

*Everything You Wanted to Know About Information Literacy
But Were Afraid to Google*

Edited by
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For Our Mentors

And for all those who really wanted this book to be called
What the CTRL+F is Information Literacy

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INTRODUCTION

Kristin Fontichiaro

It's tough work teaching a class called Information Literacy for Teaching and Learning when the implementation of information literacy remains uncertain. That we need librarians and teachers who are savvy navigators of resources and can help others become critical thinkers, synthesizers, and evaluators is not in doubt. Yet the number of schools, colleges, universities, and libraries that have effectively created information literate students, across the board, is limited. What's a professor to do? Make information literacy implementation and acquisition too simplistic in the classroom, and the enrolled preservice teachers and librarians will enter the field over-confident and underprepared. Call it a movement that hasn't gained mainstream adoption in the 30+ years since the term was coined, and it deflates enthusiasm for the course's relevance. Striking an effective balance is a challenge.

My solution is to move the course, more and more each year, into an inquiry learning course, blending course readings, class discussion, a variety of hands-on field experiences, and an end-of-term reflective piece of writing. We build on our class's diversity of preservice secondary teachers from the University of Michigan (UM) School of Education and future archivists, academic librarians, public librarians, and school librarians from the UM School of Information as we struggle with the questions that our mentors continue to wrestle with: What is information literacy? How does it compare to other literacies such as media or digital literacies? What are the institutional opportunities and constraints in universities, libraries, schools, and informal learning settings? What works and why? How can lessons learned in one environment impact another? How can we improve upon past practice?

By pooling their past and current experiences, we collectively learn from the tensions between theory and practice. In this collection, our students make their learnings public and model the curiosity and openness we seek in their future students. And by having the courage to publish while still in school, our students bring a fresh, unvarnished perspective to the challenges of information literacy and its implementation. It is a privilege to bring their work together in the following pages.

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SETTING THE STAGE: WHAT IS "GOOD ENOUGH"?

Plot Twist:

You Can't Teach All of the People All of the Time

Natalie Morelli

It's a Tuesday evening, and I find myself standing in front of a classroom full of college freshman, each sitting at a computer, and I'm prepared to teach them an introduction to research and library services. As I get psyched up to start talking, all I can think is, "they are not going to pay attention to me at *all*". After all, these students are the very definition of "digital natives"—they've all been on the Internet since they were children, and have all been typing away since the moment they sat down. I have sat in the back of similar classes before, and I can tell you exactly what sorts of websites are open on their monitors: almost all of them have their Gmail accounts open, most with chat windows; a good portion also have a Facebook window; about half are on Twitter; and then there are the occasional students who have opened up their course website or are reading the news.

Here's Plot Twist Number One: I cannot blame them at all. I won't even blame them for staying on these pages once I start teaching, because I *know* exactly how boring this lesson is about to be for some of these students. It is not that I want my class to be boring—I have been working on this lesson for about three weeks. I have observed at least five other librarians and instructors teach this lesson, or similar lessons, and have carefully weighed the pros and cons of what I have seen. One con was on every single list I made: information literacy lessons in college are painfully boring. Here's Plot Twist Number Two—I think that is probably okay.

I can hear you all gasping already, but bear with me. By the end of this chapter, I may even have you agreeing with me.

Students come to the academic setting from many different places and with a multitude of diverse experiences. Some of the students sitting in this class attended a high school with a highly engaged librarian, completed in-depth research projects every year of high school, and already feel confident in subjects like evaluating resources and searching (some) databases—but have never used a library catalog because the librarian just pulled all the necessary information for them. On the other hand, there are voracious readers in the class who spent every Saturday afternoon exploring their public libraries, but have never been required to do any research for paper writing. The problem for librarians teaching one-shots is that we don't know any of this information about our students – we just know that there are some students in front of us who need to know about research by the end of this lesson.

So, it becomes necessary to create lessons that cover it all, from use of the library catalog to evaluation of resources. This is a lot of information to cover, beginning with the very basics. This information will be completely new for some students; for others, they will already have an understanding of what we know.

Here is Plot Twist Number Three: students are accustomed to this method of teaching, especially in large academic institutions. Furthermore, students are so accustomed to this method of teaching that they have developed strategies for properly handling it. Most of them are going to focus only on the information that is important and new to them, ignoring those portions that are irrelevant. This method of learning is known as “satisficing” (Simon 1995), or only expending exactly as much energy as is needed to complete a task, no more or no less. As college becomes more ubiquitous for young adults, they are expected to do more to make their resumes and experiences stand out – simply attending college isn’t enough anymore. The students who are sitting in my library one-shot are focused, for example, not only on their paper for the introductory English class, but also three or four other classes on a variety of topics, the upcoming election for the board of the political action group they are trying to get involved with, the play-offs for their intramural broomball team, and trying to maintain some bit of a social life on top of all of the work they are expected to do.

If the librarian is discussing something the student is already well familiar with, then it truly is in the best interest of the student to not give their full attention, even if they are using the time simply to check in with their friends or doing something for one of their other classes. The librarian can’t determine what exactly is going to be helpful and useful to each student, and, as discussed above, each student is going to find something different useful. Therefore, the librarian must teach it all, because she doesn’t have much of a choice otherwise, and the student can determine what is necessary to focus on.

Are you ready for Plot Twist Number Four, and the biggest one of all? Librarians are satisficing, too. Teaching and reaching out to students is a hugely important part of any learning or instructional librarian’s job. But, in addition to teaching this one-shot lesson to an Intro English class, librarians are also balancing hours at the reference desk, email reference chains with full-time staff, and duties as a liaison librarian to a specific department, not to mention five or six other classes that week with similar, though not exactly the same, goals and lesson plans. Please don’t misunderstand, it is completely possible to create a well-detailed and clearly thought out lesson plan that is engaging and exciting for every student in a classroom, and if you are doing so, you have my sincerest admiration. In some settings, this is going to be easy and expected for every class (an elementary school librarian, for example, who has worked with the same kids every year as they move through the research process). For academic librarians, in a varied and ever-changing setting, creating these elaborate lessons will take a lot of time and effort—which we just don’t have. A lesson where *some* students learn *something*

some of the time in a lesson that took two hours to put together is preferable to spending ten hours preparing a lesson that may or may not make a difference in the amount learned by our students.

I am not advocating that we all just stop caring about our jobs and instead focus on chatting with our friends on Facebook. I am advocating that we recognize what level of work is going to be necessary to create effective lesson plans, and then doing that work, but not wasting our time by focusing on it more. Librarians need to effectively manage their time to reach out to the optimal number of patrons, and “extra” time is a luxury most of us just do not have. A mutual understanding among students and librarians that enough, but not too much, effort needs to be put in can only be beneficial for both parties.

Natalie Morelli is a second-year graduate student at the University of Michigan School of Information, with dual specializations in Library and Information Science and Archives and Records Management. Her interest in information literacy developed out of a love for working with the public in libraries. Her academic interests also include museum collections, open-access, and preservation of materials. When she has free time, Natalie loves to cook and watch Michigan Athletics. Go Blue!

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Jennifer E. Colby

In decision-making, "satisficing" (Simon 1982) is the process of considering options until "a practical solution with an adequate level of acceptability is found, and stopping the search there instead of looking for the best-possible solution" (*The Economist* 2009). In the process of conducting digital research, many students engage in satisficing, merely meeting the basic requirements of an assignment. Why? Because it's easy. A quick Google search provides hundreds of results for websites full of information. The trick is convincing students that not every source is the same. Without positive intervention and constructive help from a media specialist, student information-seeking is often characterized by confusion, vagueness and sometimes embarrassment (Rieh 2012), resulting in poor research methods and writing that is unsupported by academic sources (Colby 2012).

