told me that they had hoped that children would learn to cut with scissors during the craft portion of programming. When the parents didn't want their preschoolers cutting, the librarians would tell them, "It helps with fine-motor skills." Parents still didn't encourage their children to pick up the safety scissors. Then one day, a librarian said, "If they can learn how to cut now, they will be able to write better later." Bingo! All the parents started helping their children cut out their crafts.

The key is to realize even terms like "fine-motor skills" that might be familiar to youth staff or educators might be vague jargon to a patron, especially an English-language learner. Children's librarians have mastered the skill of talking to children at their level, but less so to parents. Keep trying to reach every patron on his or her level.

LEAVE YOUR BIASES AT THE DOOR

Be careful about letting your own agenda or personal preferences get in the way of what your community needs. We all have biases against this or that new technology or writer. You may feel that the technology detracts from those beautiful, irreplaceable print books—but learn about them and don't deny your patrons access to them because you don't know about them.

I once had a librarian (at a different library) respond to my naïve query about chat reference: "I don't do that; whoever else is at with me at the desk handles that." She flat-out rejected a tool that young patrons loved far more than coming up to the desk, and, as a result, rejected my own preference face-to-face. As you step into the library for work, assume a new persona of super-librarian who wears a cape of knowledge and is open to learning all sorts of sparkly, new tools and technologies.

Susan Anderson-Newham recently identified several aspects of the super-librarian; whether you are an "Astonishing Leader," a "Radical Defender," a "Champion of the Wee," or some combination of all of these, try to remember that you are often the general community's first teacher of a new technology (2011). The concepts of information literacy change and fluctuate, as we know, and by removing any personal obstacles to learning about the changes, you will make sure your patrons have the tools with which to navigate the information world.

PATRONS FIRST

Develop a first-name-basis relationship with your young patrons—what better way to assure libraries of life-long patrons? The first time I shadowed my mentor (the head of the department), I was amazed by how many children called out her name and came running over to talk to her. She had time for them all and remembered their stories, what grade they were in, where their parents worked—whatever they had shared with her. Seeing this

had a profound impact on me and I vow to know my patrons and their stories too. These personal ties create buy-in for patrons who will keep coming back to the library and to you, their librarian. This creates more opportunities to teach different skills to them, in a variety of personal exchanges and less personal programs.

These past few months, I have learned that information literacy is a journey, a constant process that begins years before we enter formal schooling. As public librarians we cannot think, simply because we may know where to find most of the answers, we are fully information literate. We are all at different levels in this journey. Some, like infants, are just beginning to toddle along. Others like the person with an advanced degree in education are running smoothly. But everyone is still traveling. Librarians at all stages in the journey must step forward to support learners where they are.

This is why I think our field has such a difficult time defining information literacy—if something is constantly evolving and changing, how can you name it? We all grasp at portions that we comprehend and usually that aspect of information literacy we triumphantly name just happens to be one we recently achieved or are struggling with at that moment in time. Do our patrons know they are lacking what we might consider basic information literacy skills? Probably not; most likely, they think because they know how to Google, they are all set. Instead of worrying about teaching them the names of skills and that they need to learn from you, librarians need to give patrons choices about learning and model the skills they may need to acquire. Focus on bringing patrons over the threshold of the library, get them in the door to programs and to the reference desk, and they will recognize us (even unconsciously) as valuable resources. The point is not to be caught up, in heart and mind, in defining information literacy—the point is to live it out as we know it, to model it, to virtually breathe it for our patrons.

Kristel Wieneke is finishing up her last year of coursework for her Master of Science in Information degree, specializing in Library and Information Science. She has had the opportunity to work as an intern at not only the Farmington Community Library but

also the Canton Public and Plymouth District Libraries. Kristel continues to work at Canton Public Library as a substitute librarian on the reference desk and as a volunteer with children's programming. Her passion is children's and tween's programming, especially storytimes and book discussions. Kristel believes in finding innovative ways to reach out to the disadvantaged patrons in her communities. You may contact Kristel at kwieneke@gmail.com.

REFERENCES

Anderson-Newham, Susan. 2011. "The Last Word: Superheroes in our Midst." *Children and Libraries* 9(3),Winter, 64.

Census Bureau.2011. "Farmington city, Detroit-Warren-Livonia, Michigan." Social Explorer Tables (SE), Census 2010. Social Explorer. Accessed December 5. http://www.socialexplorer.com.

Dallas Public Library. 2011. "Get the Skills." The Skills: Every Child Ready to Read. Accessed December 11. http://www.dallaslibrary2.org/ecrr/skills.php.

Farmington Community Library. 2011. "Mission Statement." What We Stand For. Last modified May 24. http://www.farmlib.org/library/whatwestandfor.html

National Institute for Literacy. 2008. "Developing Early Literacy: Report of the National Early Literacy Panel." The National Institute of Child Health and Human Development. Accessed December 5, 2011. http://www.nichd.nih.gov/publications/pubs/upload/NELPReport09.pdf

Part III: Information Literacy in K-12 Classrooms

"It has to be true. It was just cut-and-pasted!" Information Seeking and Evaluation in the AIC Simulation

Mariah Cherem

I wasn't so sure how I would do. Middle school was a rough, awkward time for me, as I'm sure it is for most people. With a combination of awkward physical changes, raging hormones, and vicious, *Mean Girls* style social antics, it's not an era I'd ever wish to re-live. My first instinct upon meeting 20+ 6th and 7th graders was that I wanted to hug every single one of them and reassure them that yes, it gets better. But, besides turning into some Dan Savage adolescent campaign, I did have an actual mission, and I tried my best to stick to it. My mission started as observation – paying close attention to how these students were seeking out and using information. I gradually shifted into a more assistive role -- helping students through various ways to find and evaluate what information they might need in the course of a complex simulation.

These weren't just any middle school students – these were students who had been labeled "gifted and talented" — a label that seems like both a blessing and a curse within the tumultuous environment of middle school. These 6th and 7th graders were undertaking a project usually reserved for high school students. Their class was taking part in a University of Michigan-sponsored group simulation called the Arab-Israeli Conflict (AIC), a "political and diplomatic character-playing simulation" created to "immerse participants in the dynamics of national and international politics -- and thereby help them to become aware of the complex nature of political reality" (Interactive Communication and Simulations n.d.). These students were charged with serving as diplomats in a simulated version of a problem that real live adults have been working through (and unable to solve) for generations.

In the AIC simulation, students in a classroom are divvied up into

country teams. Four to five students serve as a country-based unit, with each student playing the role of a different diplomat. In middle school, when identity can already be confusing enough, it's easy to understand how assuming someone else's identity – particularly that of a diplomat -- might either be an incredible relief or simply really confusing.

As a student in the School of Information with a focus on libraries and learning, I paid close attention to what information these young diplomats sought out and how they did so. The quality of the information that they found and the questions that they asked had a direct impact on how their team would fare in the simulation, how successful or frustrated they would feel during each step, and whether or not they might be able to reach any sort of peace or agreement.

There were challenges within the AIC related to information seeking, note-taking, summarizing and group work. Then, there were simple issues of understanding where and how to look for information – how to formulate questions, how and where to ask them, and what to do with the answers. My mission was to help the students work through and learn from these challenges.

The most common information-related challenges for students involved research related to responding to or initiating diplomatic contact with other countries. Within the simulation, this type of communication would occur in two primary ways: communiqués, which were like individual character-to-character emails, and press releases, which were pubic statements to be read (and sometimes responded to in a forum-like comment system) by all of the AIC participants.

Although the AIC website itself offers various (mostly text-based) informational resources via links to dossiers (character profiles) and a website section called "Background Documents" which contains country-specific and historical resources, these were not necessarily the resources that students would first consult.

Part of the difficulty in students' initial information-seeking seemed

to be expressed by Carol Kuhlthau's Uncertainty Principle:

> "Uncertainty is a cognitive state that commonly causes affective symptoms of anxiety and lack of confidence. Uncertainty and anxiety can be expected in the early stages of the ISP [information search process]. The affective symptoms of uncertainty, confusion, and frustration are associated with vague, unclear thoughts about a topic or problem. As knowledge states shift to more clearly focused thoughts, a parallel shift occurs in feelings of increased confidence. Uncertainty due to a lack of understanding, a gap in meaning, or a limited construct initiates the process of information seeking." (Kuhlthau 1993, 111)

Uncertainty about how to respond to a fellow diplomat, or even what facts or historical information one needed to gather in order to respond were the most common information-seeking triggers. Therefore, the most valuable way that I could contribute to students' participation in the AIC was by working with them to get through this initial uncertainty – to the place where they would begin to figure out just what they might need and why. Teaching them how to formulate questions and move through a search process was important, but before we could even get to that point, it was important to acknowledge that moment of anxiety or uncertainty.

One young learner's response to her initial feelings of being overwhelmed upon receiving a new communiqué certainly showed some of this initial uncertainty: "I used to want to be President of the United States when I grew up, but now I realize that must be really, really hard. I'm not sure it's so easy to do that job. I feel really stressed out, and this isn't even real!"

The aim of the AIC is obviously not to stress students out. However, the opportunity for them to understand just how complex the relationships between countries, organizations and political groups can be is a pretty big breakthrough.

Although I initially began as an observer and listener, I grew

relatively quickly into the role of a sounding board and a co-pilot through students' initial stages of information-gathering. As a helper and facilitator, my most valuable contribution was the ability to walk with students from the initial "I feel so stressed out!" uncertainty through the next steps.

Adopting a hybrid listener/helper role rather than an explicitly authoritative "this-is-what-you-do" role was incredibly useful in this context. One of the most important things that I learned is that positioning myself in this way helped me meet the students part way and work with them through that initial uncertainty and anxiety, rather than adding to it. Working together, we were usually able to formulate an idea about what information might be helpful, continue through the multiple stages and versions of a search for that information, and eventually find a solution and formulate a response within the simulation. This ability to acknowledge and work through initial anxiety is something that I will carry with me as I move forward – whether I'm in a classroom, conducting a reference-desk interview, or even just helping a friend solve a complex problem.

Mariah Cherem is an MSI student at the University of Michigan School of Information where she is exploring the intersection of communities, information-sharing and learning. Contact: mcherem@umich.edu.

REFERENCES

Interactive Communications and Simulations. "Arab-Israeli Conflict." Retrieved December 13, 2011, from http://aic.conflix.org/.

Kuhlthau, Carol Collier. 1993. *Seeking meaning: A process approach to library and information services.* Norwood, NJ: Ablex.

To learn more about the University of Michigan's Interactive Communications and Simulations projects, please visit http://ics.soe.umich.edu.

The Importance of Information Literacy in a Middle School Setting

Elizabeth A. Mines

As a future educator and a current teaching intern of 7th and 8th grade U.S. history students, it is becoming very apparent to me just how important information literacy is to students of this age. To start, I define information literacy according to the Association of College and Research Libraries (ACRL) Standards as, "a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ACRL n.d.). While electronics seem to be filling the shelves where library books used to be, information literacy is becoming more and more relevant in student's life. There has become a great shift towards research from online sources rather than print sources, which requires knowledge of evaluation and synthesis of information.

We live in the "Information Age" where information is always increasing at a rapid pace. We have the television and the Internet available to us 24 hours a day, 7 days a week, but that does not mean that all the information out there is true or even worthwhile. Because of resources like the Internet, finding reliable information has become harder, not easier. As far as information literacy, there are very low expectations for students at the elementary level and hopefully very high expectations for those same students at the high school level. It is critical for this connection to be made, but many times it does not happen. Why is that connection not being made and where is that connection supposed to happen? You've guessed it: middle school.

There are a few issues that arise when dealing with information literacy at this age. First, unless a student chooses to take a course related to information literacy like typing or computer science, there

are no real requirements a student must meet in order to graduate from a public high school in the United States even though the professional world undoubtedly requires everyone to be information literate if they are to be successful. Because of the lack of formalized curriculum on information literacy embedded within the subject area curriculum, many educators assume that information literacy skills do not matter and therefore, do not spend much time incorporating them into their curriculum. Educators are attuned, however to the ever-growing movement to have students become computer literate by the time they enter high school. Technology like computers, tablets, and netbooks can be major pathways towards information literacy.

With these technologies, students cannot only locate library resources, but also learn to use databases, email, presentation tools, word processors, and much more. Students can become competent, independent users and evaluators of information. The biggest mistake that most educator's make is confusing exposure to information with knowledge of information. Middle school educators need to start incorporating lessons on evaluation of information into their curriculum if they ever hope to achieve an information literate high school student.

Secondly, although the World Wide Web has millions of resources that offer students an abundant amount of information, there are no standards that these resources must attain. Since anyone can make a Web page, how can a student tell if the information they have found is reliable or not? Many students who are not information literate take the information they have found via a search engine at face value. As a result, no real "research" has been done.

Students are no longer searching through edited articles and printed books librarians have handpicked. No matter how many resources librarians put on school Web pages or what subscription databases are available, students will still choose to go home and do a Google search for information. Students are gathering information that has not been checked, analyzed, and evaluated. Students are right to

assume that a Google search is easier than analyzing articles through a scholarly database, but students are wrong to assume that all of this information is reliable and that they are gaining quality information. Students are unable to identify the key attributes of reliable information and more importantly, do not see the importance in those key attributes.

Students are beginning to rely on websites like answers.com and yahoo.com to get quick information they need for research. Instead of being coerced into reading, synthesizing, and analyzing information due to the nature of printed texts, students are becoming more aware of the shortcuts that the Internet brings into their academic life. These concepts that were once naturally a part of curriculum are being left out without most educators realizing it.

With the growing Information Age, our curriculum needs to grow as well. These are the concepts that must be taught to our middle school students if they are ever going to become successful high school students.

For information literacy requirements and skills to change in the middle school setting the attitudes of educators about information literacy needs to change, but more importantly, the role of school librarians needs to change. Just like the world of information literacy, the role of librarians is ever changing. Within the middle school setting, the school librarian must now work with the educator to create a curriculum that incorporates information literacy skills. The school librarian should not only help to create a curriculum, but should also help educators implement it as well. In many cases, such a curriculum already exists, but teachers can choose to opt in, and because information literacy is not tested, it may take a back seat to other curriculum areas.

The cooperation among colleagues within a building can be of tremendous help in planning for the desired skills they hope each student can achieve. Students need to be made aware by both educators and school librarians of all the resources and instruction that school librarians can offer and the importance of those

resources to students' academics. Students should explicitly know the key attributes of reliable information so it becomes natural to them to evaluate information instead of avoid the evaluation process. For students to retain this knowledge, information literacy skills should reoccur throughout all middle school years and into high school. As students begin to see more of the librarian presence in their classroom and their everyday lessons, the importance of information literacy skills will be reinforced. When subject matter and information-seeking skills are integrated and when teachers and library media specialists plan together, students have the greatest opportunity for learning.

Elizabeth Mines is currently working towards gaining her Master's degree in secondary educational studies from the University of Michigan along with her teaching certification in social studies and political science. She received her B.A. in social studies and political science from Grand Valley State University in 2011. She grew up in Franklin, Michigan, and currently lives in Ann Arbor.

REFERENCE

Association of College and Research Libraries. 2000. "Information Literacy Competency Standards for Higher Education." American Library Association. Retrieved December 14, 2011, from http://www.ala.org/acrl/sites/ala.org.acrl/files/content/standards/standards.pdf .

While some K-12 libraries use the ACRL Standards, most use the American Association for School Librarians' *Standards for the 21st-Century Learner,* available for download at http://www.ala.org/aasl/standards. These standards, released in 2007, replaced the earlier *Information Power* standards as the national exit guidelines for library-based instruction.

"It's Just German": How We Can Change Attitudes About Information Literacy in a World Language Context

Caroline Nagle

"But you don't need to think about that kind of stuff in a German class. We don't do research in here. It's just German." This was the response I got from one of my students while teaching one day. It was a lesson on information literacy, and I had just asked students how they might tell evaluate the credibility of a source from the Internet. During my time as a pre-service German teacher, I have come to understand that many students view their world language class as less academic than their other subjects. I've also learned that this thinking does not necessarily stop with the students, as my mentor teacher met my suggestion for a research project in the AP German class with a blank stare, followed by the statement "I think a research project would be too hard for this class."

This chapter will share my thoughts on why these attitudes might exist, my experience so far on trying to integrate more information literacy into my own classroom, and my thoughts on what we can do to make world language classrooms like mine more research and information literacy friendly.

WHY IS IT "JUST GERMAN"?

World languages curriculum is a sort of strange hybrid of many other disciplines. There is the language itself to learn – a whole new vocabulary and the grammar needed to use that new vocabulary. German students have to learn a seemingly never-ending list of new words and hundreds of grammatical rules with just as many exceptions to most of those rules. These words and grammar rules are presented in charts, tables, and equations that look like

something that could be found in a math or science textbook. In addition to the language itself, there's the cultural component of learning about the countries in which the target language is spoken. This cultural component includes literature, history, and geography – more disciplines with which world language study crosses over.

There is no doubt a lot to cover in a world languages classroom, but the case seems to be that most of the instructional time is focused on the language itself, at least in most of the world language classrooms I have observed. In my mentor teacher's classroom, most of the instruction is just about vocabulary and grammar – it really is, for the most part, "just German". While the teaching of the language itself is very important, this is not the part of world language that will get kids excited and interested in the subject. While a few students might find a passion for the intricacies of the never-ending rules and exceptions of German grammar, it is unrealistic to expect that every student in my class will be an unabashed linguaphile like myself.

The really exciting part of learning a world language, for most students, is learning the culture tied to the language. Because culture is related to so many other disciplines, the study of culture provides an opportunity for students to find what they are interested in within the context of world language study. The lack of a focus on culture in a world language classroom creates an environment in which research projects would be difficult to assign, because, honestly, what high school student wants to do research on grammar? However, if there is a stronger focus on culture, then the grammar and language rules gain context. In addition, research projects would be attractive to students and easier, and would create an environment appropriate for teaching important skills like information literacy.

AN ATTEMPT TO INTEGRATE INFORMATION LITERACY INTO A GERMAN CLASSROOM

I have taught two information literacy lessons in the AP German

class at the school where I am placed. These lessons are in preparation for a research project next semester, in which students will be encouraged to explore some aspect of German culture, literature, or history that is related to the field they would like to go into. The lessons were eye opening in finding out just where my students are in terms of attitudes toward research, experience doing research, and their ability to find and evaluate sources.

First, I had my students take a survey detailing their experiences with research. The survey asked about prior research papers or projects and which classes they were in, and also asked what sources students used or would consider using for a research project. The results of the survey were surprising for a class in which every student in the class is planning on attending a university in the fall:

- 17% of the class had never written a research paper or done a research project,;
- Another 25% had never written a research paper in an English class.
- This means that 42% of the class had never been taught how to write a formal research paper in their high school career, up to the first semester of their senior year.
- Of the students who had some research experience, almost all of the experience (except for two science projects) was done in an English or History class.

No wonder the students did not consider their German class as a place for research!

The results of the survey regarding sources were also eye opening. Every student ranked Google as their number one source of information. 75% of the students cited Wikipedia as their next trusted source of information, and only one student knew about the links at the bottom of Wikipedia articles. 33% of the students said they used school textbooks for information, and only two students knew about online databases. Four students shared that they had gone to a public or school library for information, but only one

student had received help from a librarian on a research project.

These results were surprising to me, and helped shaped the information literacy lessons that I taught my students.