My practicum in the media center of a public middle school serving sixth, seventh, and eighth grade students and their teachers gave me the opportunity to see and hear about satisficing in action. Again and again, my mentor media specialist stressed the necessity for her students to learn how to perform effective research. Through the years, many teachers expressed their frustrations with their students' limited attempts to find authoritative online sources- satisfied with information found on the website *Wikipedia* and not looking beyond it for more information. In response to this ongoing complaint, the media specialist continues to highlight the media center's available online research sources to students and teaches lessons in locating relevant information from these authoritative sources. She explains to her students that they cannot trust *Wikipedia* because it can contain incorrect information contributed by non-subject specialists. She also stresses that students should not rely on one source alone. Instead, students should only consider *Wikipedia* as a possible place to start their research: using and evaluating the links to other sources at the bottom of each *Wikipedia* article.

From many conversations with my mentor media specialist about the current state of middle school students' research habits I have learned that students prefer using online research sources but do not understand the qualities of accuracy, authority, objectivity, currency, and use when evaluating online sources. In an attempt to help students understand these qualities, my mentor and I developed a lesson to teach a 7th grade Latin class Google's "Power Search" methods (Google Search Education n.d.). Realizing that the digital research sources available to students through the library would not be sufficient for an assignment for this particular class, we knew that the students would look to the Internet for information and it was our job to send them in the right direction. Students "will

usually go to the Internet first” (Weiler 2005, 50) and this preference for the web has developed because many students find it more convenient than traditional library research.

Many school libraries offer online research tools and my practicum school was no different. The Michigan eLibrary has purchased, for all schools, libraries, and homes, the Gale Virtual Reference Library (GVRL), and the media specialist provides a link to it for students on the media center’s homepage. As a result of GVRL (and student preference for other online sources), the media specialist has severely weeded print reference materials and has not recently purchased any new print resources. She also creates resource pathfinders linked to the media center’s homepage for any teacher that requests specific research assistance for class projects. The school district has just purchased an online encyclopedia for the entire district as requested by the district’s media specialists. Still, with all of these digital sources conveniently available to students, a common plea from every teacher whose class visits the media center’s computer lab for research purposes is, “I don’t want to see anybody on *Wikipedia*”.

When asked to describe a “dream information machine,” students talk about a tool that is intuitive; a one-stop source for information needs, portable, and has 24/7 access (Weiler 2005, 50). This sounds a lot like the Internet, but the piece that is missing from this “dream information machine” is student understanding of what an authoritative online source is (Colby 2012). The most important concept the media specialist can share with students is one of understanding where the information they use is coming from. Students need to evaluate the intention, relevance, and reliability of a website and be taught to question:

- “Why was this website created?”
- “What opinion does this site represent?”
- “How old is this website?”
- “Who created the site?,” and
- “How well-documented is the information on this site?” (University of Michigan Library 2012).

Students “satisfice” because the research process is not a “one-stop-shop” and many students have not been instructed on the proper methods for digital research (Colby 2012). With today’s curriculum pressures, many schools have limited time to dedicate towards the most important components of information seeking: learning how to best access, assess, and use new information sources (Connaway, Dickey & Radford 2011).

In a perfect world, all classes would be able to visit the media center at least once

a week for information literacy instruction, but this does not happen. The most likely alternative is collaboration between media specialists and teachers to make students aware of available digital resources, to teach students how to access these resources, and to provide students with the knowledge to assess these resources. This type of collaboration does happen, but in my experience at my practicum middle school it is quite rare. All parties whose goal it is to create better student researchers should work together to share knowledge and resources. By providing more assistance to the teacher, the media specialist can help to build a student's knowledge of the research process, which will help to motivate the student to engage in more thorough and accurate research methods. This will save the student time, availing her more time to become a more confident writer who write a better paper that contributes to the collective conversation. If a student feels confident in her approach to research—knowing where to find authoritative information, being able to access it, and understanding how to evaluate the relevancy of the information for her needs—then she might aim for the best-achievable result instead of merely satisficing (Colby 2012).

Jennifer Colby is a Master's Candidate at the University of Michigan's School of Information with concentrations in School Library Media and Library and Information Science. Looking forward to student teaching in the spring, she is also currently earning a K-12 teaching certificate in School Library Media with a 6-12 English endorsement. As a future media specialist, she hopes to work with students at all grade levels during her career to help establish a continuous information literacy curriculum within her school district in order to best prepare her students for future academic learning.

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“I Think You Can’t Do That Because of Copyright”:
Teachable Moments with Technology

Rebecca Shook

Although I have had experience teaching, I had never considered working in a middle school. To say that I was apprehensive going into a middle school practicum assignment is an understatement. I was not sure what to expect, but I was convinced that I would be ignored simply because I was the new adult in the room. Thankfully I was proven wrong. These middle schoolers blew away any previous attitude I had about them. They were excited to talk about their interests and what was going on in their lives, and most were even receptive to learning.

My practicum included observations and teaching opportunities in two middle schools in Brighton, Michigan: one a 5th/6th grade intermediate school and the other a 7th/8th grade middle school. The district has recently passed a bond to purchase new technology, and the students and teachers all seem willing to experiment with the new hardware. Part of receiving the tech bond was the purchase of Google Chromebooks, which are devices that use primarily Google web-based applications instead of downloaded software to run. A Chromebook looks and acts like any laptop; however, you connect to a wireless network to use Google apps such as Google Search Engine, Gmail, Drive and Calendar. Chromebooks are a streamlined, low-cost way to introduce digital tools and access into the 21st century classroom.

The Chromebooks are on a portable cart with two wireless Internet connections. As the school has limited wireless access, this movable hotspot facilitates wireless access in otherwise wired-only classrooms. There are many options the teachers and students have to investigate learning using this technology. Barring some technical issues—for example, the bandwidth often becomes overloaded midday—the Chromebooks are a big hit with teachers checking them out to their classrooms and students who are excited to use them.

On one observation day, I was in an English classroom working with students as they built book trailers using the Chromebooks. The students were using Animoto, a site that creates free 60 to 90-second animated slideshows. The students were enjoying this project very much, but in working with them, I quickly realized that their information literacy skills left something to be desired in one main aspect: the use of copyrighted information found on the web. The students were very successful in operating the Chromebooks, connecting to the Internet, knowing how to log in and getting to the websites they needed to use.

However, many students seemed unaware of the necessity to either cite a work or that copyright might preclude using that work without permission from the creator. For example, many students asked me how they could take the music

from the trailer for *The Hunger Games* and put it into their own book trailer. Many students tried to find websites that would allow them to splice the music and download it to the Chromebook—and some were even successful. I couldn't help but wonder whether or not the students and teacher had had a conversation regarding materials you could use and materials you couldn't without prior permission. I wondered if the teacher had heard about websites such as using the Creative Commons filter for Flickr for images and Jamendo for audio files.

Because I hadn't been there to observe the beginning work on these book trailers, we ended up having an impromptu conversation with the students—otherwise known as a “teachable moment”. I offered suggestions of where they could look for material, including the websites listed above. It was apparent that these students needed to have a conversation and experience searching for and using work that was copyrighted in a way that allowed them to use the work in question. Many students seemed interested in this idea of copyrighted material; however, others seemed to hope that I would just tell them how to take the music. These types of conversations are important for them to learn now and use in the future.

I experienced this issue in three classes. In each class, a student asked how to pull music from a YouTube video for use in their project—and each time, we had a quick conversation about where they could find music but that even though websites to do this exist, it's better not to infringe on copyright. Many of the students seemed receptive to this information, especially considering I had a place to send them to search for things they could do. I find this is essential when working with people. It is okay to tell them no but you better have an alternative option, or two or three, in place.

By the 4th class of the day we had a list of suggested websites on the board, and the teacher was more streamlined in the communication we did at the beginning of class, pointing that these were good websites to use. However, there was no discussion on why or what it means to use Creative Commons-licensed materials in lieu of their preferred options. Again, a student asked how to get music off a YouTube video for their project. This time, however, a student answered for me: “I think you can't do that because of copyright,” he said. It was music to my ears. The student brought the conversation to where it needed to be: the *whys* of copyright infringement instead of just a laundry list of what you can and cannot do.

As with the earlier classes, the students in this last class responded more to the conversation of why they couldn't just take music from YouTube than they did to the list of websites to use. It became a conversation based in discussion and a genuine want to know how to do it “right.” These are lessons that will hopefully stay with the students as they continue in their education.

But it also got me thinking about what the students are missing from education from the librarian when the teachers check out Chromebooks to use in the classroom. Of course it would be great for collaboration between the teacher and librarian to happen and in the school I observed, the librarian works very hard to make this a reality. The librarian is used as a resource to help teach both students and teachers with a variety of things including working with the new technology and aligning assignments with Common Core Standards.

And yet the students in this English class were missing a big chunk of working with digital resources especially in regard to navigating copyright. These conversations do not have to be long. We accomplished a lot by having a quick five-minute conversation after realizing it was necessary. Without having these types of conversations, and practice citing appropriately and/or using other options (such as Creative Common licensed images/audio files) it is not fair of us to assume they will know about copyright later in life.

It was exciting to see teachers using the Chromebooks for an assignment other than typing a paper. They were really getting into using tools and resources that students in today's world are accustomed to seeing, such as videos and music. Even with the obvious need for more discussions about how to correctly use material found on the Internet, these students were open to figuring out why one piece of music wasn't usable but another was and how to go about using them in their videos. It was a clear reminder that technology aids in education but is a sore replacement for having knowledgeable teachers and teacher-librarians in place to help students navigate.

Rebecca Shook is pursuing her Master of Science in Information from the University of Michigan specializing in Library and Information Science. A previous Kindergarten/Young 5's teacher, she is currently a Public Library Associate at the Ann Arbor District Library.

INFORMATION LITERACY IN K-12

Finding an interesting way to talk about digital citizenship is never easy. Tack on a grammar lesson? I felt defeated before I even started. I was worried my eighth grade students would revolt and walk out of the classroom. This is my experience of leading my students out of the proverbial darkness and into the light of understanding enduring online personas.

My information literacy field work was conducted in my teaching field placement. I was placed at a middle school in a wealthier part of Wayne County, Michigan. I worked with (and continue to work with) eighth grade students in their English Language Arts (ELA) classroom. ELA classes at this school are slow to integrate technology into the classroom. While the school has two iPad carts teachers can check out on a class period to class period basis, they are typically used to browse the Internet and search for images, rather than for research or constructivist learning.

While it may be easy to say teachers should be doing more to integrate technology into the classroom, they have not been given much support to explore the technologies that are available. While the librarian is eager to come into classrooms to try and show off the different apps and functions on the iPads relevant to different subject areas, time and access are limited. This district also has a policy that any student caught with a cell phone during school hours is handed an automatic one-day suspension. On top of that, students are not provided with a school e-mail address. Internet usage is severely restricted, a robust filter blocks all social networking sites, as well as some seemingly random sites like wallwisher.com (unless one has a link to a specific “wall”). These limitations, a kind of walled garden, limit students' ability to exercise acceptable online behavior in the classroom setting. Such a high level of protection unknowingly makes the Internet a place where secretive things happen and where one can hide behind anonymity to minimize accountability.

Though there are a handful of thirteen year olds in the school, a majority of the students are still too young to legally have a Facebook account. A quick closed-eye poll let me know that these legal restrictions did not stop a majority of them from having an account. I hear a smattering of comments every day along the lines of, “Did you see the rant he went on last night?” and “Dude, you *have* to check out the new pictures Sally posted!”

I started my lesson on digital citizenship with a closed-eye poll to see what type of informal interactions students had recently engaged in; including e-mail, cell phones, texting, online commenting, Facebook, Tumblr, blogs, etc. My last question for the poll was, “Who has raised their hand at least once during this exercise?” and I had the students open their eyes. Out of the 300 students spread over the 5 periods I polled, a measly 3 students did not raise their hands. The looks of surprise on numerous faces let me know the students had not thought about how much of their lives were influenced by the Web.

I led a 10-minute discussion on the following topics: an online presence is permanent, an online identity is an extension of oneself and not a mask, and Internet contributions are open to anyone and everyone. Many students tried to argue that it was easy to delete something they posted and not have to worry about negative repercussions, unable to come to terms with their disbelief.

We moved from this discussion to a grammar lesson on passive/ active sentences. Before beginning the lesson being conducted on wallwisher.com, I gave the students a choice. During the transition, I asked something like this, “I can take the time to moderate your answers but that means there is more waiting time and less time to work on homework *or* I can trust you to be responsible and not goof off and let responses go up as soon as they are submitted.” Not one student raised their hand for option one.

While I would like to see this as a break-through and say my students were model digital citizens, there were a few hiccups in every class. The first two periods I did not require students to put their names on their answer posts. “Hi Sally!” and “Hey, wazzup?” littered these pages, even after reminding students they agreed to be responsible digital citizens. After two futile periods of trying to get students to stay on topic, I decided students had to submit their names with their answer. Some crafty students tried using their friend's name to spam the wall, a deception that was quickly discovered and tracked back to them!

My original plan was for students to anonymously submit their answers (so shy students could get comfortable with sharing) and then show their names for the final activity that was the culmination of all we learned that day. This would allow students to demonstrate they took the message of digital citizenship to heart, showing they did not need a teacher to hover over them or the safeguard of submitting their name with their response. As the class periods progressed, student responses started to be nearly completely on topic. The periods at the end of the day were also more on-task. I cannot say if this was simply because of the safeguards I started using, or because friends spent their lunch period talking about the scary consequences of abusing the Internet. Either way, students were given an opportunity to practice good digital citizenship skills, an experience that should happen more often.

Does this mean the message was completely lost on my students? Did they still think their privacy settings were impenetrable? That they could delete the messy digital trail they had been leaving since they learned to type? That the web was the perfect disguise, and they could let their inner mean girl roam free? When threatened with getting their iPad privileges taken away, students buckled down and behaved like the good digital citizens they should be. While one could argue the students just did not want their electronic toys taken away, the flip side could argue students realized how attached they were to the digital world (and, in turn, realize they need to monitor their actions on the web so they could continue to interact in the digital world).

Were any Facebook pages deleted? I think not. Was the lesson a waste of time? Again, I think not. This was just one small lesson in the students' lives, one small seed planted in their minds, something that could take root and nag them whenever they were thinking of doing something online they would not do in the real world. Will they continue to make mistakes? Of course! This is why students need more mini lessons like this. Reinforcing what it means to be a digital citizen is imperative, especially with the rapidly changing digital world. Students might think they see loopholes or super strong privacy settings in new technologies. The digital citizen lessons can easily adapt to the times and specific concerns for specific groups. Think there is no time in the school day? A mini lesson here and there can keep good digital citizenship skills at the forefront of student minds, and possibly help avoid some socially crippling web-incidents that affect school environment.

Rachel Miller is a master's student in the University of Michigan Rackham Graduate School working on her Masters of Arts in Educational Studies with Secondary Teacher Certification. She is focusing her studies on secondary English Literature and History. She is always looking for new ways to combine the two disciplines, incorporate technology, and find new ways to present her subjects.

Introduction

I'm not very experienced. That sentence can apply to too many areas of my life, but most egregious is that I'm referring to my experiences with school librarianship. I'm finishing my last year at the University of Michigan's School of Information (UMSI) and I will end up receiving (hopefully!) a Masters in School Library Media and Library Information Services. But until recently, I really had no business calling myself a budding school librarian.

When I started school here, I knew that the learning curve was going to be steep. Very steep. Think *Touching the Void* steep. I felt a completely out of my depth – and that was just the basic stuff. I really had no idea about all that went on “behind the library curtain” – it was a lot to take in. But I knew that I loved libraries and learning, and working in a school library was, for me, the best way to tap into that exciting, fresh curiosity that propels inquiry. Young students are forever in pursuit of knowing the “why” and “how” of things, and I wanted to be right in the middle of all that awe.

The problem was I hadn't spent much time in a school library. Of course, I'd been in my own school libraries, growing up in West Michigan, and had faintly fond memories of my time spent there; but I didn't possess a single recollection that might explain the gravitational draw school libraries have for me. All my glittering educational moments happened in an English classroom, or on the stage of our auditorium, or, let's be honest, in the parking lot on my way off campus.

But then, for a practicum requirement at UMSI, I got to spend some time in a middle school library with an amazing school librarian, and it all came rushing back to me.