I can now say with confidence that my students know much more about where to find good sources of information and how to tell if they are credible sources or not. The skills I went over with them will no doubt help them with their research projects they will be working on in the coming semester (thankfully, my mentor teacher has allowed me to assign them this task).

However, the results of that survey can help us all to realize a few important things about information literacy in a world language classroom.

WHAT WORLD LANGUAGE TEACHERS CAN DO TO ENCOURAGE RESEARCH AND INFORMATION LITERACY

The first thing we language teachers can do to encourage research, and therefore information literacy, into world languages classrooms is to pay more attention to the study of culture. Literature, history, art, music, science, and many other subjects are all tied in to the study of a country's culture. Teaching and focusing on cultural content in a world language classroom can allow students to find connections to areas they are already interested in. We can build off of these connections to create interesting, meaningful research projects that allow our students to learn and practice information literacy.

Secondly, we need to understand that, in a world language classroom, our students' experience with research could vary greatly. We need to create assignments that are considerate and provide support for those students with less experience. This support can come from the world language teacher, but increased communication and collaboration with school librarians could provide more ideas and support for our students. Increased communication between teachers and librarians would be beneficial

to teaching information literacy practices in a world language context.

Furthermore, we as teachers need to encourage more communication between school librarians and students. Students need to know that they can turn to their school librarians for assistance in locating sources, among other things. Especially in schools like the one in which I am placed, teachers can help students seek out the resources available to them through the school library and librarians. In doing so, we can help out students become more information literate and better prepare them for research in higher education.

World language teachers have a great opportunity to teach their students about a variety of subjects, all within the context of world language. By teaching a significant amount of cultural content, we can get our students interested in the target language and culture, and we can use this to teach them information literacy skills that will help them not only in language classes, but in all their classes in and beyond high school.

Caroline Nagle is a graduate student at the University of Michigan School of Education in Ann Arbor.

The Dreaded Bird Unit…

Joshua Skodack

As I sit here four months removed into my field observations at an urban area ninth grade classroom, I reflect upon my experiences with the dreaded "Bird Unit." I am willing to bet at one point in time, we have all experienced a "Bird Unit." By Bird Unit, I am referring to the school project where you are assigned a seemingly unrelated object, such as a bird, to research and you are expected to design a poster that gives the bird's genus and familial classification, habitat, diet, and a day in the life of your bird. It in these projects where you saunter off to the library or computer to look up information on your bird, making sure to use only "approved sources," such as encyclopedias, crappy websites, and Wikipedia, etc., while taking careful notes of the source of the information you have uncovered (Loertscher, Koechlin, and Zwaan 2005). Following the research, you make a poster of your bird, printing pictures you found online or in an issue of *National Geographic*. Enjoyable times right?

PEDAGOGY

The Bird Unit I observed was called the Dead Physicist Tombstone Project. Students were randomly assigned a past physicist and were to research basic information about them, record that information on a poster board tombstone, and then write a one-page obituary about the physicist. Halloween was right around the corner, so we emphasized that students were expected to put some creativity into the tombstone; perhaps students could add a picture of the physicist and a couple of interesting quotes to the tombstone. We wanted students to get into the Halloween spirit with their tombstone while learning about some of the history behind the science they saw in class.

As teachers, we questioned the pedagogical value in having students carry out the Tombstone project. As students look up information to make their tombstones and write their obituaries, students are able to practice research skills such as searching for information in databases and search engines.

As I look back, I question whether students were able to achieve these goals from how we scaffolded the project. In our classroom, we provided students with a day in a computer lab to research information online. As I walked around the computer lab making sure students were using their time wisely (not watching music videos on YouTube), I noticed students haphazardly searching for information on Google, using random phrases about their physicist without using strategic use of keywords.

Secondly, I noticed students giving up on their research if they did not find the information they were looking for in the first few results of a Google search. Many students approached me with the complaint there was no information on their physicist online even if they were researching a well-known physicist such as Isaac Newton.

I believe many of the issues we saw from students' research could be addressed with a lesson dedicated to database and search engine use. In this lesson, the basics of searching engines and databases could be outlined in an active lesson where their students practice searching engine use during the lesson. The lesson can be scaffolded in a way students could carry out the research for their project while learning how to create a strategy for searching for information through databases. Effective use of searching will be reduce the amount of time students spend searching for information, find better primary sources, and reduce the amount of anxiety students experience while searching for information.

PLAGIARISM

As we graded the projects, we noticed many of the student obituaries had serious issues with plagiarism. A few of the projects

went as far as to be copy and pasted from a website. However, the majority of the plagiarism we discovered was from students not citing paraphrased information or citing Google as the author of information. From my mentor teacher's point of view, this pointed out several issues with the students' research: students did not have proper instruction into paraphrasing, quoting, and citing information; students' did not feel they had to cite paraphrased information; students did not understand that Google is a portal to content, not content itself. As a result, we felt it was prudent to spend a class on the basics of plagiarism.

Since this was the first time we had to address plagiarism in our class, we wanted to uncover our students' current understanding of plagiarism. We utilized a short ten-question true and false quiz on plagiarism that was provided to us by an English teacher. The goal of the quiz was to assess our students' understanding of plagiarism prior to any formal instruction. At the end of the lesson, students would retake the quiz and discover if their understanding of plagiarism has changed following the lesson. In the lesson, teachers would provide students with examples of plagiarism and have the students improve the examples through proper use of quoting, paraphrasing, and citation of information. By completing the lesson, students should be able to understand why they need to properly cite information, how to properly quote and paraphrase information, and the consequences of plagiarism from academic, personal, and professional point of views.

As we enacted our lesson, we were shocked by how much students already knew about citing information. From the results from the pre-lesson quiz and the questions students asked, it appeared that students understand the procedure of citing, quoting, and paraphrasing information, and the deeper conceptual understanding of ethical use of information, but many of them felt that proper citation was "dumb stuff for English." During the lesson, students were able to identify if plagiarized statement was not properly cited, quoted, or paraphrased. However, students were unable to answer why it is important to cite information or give the original author proper credit for their work outside of not getting in trouble in their

English class. If we were to perform this lesson a second time, I would spend less time going through the procedure of properly citing information and more time on the ethics of plagiarism.

Little did I know that this particular project would transform from a fun Halloween project to a serious project on plagiarism and ethical use of information. Bird Units are already at a disadvantage from a lack of emphasis on higher cognitive process dimensions and knowledge dimensions. Having students synthesize new information (perhaps writing a creative story involving their physicist) student projects can move beyond the remember/recall level of Anderson and Krathwohl's revision of Bloom's Taxonomy (2001). Furthermore, with proper scaffolding of the project and by requiring deeper knowledge dimensions, there will be less temptation to plagiarize.

Joshua Skodack is a pre-service biology and physics student teacher at the University of Michigan Secondary Masters of Arts with Certification program. His work focuses on effective secondary science instruction. Contact: joshsko@ umich.edu.

REFERENCES

Anderson, Lorin W., and David R. Krathwohl. 2001. *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives.* New York: Pearson Education, 2001.

Loertscher, David V., Carol Koechlin, and Sandi Zwaan. 2004. *Ban those bird units!: 15 models for teaching and learning in information-rich and technology-rich environments.* Salt Lake City: Hi Willow Research and Publishing.

Confessions of a Pre-Service Social Studies Teacher: The Dichotomy Between Research Process and Content

Curtis Lee

As a pre-service Social Studies teacher, I've spent countless hours observing over one hundred high school students toil through the steps of their big research paper for the year, and one issue has become glaring obvious: students are looking for immediacy. Now I'm not saying that they don't try to do a good job, but the fact is that they are looking to do a good job in the quickest way, because that is what they have taught themselves over the years. These students were born into the wireless age, where information is plentiful, immediate, and generally reliable, even if not credible.

What took a student decades ago days to complete (after catching a bus to the library, wandering through the stacks, talking to the librarian, looking through the microfiche, and several attempts with a typewriter), or a student in the nineties hours to complete (waiting for their turn on the home computer, listening to the dial-up, starting over when a call came through, chasing the sibling that turned off the computer and made them lose all their work, and finally printing), students today can complete in minutes (find what they need, print it, or submit it online), all without having to leave the couch or plug in a wire.

These children experience the world in a different way than their parents or teachers did. Most have never used a phone book, pulled out a road map, waited patiently next to the radio for their favorite song so they could press record on the cassette player, or handwritten letters to a friend or pen pal. These activities are obsolete. Why would anyone go through all that trouble, when their phone or laptop can do it for them? Now it's so easy, you

don't even have to think about the key words in your question to enter them into a search engine: just ask, "What does a weasel look like?" and your iPhone will show you. Everything is instantaneous, and therefore, time is a resource students do not truly understand.

So when it comes time to start their research project in history class, what do you think the process looks like from their end? "Uh oh, I have to write an eight page paper on some dude from my history book? Hmmm, well I know of FDR. What's his full name? *(Pulls out smartphone, types FDR into Google.)* Franklin Delano Roosevelt, check. 20 million results, check. I see results that talk about the White House, some library, PBS, Pearl Harbor, some sites that are .org and my teacher says that's cool. Sweet. Related searches talk about some New Deal. I'll do that." That took less than a minute, and the student already has their historical figure, a historical topic, and some (albeit less than scholarly) resources. Do you think this is what the teacher had in mind? Their idea was probably to peruse the textbook at home that night, make a list of topics you might be interested in learning more about, and then going to the library to see what kind of books you could find that seem like worthy places to start. I'm sorry, but those days are long gone.

What are we to do then, as teachers and librarians trying to stress the value of deliberate and thoughtful research? Don't look at me for all the answers. I'm not even a certified teacher yet! But I do have some suggestions. If we want to better support students learning the process of research, we need to be more explicit in our teaching, specifically our modeling, instructions, scaffolding, and feedback.

Teachers must have a clear and precise action plan, in which everything they do in the classroom strategically reflects the methods they wish to instill in students. Critical thinking should permeate the classroom, so that there is no question that the Social Studies class is not about names, dates, and places, but about causes, effects, connections, relevance, applicability, and purpose. If the class itself is a critical journey into the stories that define the Social Studies, the research won't feel foreign, but instead an outward

manifestation of the inner classroom. To appropriately model how to engage in research, the teacher must be effectively prepared to engage in research, both in the way that they hope students will, and the way they think students might. It is not enough to hope to inspire children to do it the "right way" and ignore "their way." Effective and less effective search methods, search terms, sources, citations, and implementation must all be addressed. Students need to see benefits that extend beyond extrinsic motivation (grades) in order to truly find value in the detailed and meticulous process that proper research requires.

Next, instructions must be very clear and very detailed. Grey areas allow for shortcuts, and the shortcut is "the way" for most students because of their technological fluency. If the students' claims would be best supported by primary sources, students should be aware that they need to be looking for primary sources. They should know how many are appropriate, and where specifically they can find these sources. Instructions should guide students on what steps to take, as well as how to deal with obstacles in their search, and sources for help, such as librarians, the library or media center staff, or the teacher themselves.

But students and teachers often spend their academic year with minimal awareness of the information resources at their disposal. When this occurs, the onus is on the teacher. If a teacher doesn't know what is available, how can they expect anything more out of their students? Teachers must take the initiative, and assess their own comprehension of the process. Their own clarity on the process can be a deciding factor in the success or failure of their students. And for many, they must take their own advice and seek out the librarian to enhance the skills needed to teach properly, or be supplemented by the expertise of the librarian when instructing in the classroom.

Proper instruction would go to waste if it is not followed up by proper support, or scaffolding. We've all seen the trouble that students have progressing in math when they don't understand their times tables, so why do we allow the same educational travesties to

occur elsewhere? Research is a skill that is necessary for all students as they move through the ranks of academia, and therefore the steps must be treated as essential building blocks. Teachers and librarians should walk students through each step of the process, whichever process is used (such as The Big 6, the Stripling Inquiry Model, or Kuhlthau's Information Search Process). Each aspect of the research process should be explicitly understood and properly performed before moving on to the next level. Effective scaffolding for teaching research should utilize tasks, cognitive tools, strategies, and resources to engrain the skills needed to succeed. Activities such as written routines, checklists, problem-solving activities, credibility lessons, think-alouds, and questioning-the-author reading strategies all aid students in their examination of information and their building of arguments. These processes help students break up the assignment into more manageable pieces that can be reassembled at a later date for the building of conceptual knowledge.

Lastly, all of this educational goodwill needs to be backed up by quality feedback. Students should receive informational evaluations: formative assessments on their process and product at each step of their research process so that they can see where they need improvement and how, what they are doing well and why, and how to continue effectively in the process and what goal they are seeking to achieve. Feedback supports the students in their informational pursuit, but it also provides the teacher an opportunity to assess his or her teaching.

If all of the students are having difficulties, perhaps the teacher has not succeeded in the way they had imagined. Therefore, feedback can improve the process on both the front and back ends. And when all the research is completed and the final products are turned in, students should receive timely formal feedback that supports, critiques, encourages, and challenges the students for their next engagement in the process. The students should also take the time to reflect, wherein they analyze their own process, citing difficulties, achievements, and unique experiences throughout their experience. With clear and specific feedback, students will be better prepared

for the next time around.

Once again, the reason for all of this is to better support students learning the process of research through modeling, instruction, scaffolding and feedback. If we are not clear and explicit, students will engage information the way they have taught themselves. While this may yield relevant results, the students are not improving their comprehension of the knowledge and skills that will be required of them at a later date. So here are the major takeaways of my experience that can be used to improve teaching of the research process:

Model and teach information literacy strategies: Don't just tell students how to do the work, show them! Show students effective ways and make them practice these ways, and explain why other ways are less effective. And provide them with sources of assistance.

Emphasize process and content simultaneously: Students need to spend as much time on the right way to find, sort, and evaluate information as they do with information itself.

Emphasize the content that goes into the process, too: Nobody wants to read an eight-page paper that is sourced from answers.com, and no student should waste all their time creating a paper that has no credibility. Require proof of legitimate research.

Stagger intermediate due dates and tasks: Force students to truly engage in the process. Scaffolding supports students and makes the building of conceptual knowledge easier. As they improve, these scaffolds can be removed as their skills and understanding of the process will be more solidified.

Provide checkpoints with critical feedback: Before they move on to subsequent steps, make sure they are doing the work correctly. To paraphrase Vince Lombardi (n.d.), practice doesn't make perfect. Perfect practice makes perfect.

Reflect, and make students reflect: Critique yourself. See how you can improve your teaching or knowledge to help improve their performance. And make the students reflect, too. Reflection can

help engage intrinsic motivation, which can improve interest and performance. Also, their self-knowledge can be enlightening for themselves and for you.

At the time of publication, Curtis Lee was enrolled in an Educational Master's Program at the University of Michigan while also completing his secondary teaching certificate in Social Studies. He returned to academia after a career working in outdoor education and adventure tourism. Curtis originally earned his B.A. in History at the University of San Diego.

REFERENCE

Lombardi, Vince. "Practice doesn't make perfect." BrainyQuote. Accessed on December 14, 2011.
http://www.brainyquote.com/quotes/quotes/v/vincelomba138158.html.

Part IV: Information Literacy in K-12 School Libraries

Hook

John Cole

I have learned the importance of hooking students into the lesson before beginning. If students are engaged before the lesson starts, that makes the lesson much more likely to succeed. A hook grabs students' attention and, ideally, makes them excited for what is going to be taught. However, how does one get students interested in what will be taught without taking up time meant for the lesson? The answer is with something quick, exciting, and linked to the lesson in some way that is most likely less "instructional" than the lesson itself. It has to be something that feels real and relatable to the students, showing them how the upcoming lesson might be relevant to them.

Once the students think there is something they can really use, and something that might even be interesting, their attention will be piqued. With the right hook, a lesson can be dynamic and exciting from the get-go. Otherwise, students might end up looking like they got hit by a right hook, and you might eventually be given the hook from your job.

The first thing to remember when attempting to hook students into a lesson is the audience. Depending on who the students are, they will be hooked by different things. Similarly, there are some things that would hook a majority male audience that might be a dud with females. Age, gender, ethnicity, religion, and background experiences can all play a factor in what will hook a certain type of audience. Of course, in today's diverse classrooms, there will probably be a mix of attributes. That is one of many reasons why knowing your students as individuals is so helpful in the classroom.

Another indispensible consideration in hooking students into the lesson is to actually make the hook relevant to the lesson. While references to what is popular among the students or some important event might get the students talking, it won't get them ready for the

lesson from an academic standpoint. In fact, when the lesson is introduced, the students might shift quickly from excitement with the interesting topic to disappointment that they now have to "move on" to the less exciting lesson. Thusly, the hook should lead naturally into the lesson. A hooking question that I used when teaching a lesson on the availability of free online SAT/ACT prep was: "How many of you have taken the SAT or ACT before? Did you do any prep, like a program or getting a textbook?" I then asked how much this cost the students or their parents. This line of questioning leads directly into the lesson on free online prep that offered the same practices and skill building of more costly programs. When the lesson actually began, students did not have to shift their brains into "lesson mode." Rather, they were already thinking about the topic to be taught.

Let's look at this example again, in the context of not only relevance to the lesson but also relevance to the audience. This lesson took place with a high school class with seniors and juniors. Because every student in Michigan, where I gave the lesson, had to take the ACT before college, I knew the question would be relevant before I asked it. In addition, the students at this age would also be able to understand, albeit in varying degrees, the concept of monetary value. This example, then, is a fairly universal example that is almost guaranteed to get the attention and interest of the students regardless of their gender, culture, religion, or other background factors. All students should be involved as a result of a good hook.

As we think about how to hook students, we should also keep in mind another crucial element: time. Remember, we have to teach the lesson, which means half the class time cannot be devoted to an introductory activity. Let's look at the example again. Both questions involved (the item bought as well as the willingness to pay more for the item) require very short and simple answers. This is extremely important when you consider that the answer will probably take more time than it is designed to take. A discussion could ensue about the relative values of different objects, or about what a different student might pay for the first student's object. Students may turn the question back on the teacher. Whatever the

case, time for a discussion should be budgeted into the questions, which will result in very short-answer questions normally. Discussion also is not something that should be shied away from, because discussion will also bring about excitement for the subject matter. However, the discussion should also be pretty brief in order to leave adequate time for the lesson itself.

To review, a hook should have a few core elements. It should be relevant to the class, keeping in mind the characteristics of the audience in general and, ideally, the individuals. It should be general enough to keep the attention of the whole class. It should also tie into the lesson rather than taking away from it. Lastly, the hook should be brief enough to allow adequate time for the lesson itself. A successful hook will more often than not make the lesson more successful, so get the lesson started on the right foot, for the sake of the class and for your own sake!

John Cole is a second year graduate student at the University of Michigan studying Library Information Services. He has an undergraduate degree in Economics from Hampton University in Hampton, Virginia. He has worked for the Federal Reserve Bank of Richmond, the United States Census Bureau, and Papa Johns Pizza. John was born in Washington, D.C., and has lived in several states throughout the Southeastern United States.

From Black and White to Gray: Addressing Information Literacy Skills in Web Evaluation

Kara Fribley

I was recently fortunate enough to spend time observing the daily happenings at a library media center at Cooper 5/6 Elementary School in Livonia, Michigan. Cooper's media specialist, Judy Bowling, runs a bustling, well organized, and welcoming library. Her doors are always open, and she is always willing to help any student or staff member that walks through her door. While I was observing her classes, Judy was covering digital reference materials. She began by covering print reference materials, then discussed a subscription online encyclopedia, followed by instruction in using the reference website, FactMonster.com.