Middle School

Middle school is one of the roughest times in adolescence. For me, it seemed like non-stop bullying, battling, and betrayal – but isn't it that way for most of us? So when I was assigned to observe and spend some time in a Michigan middle school library, I braced myself for the welcome-to-the-jungle mentality that permeated my 12-year-old world.

But things were so different than I had expected, and the school librarian had a lot to do with it. Rachel is a Superwoman for several different reasons: she's a "yes" person, she's on top of all the new tech and educational trends, and she's developed very rich relationships with her students, teachers, administration, parents, and community. But maybe one of the most important is her ability to transform her library space into a haven where students are always treated with respect and kindness. Student at this middle school know that the library is a place where they can be exactly who they are without judgment or fear of insult. And that is especially important in middle school, at a time when our bodies erupt in a full revolt and so much is uncertain and new.

Along with UMSI faculty and colleagues, I was working with Rachel to develop Michigan Makers, an after-school program that championed technology, making (a relatively-new term used to describe creating things from scratch), and creativity by using affordable gadgets and tools and free, open-source software. What I learned and experienced there could fill a book, but I want to spend time with this chapter talking about some of the amazing mini-lessons I picked up while observing Rachel in her everyday activities during the school day.

Pick a Card, Any Card

I'd like to describe some of the incredible lessons I learned at Rachel's library, but short of writing out all the context and background to every scenario, I think the best way is to do this in a list:

1. *Put Information Literacy in their Backyard:* Info Lit is complicated. It's nuanced, it's subjective, it's hard to pin down. Now try teaching it to a group of eleven-year-olds. It's certainly not an easy task, but Rachel is pretty good at making it look that way. Whenever she's trying to drive a point home about social awareness on the Web, website evaluation, or the responsibilities that accompany citation, she makes sure to place the tale she's telling in a context that is familiar and, therefore, more accessible to her students. I watched her teach a lesson about Internet context evaluation – how do we know what's true? What's fact? – she used gossip and rumors as an avenue through which to approach the complex ideas. Who knows more about the complicated sub-world of rumor than a middle school student? Are rumors true? Are they always false? Should you repeat them simply because they sound good? These are all questions that we should ask ourselves about information we stumble across on the Internet, but because of Rachel's thoughtful planning, it clicked.

LESSON LEARNED: Information Literacy is not something that can only be taught and successfully implemented at an academic level. It's not just for college; finding the right way to relate to your audience can bring them worlds

of understanding about a topic that still perplexes educated adults. They're capable of more than we know if we can lead them in the right direction.

2. *Library Classroom Management:* A poor, unfortunate student made a bad choice and violated school policy by downloading and printing out images of severely under-clad women one day while I was at the middle school observing. I had no idea how I would deal with such an issue, so I was very grateful for the opportunity to watch and see what Rachel did, which I think fit the crime perfectly. Rather than focus on the crime, she talked about how such behavior was *perfectly normal* in adolescents and that the issue most important here was the violation of trust Rachel had built with the student in the library. She asked him to write her a letter describing ways in which he broke this trust and ideas he has for building it back up.

LESSON LEARNED: It's more important to focus on the relationship you've developed with a student, rather than any singular mistake. Look at every student as a whole person, not a series of behaviors.

3. *Teaching Technology:* I was able to watch Rachel teach a couple of classrooms how to use the iMovie app on their iPads for a project the students were starting in Social Studies. The iPads were still fairly new, purchased this year for a new technology initiative, and many of the students hadn't had much of a chance to explore and experiment with them yet. I watched as Rachel wrote a succinct, direct agenda on the board, detailing what she wanted the students to be able to do with the iPads at the end of the lesson. She then worked her magic and often went back to the board, asking students where they were on the agenda. There was always a resounding response, as students were proud to announce that they had learned new skills. In between skill building, she allowed students an extra 3-5 minutes of play. I asked her why she was letting them stray a little from the lesson and she told me that it was still so new to them – she wanted them to *want* to work with these tools and get comfortable with them. A couple extra minutes now saves her time later, when she wants them to be more focused in future lessons for more complicated tasks.

LESSON LEARNED: Playtime is not wasted time. Depending on the technology or tool, it's important to keep in mind that learning is supposed to be fun (at least sometimes!) and that a little controlled chaos doesn't mean you've strayed. It's just smarter teaching.

I could go on and on about the many little lessons that I learned every time I got a chance to watch Rachel teach and interact with her students. Spending time with her in her library was a goldmine of information and I feel really lucky to have been able to participate. These lessons might seem small, but they're indicative of larger ideas, like educational priorities, classroom and library culture, and teaching strategies, that become the foundations of a person's teaching style and approach. In just a matter of weeks, my experiences with Rachel and her library gifted to me a lion's share of confidence and I'm more ready and prepared to start my next adventure – full-time student teaching. Ahoy!

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Abigail Genise

Throughout my observation experience, I have been intrigued by the ways in which informational literacy is both introduced and taught to students, if taught at all. In reflecting on my own high school experience and understanding of research, I've been debating the "best" way to go about teaching about the importance of research, inquiry, and citing sources. I have also been looking at the increase of online resources and technology in today's world and how that is a difference from schooling when I was a 10th grader learning about proper research strategies. Through observing an English/History class, I was able to get a first hand glance at student's views on the topic, as well as step in to influence these students motivation and interest. My observation experience was done at Huron High School, a large comprehensive high school in the Ann Arbor area. I observed at Huron in conjoin with my student teaching placement for the Masters of Arts and Teacher Certification (MAC) program at the University of Michigan. Because of my interest and passion for Huron, I decided that I wanted to explore the aspect of informational literacy at my placement. This way I could also explore informational literacy in my content area, English, which was a bonus for me.

One of my mentor teacher's classes is a 10th grade class titled African American Literature, and this class is paired with an African American History class. The students are split into two groups; one has Literature 3rd hour, and history 4th and the other group has the opposite. In this way, the students study the background of the time period in history while reading novels of the period. The combination gives them a thorough, deeper understanding of African American history throughout the ages.

Because so much of the class is concerned with gaining knowledge on the historical background of these novels, students participate in several projects where they research themes related to the novel. From what I observed, this research is done on *Wikipedia* or other basic web browser, with minimal emphasis placed on citing sources. This mindless web searching and lack of documenting sources grabbed my attention as it related to the informational literacy issues that we discuss in our class.

For my teaching experience, I really wanted to put my own college/grad school spin on why citing is so important. Besides just important, I wanted to emphasize to the students how vital it is to just get comfortable with the idea of citing information that you use in your work. My hope was that through a lesson on formatting in APA (American Psychological Association) style, in-text citations, and discussions, students would understand the importance of wanting to be

curious about research and wanting to use those sources to produce their own individualized projects.

To access the students' prior knowledge and provide background information, I composed a lesson on APA citing, why it is important, and when we do it. I went over formatting in-text citations through modeling sentences that were taken from an online website, and I did this on the white board, so I was writing right in front of them. I also used various sentences on the board during my section on differentiating between what to cite and what is common knowledge. Finally, at the end of the lesson, I turned the lesson over to the student's history teacher who went over the criteria for the research paper, giving the students a tangible independent assignment for them to practice and refine their APA citing skills.

Students view the Internet as a quick, easy source that is the answer for everything. And I was reminded in my lesson that a lot of us do, right? However, what I learned through my lesson on citing and how to format is that students *do* know what citing is. They know they must give credit to the original author of that work, but seemed to forget that citing rules work with Internet resources, too, not just with print sources. With a society that is becoming more and more Internet based and dependent as we speak, skills like citing must be stressed as a necessity even more than before.

If the Internet is taking the place of tangible books more and more, then why are students still thinking it is okay to not bother to think about the author of an Internet site or electronic reference book? They are not reminded of these necessities. I would argue that plagiarism happens less when students are extracting material from actual books more than when they are working with online sources because at the high school level, most citing is referred to and taught with books. This needs to be shifted to the Internet and online sources.

As I mentioned earlier, I modeled APA formatting and distinguishing between what to cite and what not to cite by using a sentence that I got from an Internet website on the 1920s. I learned that this example—this online example—hit home more with the students. I caught their attention more by saying, “Now the source I got this sentence from is an Internet website, so I am going to add the year of publication and author of that website in parentheses at the end of my quote.” Even though the Internet is a quick, easy, and convenient way to gather information, someone else *still* wrote that information and *needs* to be accredited if a student uses that website as a source in his or her paper. By using this example and using it so nonchalantly, I learned I was able to connect citing sources to the real-life online world that is becoming more and more popular in education.

My lesson and my experience with these 10th graders have made it clearer to me on a hands-on level the lack of knowledge there is in schools on media literacy. With a society becoming more and more Internet dependent, there is no reason

why this should be the case. If we are turning to technology as much as we are, than there should be equal if not more education in schools on the copyright laws and citing procedures as it applies to those online sources. It is still information, even if it is not information that is in a book, and this fact needs to be stressed and taught a great deal more in our schools.

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Alex Mendiola

So, I took this class, Information Literacy, and, initially, it completely mystified me. It did frame questions of research in a way I had never considered. About halfway through the term, I began to understand why information literacy is so important for our students to learn. When I teach reading, I often talk about making the invisible visible. We, as more proficient readers, need to explicitly show and tell how we read to our students. The same goes for information literacy. In the school where I teach, my students bring some additional challenges to learning something as complex as information literacy.

Teaching information literacy in a team-taught 11th grade classroom presents several unique problems to educators that programs such as the Big6 (Eisenberg and Berkowitz 2009) do not readily address. For those unfamiliar with the term, team-teaching refers to general population students intermingled with special education students in the same classroom. I student teach in a district which is on the verge of being taken over by a private company as a result of the ongoing, below-average performance of its students. Many of the children come from tenuous home and family situations that have a profound impact on their learning. I wanted to find a way to support what my mentor teacher was already doing so well. She skillfully creates lessons and activities that enable all of her students to progress. One of which was to be a persuasive research paper. Knowing the wide range of ability levels in our class, I knew I had to boil down information literacy to its essential elements in a systematic process. That way, my students could refer back to that process if they lost their way during research. This turned out to be quite a daunting task.

I knew I had to plan both the sequence of the concepts and the tasks of information literacy carefully. The obvious systems of information literacy applied to this situation. In the end, I adopted—though heavily modified—the Big6 system of information literacy (Eisenberg 2009). The language of that system, while comprehensive, is too advanced for the bulk of my students so I modified my lesson plans to meet the students at a more basic understanding of both the technology of search and research. Many of my students are well below grade level in reading and writing and/or are classified as special education students. The Big6 claims to work with 3rd grade and up, but I would argue that the vocabulary used in their materials is extremely unfriendly to low SES (socio-economic status) students. Through previous discussions, I discovered that most of the students were totally in the dark regarding effective search strategies and credibility measures. Their inherent understandings and practices allowed them a limited understanding of the concept of the credibility of a source of information

and why that is important in their writing.

I began developing an outline for instruction by adjusting the language of the Big6 into student-friendly language. The concepts are well organized but I knew that my students would glaze over, freeze, and/or shut down in the face of so much text. Specifically, the text of the Big6 contains vocabulary terms which appear synonymous with each other (e.g., reliable, accurate, precise). Advanced readers can decode the nuances of differences in these terms accurately but my students are just learning these words. I had previously viewed Google Search Education's lesson plans on the mechanics of a search (n.d.) and inserted it into my outline. Through group discussion I hoped students would discover the purposes and reasons for careful search and research practices. I designed the prompting questions and learning activities around this hypothesis. Unfortunately, like the old military adage says: "No plan survives battle." So went my lesson.

We had already navigated the challenge of constructing specific and well-formed research questions to begin their research task. The first roadblock in their process appeared when I asked them to create search terms based on their research question. Let's take a moment and unpack what goes into transforming a question into effective search terms. Google suggests that searchers use primarily nouns, avoid typing entire questions, and keep the list of search terms relatively short (Google Search Education n.d.). The student must understand how the database is searched, eliminate unnecessary words and punctuation from their question, condense core words into more general search terms (or more specific terms), understand what "too general" and "too specific" terms look like within the context of their query, and the list goes on. It is a very complex process for a novice searcher.

The second roadblock my students encountered was evaluating the search results their queries provided. I had provided them with several actions to take when presented with their search results but, once in the computer lab, most fell back on old habits. The most common misstep students made was to click the first search result without pausing to see if the results were likely to have information relevant to their research question. What caused this behavior? I had explicitly practiced this strategy back in the classroom first through demonstration and then through whole class collaboration. Was it laziness? I don't think so.

When I worked with students individually, I asked them the questions we practiced in the classroom. It became clear that they needed more practice with either me or in small groups. But, that was not the only reason. Often, I would see a great resource in their search results, but they would not select it. Now, when you're working with low SES students and special education students, you have to carefully craft your questions so as to avoid embarrassing them. Through observation while guiding these students through the search result evaluation

process, it became clear that the quality results were just too complex for them to read and understand. They knew that results of that type were out of their cognitive reach.

How are classroom teachers able to transfer that kind of knowledge within the framework of a lesson, a week's worth of lessons, or a whole term? What can teachers do to help their students overcome the comprehension barrier to research? This is a complex problem for both classroom teachers and librarians. Each student enters the learning space with a set of skills unique to their experience both inside and outside of school. Too often, the ways struggling learners cope is through covering their deficit with skipping difficult tasks like ignoring quality search results. Teachers and librarians must be vigilant to recognize these coping mechanisms. In the computer lab, all I had to do to get these students through this phase of the research process was to work with them one on one to decode the scholarly articles they were finding. Too bad I only had 72 minutes and 26 students.

The next phase, determining the credibility of sources, proved difficult in the extreme for my students. Once again, their normal search habits reared their ugly heads. Kids were randomly selecting search results. Some had typed full questions into the search box. Yahoo Answers was popping up on their screens all too often. When I walked a student step-by-step through the litany of questions I provided them to determine credibility, I discovered what was tripping them up. The credibility evaluation process is complex. Several questions need asking and in a particular order that does not necessarily stay consistent across source types. The kids were overwhelmed. I needed to find a way to break it all down for them.

Let's skip ahead. The students (most of them) had found at least two relatively credible sources that contained relevant information. They now had to extract the information to support their arguments. It should be noted that several of the students had not yet formed a clear argument regarding their issue. In those cases, their task was more complicated. They not only had to find relevant information to extract from the articles but also simultaneously frame it within an evolving argument. In both cases, with the exception of only the most advanced in the class, students randomly highlighted passages of text regardless of their relevance to an argument. Again, I think this phenomenon links to both reading comprehension level and information overload on the part of these students. Kuhlthau writes of the emotional frustration felt by researchers (Kuhlthau, 1994). I was experiencing similar feelings as an observer and facilitator of this process.

One of the most effective ways to help struggling readers increase their comprehension of difficult texts is to "chunk" the material into small segments. Could this apply to how we teach information literacy? If my students struggled with the research task because of reading comprehension difficulties, surely chunking the research process will help. I spoke with my mentor teacher about

this and she agreed that the next time we give our students a research paper assignment we must integrate small segments of the research process into our daily lessons in ELA. For instance, I might have a bell work assignment where the students are tasked with formulating a three-word search query from a shared question. The first few times we would complete it as a group then switch to small group, partner, and individual work.

Once the students show proficiency with these small research tasks, they can be assigned larger tasks for homework. This will provide the instructor with assessment evidence to determine whether more instruction is needed or if they are ready to move on to new tasks. Students can demonstrate their understanding through formative or summative assessments like quizzes. The quiz could ask them to evaluate a screenshot of search results for a particular query. Which result is most likely to give the best and most relevant information? How might they change the search terms to get better results? After the quiz, open the floor for discussion on the strategies they could use to refine their research technique. Allow students to defend their process and discover best practices. For older students, they could develop their own search methodology as a longer project.