At this point, I knew that I wanted to step in and teach a lesson. I knew that she was working her way to instructing the students about how to properly use Google, and that such instruction would have to have a heavy focus on web evaluation. I decided to continue with her scaffolding trend, and instruct the students in the use of the free search engine, KidsClick.com. In my mind, the transition made sense. After all, KidsClick only brings up limited search results that have been pre-selected by librarians, and after that Judy could scaffold to a lesson on Google. It was a great plan!

However, I quickly realized that I couldn't really teach KidsClick without broaching the topic of web evaluation. After all, students had to pick and choose which websites would be useful for the topics they were searching, even within limited search results. "No big deal," I told myself, "These kids had no problem with FactMonster, and I've heard them talk about using Google, so this should be an easy stepping stone between the two." So, a worksheet with the most basic of website evaluation questions and a lesson plan later, I was ready to go conquer the world. Unfortunately, the world put up some resistance.

To keep things as simple as possible, I decided that all of the students would pick a planet on which to conduct a search. The goal was to find three websites and conduct a basic evaluation on them. The task I assigned my students to perform on the computers for web evaluation on KidsClick consisted of three questions:

1. Does the website have useful information about your planet?
2. Are there quality pictures of your planet?
3. Is this website easy to use?

I thought they were pretty simple questions. However, what I did not account for was the inherent nature of students to desire "right" and "wrong" answers. The print resources, as well as the online encyclopedia and FactMonster have reliable articles that are either about the correct topic, or not. When in FactMonster, Britannica, or a regular encyclopedia, there is no need for students to decide if they prefer one article over another, or whether one article is easier to use than another. Certainly, after learning each of these resources, students may use their discretion as to which of the resources they prefer, but when they are in each individual resource without regard for the others, the usefulness of articles is cut and dry.

So, many of my students floundered. They struggled to answer three questions that I considered basic—easy, even! "Gee," I thought, "One of them was even a matter of opinion!" Of course, I was stumped. What could the problem have been? Was it that the students simply did not want to take the time to evaluate the websites? Was it that the website didn't look like Google? Those may have been factors, but I was convinced that there was something larger at work.

And then it hit me. Information literacy is often defined as being able to find, evaluate, and effectively apply information. My students had no trouble finding their information. However, we were encountering critical problems at the "evaluate" stage. I had

given them a simple tool to conduct their evaluations, yet they still found it difficult. This led me to conclude that while they understood their power to find information, they did not yet understand that they also have the power to evaluate it. They wanted right and wrong answers for the activity I had given them, but there were no right or wrong answers! They had entered a gray area in which they did not know how to respond. In fact, when I informed them that they could say a website was not sufficient for their needs, they immediately double-checked what I had said.

Them: *You mean, we can say it's bad?*

Me: Yes.

Them: *But how do I know if it's easy to use?*

Me: If you have trouble finding any information on the site, it's probably not that easy for you to use, right? It's your opinion.

Them: *But this website is good and bad.*

Me: Then write that down.

Them: *But it only has some of what I need.*

Me: That's okay. The purpose of this exercise is to notice things like that.

The most difficult concept of the lesson was attempting to convince students that they had the power to decide the value of a website for themselves. After all, there are many gray areas when it comes to web evaluation, and they had been thinking in black and white. It's possible for a website to have some, but not all, of the information that a student needs. How do we guide them from the black and white world of "right" and "wrong" so that they can tread the more prevalent gray waters?

There does not seem to be an easy solution. Perhaps part of the answer lies in beginning instruction in evaluation of resources at a younger age. This is not to say that it needs to be done with web

sites. Simply pointing out to students that one book or article may not have all the information they need, or may not have the type of information they want could be a lesson that later translates to web evaluation.

In the end, teaching to the gray areas will create more discriminating users of information, which is one of the primary goals of information literacy instruction.

Kara Fribley is a graduate student at the University of Michigan specializing in School Library Media and author of Find the Right Words With Thesauruses *(Cherry Lake, 2012). She has also written for* School Library Monthly. *She resides in Ann Arbor, MI, with her husband.*

Assessing the Need for Assessment

Emily Johnson

As a school librarian, entering the world of education is a daunting prospect. I want to play an active role in the education system, but school libraries are understaffed, under-utilized, and school librarians are constantly asked to prove their worth as educators. Particularly daunting is the prospect of proving our worth through pre-designed summative assessments that measure only a tiny fraction of a student's learning. However, demonstrating student growth through the use of effective assessment techniques is a crucial step towards substantiating our relevance.

The success of the public education system in the United States is largely based on schools' ability to structure themselves effectively (Collins and Halverson 2009, 33-34). The class schedules are designed so that every moment is assigned a space, the administration has rules and regulations on how things should happen, when and with whom, the teachers know exactly how much time they have to teach (down to days and sometimes even minutes) and the students know that they will be required to participate in school until a certain age. Schools are a well-oiled machine, long tested and long running: a marvel of the modern world. It's no wonder that any change, adjustment, or reform is met with apprehension, fear, or downright hostility.

It is this inherent lack of flexibility that has virtually handicapped the school systems and made them unable to adjust and self-correct to best meet the needs of students. Growth in students is not measured by success in implementing real-world scenarios or demonstrating skills within context; success is measured by forcing students to regurgitate memorized facts with no context. In order to measure this growth, school systems rely heavily on summative, standardized assessments that measure the growth of students

according to how well they can fill out an answer sheet. With the school machine accounting for every moment of the school day, overworked teachers with classes filled to capacity and a lack of adequate resources are forced to rely on summative assessment out of necessity. However, this type of assessment is not done for the students: it is done for the administrators and the lawmakers, to make sure students have the basic skills they need to be moved on, or out of, the education system.

This flip-flopping of priorities, putting the needs of the education system over the education of the student, is the antithesis of what assessment is intended to do. Assessment is meant to give students the opportunity to see their thinking, identify where there are inconsistencies or flaws, and to be able to modify their processes (National Research Council, 2000, p. 19). Unfortunately, we seldom give students feedback on what they could or should be doing to improve their learning techniques, or we wait until it is too late for them change anything.

During student teaching, I was observing a ninth grade World History class. My mentor had assigned the students a project that was to be worked on incrementally over the course of a unit. The entire project was to be graded as a whole, but each class section students added a different component. When the time came to grade the reports, my mentor was astounded that they all had identical mistakes. This was the first time she offered them feedback on the projects, when it was too late to change anything. By not providing ongoing assessment and feedback, we are painting students into a corner and then punishing them for being there.

Learning and assessment are, and should be, intertwined with one another. As learning is taking place, we should be assessing the students understanding and guiding their thinking as needed. This is not to say that an end-unit test should be overlooked, but it should be given within the same context as learning, as a natural part of the unit. There are no surprises: if students have learned the material and the assessment has been designed correctly, then they will be able to demonstrate their mastery. If they are unable to do

this, then we, as instructors, need to see the gaps and help guide students in bridging them, or, we should redress our instructional practices.

How do we, as schools librarians, bring these principles of correct assessment into school libraries though? It is entirely possible, with some slight adjustments for the unique environment. First, the librarian must work closely with the teacher to identify the goals of the lesson, as well as to set assessment goals. When reviewing their lesson plans, librarians and teachers should ask themselves whether the students liked it, did they get it, can they do it and does it matter (Grassian and Kaplowitz 2009, 202-203). By setting goals, we identify where students are beginning and what we want them to be able to accomplish.

Secondly, these learning expectations should be shared with the students, so they can rise to meet them. By including an agenda or even sharing our learning goals, we shepherd students into thinking critically about what is being taught. If students see where we are starting and where we are ending up in a lesson, then they are forced to think about how we got there; these are invaluable critical thinking and inquiry skills.

Third, school librarians and teachers need to give feedback and follow-up with students on whether what they learned was retained and, even more importantly, whether they can transfer that learning to other areas. By looking at their final products or simply discussing the lesson with them, we can see whether they learned what we intended them to. Further, we can assess whether skills are being transferred from one subject to another because we work with students on a variety of projects from various classes and subject areas.

Fourth, school librarians need to document their processes, failures, and successes. In order to affect change and convince stakeholders to "buy into" school libraries, there needs to be a history of designing and implementing new and innovative programs within their library. As with any educator, librarians should provide lesson

plans, student work samples, and take the time to reflect on their practices.

Above all, assessment needs to be based on practicality. It is meant to enhance the learning process by guiding instructor planning, identifying weak points, and allowing students to practice their metacognitive skills. It need not be high-stakes, fear-inducing, or summative end-level tests; in fact, the most effective assessment happens on a continual and informal basis. When it is done correctly, it should simply be a natural by-product of a well-executed lesson.

Emily Johnson is a student at the University of Michigan School of Information, where she is specializing in School Library Media and Library and Information Science. Her interests are in improving user services and instructional librarianship, especially in non-traditional library settings. She is the co-author of a forthcoming book for children on designing great research questions.

REFERENCES

Collins, Allan and Richard Halverson. 2009. *Rethinking Education in the Age of Technology*. New York: Teachers College Press.

Grassian, Esther S., and Joan R. Kaplowitz. 2009. *Information Literacy Instruction.* 2nd Edition. New York: Neal-Schuman.

National Research Council. 2000. *How People Learn: Brain, Mind, Experience, and School.* Washington: National Academy Press.

Simon, Raymond. "Calculating Participation Rates." 2004. Last updated May 19. http://www2.ed.gov/policy/elsec/guid/stateletters/prates.html.

Part V: Information Literacy in College Classrooms

Lessons in Visual Literacy

Brianne Rhoades and Mary Braun

We are two students from the School of Education at The University of Michigan who were partnered with a technology specialist in the Language Resource Center named Philomena Meechan. Our task initially seemed to be small, simple, and not particularly necessary: learn about visual literacy and image citation, and then teach what we had learned to college students, both in person and through an online resource. We figured that we could go online and find some tutorials and library guides to teach ourselves about visual literacy and then impart our wisdom unto others.

This is a story about how wrong those initial impressions were. We soon discovered that the definition of visual literacy, while not as muddied as that of information literacy, is still contentious. When it came time for us to impart what we had learned, we further discovered that even with an adequate knowledge base of a subject, teaching that subject is not easy. In short, the insights we gained about visual literacy and instruction were invaluable, though not at all what we had expected to gain.

Let us start at the beginning. After some online searching yielded few results and wildly inconsistent content, we began to realize that we would need to put in a lot of time to learn about the different aspects of visual literacy. Our searches for image citation resources proved that we had our hands full with this smaller topic alone. When it comes to web-based images, there does not seem to be full agreement on what information should be included and when. For example, if the photograph is of a painting, is the proper protocol to cite the photo, the painting, or both? Shortly into our research we discovered a resource called citationmachine.net, with which users enter citation information into a form and the website generates an accurately formatted citation for them.

While this site seemed to solve the problem of teaching citation formatting, it brought with it a whole new set of problems. For example, they seem to be stuck in thinking of how books are formatted. The information asked for by citationmachine.net does not always reflect the information available with an online image: The forms ask for first and last name of the photographer, when many images online are only attached to a username. Some forms ask for the production company; how does that apply to a photo found on Flickr Commons (flickr.com/commons)?

And speaking of Flickr Commons, we had another issue on our hands: where are students getting their images? Do they know how to find out what they have permission to do with an image, or how to ask for permission? We had barely stepped into this project before we realized it was more involved than we had originally thought.

While the scope of our project was still fluid, Philomena solidified our partnership with an undergraduate class that Brianne happened to be taking, a course on the history of German science. The students were going to be contributing posts with images to a public blog. This helped set the boundaries of our visual literacy project. These students would need to know what it meant to have permission to use an image in a publication and why it was important, how and where to find an image they could use, how to properly cite the image, how to manipulate it, and how to post it to a blog.

With these parameters in mind, we were able to find the relevant information and design a lesson plan that was supposed to take about half an hour, hopefully with some time for questions at the end. We also made a survey about images and citation for the students to take before coming to class on the day we were to give our presentation. The purpose of this survey was to inform us of these students' preconceptions about these topics. The results of the survey of these ten college students were surprising: when asked to rate the importance of image citation on a scale of 1 (not at all important) to 5 (very important):

- 40% of the students chose 5
- 30% chose 2
- 10% each chose 1, 3, and 4.

It would seem that, for the most part, these students understand the importance of image citation. That is, until one sees the results of the next item: When asked, "How often do you cite images in your papers? (1 = never, 5 = always)"

- 60% of the students chose 1
- 10% chose 5.

70% of the students surveyed claimed to know nothing about image citation.

One of the questions on our survey asked students to indicate how they would like to learn more about image use and citation. They were able to check as many boxes as they wanted, but only one out of the ten respondents indicated that he or she would like to ask a librarian. The choices that had the most student interest were "listen to a speaker" and "in class," so at least our presentation was a good fit for what the class wanted. The responses to this question do reveal the general reluctance of students to ask a librarian for help that we have talked about in class.

Based on the responses to our survey, it looked like this particular class would benefit from our lesson on image use and citation. Some of the students felt that image citation was important, but others needed convincing. The class in general knew very little about image citation, so our presentation would be useful to them. We do not know for sure whether or not our presentation changed any students' minds about approaching librarians for help, but when we asked they said they had learned the importance of proper image citation and we hope they truly did.

Of course, this sample is not statistically significant, but it is

intriguing that the same students who claim to see image citation as important do not actually cite their images and do not even know how to properly do so. It is also interesting to note that one student said that he had never thought about image citation or permission until he started dating a photographer and saw the frustration she went through when she found others using her work without permission or attribution. Clearly he did not think of using images as potentially stealing until he was able to look at the situation from another point of view. The question becomes why, if students understand the importance of image citation, they do not cite the images they use.

On the Saturday before our presentation to the German class, Philomena kindly opened up the computer lab for us so that we could do a test run. Our run through of the lesson plan that was supposed to take half an hour took about an hour and a half, with several stops to work out kinks. At Philomena's suggestion, we even created a simple webpage to serve as a map during our presentation: a list of links that the students would be able to click when we wanted them to visit a new site, so that we would not lose time to mistyped URLs. Considering that the logistics would go much more smoothly for the actual lesson now that we had worked out the kinks, we wondered if we had made our lesson plan too short.

The day of our lesson came, and it began quite well. We directed the students to our Google Site (https://sites.google.com/site/visllitlinks), which contained the list of necessary links. The first one did not work, because it linked to an image on a page that required permission to view. We had not even considered that this would be a problem. Luckily, we were able to project the image onto the large screens in the classroom so that everyone could read it. The image was a graphic Brianne had created, which we have been calling the Use Spectrum (Figure 1).

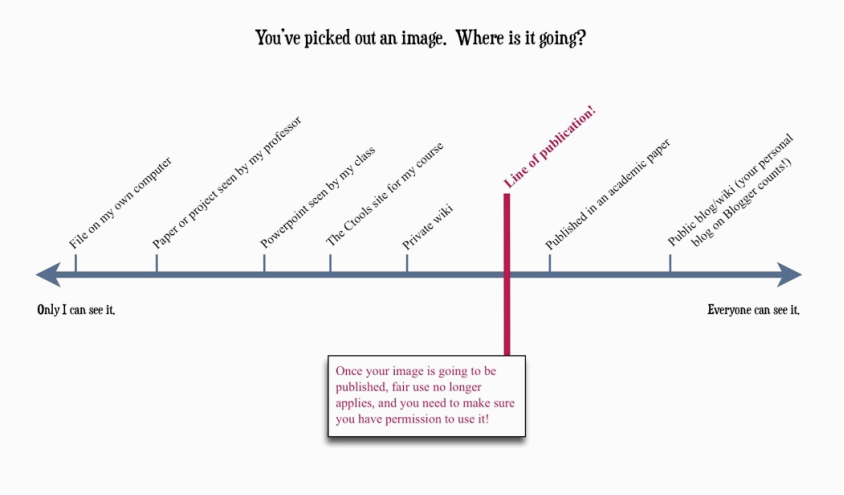

Figure 1: Use Spectrum

We explained to the students that, after that line has been crossed, they need to have permission to use the image, or they can be sued! We decided not to inform them that the probability of a lawsuit actually occurring is rather miniscule, because we were there to scare them into paying attention.

As soon as they understood what the Use Spectrum meant, the students seemed ready to listen to us talk about ways of finding images beyond a Google Image search. We had asked students to come prepared with an image relating to their final projects for the German class; as we had anticipated, each student had used Google to locate their image. After crushing their dreams of posting these photos for which they had no permission to use on a public blog, we presented them with an alternative: Wikimedia Commons (commons.wikimedia.org).

There are a number of other sites we could have chosen, all of which offer images in the public domain and under Creative Commons (creativecommons.org) licensing. We chose Wikimedia Commons primarily because students are already going to Wikipedia; the less they have to change their behavior to find legitimate images, the more likely they are to apply what they learn

from us. Wikimedia Commons provides the user information about their rights to each image by posting the appropriate Creative Commons logo on the picture's page. We quickly explained these logos to the students and showed them how they could get to Creative Commons in order to find out what their specific logo might mean. For the purposes of their assignment we informed the students that they did not have to worry about images with commercial restrictions because they were not making money off of their blog posts. All of the students, however, did find that their images were restricted at least to the point that required them to provide attribution.

This took us to the next step of our presentation: proper image citation. For this step we guided students to citationmachine.net. As mentioned previously, there are some practical problems with Citation Machine, mainly that they often request information that is not available. This proved to be a particularly difficult problem with the Chicago Manual style of citation required by their professor. In our own review of the website we had only looked at how to cite using APA and MLA styles, and so were caught off-guard by their request for a tutorial on Chicago style. We soon discovered that Citation Machine does not even provide a separate page for citing web images in the Chicago style. Our advice to the students was to use the Web Document link and fill in whatever information was provided with their image and let Citation Machine create the citation.

Finally, we were ready to show students how they could use the Macs' Preview software to resize their images. Most of them did not know that it is important to do this because larger images take much longer to load, and quite simply, people are impatient. If a visitor to the student's blog has to sit and wait for a large image to load, they will likely navigate away from the blog. A handout with detailed instructions for re-sizing was distributed, and Brianne led the students through the steps on the large projectors. We also showed them that they could change their image to black and white, but reminded them that they could only do this if they did not see the "no derivatives" Creative Commons logo on their

picture's page. Once the students had resized their images to better fit into their blog, they were ready to post. While the professor was granting students access to the class blog, Brianne showed the students how they could post their image and the citation they had generated in Citation Machine by demonstrating with one of her other blogs.

At the end of our lesson we asked the students what they thought would be the best format for the module that we would be creating. The overwhelming response was a Google Site rather than the University's online course posting website (C-Tools), as the latter has a tendency to shut down randomly at peak times of the semester, when usage is unusually high. Hearing this confirmed that we would be using a Google Site; the task now is to create that site. We have decided what information we will include in our module, which we have minimized from our initial ambitions. Instead of a surface-level library guide containing a broad overview of visual literacy, we have decided to create a more in-depth module focused on informing people about their legal rights and responsibilities when it comes to locating, using and citing images.

Throughout the course of our project we have certainly learned more than we had anticipated. We discovered that visual literacy is much more complicated than just arranging some colorful pictures and creating a certain mood on a website. Before you can even get to that point, you need to know how to locate appropriate images and properly cite them in a responsible and legal way that does not infringe on the owner's rights. Beyond the visual literacy aspect, though, we also discovered the difficulties of planning and teaching a lesson. By the day of our lesson we considered ourselves relative experts on visual literacy and though that we were extremely organized and rehearsed; nonetheless, questions and problems arose that we had not expected. Ultimately, the most valuable lesson we learned from this project is that having knowledge of a subject does not necessarily imply an ability to teach it. We know now that we have a long way to go in order to become "experts" on visual literacy and master teachers- if there are such things.