Further integration is possible through assignments and activities that give students opportunities to try out their new research skills. Students can write synopses for blogs or online fiction (search result credibility skills). They can tweet book reviews (condensing ideas to a few words). When discussing the cultural conditions in which an author wrote a particular piece, small groups of students can be asked to find information regarding the political or economic climate of that era (full research process). Integration of explicit information literacy activities into ELA instruction provides the necessary scaffolding, guided and independent practice, and time needed for struggling readers, special education, and low-SES students to fully synthesize the principles of research. Plus, teachers can rest easy knowing the students are getting what they need to succeed at research without taking an exorbitant amount of time away from teaching their ELA curriculum.

Alex Mendiola is currently a graduate student at the University of Michigan School of Education pursuing a Master's Degree and teacher certification and is developing educational software to help students make meaning from difficult texts. He also acts, directs, writes and produces film and theatre. His wife and three children keep him grounded, and he sends them his love and thanks for all their support.

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Rebekah Terry

Information literacy sounds like a term only stumbled upon in a ten-pound tome.

Actually, it sounds like a term in a ten-pound tome hidden on a dusty shelf of some inconspicuous library.

Thankfully, information literacy is not as it sounds. Nor is it just some term found only by those with a librarian's sense of direction.

Information literacy is a skill.

To be literate in all areas of information requires discernment on the part of the information seeker. To put it bluntly, to be information literate (IL) means to be able to figure out what information you need, then to have the know how and skills to locate, evaluate, and use this information effectively (American College and Research Libraries 2000).

Without IL you can't find the baggage claim in an airport. You can't read the instructions for how to assemble a bookcase. You can't look up a recipe online. You can't drive. And you certainly can't read a text or conduct research.

IL is not just about understanding what you read. It's about comprehending any data and using it.

You might say IL could be found at the core of any class on any topic. I certainly teach it in my own classroom.

As a high school English teacher and grad student, I require my students to be informational literate. I demand this skill when I ask a student to read and analyze a novel, watch and analyze a film, read directions, write an essay, take a test, or conduct research.

I teach my students how to use IL. I tell them, "Figure out what info you need, and figure out how to use the info you got." With this process, students can interpret, analyze, and evaluate any text, whether visual, virtual, word-based, number-based, or otherwise.

It was with this in mind, this idea of multifarious interpretations, that I began developing my own little project. It began with a simple thought.

“Some kids have a really tough time understanding literature.”

Not a very sophisticated thought, I know, but the truth is eminent. Many students really struggle to comprehend literature.

This thought was followed by another.

“It seems like it’s easier for them to understand pictures, movies, and games.”

So then I thought, “How? How can I incorporate pictures, movies, and games into my lessons to help students understand texts?”

And the answer was simple: a website.

So I turned to my friend Alex Mendiola (editor’s note: see previous chapter), who quickly became my partner in crime. Our aim was simple. We would build an interactive website that helps students understand literature.

What we came up with was a prototype for a site called Cognosa that goes beyond traditional text analysis. What we came up with was a site that combines all forms of information literacy in order to scaffold students’ reading and writing literacy (see Figure 1).

When fully developed, Cognosa will include visual interpretations of the text, simulations that require students to create their own versions of the text (whether it be a comic book, movie, script, podcast, etc.), discussion forums, and hangouts. Cognosa will have games that help students practice and learn vocabulary, characters, motifs, and linguistic devices. It has an interactive text that allows for annotation, pictures, and highlighting.

The site is designed to have the feel of an online game. There is a mission control or base from which all activities can be reached (Figure 2). The mission control itself looks nothing like something you would find in a textbook. In fact, it looks like a page torn from a graphic novel. It ties into our theme of “This isn’t work. This is fun.”

As students progress through various levels or stages, badges will be awarded for completed quizzes on topics ranging from vocabulary to rhetorical devices to plot events. They can achieve badges for contributing comments, recorded (or live) discussions, or any other assignments. They “level up” as they progress through the text and their progress is recorded in the bottom right hand of the mission control page.



Figure 1: Home page of Cognosa, a website created by the author and Alex Mendiola.

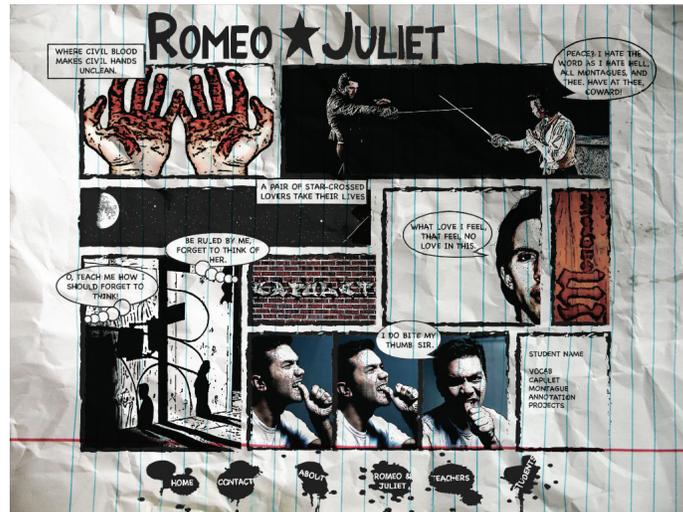


Figure 2: Cognosa's Mission Control page. Each comic book panel leads to a different activity or stage of learning. Student progress is tracked in the bottom right corner.

Teachers will have the ability to track each student's progress. They can note where a student is struggling and where they are excelling as long as the student is enrolled in his or her class.

By combining all the elements the web has to offer, Alex and I are forcing the students to use the information they know and can decipher (like movies, comics, text messages, podcasts, etc.) to deconstruct a text.

For example, in the first stage or level we let them practice the processes involved in translating a text by showing a film version of the first scene from *The Tragedy of Romeo and Juliet*. They watch the clip without hearing the actors speak. All they can rely on is what they hear (the music of the film) and what they see (the actions of the characters).

After they've seen the film, they predict what's happening and create their own captions to accompany approximately ten scenes. They do this without ever coming into contact with Shakespearean language; language that deters students from wanting to read Shakespeare because it seems too difficult or complex.

Students then view a text message version of the first scene. Now, they've moved on to translating the visual and have moved on to translating a form of language, or "text-speak." After viewing and interpreting the visual and text medium, they have a good idea of the plot points in the story, and they haven't read the play yet.

After they've seen and interpreted these versions of the text, we then ask them to create their own translation. If we look at Bloom's Revised Taxonomy, the students have already achieved some of the highest levels of thinking. They've analyzed a text, predicted what is happening, and created their own version.

It is only after they've completed this first stage that we let the students read the first scene of *The Tragedy of Romeo and Juliet*. Because they have translated multiple texts, created their own text, and are familiar with the storyline, all they have to focus on is the language. And the language doesn't seem so scary when they already know what's going on.

This is why we think Cognosca will work: we scaffold their learning. We start small then go big. We show students how to analyze any text. We almost trick them into analyzing it by disguising it as something fun and game-like. Then we identify this process, tell them what it is, show them how to duplicate it, and have them create their own text.

Mastering IL means mastering all information. It's not a secret term used only by the elite, hidden away in a place only dust mites and antiquarians visit. It's a skill everyone should have, use, and understand.

You can use it to understand the meaning of a novel, a movie, a podcast, a clothing label, an instruction manual, or a photograph. You can use it to understand anything.

This is why we should teach our students to be information literate. It is why we should teach them to evaluate and analyze anything and everything. Because when we do, we are teaching them how to understand the world.

Rebekah Terry is a graduate student at the University of Michigan and a preservice English teacher who likes to write things that amuse her, read things that make her muse, and watch things intellectually of use. She likes to play on words, trampolines, and stages. In her past lives, she was a mafia boss, a Buddhist monk, and a rabbit named Hester.

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INFORMATION LITERACY IN HIGHER EDUCATION

Ashley Clark

Throughout this past semester, I worked with the Psychology and Sociology Librarian at the University of Michigan Libraries, Susan Turkel. Susan has taken an active interest in information literacy. She attended workshops about information literacy, participated in webinars and worked with numerous classes where she teaches workshops about how to research. I was excited to find out that we were assigned together knowing she would have several ideas for the workshop I needed. When I met with her, though, she told me that she wanted me to come up with a workshop idea myself.

I had no idea what kind of workshop I wanted to teach. What did I know a lot about? The most difficult part of planning this workshop was creating something that people would want to come to and find interesting that I also knew enough to teach about. As I was planning my workshop, I focused on the audience that might sign up to attend. I thought about workshops for undergraduate students, graduate students, faculty and even community members, but I couldn't come up with anything that I really wanted to teach. It wasn't until Susan received a serendipitous email that I thought about doing a workshop for administrative staff members.

This email was a desperate call for help from the Sociology Executive Assistant, begging for Susan's assistance with finding book reviews and journal articles. Three times a year, executive assistants from every department must hunt for book reviews and journal articles that are used for tenure review and the hiring process. Before I committed to this workshop, I made sure that other assistants were having the same issue. I emailed a couple of executive assistants and set up interviews. The first one was surprised that someone from the library was even asking her about this. She said that normally the whole process takes a few hours and she spends most of it Googling the articles. This executive assistant explained how frustrated she always gets. She said she felt like she was "fumbling through the entire process." When I asked about library resources, she had no clue what they were or how to find them and said she had never used the library website before.

After this initial meeting, I realized that the research method of these executive assistants was a major problem at the University of Michigan. Since all of the administrative staff must complete these searching procedures, I was surprised to discover the majority of them knew nothing about the library system at U of M where there are databases of just book reviews and journal articles. I knew my workshop could help them understand that the library wants to work with them and has resources designed specifically to make their jobs easier.

One of the first things that Susan and I wanted to emphasize is that the library resources are here for staff to use and that librarians are more than willing to help them find information. When I made the lesson plan, I showed how to search using a few resources but I also explained all the other resources the library has to offer. I emphasized the fact that everything the executive assistants needed was in the library and showed them how to find it. In order to teach information literacy to the staff members, I realized I first had to explain how to find the library resources.

Throughout the workshop I demonstrated using the resources to search for book reviews and journal articles. These demonstrations, followed by guided practice allowed the assistants to understand the search process, especially since I talked my way through the entire process.

To reinforce that the library resources were for them to use, I made a handout of all the resources that covered in the workshop so they would remember, or at least have a guide to help them find, the information. This cheat sheet could be kept at their desk for reference whenever they were looking for book reviews and journal articles. The executive assistants also had access to the LibGuide I made that outlines every resource covered during the workshop in detail. The executive assistants that attended my workshop needed to see these resources demonstrated. But the demonstration didn't teach them everything. They might not remember the names of the resources, but with these guides they don't have to.

The hardest part about teaching this workshop was the lack of knowledge and experience that the attendees had of the library resources. The staff members needed a tutorial on how to use the main library homepage and how to navigate to the resources we were using. Several times during both of my workshops I had to repeat how I got to a resource because they didn't know how to get to resources on the library website. This repetition taught me that the outcome doesn't matter as much as the process. I could have shown these resources to the people at my workshop several times, but if they didn't understand anything about the resources or how to get to them it wouldn't have mattered.

One of my main tactics to ensure that the staff members use more library resources and explore library resources was showing "fun" resources at the library. While everyone needed to learn more about finding book reviews and journal articles, they wanted to come to my workshop to learn more about other offerings at the library.

Several programs are available for teaching information literacy to undergraduates, faculty and graduate students. However, staff members need information literacy training as well. They need to use library resources as much as any other staff member at the University; yet, they aren't receiving the training they need. Staff members throughout the University of Michigan need to know

that the library is here for them to use and has resources set in place for them to use. Hopefully this workshop is the first of many offered to help staff members.

Ashley Clark is a second-year graduate student at the University of Michigan School of Information specializing in library and information science and archives and records management. Ashley has experience working in both specialized academic libraries and public libraries.

Regarding Instruction:
Guiding and Motivating Students in the Library Classroom

Andrew H. Katz

For my practicum experience, I worked with the undergraduate reference and learning librarians at a large Midwestern public university library. Most of the librarians in this group would be what one might term “generalists” as opposed to subject specialists. Much of their work is focused on teaching undergraduates the ins and outs of the library, facilitating information literacy class, and working at the reference desk. However, they also work with a number of programs to encourage undergraduate research. The librarians interact with students by leading workshops in conjunction with classes, teaching for credit library classes, sitting at the reference desk (in person or chat) as well as creating online research guides.

Over the course of the semester I worked on a number of projects. One of my main projects was to update and redesign the Introduction to Writing/Research LibGuide to make it more visually appealing and accessible, and to update the content to better reflect what was currently being taught by the library staff. Another project that I worked on was to help plan and execute the visit/field trip of local high school seniors (some of whom were at the Advanced Placement, or AP, level) who were coming to the library, on separate days, to not only see what a large university library looks like, but to also conduct research using the library databases/resources. I was especially involved in planning the lesson for the students from the Senior Composition (non-AP) class. Historically the essay for these students was very simple and did not really warrant visiting the university library for research. More importantly, the students rarely came to campus with a topic selected, and some were noted by teachers as not being college-ready.

This semester, I also learned is that nothing replaces quality in-class instruction. With face-to-face instruction, I could see instantly how students reacted to our teaching. Most, if not all, of the students left the classes more informed than when they left. Even the students who had some previous experience with databases left with a more detailed understanding of how best to search the databases being used. I noticed that the experienced students rarely were experts at the databases they had used prior to class. And while some students appeared bored during modeling of the databases, I never experienced push back from students who thought they knew the database well enough to not be in the class.

One important aspect of face-to-face instruction in both libraries and classrooms is getting the students motivated and enthusiastic. This can be especially hard for academic librarians, since we don't see students every day (or, in some cases, ever

again) and don't have the ability to create a lasting bond that can help ease that motivational leap. While either observing or doing the teaching, I was reminded firsthand how sometimes just a really good open-ended question (with no right or wrong answers) can get the students talking and interested in what you have to say. However hands down the most important motivational factor is the possibility to actually do research on a paper for which they have already selected a topic. Unfortunately, this is not always in the hands of the librarian.

Some instructors bring their classes to the library before the students know what the assignment expects of them. If this is the case for the entire class, this is an issue worth discussing with the professor, as it removes relevance and context for students. Without a sense of why and how the lesson relates to the task ahead, students often disengage: there is no motivation for them to really learn to do the research.

The other problem occurred when instructors gave students their assignments and then didn't check to see if students had selected their topic before they came into the workshop. Carol Kuhlthau's Information Search Process (ISP) is particularly useful in explaining why having a topic is so important. In Kuhlthau's ISP (1998) there are six stages to research. These stages not only address the technical steps a student takes to do research but also address the emotion of students. A crucial stage is Stage 3, the stage at which students have selected topics but have not yet started to really research or learn about it. Students at Stage Three are anxious. It is at this stage where many students come to the library for instruction with their instructor. Even though they are anxious I found that students at Stage Three are approachable and in the short time that we have with them in the classroom can be helped. They want to begin to gather information so they can write their paper. They might not know a lot about their topic and are still learning about (still narrowing or broadening the topic) but at least they have some idea about what to search for. I saw this happening during the workshops. Students were beginning to search and I felt that my job was to help them create a search so they could find those initial resources.

The students who come to these library sessions with no topics or have just received them are still at Stage One, and they are also very anxious about their topics. These students are harder to help because they don't even know what they want to learn about (Isbell & Kammerlocher 1998). At this point I have a choice to ignore this student and let her struggle on her own, but this will might cause the student to be hesitant about approaching librarians in the future. I can tell the student what topic to write about and suggest how to search, but I risk driving the research. I can try and give suggestions for topics but then let the student work on their own; again, I run the risk of helping the student pick a topic to which they will not be committed. There is a fine line I believe between giving the students too much information and just the right amount. But these students in their anxiety are also much more likely to be distracted and not focused on

their work. These students are not going to get the guided practice that will help them when they go home and they are on their own. In the end, however, I think we have to give the students some guidance to at least get them started, perhaps leading them to more general sources so they can make that informed decision about a topic.