Brianne Rhoades is a student in the School of Education at the University of Michigan. She completed her undergraduate degree at the University of Michigan with a double major in German and English. After getting her Master's degree in Secondary Education she plans on moving to Alaska and teaching German at the Secondary level.

Mary Braun is a student in the Secondary Master of Arts with Teacher Certification program at the University of Michigan. She completed her undergraduate degree at the University of Michigan with a double major in Psychology and Classical Civilizations. She plans on teaching Latin and Psychology at the Secondary level and hopes to stay in Michigan.

Synthesize This!

JJ Pionke

As a professor of English composition in the community college environment, a problem that I often run into is getting students to make the leap from a pile of resources to the actual paper. To wit, my project revolved around the idea of trying to explain synthesis in a way that was portable so that I could use it in many classes, and across several different platforms, but also that would retain integrity of content and context.

To paraphrase *Forrest Gump*, community college students are "like a box of chocolates, you never know what you are going to get." They come in all ages from 18 to 80. They come from all ethnic, social, cultural, and economic backgrounds. A classroom of community college students is an adventure in trying to accommodate different points of view and ability levels. Like students everywhere, they bring their educational deficiencies and insecurities with them. Often, they aren't aware that they have these issues and I spend a lot of time leading them to perspective and teaching them better ways to write and cite their papers. This is hard enough in a face-to-face classroom, but it feels nigh unto impossible in an online classroom. Notice I said "feels impossible", which doesn't mean that it is actually impossible. It just means that you have to get creative, which is exactly what I did with my narrated PowerPoint.

I chose a narrated PowerPoint in part because of the portability. I wanted to be able to take the PowerPoint and put it into different course shells at different schools. I also wanted to be able to just email it to a student if needed. I chose narration because in the online environment everyone is consistently very removed from everyone else. It feels like there is no human connection between students or between professor and student. Putting up a picture of myself and using narrated PowerPoints helps break down that digital barrier and make a human connection. It's more than just

connection, though. People learn in all sorts of different modalities and while I could have just typed up an essay on synthesis, that would not have reached visual or aural learners. Using a narrated PowerPoint brings a certain level of engagement that would not be present in an essay or even in a video. That is not to say that there aren't problems associated with using this modality either.

A major concern in using a PowerPoint is that the students might not have the software or they might only have limited access to it. In the community college environment, you can't make any assumptions about whether or not students own or have access to computers and software. It is generally safe to say that about one quarter of my students need to use computer labs or the library to write and research papers because they don't own a computer at home. There is also a concern around which version of the software. How far back do you save the PowerPoint so that it is accessible to the most people? Also, do students understand how the software works? I sent the PowerPoint to a colleague who informed me that it looked really good and she could probably guess what I was trying to say. When I asked if she had played the PowerPoint with the speakers on, her response was no which brings up a very interesting point in how we see PowerPoints – that is as visual, not aural digital objects. Needless to say, she had a very different experience when she turned them on. Physical delivery system aside, there were also issues surrounding content.

A consistent problem I had with the PowerPoint was coming up with examples that were pertinent and easy to understand at all levels. Honestly, I am not entirely sure that I succeeded. A fellow classmate, when seeing the Lady Gaga meat dress (see Figure 1), only kept on reiterating that it was gross, completely disregarding what the point of the example was and dismissing the PowerPoint because her sensibilities were offended. A student in one of the classes that I teach remarked that she felt she couldn't understand all the examples but that she really connected to the Harry Potter one (see Figure 2).

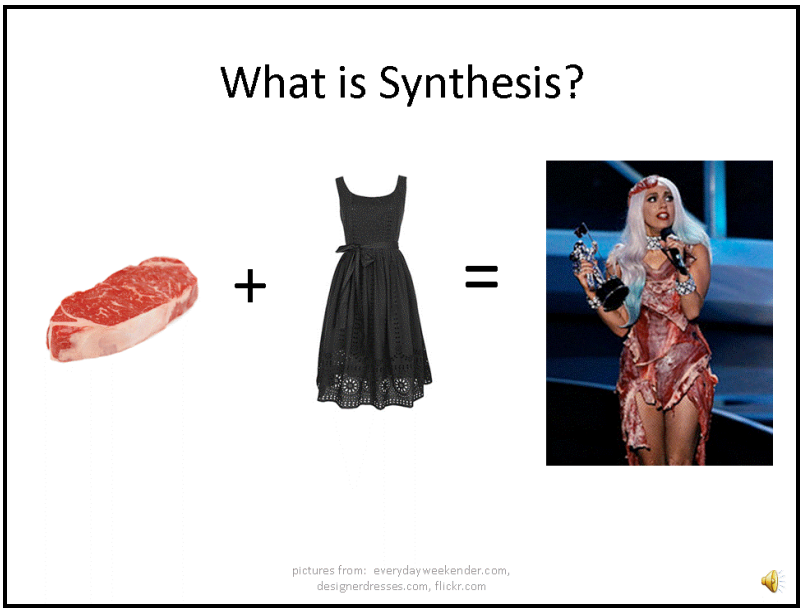

Figure 1: "What is Synthesis? "slide featuring Lady Gaga's meat dress.

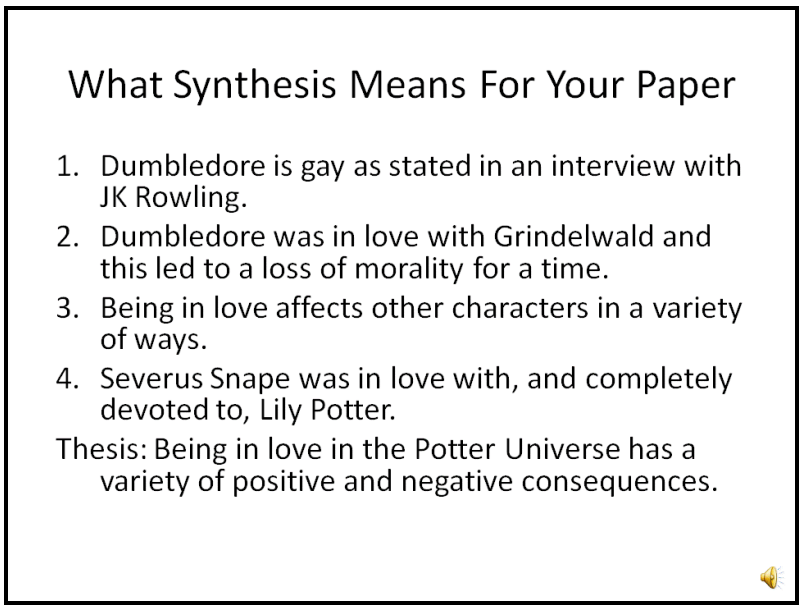

Figure 2: The "What Synthesis Means For Your Paper" slide that contains the Harry Potter example.

When I first started teaching, a colleague told me that I should take evaluations with a grain of salt because you couldn't please everyone and that there would always be one student that was unhappy with the course. I suppose the same is true of my PowerPoint. Even if students don't get all of the examples, if they can connect to at least one of them, then they can understand what I am trying to tell them.

The PowerPoint focuses on the process of reaching synthesis, with the caveat that your mileage may vary. Everyone has a system that they use to get to a well written paper, but let's face it, students typically don't spend enough time working on their papers, especially at the front end where research and agitating ideas in the mix-master of their minds needs more time and effort. The PowerPoint is designed to walk them through a series of steps that give them structure but also allow for creativity, flexibility, and ingenuity.

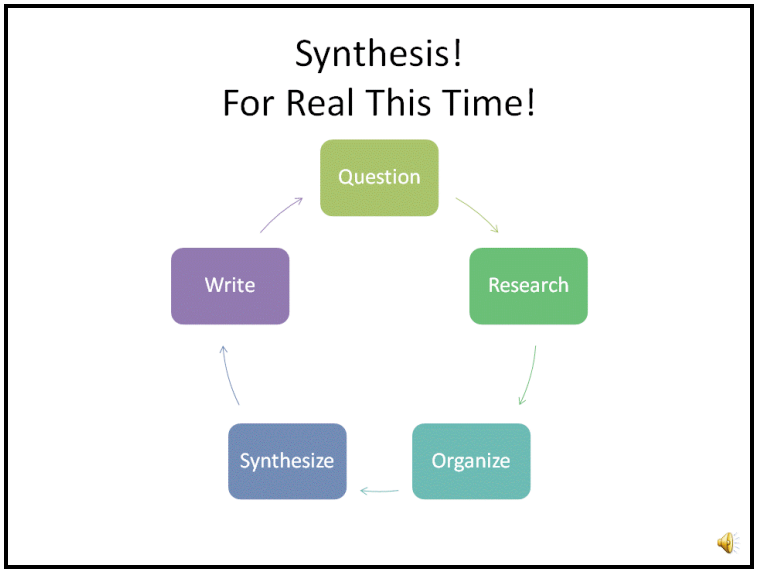

Figure 3: "Synthesis! For Real This Time!" slide that depicts the synthesis cycle.

Problems aside, the PowerPoint has been useful to many students

and colleagues in that it has made us more aware of what exactly is the process of how we create a paper or develop new ideas. The PowerPoint walks through a series of steps starting with a discussion of what is synthesis or taking two or more separate ideas, bringing them together, and creating something new. The example in the PowerPoint is the combination of the idea of steak and the idea of a dress and to create Lady Gaga's meatdress. The PowerPoint then moves on and breaks down how do you actually get to that point where you are in a state of synthesis, which is by doing your research, organizing your materials, making connections between materials through a variety of methodologies like clustering, post-its, etc, and finally into making an intuitive leap (see Figure 3).

Making an intuitive leap is the hard part of the synthesis model because it's something that can't really be taught. Ultimately, an intuitive leap is where the magic happens. If the person can agitate a new idea out of their research, they've made an intuitive leap, but if all they have been doing is summarizing what they have learned, then they need to go back to trying to make connections between their research materials (see Figure 4).

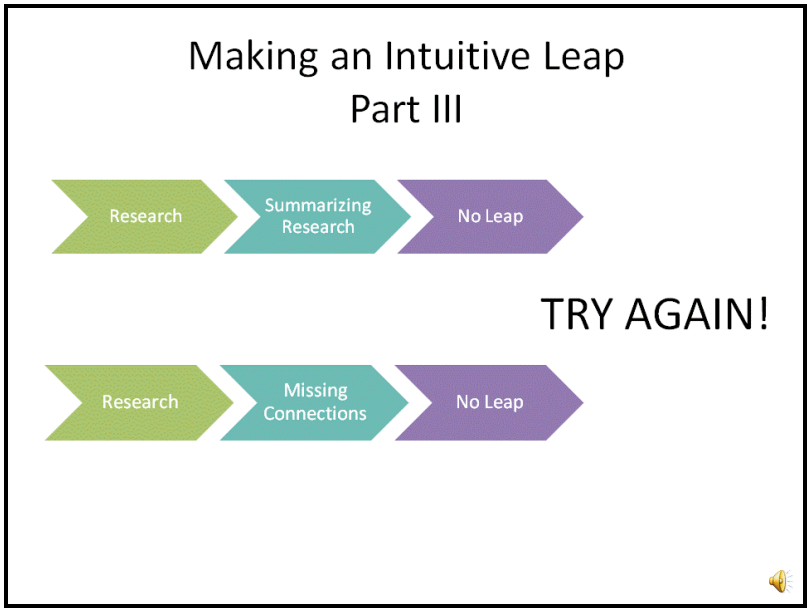

Figure 4: "Making an Intuitive Leap Part III" slide that shows a failed intuitive leap.

Synthesis is something that is not really taught explicitly and its meaning is difficult to articulate. The PowerPoint is a guideline to help students closely examine their own processes rather than a strict set of rules that will force the student to synthesize. Synthesis is part process/part intuition and for each student the ratio is going to be different. The PowerPoint tries to take this into account.

My thinking about this entire project was that it wouldn't have much impact if I didn't field test it with the students for whom it was intended. Since I was teaching two online courses this semester, I posted the PowerPoint and offered extra credit to students who watched it and left about 250 words of feedback on a discussion board. I told them to be rigorous. If something worked I wanted to know why and if they had trouble with something, I needed to know that, too.

Their responses clearly showed that this PowerPoint really helped them. Quite a few of them remarked that they had downloaded it and were going to refer to it in the future. Several stated that they were definitely going to be using what they learned in future papers, including in my class. It is clear from their responses that the idea of synthesis was something that they kind of knew but that the PowerPoint made it much more explicit and in a way that was far more tangible. They reported that the diagrams, narration, and examples made a secret process known.

The idea that students knew the material already but that they needed a reminder - or more correctly, that they needed the material presented to them in a way that they understood more easily - is an intriguing one. Teachers have been redesigning lesson plans since time immemorial to reach students, but it's easy to forget that with technology, that redesign can often be drastic and go in a direction that we might never have considered if it weren't for rapid changes in technology. This is especially true with an idea like synthesis, a skill that has more typically been taught on a one-on-one basis with a kind of mentor/mentee model rather than in freshmen level courses. Yet arguably, a first year course is where synthesis should be taught explicitly.

When a fifteen-minute PowerPoint can significantly impact how students approach writing projects, imagine the transformative power of a librarian sharing the presentation with a dozen classes. Amplify that effect if that same librarian had a suite of such projects to better enhance the teaching and learning process as it pertains to information literacy.

While nothing can replace the personal instruction that a teacher can give, all educators absolutely should explore every resource that we can use to reach every student in the ways that reach them best. Using simple tools like a narrated PowerPoint or a screencast can go a long way to increase student understanding and performance.

Developing the PowerPoint made me really examine and unpack how I personally synthesize ideas and teach not only ideas, but the process involved in writing them down. The PowerPoint is not a cure-all for what ails students that are poor writers. However, it is a step in a direction that can help them improve their skills, a small intervention with a potentially large shift in student practice. Eventually, I plan to take my students' feedback and hone the presentation further as a part of an envisioned suite of digital objects that would walk students through the entire process of writing from thesis generation to research to writing to citation. Since synthesis is far too often a step that is implied in the classroom rather than explicitly stated, starting there seemed the most logical course of action for maximum impact. The images within the PowerPoint are under a Creative Commons license. If you would like to see the PowerPoint or use it in your classroom, the PowerPoint is under a creative commons license and is available at http://www.jjpionke.com.

JJ Pionke is a professor of English, Humanities, and Literature at two community colleges in the Chicago area. She is also a student at the University of Michigan, where she is studying to become a teaching/learning/technology librarian. When she is not synthesizing for education (hers of her students'), she can be found riding a motorcycle, playing Zelda, or blogging on her website.

Looking at the Information Needs of Pre-service Teachers

Ander Erickson

I spent a number of weeks observing a pair of teacher education courses carried out in a large Midwestern public university. Both of these courses focused on content-area literacy, specifically math and science, and were taught by an experienced and conscientious teacher educator. My observations were heavily influenced by my experience in Kristin Fontichiaro's information literacy course and my examination of the literature on teacher education and information literacy. This preparation helped me to notice the information literacy issues that creep into almost every conversation within and about educational practice.

In the following brief chapter, I will attempt to convey some idea of the many ways that information literacy can help pre-service teachers and provide examples, taken from my observations, of how a teacher educator can include information literacy practices in the teacher education curriculum.

Pre-service teachers' information needs are so complex that I had to make myself a diagram in order to make sense of it all. Figure 1 was informed both by my classroom observations as well as a number of writings that describe librarians' attempts to introduce information literacy instruction into Colleges and Schools of Education.

The upper-left of the diagram contains the "librarian-teacher educator-pre-service teacher triangle" which depicts the instruction that pre-service teachers may potentially receive. In the center of the diagram there are four squares that depict the pre-service teacher's transition to teacher and their students' transition to citizens. These helped me capture the fact that instruction not only attends to the present demands of school, it also -- maybe primarily in an ideal world -- attends to the problems that will confront students once they graduate.

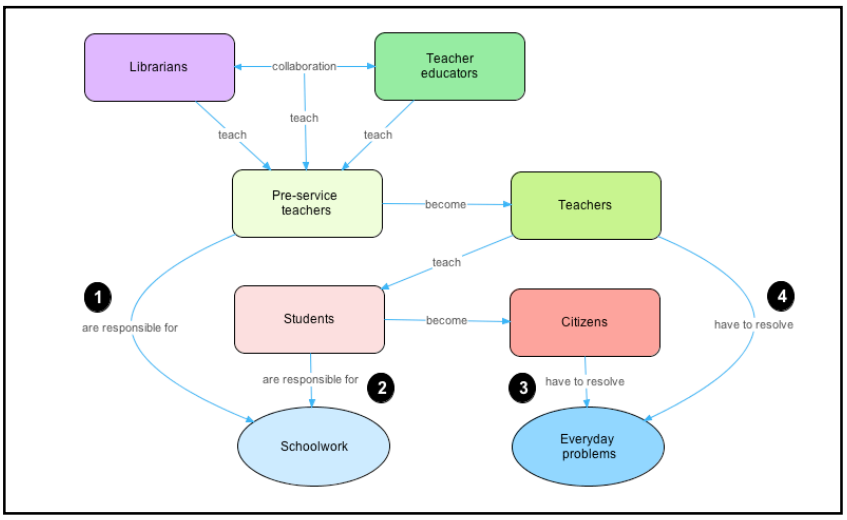

Figure 1: Pre-service Teachers' Information Needs

The numbers on the diagram represent four categories of problems that pre-service teachers may confront in the course of their studies.

1. As long as a pre-service teacher is still a student, he or she will have to do schoolwork, and this schoolwork often requires a sort of academic literacy, the ability to seek out appropriate sources, pull out relevant information, and be able to cite those sources properly.

2. Pre-service teachers will eventually be teaching this academic information literacy to their own students. If we say -- as many do -- that there is more to teaching content than knowledge of the content to be taught, then Pre-service teachers will need to have a deeper understanding of how people learn these skills than most students do.

3. Once students graduate, they will be confronted with many information literacy problems that aren't academic in nature: choosing insurance policies, assessing scientific claims in the media, evaluating policy proposals made by politicians. The skills necessary for these types of problems,

often called lifelong learning skills, will also need to be taught by Pre-service teachers.

4. Teachers have their own set of practical problems that demand attention: locating information on evidence-based teaching practices, accurately representing the state of knowledge within the discipline that they teach, grappling with students' questions about new discoveries. It makes sense that teacher educators would try to prepare Pre-service teachers for all of these problems and that is exactly what I saw from my seat in the classroom.

The pre-service teachers that I observed and talked with were, first and foremost, students. One could easily imagine a scenario in which future teachers become caught up in writing research reports or studying for tests that have little relevance to the work that they will be carrying out once they graduate. This wasn't the case, however, in the content literacy courses that I observed. Instead, classwork was ingeniously positioned to keep teaching at the forefront even when the pre-service teachers were being asked to read and understand academic articles.

How was this accomplished? To give one example: In the first class that I attended, the teacher educator had his students work in groups in order to develop a definition of a thinking routine (complete with examples and non-examples) based on some reading they had just completed. But in carrying out this process, they were using a framework that he had provided them; thus, they were being taught how to develop a definition related to a pedagogical practice even as they were supported by a similar practice. A lesson in how to extract information from a research paper is never just a lesson about the topic at hand; instead, there is a stepping-back from the immediate instructional situation and a discussion about what is being learned and how it is being taught. This distancing move, something that I saw regularly carried out during my observations, succeeds in addressing academic literacy practices and the teaching of academic literacy practices simultaneously.

I witnessed the teaching of lifelong learning skills in the second class that I attended. The students were learning about the formulation and justification of scientific claims. A doctoral student staged a middle-school science activity for the Pre-service teachers in which the students simulated the spread of a contagion and generated plans for determining the source of the epidemic. While these types of activities can be seen, on the one hand, as pure examples of the practice of science teaching, I argue that an overriding theme of the lesson was the evaluation of information or, more specifically, what one needs to know in order to be able to evaluate scientific claims. I would love to see a similar activity supplemented with an opportunity for students to see and discuss how claims are presented in familiar information environments: newspapers, television, Wikipedia, or even social media.

It was particularly encouraging to see that the fourth category of information need, practical teaching problems, was a large part of the instruction that I witnessed. Most of the coursework in these classes were simulations of problems of practice. Students were not asked to produce academic writing about teacher education literature or to generate book reports. Instead, they created lesson plans, videotaped themselves carrying out instruction, developed assessment tools and wrote note-taking guides. This required that students not only understand the academic content of teacher education coursework but the ability to apply it in authentic teacher documents.

Revisiting that first class, I remember that the teacher educator introduced his students to a book, *Classroom Instruction That Works* (Marzano 2001), and rather than simply presenting it as an authority based solely on his recommendation, he took care to point out that all of the recommendations in the book were based on research that showed evidence of student learning gains. This type of commentary, both introducing Pre-service teachers to professional resources and explaining the basis on which these resources might be taken seriously, is just what a new teacher needs in order to draw informed connections between the theory that they are learning in school and the practice that they will shortly take up.

That is information literacy at work: unpacking the why behind the what.

Practices such as these provide new teachers with a way of thinking about and seeking out new resources. These ways of seeing and seeking are rarely intuitive for new teachers; they must be coached, modeled, and guided. But when they are, as in the examples I observed, the teachers gain processes that equip them -- and their students --- to be lifelong learners.

Ander Erickson is a pre-candidate Doctoral student in the University of Michigan School of Education. After receiving a Masters in Mathematics from Portland State University and teaching for 4 years, he decided to focus on educational research and teacher education. His research interests include the information literacy needs of Pre-service teachers, examining how the disciplines are represented by educators, and investigating how students may be encouraged to thoughtfully depend upon the knowledge and expertise of others. He also really likes the Monty Hall Problem: ask him about it sometime: aweric@umich.edu.

REFERENCES

Marzano, Robert J., Debra Pickering, and Jane E. Pollock. 2001. *Classroom Instruction That Works: Research-Based Strategies for Increasing Student Achievement.* Alexandria, Va: Association for Supervision and Curriculum Development.

Part VI: Information Literacy in Academic Libraries

The Importance of Academic Library K-12 Outreach

Natalie Mulder

This past semester, I have been working with the University of Michigan Library's K-12 Outreach Program. My partner and classmate Mallorie Colvin and I have researched the University's current outreach program, as well as other Big 10 Universities' programs. We found that few library outreach programs have been developed, at least not that are publicized online. At the end of the semester, I also had the opportunity to teach my first library instruction classes ever. Both classes were senior composition classes from an area high school, visiting the University of Michigan Library to learn how to research and use library resources. Based on the students' reactions to the lesson, I would hazard that all the material we taught them was completely new and foreign. Reflecting on this teaching experience, and realizing there is a seemingly general lack of university library support for K-12 outreach, I would like to argue the importance of implementing K-12 outreach in academic libraries.

As I taught the two high school library instruction classes, it quickly became clear the students had not encountered database searching techniques before. For example, one student mentioned to me that she considered herself an expert in taking advantage of the online resources available to her. After we had gone through an example of a search strategy on the board as a class, the students were searching ProQuest for articles on their topics, downloading and emailing articles to themselves, to take advantage of the University's library resources while on campus. This same student proceeded to demonstrate a search in ProQuest by typing her exact topic question using natural language (e.g. "How can I help autistic kids?"). When I realized her inefficient searching strategy, I modified my teaching for the next class to make sure students understood that the search demonstrated on the board would look exactly the same when

typing it into the database.

While this may very well have been due to my initiation into teaching, it nevertheless gets the point across: high school students are used to typing whole questions into Google and have never been taught how to research for academic purposes. And while Google will faithfully return a list of Web sites in which that question appears, those sites tend to be crowdsourced "ask and answer" sites with unverified or opinion-based responses. While this may be useful for some "real life" answers, these don't give strong foundational information upon which an emerging scholar can develop a robust thesis. I cannot limit this lack of understanding to high school students; while observing multiple University of Michigan English 125 classes (the freshman required English class), it has become clear that many students enter college with hardly any previous knowledge of successfully forming search statements for research, or utilizing library resources in general.

Academic library outreach to K-12 students, preferably in partnership with school librarians when possible, will help reach these younger students before they enter college. High school students will be introduced to the many library resources available to them and learn that scholarly resources, while perhaps less facile to access than a search engine, form the foundation for college-level work. For those resources only available to them while on a university campus, students can take advantage of those resources while visiting the university. Students will also learn how to form a successful search strategy to search their school databases. At the very least, students can be made aware of their statewide databases, accessible without cost to all state residents. MeL, or the Michigan eLibrary, provides free access to several databases for Michigan residents. Younger elementary students can have more of a hands-on experience in the library, complete with permission to touch a variety of library resources. Touchable materials may include old books, ephemera, and 3D topographical maps, which will instill in younger students a sense of wonder associated with the library.

Some may ask why academic libraries should spend time working

with K-12 schools. After all, academic libraries are meant for students, faculty, and staff of the university, and why should time be wasted on those who do not even utilize library resources? The answer may lie in the guiding statements of the university itself. The University of Michigan mission statement reads:

> "The mission of the University of Michigan is to serve the people of Michigan and the world through preeminence in creating, communicating, preserving and applying knowledge, art, and academic values, and in developing leaders and citizens who will challenge the present and enrich the future" (Regents n.d.).

As a center for learning, the University of Michigan seeks to "serve the people of Michigan and the world." By serving K-12 students, the academic library of any university can serve the people of its state and the world. The academic library can do this by communicating with area schools – after all, these students may very well be future university students making use of the university library. Library K-12 outreach will "apply knowledge...and academic values" to these younger students. Finally, these young students are certainly our future "leaders and citizens," not only of our state and nation, but also of our libraries. As educators, we should be introducing them – and their teachers – to the rich resources of the library at a young age, when knowledge can be wonderful, rather than forced upon them via a class research paper. Take advantage of the excitement generated by a field trip. When viewed this way, K-12 students are exactly the right audience for the academic library.

Academic libraries do have a responsibility for K-12 outreach, but not only a passive responsibility whenever the opportunity presents itself. Rather, academic libraries should seek outreach possibilities. As part of my outreach assignment, my partner and I, under the guidance of the outreach librarian, are developing a K-12 outreach web page for the University of Michigan Library. In general, an academic library should host an easily-found webpage expressing enthusiasm and commitment to K-12 outreach, and highlighting

events they have hosted and open to new suggestions from K-12 administrators and teachers. Perhaps academic libraries could even request an online form which interested K-12 teachers could fill out, indicating which topics they would like covered in a library lecture for their students. An academic library must always be open to consider any opportunity for outreach. If instruction librarians are pressed for time, take advantage of your university's library school. Many librarians-in-training are eager for instruction experience, passionate for the field, and so would be perfect for K-12 instruction. If the university does not have a library school, consider collaboration with your public librarians. Youth public librarians already have experience with young age groups, and this may be a perfect opportunity for three-way collaboration.

Imagine a fully developed collaboration with K-12 schools. A high school English teacher wants her class to learn about library resources and online searching. She also thinks it would be a good idea if students in her class got a foretaste of university life. Bringing up her local university library web page, she quickly finds and locates the K-12 Outreach tab. Beginning a conversation with a university librarian, they develop a plan for the library instruction. The teacher prepares her high school for a research assignment, making sure each student has a research topic in place. The librarian takes the outline of the lesson to her library school student who plans and teaches instruction events. The library school student can discuss lesson plans with his classmates, instructors, or university librarian supervisors.

When the day of instruction arrives, the library school student is fully prepared with suggestions from his peers. He teaches the high school class, and learns a thing or two (and more) about how to improve his next lesson. The high school teacher is satisfied with what the students learned, and plans to assign another research paper at the end of the semester, having students search their own school database for information to reinforce the class material. She also considers the public library as another place for successful collaboration and additional resources. The students look up to the library school student and appreciate learning from someone closer

to them in age. Most importantly, the students learn about online searching and library resources, which will help them with current research, as well as prepare them to make use of library resources for a future college or career. After returning to their school, the students' learning will be reinforced via the school librarian, who will guide the students through their next research assignments.

When academic libraries reach out to K-12 schools, much can be accomplished in fostering goodwill between institutions and in teaching young students valuable information literacy skills. Academic libraries should embrace K-12 outreach opportunities with enthusiasm – enthusiasm which will then transfer to the students and their teachers. Many people can be involved in such an outreach effort, including academic librarians, teachers, school librarians, and perhaps even public librarians. What better way to demonstrate to students that libraries everywhere exist to best serve the public's needs, and that librarians and educators work together to teach students how to navigate a world of information? Through an effective K-12 outreach effort, students will develop an appreciation of the rich resources the library has to offer, and gain lifelong learning skills for sifting through a wealth of information.

Natalie Mulder is a second year MSI student specializing in Library and Information Science, and working towards teen services in public libraries. Contact her at namuld@umich.edu.

REFERENCE

Regents of the University of Michigan. "Mission Statement | President Mary Sue Coleman." University of Michigan. Accessed 12, 2011. http://www.umich.edu/pres/mission.php.

Creating Successful Collaboration Between K-12 Educators and Academic Libraries

Mallorie Colvin

In an effort to learn the ins and outs, the ups and downs of information literacy instruction I have spent the past semester, along with classmate and fellow youth librarian Natalie Mulder, observing and working with the University of Michigan Library's Community Outreach Librarian and the undergraduate library reference staff. We each spent 20 hours observing library instruction sessions (primarily basic, introductory sessions) while also working to coordinate an end-of-the-semester visit from a group of 100 high school seniors. We used our experience with the high school group to begin developing an overall frame for future K-12 visits, as well as a resource for teachers and schools interested in university library visits and instruction. As a culmination of our semester, we combined our observations and planning and each taught two classes of high school seniors on their half-day visit to the university library.

Although the University of Michigan library, including its collections and services, is open and accessible to the public, it is unusual for an outside group (such as a school group) to request a structured visit that goes beyond a tour. Even at that, most outside visitors only see the library in passing as part of the standard university tour. Our project is part of a new concerted effort by the library to actively reach out to the schools and the general public. In our search for other such programs, we turned up very few K-12 outreach efforts at academic libraries, and we hope that our efforts can act as an example for others hoping to start a comparable program.

Coordinating a visit to the university library for a group of high school students should be easy, right? After all, these are the things

we do every day: library instruction, library tours, and an introduction to the vast array of library resources. And the students that we typically instruct are a mere year older than high school seniors, so where is the difference? Although coordinating such a visit seems like it should be a simple process, there is much more to it than meets the eye, and successful collaboration can make all the difference when it comes to the overall success of the visit.

Possibly the most important aspect of creating a successful K-12 outreach program is dedicating a librarian as the point person for the program. This person should be invested in the mission of the program and be willing to work with external partners as well as internal colleagues and stakeholders. This person will be in charge of not only planning the visit, but also for ensuring that things go as planned during the event itself. It is especially important that this person is flexible and can adapt to a change in plans, as so often happens when working with outside groups – dates change, buses run late, and students will inevitably get lost in the stacks – it is important to have someone that can think and stay calm under pressure. During the high school visit that we planned, we found this person to be an invaluable resource who kept things on track and running smoothly.

Once a school or teacher contacts the library, collaboration is key; neither the librarian nor the teacher is capable of planning a truly successful visit without input from the other side. We found it helpful to have a face-to-face meeting with the K-12 teachers who would be bringing their classes to the library. During this meeting we discussed expected learning outcomes, hashed out an itinerary for the visit, and planned activities that would be useful to the students' class work. If you are working with a school that has a school librarian or media specialist, it could be helpful to involve this person in the planning as well. The media specialist will have a good idea of the students' existing information literacy skills, as well as the resources that are available at the school.

After expectations on both sides are clear, the next step is to create a lesson plan for the library instruction. It is best if this can be tied to

an existing assignment, such as a paper or research project. This gives the students a concrete reason to pay attention and participate during the instruction session. It is also preferred that the assignment involves a research component which cannot be easily achieved using resources on the open web. Again, having this as an expectation of the assignment gives students a reason to focus on the task at hand.

After it is clear what the students will be working on during their visit, it's time to start planning the sequence of events for the day of the visit. This should definitely include the instruction session, and depending on the overall length of the visit it could also include a tour, a presentation about the library, a book scavenger hunt, or any combination of these. In all of this, it is important to take into account the fact that, since they are traveling to the university (typically on school buses), the students could arrive early or late: be sure to have plans for either situation. What can be left out? What could be added? Having back-up plans will help the day go more smoothly.

When creating the lesson plan for the instruction session itself above all else do not assume any prior knowledge of information literacy skills. The experiences of the students will be varied, and even if it has been taught before the information may not have stayed with them. However, don't feel that you have to cover all aspects of information literacy in one session. In our case, we didn't want the students to lose focus during long periods of direct instruction; we handled this in three ways. First, we asked the teachers to cover some of the basics, such as the difference between popular and scholarly resources and choosing a paper topic, before their visit to the university. Second, we broke up the instruction session with small activities where they had a chance to discuss their topics or library resources with their classmates. Finally, we planned for plenty of extra time at the end of the lesson during which the students were able to work independently on finding sources. Not only did this allow students the time to gather information they needed for their papers, it also allowed time for some one-on-one instruction with the students who were still struggling with the

concepts presented during instruction.

In the end, you will learn more from the K-12 classes you host than you ever will from reading about or even observing such a visit. Every library and every community is different: some things will work in one place, but not another. The best thing to do is plan and prepare as much as you can and then just jump in. Be ready to adapt and change as you need to along the way, and most of all enjoy yourself!

Mallorie Colvin is a recent graduate of the University of Michigan School of Information. She is beginning her professional career as the Youth Programming and Web Librarian at Harris County Public Library in Houston, TX. Her interests include youth and teen librarianship, urban librarianship, and better integrating mobile technology in public libraries. Contact: colvinmj@umich.edu.

Journey or Destination? Process vs. Product in Undergraduate Information Literacy

Kimberly Miller

"I need to find, um, articles for my paper. Can you help me?"

"Sure! What is your paper about? What have you done so far?"

"Well, my paper is due tomorrow and I've already written the whole thing, but my professor says I have to cite at least two scholarly articles. So I need to find two articles that say…"

Unfortunately, this is an all-too-common interaction that I experience several times a semester during late-night shifts at the reference desk. While the academic research process is an important set of information skills undergraduate students are expected to master during their college education, typical assignment requirements that include scholarly article quotas or specific citation styles do not necessarily reflect that process. That is, while research assignments are designed to introduce students to scholarly discourse, at some point the research process has been uncoupled from the resulting product. Students learn that what is valued in class is the final paper; accordingly, they take shortcuts to find the most expedient path to get them to the finish line. Yet the process-related, "how" skills are vital for students to successfully transfer and apply knowledge outside of the classroom. Through my own multifaceted observations as a student, instructor, and future librarian I am led to reflect on why this occurs and how we should respond to this trend in students' information literacy development.

As a graduate student studying library and information science, I understand how difficult it is to define and demonstrate the abstract skills encompassed in "information literacy." Standard definitions

from bodies like the Association for College and Research Libraries (ACRL) focus on a cluster of skills and mental habits necessary to successfully engage with information. The ACRL Information Literacy Competency Standards for Higher Education specifies that information literate students "recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (ACRL 2000). Within each of the ACRL's standards, performance indicators frequently reference processed-based skills as the measures of success, with outcome descriptions using active verbs like "discusses," "confers," "describes," "decides," and "identifies." Additionally, research shows that students experience a range of affective, cognitive, and physical demands throughout the research process, before the final product is produced (Kuhlthau 2004, 44). However, students' success or failure navigating these complex processes cannot be adequately judged when instructors assess only a final product. If process-based skills are ultimately the transferable knowledge needed to meet future challenges, why is evaluating a final product the most common way students are assessed on their ability to interact with information?

Answers to this question surfaced during my experience as a graduate student instructor for an introductory psychology course at the University of Michigan. Although I started with lofty goals to regularly address information skills in my classroom, as a novice instructor my own professional goals and interests were easily overshadowed by concerns about classroom management, implementing weekly lessons, grading assignments, and finding a work/school/life balance.

While developing and implementing an information literacy workshop for my students, I learned that it is relatively easy to spend an hour instructing students how to use a proprietary database and to ask them to create a product designed to demonstrate their mastery of the database. It is not nearly as simple to find methods to teach and then measure the process of using the database. Additionally, I noticed that my students have learned to cut-to-the-chase during lessons, focusing on how their product will

be graded and what they have to produce to get an "A." During the lesson they were asking product-based questions like "How long should my final article summary be?" rather than processed-based questions like "How do I decide which words to use in my search?"

Yet when students were asked to answer reflective questions such as, "What was the most difficult part of this assignment?" after completing the assignment, they frequently cited process-related skills. For example, they listed skills related to reading a scholarly article or determining which articles are the best for their research question as the most difficult or frustrating aspects of the assignment. This suggests that while one-size-fits-all instruction and products are easy to implement and grade, they are not effective when supporting the process-related skills students should be developing to effectively interact with scholarly information. As an instructor I am left wondering, "How can I design better assignments or provide instruction which will help students explicitly develop process-based information skills, given my own time and material constraints?"

Unlike the typical classroom instructor, librarians are almost exclusively in the business of observing and assisting with process. For example, in any given shift at the reference desk I may help students narrow their research topic, choose terms to construct an effective search in a database or online catalog, identify an appropriate source for information, evaluate documents to find the best source for their topic, or gather information necessary of proper citation.

As a future librarian, I am keenly aware of my own responsibilities in guiding students through the research process. Yet when students appear at the reference desk, five minutes to midnight the night before their (already written) paper is due, looking for that perfect, silver-bullet article, I still see the result of product-focused instruction.

While most librarians want to emphasize the importance of constructing knowledge from discoveries made throughout the

research process, rather than researching simply to support preconceived ideas, students who come with product-in-hand to the desk are not particularly open to this instruction. And when students repeatedly learn that successful completion of product-focused assignments do not require this type of exploration, the librarians' calls to emphasize process-related skills begin to fall on deaf ears.

Taken together, these accounts seem to reflect a rather dismal view of supporting information literacy in higher education, but in fact, my experiences reveal that many of the pieces necessary for more effective instruction and assessment are already in place. That is, various stakeholders at our colleges and universities are already invested in a piece of the information literacy puzzle; what is left is to work together to make the pieces fit. Instructors are easily overwhelmed with their own teaching and research responsibilities, but they can partner with librarians to design different assignments and assessments which scaffold and capture the research process.

During library instruction, invested instructors can lend the necessary authority and buy-in to signal the importance of library and information process skills to their students. Through these partnerships librarians can also demonstrate increased, concrete value to institutions by finding new ways to utilize existing skills. Instructors can also serve as models for students by explicitly demonstrating their own processes behind information-intensive activities, like developing and implementing lessons. Additionally, institution-wide partnerships between instructors, librarians, writing centers, peer tutoring, study skills centers, and other support nodes can develop a complete support system for students to move through while developing a well-rounded range of information literacy skills.

Admittedly, these suggestions lead to more questions than answers. What do processed-based assignments look like? How do librarians and instructors approach new partnerships? How can institutions support system-wide information literacy programs, and how is student progress through these program monitored? But these are

questions which can drive our professions and academic institutions forward. Through understanding how to support student information processes, rather than merely judging products, we can realize goals to help students develop skills that are vital for becoming effective and responsible information consumers, users, and creators.

Kimberly Miller is a second-year master's student at the University of Michigan School of Information, specializing in Library and Information Sciences. She is interested in instruction, information literacy, and emerging technology applications in academic libraries. Contact: kimill@umich.edu.

REFERENCES

Association of College and Research Libraries. 2000. "Information Literacy Competency Standards for Higher Education." Accessed November 27, 2011. http://www.ala.org/mgrps/divs/acrl/guidelines/standards/informationliteracycompetency.cfm.

Kuhlthau, Carol Collier. 2004. "The Information Search Process." In *Seeking Meaning: A Process Approach to Library and Information Services.* 2nd edition. Westport, CT: Libraries Unlimited, 29-52.

The Known Unknown: How a Map Can Lead the Way for New Researchers and New Librarians Alike

Kelly Davenport

The Unknown

As we know,
There are known knowns.
There are things we know we know.
We also know
There are known unknowns.
That is to say
We know there are some things
We do not know.
But there are also unknown unknowns,
The ones we don't know
We don't know.
– Feb. 12, 2002, Department of Defense news briefing

A confession: I can't get this quote out of my head. As incongruous as it may seem, these lines, uttered by then-Secretary of Defense Donald Rumsfeld and memorably turned into a poem by Slate magazine writer Hart Seely (2003) in the early days of the Iraq War, come to mind whenever I sit down to plan a library instruction lesson, to untangle a tricky question on IM reference, to design resources I hope will lead patrons at my academic library to the exact right place. Donald Rumsfeld, he haunts me. (I am perhaps not the only one.)

Yet, in the context of information literacy instruction, the idea of "known unknowns" and "unknown unknowns" feels so poignant.

How often as a teacher of writing I'd wished to be able to peer inside my student's heads, to see what was sinking in, or what wisdom of their own I could connect to, what curiosity I could stoke. Now, as a librarian-in-training, the task of determining pre-existing knowledge among patrons feels more daunting. I no longer have the guide of weeks of in-class writing, essay assignments, and one-on-one meetings, as I did when teaching first-year composition.

It was when I worried over planning my first library instruction workshop – who would come? how would I know what they knew already? – that I realized I was traveling the same territory as patrons working through the research process: The known unknown, that vast and oh-so-lonesome place.

What we needed, I figured, was a map.

As I recount the planning of my first library instruction session as a first-semester Master's of Science in Information candidate, I owe much to the information search process (ISP) theory developed by Carol Kuhlthau (1991). Kuhlthau's ISP explains that people go through a series of cognitive and emotional stages when they engage with research, riding waves of confusion to excitement, and back again. The ISP might also be thought of as a compassionate model for validating what new librarians may experience along with patrons: uncertainty giving way to confidence.

For my field experience, I worked in the University of Michigan's Hatcher Graduate Library as part of my position as a University Library Associate, a half-time job offered as part of a fellowship. In planning resources for my workshop "How to Navigate the News," a primer on news databases and resources offered as a free, voluntary library workshop, I focused on what Kuhlthau calls the stage of Exploration, "characterized by feelings of confusion, uncertainty, and doubt" (366). In this stage, the user has an idea or information need in mind and sets out to find that information. Kuhlthau writes, "At this stage an inability to express precisely what information is needed makes communication between the user and the system awkward" (366). In other words, patrons have a sense of

what resources may be "out there" but no systematic way to visualize them or measure their own progress.

When my own research takes me into new subject areas or discourses, I often have the sensation of craning my neck to see over the treetops, to find the higher ground from which to survey who are the major thinkers, where to find the articles I need, what are the ongoing debates. While preparing resources for the news workshop, I wanted to translate my own sense of feeling overwhelmed at the vast landscape – Newspapers from Uzbekistan! Obscure old newscasts! Blogs! Defunct broadsheets from the 1800s (with amazing tiny typefaces)! – into a visual guide that would model how an experienced news researcher would approach the process.

So, working with two seasoned librarians and mentors, I set out to develop a set of questions a researcher would ask herself in order to get to the right resources or databases. We came up with seven questions in all. Using those prompts as a starting point, I used an online software tool to draw a color-coded concept map, shown below, that modeled the decision-making process as it led researchers through determining what time period or region of the world they were interested in, what type of media they needed, what language they sought, and so on.

I embedded hyperlinks in the map so that patrons could "click through" to a curated research guide using a LibGuide platform (http://guides.lib.umich.edu/news) that provided more information and direct links to databases, the library catalog, and other sources. The concept map (Figure 1) exists as a thumbnail image and downloadable PDF embedded in the LibGuide, and I see the two resources as a fruitful complement. A novice user can refer to the concept map as a quick orientation both to the "landscape" of news and to the library's news resources, while an experienced researcher can dig deeper into the LibGuide itself, which provides a denser interface and more in-depth information.

What I didn't expect was that the concept map would prove appeal-

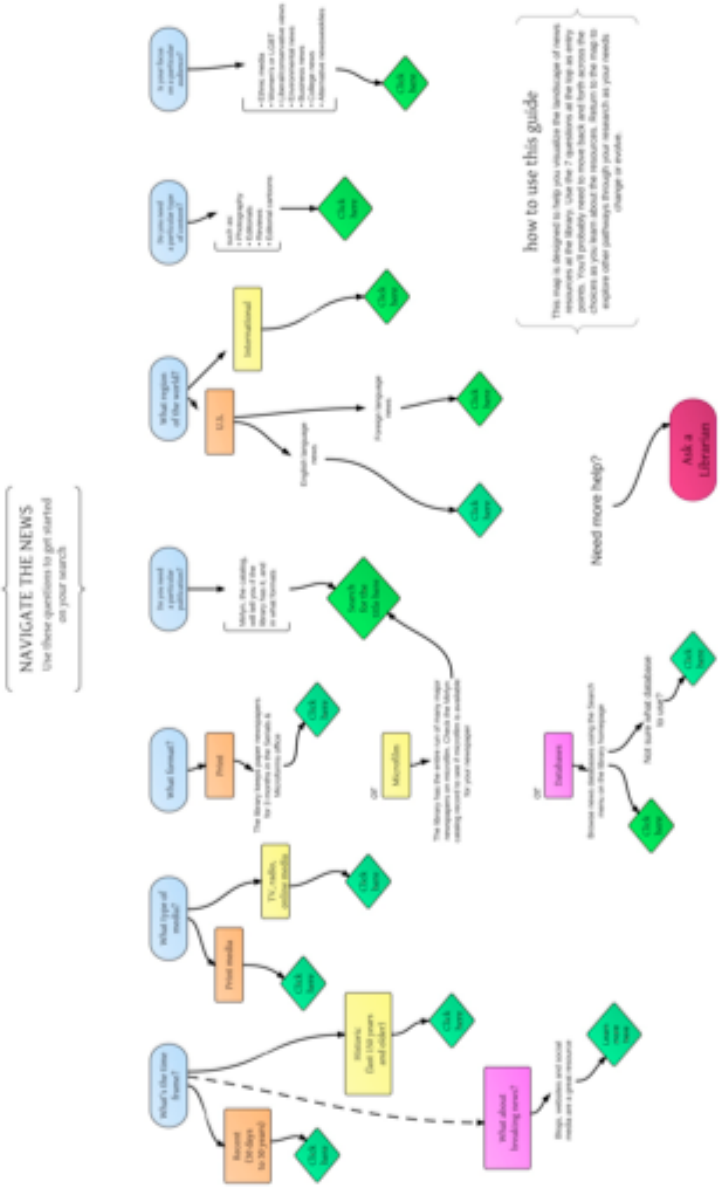

Figure 1: Map for "Navigate the News"

ing to experienced students and researchers, as well. During the news workshop, I handed out search scenarios -- some of them drawn from real-life reference questions I'd fielded -- and gave participants time to poke around the concept map and devise strategies for finding the information called for by the scenario. As it happened, many of the participants were skilled researchers – from graduate students to professors – but several of them remarked on how the map helped them see the larger landscape of news. As one participant put it: It's easy to get focused on your one little area of expertise – this showed me the avenues I might be missing. On the reference desk at a research institution like Michigan, I love that I get to work with experts every day. Yet the demand for academic specialization means that even experts may be missing an overview outside their discipline that could aid them in their research. Providing a map helps remove a layer of mediation between the patron and the materials, opening up the opportunity for self-guided inquiry.

While traditionally, library resources have been predominantly textual, my recent experience shows how a simple visual map can lay the groundwork for more successful search strategies among users across the spectrum. It can also help answer that niggling existential question that plagues novice and experienced searchers alike – how do you know that you've looked everywhere there is to look? From a professional development perspective, the experience of creating my first library instruction resources reminded me once again of how a new instructor must achieve a level of content mastery in order to concisely and creatively summarize that content for other learners. This process of learning and then teaching seems an essential exercise for new librarians in revealing the gap between their own unknowns and knowns, and, with practice, forging a path between the two.

Kelly Davenport previously worked as a newspaper editor and a writing teacher in Washington and Idaho. She is a Master's candidate in the School of Information at the University of Michigan. Her research interests include media and rhetoric studies, rural communities, ecoliteracies, and information literacy instruction. Contact: davenk@umich.edu.

REFERENCES

Kuhlthau, Carol Collier. 1991. "Inside the Search Process: Information Seeking from the User's Perspective." *Journal of the American Society for Information Science* 42, no. 5: 361-371.

Seely, Hart. 2003."The Poetry of Donald Rumsfeld." *Slate*. Last modified April 2.
http://www.slate.com/articles/news_and_politics/low_concept/2003/04/the_poetry_of_dh_rumsfeld.single.html.

SCVNGR for Information Literacy Instruction

Meggan Frost and Jill Morningstar

As part of the coursework associated with the class on information literacy in the School of Information at the University of Michigan each student created an online learning module in conjunction with a professional mentor. We worked with Philomena Meechan, who is the Lead in Instructional Learning for the Language Resource Center at the University of Michigan. She was interested in using a location-based mobile game called SCVNGR for learning (Figure 1), and it was our job to come up with a scavenger hunt to test out the tool. We also needed to tie the tool into information literacy, so after a lot of brainstorming and researching, we came up with an information literacy scavenger hunt that we thought would be an effective way to assess basic information literacy skills in students.

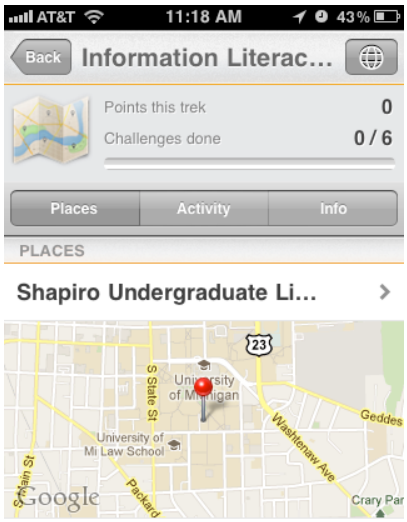

Figure 1: Screenshot showing user finding the trek via GPS

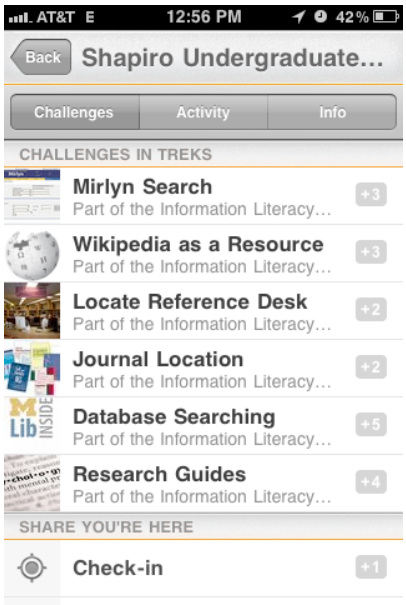

Figure 2: List of challenges, which can be completed in any order

When it came to preparing for our trek using the SCVNGR application, we spent a lot of time brainstorming exactly what we wanted to do, who we wanted our audience to be, and what we thought would make an effective hunt. It quickly became obvious that we would not be able to implement all of our trek ideas in a semester. Originally, we had two different treks in mind: one for information literacy, and another that would locate different libraries on campus. We chose to focus specifically on information literacy and the use of library resources. We knew that paper scavenger hunts had been used in libraries in the past, and we thought that we could improve on paper versions of scavenger hunts for information literacy to make them more fun and effective. We decided to focus on reaching college freshman and to situate the trek either as part of orientation or as part of an information literacy or research-based class.

In class we had talked extensively about the TRAILS assessment (http://www.trails-9.org). Even though our classmates had numerous objections to TRAILS, specifically in the areas of open access, Creative Commons, and resources, we thought it held valid concepts that we could use as the basis for the information literacy concepts in our challenges. We thought carefully about important aspects of the concepts to address. Our audience would be incoming freshmen, and we did not want to make the challenges too difficult so that they would get confused. At the same time, we also wanted to provide a bit of a challenge so they would not be bored. We arbitrarily chose the topic of "stress and memory" in order to help focus our questions. We thought that having an overarching topic would help students feel that a game like this could have some value. This topic could later be changed to align with many different classes.

We brainstormed many ideas for challenges in our trek. In the end, the following questions made it into the game, though they were structured slightly differently to take into account the different methods of information delivery in the final game (see also Figure 2):

1. Locate a journal appropriate for research on stress and

memory. Take a picture of the physical journal with your team and provide the author and title of a relevant article as the caption.

2. Introduce yourself to librarian at the reference desk. Pick up an information card and take picture of your group next to the reference desk (Figure 3).

3. Skim the Wikipedia article titled "Effects of Stress on Memory." Looking at the references located at the bottom of the page, click through to the ones that have links to the articles. Choose linked article that you think would be considered an authoritative source. Text the name of the organization that hosts the website and say why you think it is authoritative.

4. Using "stress and memory" as a topic, go to the library homepage and enter the topic into the catalog. On the results screen, use the "refine search" tool on the left side to narrow it down your search. Send a text explaining what you clicked to narrow your topic and give the author and title of a relevant source.

5. Go to the library homepage and type "psychology" in the search box. Locate the "databases" section of the search results. Choose a database that you think would work well for a search on the topic "stress and memory". Text the name of the database and say why you think it would be helpful (Figure 4).

6. From the library homepage, type "psychology" into the search box. In the search results, locate the section called "research guides." Click on the "psychology" research guide and browse through the related tabs at the top of the page. Text the name of the librarian contact for the psychology and say how you might use a research guide like this.

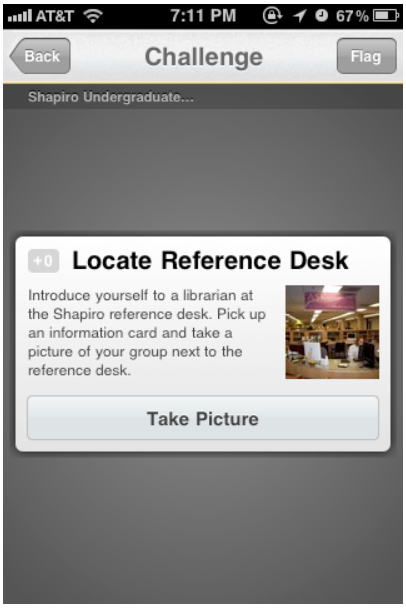

Figure3: Challenge with written instructions that ask patrons to take and submit a photograph

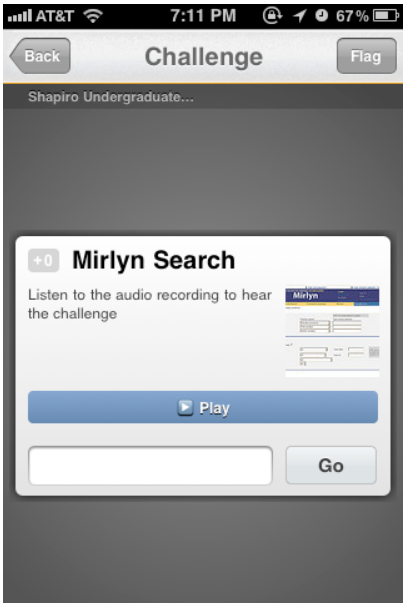

Figure 4: Catalog search, with audio instructions

While creating these challenges, we had to decide if wanted them to be linear (requiring that they be completed in a predetermined order) or modular, requiring no specific sequence. We decided on modular challenges so that not every student group would be at the same challenge location at the same time. We also had to make decisions about how to deliver the content in SCVNGR. One of the strengths of the application is that questions can be open response, specific response, photo, or QR challenges. Text descriptions, image prompts, and audio prompts are available methods for delivering content, and we wanted to take advantage of these possibilities. Because many of our questions exceeded the 160-character limit that SCVNGR places on text input. we used audio prompts for the questions that were too long for text. Additionally, we tried to vary the kinds of responses we requested from the players.

We were challenged to come up with game questions that went beyond wayfinding and addressed information literacy skills. We tried to move away from the old ways of teaching information

literacy skills through paper scavenger hunts that do not test transferable skills but merely send the student on a wild goose chase around the library. We constantly referred back to the concepts addressed in TRAILS to focus our questions. Though the final questions may appear to address information literacy concepts obliquely, the concepts underlie every challenge. We designed this game to be used as the basis for a rich, in depth classroom discussion on how students went about making decisions and why they chose their answers.

Rather than strong-arm our friends into testing the game for us, we were lucky enough to receive class time to test our application on our classmates in our information literacy class. This was both an amazing and terrifying prospect. Who is more judgmental about whether an idea works than people who have expertise and experience working with that idea. Then again, who is more qualified to help move that idea to the next level? There could be no better audience for a beta test than our classmates.

On the Monday after Thanksgiving break, we sent our classmates into the Shapiro Undergraduate Library at the University of Michigan with their smartphones and iPads to put our game through its paces. Neither of us had ever developed a project like this before, so we knew that beta testing would be crucial both to the functionality of our game and also to our own learning process.

We were unsure what kind of outcome to expect from our game. Would it work in unexpected ways? Would it fail completely? Mostly, we were looking for a baseline of user data so that we could adjust the game accordingly. We were also looking for data on the user experience so that we could better inform the workshops we would be teaching on SCVNGR.

We evaluated our game in three ways: first, we created an exit survey to address basic ideas of what worked and what didn't work. We wanted to know to what extent the game addressed the use of library resources and information literacy, and to find out whether the questions seemed to be at an appropriate level for college

freshmen. Second, we held a casual focus group debriefing in class afterward. Third, we informally observed the class as they completed the challenges.

After the beta test, we were able to assess the responses to the game itself and evaluate more qualitative data, but this project was never about getting the "right" responses from the participants. In fact, the questions were designed for the purpose of discussion, which meant that most of the questions had multiple possible answers. The answers to the questions were valuable, but for our purposes the survey responses about the application and design itself were more important to us. Because this was only a test, we would not be using the answers to the questions as the basis for a follow-up class discussion, as we envisioned when classes engaged with the tool in the future. More importantly, we wanted to know if this experiment in gaming information literacy had a future. After collecting all the data and thinking intensively about the class discussion, we had the following general observations about the game:

MORE DIRECTIONS, PLEASE!

We deliberately gave very few instructions to our classmates about how to use the application. We felt that the interface was quite user friendly, plus we wanted to see what would happen if we let our tech-savvy classmates loose with this idea. Also, we believe that a large part of information literacy is figuring problems out and knowing when to ask for help. We were available both at the beginning and during the trek to help anyone who needed it, but we received very few questions. Afterwards, we had multiple comments that a few more directions up front would have been helpful.

A few tricky spots within the application would have benefitted from instruction (for example, pointing out that even though they used SCVNGR in groups, they could only use the social check-in feature once, not for each member of the group), but everyone was

able to figure out how to maneuver the application after a few minutes. These comments about wanting more instruction up front may be related to the game play aspect of the application where players feel they have wasted valuable time figuring out how the game works and they have fallen behind the competition.

JOURNEY OR DESTINATION

Our class turned out to be extremely focused on the outcome. There were furrowed brows and fevered typing as they completed the tasks. In our surveys, we had multiple responses that mentioned feeling rushed or wishing that they could go back and redo a task, indicating that they felt we had certain expectations for the quality of the answers that they did not meet.

Feeling rushed may have been a result of a game play mentality, similar to the way that the lack of instructions on the application may have contributed to the feelings of falling behind the competition. Though we assigned points for the challenges based on the relative complexity of the questions, we deliberately did not mention the concept of "winning" to our classmates, and we did not declare a winner at the finish. The students were given a set amount of time, but we did not ask them to finish the hunt.

Game play can be a fantastic learning tool, but it comes with certain expectations from the players – a winner and a specific outcome. The inherently competitive nature of games raises some interesting questions about the effectiveness of gaming as a learning tool for our purposes. We wanted our game to be based on a journey where the player would have to make decisions that were deliberately unclear but not deceptive. In other words, we wanted to give students an experience that required them to make decisions that were best for a very particular set of circumstances and that were based on an outcome that was personally determined.

When we asked them to choose a journal that was appropriate for researching the topic "stress and memory," we knew that a wide

range of responses would give a good outcome, and the students would choose the journal based on what aspect of stress and memory they might use for their hypothetical research paper. These kinds of decisions and the difference in responses would be the basis for class discussion to delve into a deeper understanding of information literacy. We wanted them to experience a journey, but they were concerned about the destination.

AUDIO FRUSTRATIONS

Because SCVNGR has a 160-character limit on questions and responses, we had to find an alternative method of sufficiently explaining the more complicated questions within these limitations. We used audio recordings, which allowed us to explain the steps and to create more involved questions. During our test, some students had difficulty with audio because of WiFi difficulties, and others found it difficult to remember the question without a visual cue. Still others liked the audio aspect because it was different than the usual paper-based scavenger hunt. We agree that audio is not a perfect option for creating longer, more involved questions. It also raises questions about the accessibility of the game for people with disabilities. Suggestions for improving this include taking a screenshot of a PowerPoint slide in order to display longer instructions or just using a very bare bones text outline along with the audio to serve as a reminder of the question.

QUIET IN THE LIBRARY!

Many members of our class were taken aback by our use of audio in a library setting. They often expressed concern that they could not hear the instructions, yet they felt that raising the volume would disrupt other patrons. The myth of the pin-drop quiet library persists, even among library students. We had deliberately chosen the Shapiro Undergraduate Library not just because the game is directed towards undergraduates but also because it is vibrant,

buzzing space where the use of audio for class purposes would be acceptable, if unusual. We also suggested in an email before class that headphones might be useful for the activity. One student used headphones and found this helpful in understanding the questions.

Gaming is gaining ground as a valuable learning tool. Many schools across the country have realized the benefits of integrating games into learning, and have added gaming experiences to their regular curriculum. Although games can be treated by students and educators as a "vacation" from regular coursework, we believe that thoughtfully designed games used in conjunction with class discussion have the potential to bring deep and meaningful learning experiences to students that would not happen otherwise. Location-based games like SCVNGR can take students outside the boundaries of classroom walls, and allow them to engage in active learning. We hope that by presenting this tool, along with our information literacy trek, we can introduce a template for teachers, librarians, and educators of all kinds to create their own learning scavenger hunts for any class subject.

Meggan Frost is a graduate student in the School of Information at the University of Michigan. She also holds a Masters degree in Music Performance from Michigan State University. She is particularly interested in instructional librarianship and music libraries. She blogs collaboratively at http://www.metamayhem.wordpress.com.

Jill Morningstar is currently studying Library and Information Science at the University of Michigan School of Information. She has a strong interest in teaching information literacy skills to students of any age, and also in the integration of technology and games into learning. She plans on pursuing a career in the library or education field in order to work diligently toward these interests.

Pull It Apart:
Discovering Information Literacy with Technology

Peter Timmons

Technology often seems to be at odds with information literacy instructors for seeming to cause many of the problems that they are attempting to address. At times, the bulleted format of a PowerPoint presentation, designed to transmit information simply, means that students' work is similarly simplified. However, technology and information literacy instruction are not adversaries. As an information literacy librarian in training, I have tried technology and I can attest to the fact that, after my encounter, I am all right and technology is not a bad thing. My experiences in classrooms and in various reference interactions have convinced me that technology and information literacy go so neatly hand-in-hand that one cannot satisfactorily be without the other.

I experimented with this relationship between information literacy and technology at the University of Michigan Library. I subjected myself to blank stares as I stood in front of undergraduates that listened to me blather about the importance of citing their sources, evaluating credibility, and constructing search queries based on ideas rather than words. Lecturing about information literacy in one-shot library sessions felt as if all that I was doing was telling students to be better at their research without helping them develop the task-oriented skills necessary to complete their assignments. By contrast, when I led workshops that focused on exploring a technology's features and usefulness, I felt as if learning was happening. Despite the realization that, in reality, all that the students gained from these sessions was the knowledge of how to use a tool, it seemed to me that a real impact was being made.

What could be the difference between the two? My objective for my library session was to teach the reasoning behind information literacy concepts and how knowing these concepts translates into proper research skills. By contrast, in technology workshops, my

objective was to teach the how-tos of task-oriented skills that provided the means to an end. I began to wonder if there was a way to satisfy student expectations of task-oriented learning while also cultivating information literacy skills. My mission became clear: I needed to devise a way to combine these two approaches into one session that taught two ideas at once.

I experimented with several different strategies to accomplish this mission, but the most effective strategy I found focused on teaching the students how to correctly apply technical skills in a way that implied an understanding of an information literacy concept. For every instance of using technology in the research process, there is an information literacy concept that can be highlighted as the underlying rationale. Instruction sessions can bring these concepts to light by teaching the technology but also embedding a miniature information literacy lesson in each step. By wrapping information literacy concepts inside technology instruction, these sessions become more hands-on information literacy workshops.

As an example, in one such workshop that I co-taught with a colleague, we discussed the benefits of using bibliographic management tools, such as RefWorks. We showcased RefWorks's advantages as a personal repository of resources and as a quick way to create bibliographies for research projects. These advantages hinted towards a larger information literacy concept, in this case, ACRL's Information Literacy and Competency Standard Two, which specifies the development of personal strategies for organizing information (Association of College & Research Libraries 2011).

This concept was touched on in our workshop's elaboration on the different ways for students to leverage RefWorks's folders and the application of personalized descriptors to resources. The goal of highlighting the organizational tools was to encourage students to develop their own systematic method for managing information. Once acquired, this know-how about systematic information management can be easily transferred to larger information systems. By learning how to design their own system for managing information, students are provided the opportunity to discover how more complex information systems, such as the Library of Congress

Call Number System, provide a lens through which a researcher must perceive information.

In this case, the technology created the space for students to pull-apart and experiment with information systems. Playing with their own information system in a hands-on workshop allowed the students to obtain a higher-level understanding of information systems. Ideally, an ah-ha moment was created when students realized, through their hands-on experimentation, that information systems are little more than artifacts that are prone to the inefficiencies and limited knowledge of their designers. By creating and testing their own system for managing information with RefWorks, the dilemmas that are created when designing information systems for versatility and sustainability are laid bare in such a way that enlightens students to the hidden paradigms that are prevalent in research.

While I was testing out teaching information literacy in workshop-style sessions, I discovered an added benefit to focusing on hands-on learning. The workshop style satisfied the students' expectations of the library session more effectively than a typical bibliographic instruction (BI) approach that relied more heavily on direct instruction of learning objectives. Perhaps this is because those BI expectations were graciously low, which is often the case when undergraduate classes take their field trips to the library to learn research skills. Nevertheless, student expectations of library sessions can be easily met by emphasizing the acquisition and proper application of technical skills during the research process. This makes it easy to package the development of information literacy skills—an unexpected learning objective—within the more expected instruction of technical skills. If my teaching is effective, the students will walk away from my workshops with explicit technical skills. However, embedded within these skills are implied information literacy concepts. The students will unknowingly carry more away with them then they realize and will willingly learn more than their expectations lead them to believe.

A key difference in the workshop approach to information literacy instruction is that information literacy is seldom the stated primary

objective. It is certainly necessary to point out which information literacy skill will be developed as a result of an instruction session, but what should come first is what students expect: they want to know what will help them complete their assignments. The workshop approach gives them this upfront and also allows for information literacy skills to be discovered through experimentation and guided practice. The technology workshops I led allowed students to play with what they had learned while encouraging them to put the technology to work in a way that exhibits information literacy. This approach puts the student in control over their literacy development by challenging them to figure things out on their own. My help is nearby when needed. This relinquishment of some control over my learning outcomes did cause me some anxiety. However, my goal as an instructor is to cultivate information literacy skills in students, and what is information literacy besides figuring something out for oneself?

If instructors can teach information literacy by using technology in a workshop approach then several positive outcomes will result. The students' expectations of instruction session will be easily met and they will leave the workshops satisfied and confident that their newly acquired knowledge will help them complete their objectives. The instructors will be able to lay the groundwork for information literacy by teaching the proper use of tools that facilitate the development of literacy skills. Lastly, the students will be encouraged to leverage their own unique learning abilities to experiment with technology and use it to explore information and thereby allow literacy skills to be cultivated naturally.

Peter Timmons is a Master's of Science in Information candidate for spring of 2012 at the University of Michigan's School of Information. He has a background in postcolonial literature from Africa, India, and the West Indies. Peter grew up near Salt Lake City, Utah, where he cut his teeth as a fly-fisher, backcountry skier, and backpacker. He now lives a mild-mannered life with his beloved wife and their crazy Australian shepherd-Labrador mix. In addition to being an information literacy and technology librarian at an academic library, Peter would someday like to finish that graphic novel he has been thinking about writing for the past few years. Why not send him an email at pete.timmons@gmail.com?

REFERENCES

Association of College & Research Libraries. 2000. "Information Literacy Competency Standards for Higher Education." Accessed December 11, 2011. http://www.ala.org/acrl/standards/informationliteracycompetency.

What's the Keystroke Command for Information Literacy? : Getting from Tech Skills to Thinking Skills

Andrea Neuhoff

Many librarians are aware of the need to incorporate the use of new technologies and new forms of media into their teaching. They recognize that learning how to use various sorts of computer applications, web applications, and other electronic devices like mobile devices, are an important component in becoming a productive member of society. Employers, after all, want to hire students who know how to use PowerPoint, and the new school standards are beginning to stress the need to share knowledge and work comfortably with a variety of media forms. And so, we focus on the mechanics of technology, like where to click or how to use command-F to search for a particular word on a page. We ask students to create podcasts explaining how to add fractions, we have students give presentations using PowerPoint on their group projects, and we offer instructional courses on Word, iMovie, and other applications. In these classes and assignments, we focus on the mechanics: on where to click and what commands to use.

And so when it comes to instruction, we teach them how to use various pieces of technology, but we forget to connect it to information literacy. We are so busy showing our peers and students that we're tech-savvy that we forget to translate the more traditional skills in information literacy to the digital realm and model these practices.

Specifically, there is a disconnect between teaching students how to use technology and the information literary skills (and corresponding analytic framework) that guide the use of that technology. I sat in on a number of library university-level instructional courses, a professional development workshop for K-12 librarians and media center specialists, and a few middle school

media lessons. This gap became clear when one K-12 tech integrator noted: "We give students word processors, but we don't teach them how to process and play around with the order of their thoughts." With the exception of spell and grammar checking, students might as well be using a typewriter. We have given students these digital tools, but neglected to accompany them with strong frameworks and processes to help the students use these tools effectively.

It is simply hard to find the necessary time and incorporate information literacy skills and concepts into technological instruction. When I began my planning a workshop on using the iPad for scholarly work (reading, writing, and note taking), I struggled to explicitly do this. I eventually succeeded, but not before learning a few valuable lessons or principles to work by.

- *Frame the instruction from the beginning in information literacy.* By framing my lesson as "Scholarly Reading and Note Taking on the iPad," and not "iPad 101," I was able to explicitly show that the workshop about harnessing the tool for a bigger mission. My lesson went from simply being about the applications, tips, and tricks I've learned in my personal use of the iPad to a lesson that discussed how to find articles, organize your personal files, and take notes digitally.

- *Avoid Application Overload.* Just because there are so many different tools to use, don't make your students decide. Show one application in depth and let your students master that one first. We wants student to be able to leave the workshop and immediately use the application with ease. In other words, put your curation skills to work and create an elegant master-able list.

- *Translate more traditional analog information literacy skills and processes to digital interfaces.* How did you learn to take notes? What ways forced you to learn how to summarize? Consider creating tables that require students to fill in

citation information, list page number, and summarize why this quote is important. Ask for keywords or use the iPad's annotating capabilities to make those keywords and summaries searchable. What arguments does the information support or refute? Use mind mapping or outlining applications to help students experiment with structure their thoughts and order of their notes. Many of the features in these kinds of applications encourage students take more productive and concise notes and avoid just copying and pasting text from document to another.

- *Structure lessons to treat technology as a tool, not as a means to an end.* You don't always need to start and end with the technology. Are your students writing a podcast? Require them to write a script, create visuals, and request approval before they can even touch a laptop to start recording. By structuring the lessons as a tool, we can implicitly show students that computers and the Internet are tools (like a hammer and nails) and what matters is how we use them, not just that we use them.

As computers and other forms of technology become embedded in our work habits and as more information becomes available on the Internet, the skills and services librarians offer will become less connected to the reference desk and possibly, to the physical library itself. Students are gradually becoming their own personal librarians as they adopt more technology. Their 21st century lives are leading them to figure out ways to organize the artifacts of this digital life, whether it be their photos, notes, handouts, or lecture material.

These new (digital) tools without the appropriate cognitive skills are not tools; without robust information literacy skills students are essentially are still operating at a superficial level. They have chainsaws, but instead of using them to forge new pathways, they are using them to cut cake.

The information literacy skills used to aid our scholarship belong to the technology we use and it is through the teaching of this

technology that we can impart the skills they will need for their classes, jobs, and personal life. Tools can be powerful game-changers as long as you understand the game.

Andrea Neuhoff is a master's student in the School of Information at the University of Michigan. She is interested in exploring the roles technology, information, and cyberinfrastructure play in higher education and the ways technology will change how students learn in the future and the institutions that support them. Contact: neuhoffa@umich.edu.

Becoming a Literate Information Literacy Instructor

Alissa Talley-Pixley

THE SETTING

Late on a Friday afternoon in mid-October, just before the University of Michigan's (UM) Fall Break, I let out a substantial, satisfying sigh. I had just completed over a month of teaching about twice a week, and after this workshop, I finally felt like everything had come together. The students were engaged (which was something I'd worried about, because they were all probably thinking about the two days they had off later that weekend), the technology worked, and I not only knew the material I was instructing, but I had actually thrown some of my personality into the workshop. It was then I realized that becoming an effective instructor of information literacy is fully a process that involves a good deal of practice, and is not something that happens accidentally.

INTRODUCTION

Information literacy is a broad term used to describe interlocking forms of literacy from reading and writing to effectively engaging with multimedia and digital resources. However, information literacy does not simply "happen;" oftentimes, it must be taught. Nor is information literacy a static skill set; as tools, resources, and formats continue to develop and change, so, too, do our skills need to adapt. In turn, this means that information literacy represents ongoing skill development that is needed not only for young people or older generations, but also for the instructors who will need to teach these competencies. Instructors - in K-12 or in higher education - cannot be expected to automatically know the information literacy skills they will teach. While I was lucky enough to have the opportunity to learn some of these skills in the

course SI 641: Information Literacy for Teaching and Learning, many new instructors are thrown into the wild and are expected to just start teaching. My experiences in the class, and in my job, allowed me to reflect on the idea that learning to teach information literacy takes practice. This chapter will examine my process in doing so through the lens of my experiences instructing technology in an academic library setting.

SETTING IT UP

Over the past semester, I focused on both observing and teaching library-literacy and technology-based workshops at the UM Undergraduate and Graduate Libraries. As of December 1, 2011, the UM Library's website states that library system hosts over 9 million books, conducts over 1,000 presentations - instructional and otherwise, and welcomes nearly 4.5 million visitors per year (Regents n.d.). This library system focuses on supporting the work of students, staff, and faculty, many of whom are top scholars in their fields, in a research-based environment. In addition to the circulation and preservation of materials, the library also provides instruction to University-affiliated members on a variety of topics including research and library literacy, citation management, and technology.

EXPERIENCE: STEP OUT FROM BEHIND THE PODIUM

The time I spent observing, instructing and reflecting on different library-based sessions and workshops was primarily during September and early October, which is an incredibly busy time in academic libraries. Students are becoming oriented to a new university or school year, faculty want their students to learn library skills they will need for their course, and many librarians are hosting welcome events for their departments and working with students and faculty to introduce helpful resources, in addition to teaching several instructional sessions per week. As a graduate student who

holds a semi-professional position in the library, I was digging back into schoolwork after a summer off and instructing many different types of library workshops. I found myself signing up to teach Ph.D. students how to use Microsoft Word to format their dissertations, undergraduates (freshman, sometimes) how to use specific databases for their research, and open workshops on computer basics.

And then I realized what I -- a new instructor -- had committed to doing: teaching a myriad of topics to a variety of audiences, without having expert knowledge of anything I'd be instructing. Probably not the smartest move! However, at the beginning of the semester, I didn't have time to re-consider my enthusiastic decisions so I had to tell myself that not only would I be fulfilling course requirements to observe instructional sessions, but I'd also get a crash course in instruction. Learn by doing, they say.

TURNING AN OUTLINE INTO A WORKSHOP

Instruction at the library is something many librarians can do by choice. It is a requirement for some positions, and is expected that should assistance be needed to instruct or float (walking around to help students stay on track during the session), librarians will step up. There are library resources for instructors including teaching outlines, informal mentors, and research-based practice on which to draw. However, as a beginning instructor teaching topics on which I needed fluency, I needed to do a significant amount of work on my own.

This pre-work came to be what made me comfortable teaching, and it has played an important role in my teaching effectiveness. I found that one of the best ways a new instructional librarian can lessen anxiety is to know the content; the rest comes with a good deal of practice and reflection.

So, to all instructors just starting out (or those who want to revisit their praxis), I present to you my lessons learned and

recommendations for diving into information literacy-based instruction as an information literate instructor.

1) Observe sessions

I had the chance to observe many types of workshops with different instructors (including one at another local university) and was able to glean an incredible amount from actively observing. I learned about keeping energy up (especially if you're teaching undergraduates at 8:30 in the morning), being prepared for the topic, and different strategies such as walking around the room while instructing. Additionally, it was very valuable for me to observe with a "student hat" as opposed to floating and simply "being there."

When I observed as a student, I took a broader, more reflective view of the instruction. For example, after teaching so many times, it is easy to fall into a "go with the instructional flow" attitude, leaving out the reflection piece. Observation with the goal of improving one's own practice is something that any instructor can do frequently, and for free – in-house.

I sat in on a variety of instructional sessions, and was not afraid to observe workshops that were in a different field or location. For example, I observed a session at a different nearby university with a population quite different from Michigan's. I also asked colleagues if I could sit in on their sessions, and have provided floating support in others.

I learned that sitting in on technology workshops, citation management workshops, database workshops, and other types of sessions gave me a varied view of instruction. Different instructors have different styles of teaching; some are more rote, and some are more exciting and engaging for students. Through watching different instructors, and trying out their techniques, I was able to find my own teaching style.

Additionally, by observing different instructors in different settings

with different topics, I could see different strategies as well as how students responded to them, giving me a more rounded view of what instruction means for students and for me as an instructor.

2) Consider your audience

Instructing undergraduates, graduate students, faculty and staff within a few weeks of one another really caused me to think about the audience of the workshop while I was preparing to teach and during the actual instruction session. I found that teaching these various groups requires thinking about the prior knowledge of the participant (while admitting it's impossible to actually know this, especially when teaching a one-shot workshop), the basic skills they may or may not have, and why they are attending the session.

More specifically, I learned that undergraduates may or may not have visited the library before, and while I could cautiously assume they were familiar with computers in terms of web browsing, it was quite possible that they were only at the database workshop because it was required for their class. On the contrary, participants who attend the computer basics workshop are presumably there because they feel they are lacking computer skills and really want to absorb the workshop materials. Being able to adjust my teaching to the learners in the room allows them to be more engaged during the workshop.

3) Conduct background information on previously taught sessions

Most of the sessions I instructed had been taught before by many different people. Therefore, I was provided with existing teaching outlines. However, these only gave me part of the story of effective teaching. For a three-dimensional view of the workshop, it was incredibly useful to talk to instructors who had taught the session before to find out what works well and what doesn't work so well. For instance, some databases might not handle simultaneous use as well as others - and that's helpful to know! Talking to others helped

me gain a sense of how participants might react to the material.

One example of this occurred while preparing to teach a database workshop with a colleague. We met prior to the instruction, and because he had taught this session before, my co-instructor knew that one part of the workshop might take longer than it was outlined, so we decided together to keep each other on time. Again, this was useful knowledge to have before getting in front of the class. I found that reaching out to other instructors to prep and debrief workshops is an effective way to network with colleagues and improve my instruction. Looking back up to lesson learned #1, see if you can observe a workshop you'll teach in the future and then chat with the instructor afterwards to talk through you observations and questions. Most colleagues should be open to this discussion.

4) Practice, and then practice again (by yourself and with others)

This might feel like an obvious step to take, but I've observed instructors who were clearly not as prepared as they could have been (and I've been there too!). Perhaps one of the basic steps was out of sequence, their designated search didn't bring up the anticipated results, or they left out a major part of the workshop.

Prior to teaching, I set aside time at least one week in advance to talk with colleagues and then actually sit down to practice working through the material. I follow all of the prescribed steps for the workshop ("now we're going to go to the library homepage, and in the main search bar type 'Children and Media.' This will bring up a page that...") and talk myself through what I'm going to say. When time allows or I'm feeling particularly uncomfortable about a topic, I will practice in front of other colleagues or classmates to get feedback.

By practicing and practicing and practicing, I've learned that being prepared is extremely important in feeling effective and comfortable in front of a classroom. I have also learned that you can't predict

everything that will happen, but that by being prepared for what you *can* control, the moments that you *can't* are much easier to handle.

5) Co-teach

Not everyone might agree that co-teaching is effective or even something they want to do, but if you can find a colleague with whom you work well, having a co-instructor can be very useful to learning instructional skills and teaching styles.

I found a co-instructor whose teaching and prep styles both compliment and supplement mine. He is very good at coming up with analogies in our workshops to help participants connect their computer skills across platforms, whereas I take the lead when it comes out our planning sessions and in helping the workshops stay on track. It's been a great experience to work with someone who has his own teaching identity but who is willing to talk through instructional strategies and sessions (part of the practice part in #4!) and who is there for support during the workshop and after to provide feedback (see #7). Co-teaching can be a great way to start getting your feet wet in the vast instructional waters -- and it can be a lot more fun, too!

6) Teach! Dive in and do it!

Until you start teaching, you can't possibly start to reflect and improve on what you can do better. When I started teaching, I did not have a teaching style – I was merely trying to get through the material. By working with a co-instructor, having my mentor observe my sessions, reviewing the workshop evaluations from participants, and reflecting on the workshop, I was able to get critical feedback that has improved my teaching. I found that the more I taught, the more comfortable I got with different audiences. As time went on, I found myself making quips about dissertation writing with the Ph.D. candidates or telling undergraduates that

this tool will really save them time - because who wants to spend more time on citations then you have to! And the only way to do this was to start teaching - ready or not!

7) Reflect and debrief

This may be the most important step, not necessarily to start instructing, but definitely for becoming a more effective instructor. Having a co-instructor or observer at some of your first sessions (and even as you progress) can make all the difference in being a great instructor. At the beginning of my teaching, I stayed behind the podium and, as mentioned earlier, just tried to get through the material. After receiving feedback, I started walking around the room, pointing more to the screen and becoming more interactive in my teaching style. I also worked through some of the examples in the workshop that simply didn't work as well as I wanted. Additionally, reflection has helped me consider what I need to do more of in terms of preparation -- more practice, more background information, whether I want a co-instructor or not. These are valuable lessons on which to build for each and every instructional session I teach.

Don't be afraid to do this reflective work. Take this time in your office to write notes, or wait until you get home and can sit and think for a few minutes outside of the instructional setting. It will be critical to improving your teaching to debrief each session, even if it is only for a few minutes. Think about what went well, what didn't go so well, and what you can improve on next time. And if a session had a lot of issues, think about how you can prevent them if possible, and move forward to making the next workshop that much better. One place that I reflect is on my blog. It's a place where, each week, I ponder and discuss something that I need to think more about. Blogging isn't the only way to reflect, however. Making notes right after a session or taking the time to review and revise the lesson plan are other reflection strategies.

CONCLUSION: WHAT I LEARNED

Instructors of information literacy need to be information literate themselves. This is not an easy process and it is one that takes time - especially to become a great instructor.

However, through observation, consideration of audience, taking the time to do some background work, practicing, co-teaching, teaching, and reflecting, you can start taking the steps needed to feel more comfortable instructing in whatever way works for you. So go ahead – and dive in!

Alissa Talley-Pixley is from Fenton, MI and graduated from UM in 2006 with a Bachelor of Arts in Psychology. She worked in non-profit organizations until coming back to work at the library before starting at the University of Michigan's School of Information in Fall 2010, where her goal has been to find better ways to share information with various populations. You can learn more about Alissa and her work on LinkedIn (http://www.linkedin.com/in/alissatalley) or at alissatalleypixley.com.

REFERENCE

Regents of the University of Michigan. 2011. "University of Michigan Library Statistical Highlights." Last modified December 1. http://www.lib.umich.edu/statistical-highlights.

When Technology Fails

Sarah LeMire

As we move further and further into the digital age, librarians are incorporating technology into their lesson plans at an increasing rate. We are moving past static PowerPoint presentations to lessons that use interactive resources. We are taking advantage of the increasing levels of classroom connectivity to enable students to engage with digital library resources in the classroom, building practice time into lesson plans to facilitate student interest and retention of information. But what happens if those live resources or that classroom connectivity fails? How do we handle the sudden disruption of our digital resources at the time we are to be presenting them? As librarians and educators, it is essential to prepare a contingency plan so an effective lesson can be taught even when technology fails us.

My Fall 2011 Information Literacy for Teaching and Learning practicum was my first teaching experience, and I was extremely nervous to step out in front of a classroom for the first time. I spent the semester working with a mentor at one of the University of Michigan libraries, observing and assisting as she taught a wide variety of information literacy classes to undergraduates.

My first full lesson was not for my practicum, however, but was for my very first librarian job interview. For my interview at a large Western public university, I was asked to teach a lesson targeted towards first-year undergraduate students demonstrating the use of an online tool or resource incorporating visual literacy.

I chose to structure my class as a lesson on how students can incorporate primary sources into their academic research, focusing on the photographs and images accessible through the National Archives and Records Administration's (NARA) Archival Research Catalog (ARC), available at http://www.archives.gov/research/arc/.

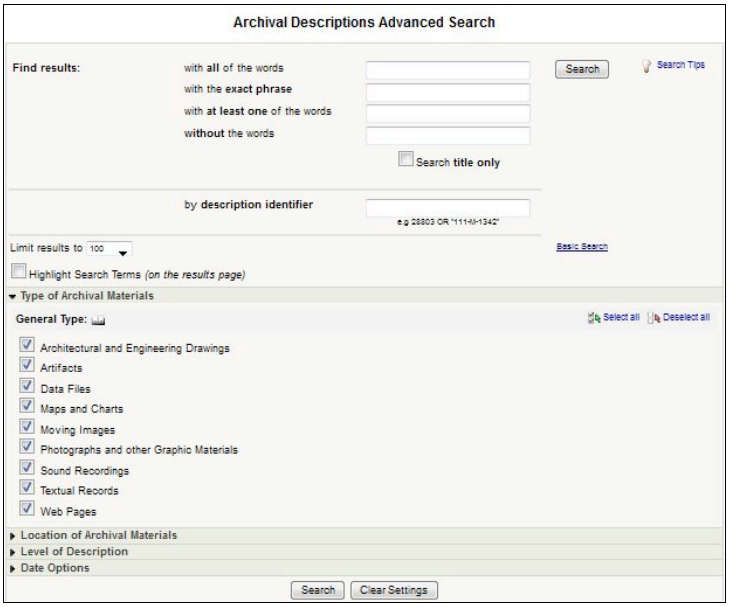

Figure 1: NARA Archival Research Catalog (NARA 2011b)

The ARC allows users to access NARA's digitized archival records as well as over 150,000 digital copies of NARA records and artifacts (NARA 2011a). Users can search the catalog using a keyword search or they can perform a known-item search using the description identifier number. They also can limit retrievals by the type of item, location of the original material, level of description available, and date range of the materials and archival records. NARA provides users with a rich resource of primary sources, and contains a number of interesting and historically significant images in its digitized collections. Figure 2, for example, depicts a World War II-era propaganda poster juxtaposing the Bible with a copy of *Mein Kampf*.

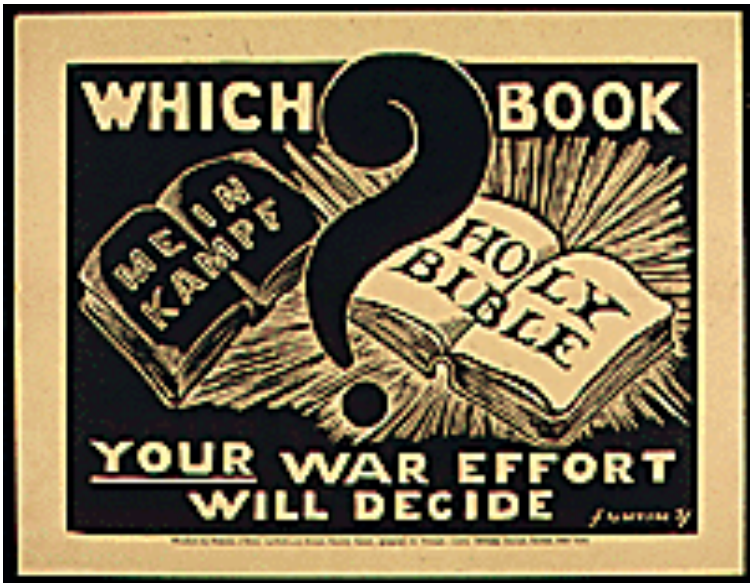

Figure 2: "WHICH BOOK, HOLY BIBLE": 1941 – 1945 (Office 1941)

The user could interrogate this image in a number of ways: what does it suggest about religious inclusiveness at the time? How do the visual elements the artist chose interact with the text on the page? After viewing a number of such powerful and historical images, I chose to focus my presentation on the ARC's digitized image collection, not only because the images are so powerful and relevant, but also because all of the digitized images available through the ARC are in the public domain (NARA 2011d). Using images that are in the public domain helps students learn about copyright and shows them that there are sources that they can use without violating copyright or asking for permission.

Unfortunately, the ARC went down for maintenance the day before my presentation, but it was scheduled to return to normal service several hours before I was to present. However, when I checked the resource a few hours before my presentation, I discovered that the ARC had not come back online after the scheduled maintenance was over. NARA could not be reached by phone, and it was several days before I received responses to my emails – much too late to be of help. I was faced with a quandary – what to do? How was I to

teach this lesson which I had painstakingly prepared and practiced for weeks leading up to this interview?

Fortunately, one of the librarians I consulted while preparing for my interview had recommended that I also prepare a back-up plan just in case I ran into technical difficulties such as a lack of connectivity in the classroom where I was teaching. Heeding this advice, I prepared for a couple of alternate scenarios, and had screenshots of the ARC ready in the event of trouble connecting to the resource during the presentation. But I thought that a static presentation without any interactivity would be lackluster at best, and it was my last-resort plan. Therefore I was also prepared to present on an alternate resource. It turns out I was very fortunate in my choice of NARA as the resource I was to teach, because NARA has a new Online Public Access Catalog (OPAC) that offers users almost identical access to the NARA collections. With only a few changes to my slides and a quick refresher on the differences in the interface, I was prepared to teach the OPAC instead of the ARC.

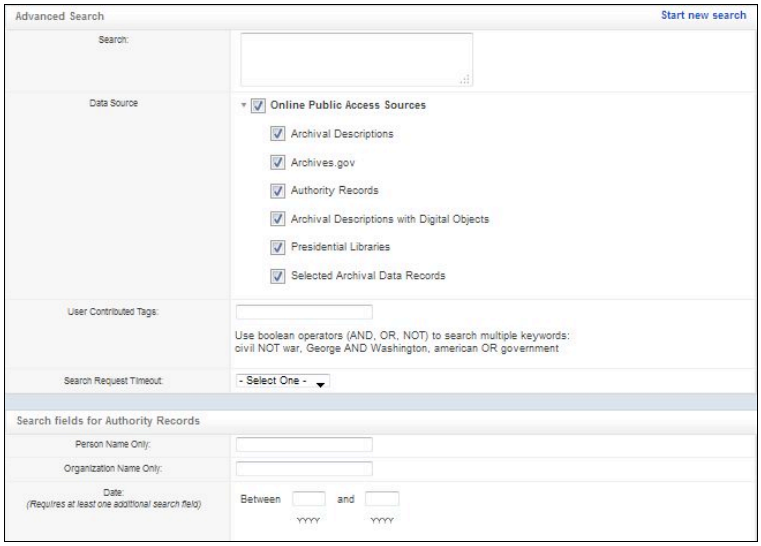

Figure 3: NARA Online Public Access Catalog (NARA 2011c)

I learned a valuable lesson about teaching during this process. Although the lesson went off without a hitch after I switched to the OPAC interface, I realized how close I had come to disaster. I

heeded the advice to prepare a back-up plan out of my desire to leave no stone uncovered during the interview process, not out of any real belief that I could experience such a calamity. But the calamity did indeed occur, and I realized in the wee hours of the morning of the presentation that I would have to adapt. There was no room for rescheduling my talk until the resource became available. The show would have to go on, and I would have to be prepared to not only teach an alternate resource, but to convince others that the resource I was teaching was the one I had intended to teach all along. Incidentally, my back-up plan must have worked – I did get the job!

Now, when I teach my information literacy lessons to students, I am always cognizant that I could run into technical difficulties, and I always have a back-up plan in my head. I am never as hyper-prepared as I would be for a job interview, but there are still a number of strategies that I use to ensure that I can handle a technological failure in everyday life as well. When I prepare a lesson plan, I consider what alternate resources might also be helpful to students in case one of the resources I'm teaching is not functioning. I also have a series of screen shots prepared of resources that I typically teach, so I can still show students how to do a search even if my Internet connectivity were lost. I also strive to keep in mind that technology is often simply the medium through which I help students access information – it is often not the point of the lesson, but merely a tool to be used. This perspective helps inform both my contingency planning and my lesson planning.

As I move into my professional life, I endeavor to think of contingency plans for any lesson I am teaching because I want every group of students visiting the library to receive a well-prepared, helpful lesson, regardless of whether the technology is cooperating that day. While it is unlikely that the drama that occurred during my job interview process will be repeated, the lesson I learned in that environment informs my everyday instruction, and will hopefully allow me to be prepared to teach even when technology fails.

Sarah LeMire is a second-year student at the University of Michigan School of Information concentrating in Library and Information Science. She is very excited to be starting her new job as a Research and Information Services librarian in May 2012. And she always has a back-up plan. Contact: slemire@umich.edu.

REFERENCES

National Archives and Records Administration. 2011a. About ARC. Accessed December 15, 2011. http://www.archives.gov/research/arc/about-arc.html.

National Archives and Records Administration. 2011b. Archival descriptions advanced search. Accessed November 27, 2011. http://arcweb.archives.gov/arc/action/AdvancedSearchForm.

National Archives and Records Administration. 2011c. OPA - online public access catalog. Accessed November 27, 2011. Available from http://research.archives.gov/search?v%3Asources=opa-boosts[f1]&query=&v%3aframe=form&form=opa-advanced&

National Archives and Records Administration. 2011d. Publishing national archives photos. Accessed December 15, 2011. http://www.archives.gov/global-pages/publish-photos.html.

Office for Emergency Management. Office of War Information. Domestic Operations Branch. Bureau of Special Services. 1941-1945. "WHICH BOOK, HOLY BIBLE", 1941 - 1945. Accessed December 15, 2011. http://bit.ly/t7MIgk.

SI 641 / EDCURINS 575:
Information Literacy for Teaching and Learning

COURSE DESCRIPTION

This course introduces theories and best practices for integrating library-user instruction with faculty partnerships. Instructional roles are presented within the wider context of meeting institutional learning goals. Students acquire explicit knowledge, skills, and competencies needed to design, develop, integrate, and assess curriculum and instruction in a variety of information settings, including educational and public organizations. The integral relationship between technology and information literacy is examined. Students are given opportunities to partner with professional mentors in schools, academic libraries, museums, and in other educational institutions.

LEARNING OBJECTIVES

Upon completion of this course, students will be able to:

1. Identify key theories about inquiry-based learning and information literacy;
2. Create a virtual learning module about some aspect of information literacy and learning, in partnership with a mentor;
3. Reflect on their experiences observing practitioners in a teaching role;
4. Lead face-to-face instruction on an aspect of inquiry or information literacy;
5. Engage in ongoing discussions about how we define literacy(-ies) in the digital age.

To learn more about the School of Information at the University of Michigan, visit http://si.umich.edu

To learn more about the School of Education at the University of Michigan, visit http://soe.umich.edu

Go Blue!