I think the best way to overcome this obstacle is to have good communications with the instructors of the classes that are coming in. Talking to the instructors and knowing what sort of topics they want covered is one way the people can improve their practice. This tactic was something I learned when I was working in museum education and giving school tours. Knowing what topic the students were currently covering in History class (before they arrived) allowed the museum education team to tailor the tour to meet the needs of the class. Those students were usually more engaged because they were most familiar with the exhibits we were presenting.

While librarians can continue to refine their teaching practice, it is through dialogue with the classroom teacher or professor that the strongest bridge to research success is built.

Andrew Katz is a former museum educator and middle and high school history teacher from New York City. At the University of Michigan School of Information, he is studying Library and Information Science. He looks forward to focusing on instructing students about library resources and teaching them to be savvy consumers and users of information.

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When I was a younger library user, I always thought of librarians as information-seeking assistants. They were always happy to help me find information I could not find for myself, and I was grateful that they understood the nuances of call numbers and subject searching because I certainly didn't. It wasn't until I became a graduate student and began working in libraries that I understood that librarians can also be *teachers*. A good librarian helps users navigate the many resources available to get them the information they need, and also addresses their need to learn information literacy skills to take with them outside the library. I spent much of my first year building up these skills for myself, and then turned my attention towards learning how to teach them to others.

Throughout my second fall semester of graduate school, I worked with one of the University of Michigan's learning librarians, who teaches a mini-course for undergraduate students on digital research. Through observing her class every week, I was able to see how she put into practice the information literacy teaching skills I was learning about through my own studies.

Later in the semester, I was given the opportunity to co-teach three one-shot workshops with my mentor. Professors are able to request a one-time session with a librarian to have to the class learn about the library and the resources it offers. The librarians tailor each session to tie in with what the class is studying, so that the workshop is most relevant to the needs of the students. The workshops I co-taught were all for sections of English 125, a course for freshmen that requires them to write a research paper. For each workshop, my mentor and I communicated with the professor to find out what the class was working on. By viewing their assigned paper, the class syllabus, and in some cases their paper prospectuses, we were able to tailor the workshop around the skills and resources the students would need to complete their assignment.

For each workshop, I was responsible for teaching the students about Mirlyn, the University's online library catalog. I gave an overview of what Mirlyn covers, pointing out that it doesn't just find books, but searches across our many libraries for all kinds of materials: journals, magazines, audiobooks, DVDs and more. I then demonstrated how to run a search, pointing out different features like the advanced search page and subject headings, and ended by showing how to get hold of materials. Once I was done demonstrating, I planned to have a guided practice session where the students ran individual searches for materials for their final papers.

One thing that really struck me through my observation of my mentor was the amount of planning she put into each class. This didn't just mean putting together PowerPoint slides and grading homework each week, but really thinking about the content of each lesson and building a progression towards the final project, which required the students to put into practice all of the skills they were learning. I was impressed with the thoughtful planning my mentor put into each week's lesson, and it was great to see how each week built up the different skills the students would need to complete a research project.

Observing the importance of good planning helped inform my own teaching experience for our one-shot workshops. They were my first time formally teaching in a classroom, and my mentor was able to give me a lot of feedback and help while I was planning. She set up a practice session for me, where I taught the lesson to several other librarians. This was immensely helpful, as it helped me overcome a lot of my nervousness about teaching for the first time, and since my audience was made up of instructional librarians, they gave me really helpful tips about my lesson plan and my teaching skills. It was helpful to get notes on little things like projecting my voice before getting in front of a classroom of real students, and some of the feedback was fantastic in its specificity. One librarian pointed out that my sample search, while a good demonstration of the different features of Mirlyn, was a literary critique search, while most of the students would probably be performing subject searches. It was a good search, she said, but she wanted to point out that it wouldn't be terribly relevant to the students, and it may have ended up confusing them. I was really grateful she had brought that to my attention ahead of time. I ended up scrapping my original search and going with a more relevant subject search for the actual lesson, which I think was ultimately more helpful for the students.

Another important thing I learned about teaching couldn't really be learned ahead of time, which was the importance of adaptability. Once I got in the actual classroom, there were a million tiny factors to manage that I hadn't anticipated: the air conditioner was blowing loudly, so I had to really speak up; the classroom door locked automatically, so students had to be let in if they left mid-lesson; some students were chatting instead of paying attention. It was a little overwhelming at first to have to stay on top of so many things, and that was while I had a co-teacher! Teaching multiple sessions helped me get used to managing all these little things in the classroom at the same time as I was teaching.

Adapting quickly on my feet was probably the most important skill I picked up from my teaching experience. The first time I taught, I soon realized that it would be disruptive to the flow of the lesson to stop teaching and have a guided practice session for Mirlyn in the middle of the workshop. I conferred with my mentor while the students were reading and she agreed that it would be more practical to combine it with her own guided practice on finding articles towards the end of the class: that way, the students could practice whatever new skills were most

relevant to their searches. This format changed worked really well, and we decided to keep it for our following workshops. I realized that even though I had planned extensively, there will always be surprises once you actually get in the classroom, and it's important to stay on your toes and be flexible, rather than rigidly adhering to your lesson plan.

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Grads, Undergrads, and Staff: Oh My! Teaching an Audience of Mixed Knowledge Levels

Melissa D. Bowen

My recent experience instructing at the Clark Library at the University of Michigan showed me the implications of a mixed audience for planning and teaching workshops—findings that I believe are extensible to other teaching situations. I learned the importance of gauging the level of knowledge in the room at the beginning of the workshop so I could tailor my material and appreciate that the important element of my workshop, more than simply using features in Excel, was teaching basic literacy with Excel.

For my course Information Literacy for Teaching and Learning, I did a practicum at the Clark Library at the University of Michigan. The Clark Library specializes in maps, spatial and numeric data, and government information. My mentor was one of the spatial and numeric data librarians and she teaches workshops on subjects such as using Microsoft Excel, Geographic Information Systems (GIS), and data visualization. For my practicum I taught two workshops titled “Excel: Beyond the Basics.” While both workshops essentially contained the same information, each experience was unique. I was aware my audience was made up of many different people: undergraduates, graduate students (both masters and Ph.D.), and UM staff, but it was not until I taught the workshops that I fully grasped the implications of a mixed audience.

My first workshop was mainly comprised of graduate students, and their evaluations stated that many felt the workshop went too slowly and only the advanced topics covered at the end—which I was forced to rush through—were relevant. Based on this feedback, I overhauled the presentation for the second workshop, trimming the basics in order to spend more time on the advanced information in the latter half of the workshop. I also picked up the pace of how quickly I spoke, something which both the evaluations and my mentor had suggested. However, this workshop had a majority of University of Michigan staff members and I found they had far more questions and did not grasp the material as easily as the previous participants.

People came to the workshop with completely different levels of knowledge about Excel, depending upon their backgrounds and the purpose for which they used the software. That is, a student from the School of Natural Resources and Environment may use Excel in different ways from a University of Michigan hospital staff member. As this is the only workshop the Clark Library offered this semester for people who had some familiarity with Excel, the challenge was to have a workshop that somehow managed to build on and add to the knowledge of a diverse audience.

After teaching these two workshops, I found I was left with questions: How can you know how much your audience already knows? How much can you take for granted? (Should you take anything for granted?) How can you build on their prior knowledge when you cannot know the knowledge level of each person in the room?

I found it vital to address the question of what knowledge people have at the start of the workshop. Obviously, it is impossible to be able to learn exactly what everyone already knows on the subject. However, there are quick ways of finding out at least some basic facts about your audience. For the workshops I taught, I included a poll at the beginning which asked participants to rate their level of comfort with Excel, and which program features they had used (filters, formulas, etc.). This is something my mentor did in previous workshops and I decided to use the same technique, as it allowed me to see which portions of the presentation I could go through more quickly and the parts on which I should spend more time.

I also found it helpful to frame my material as not just teaching a list of tasks, but rather that I was teaching “Excel literacy.” Not only was I teaching about creating formulas or sorting, I was teaching the basic patterns and language of using Excel. I included such tips as using Ctrl + F (find) and Ctrl + Z (undo) which can be applied to other programs. I made sure to note that there are often different ways in which to do things in Excel. I always told participants that there is not necessarily a right or wrong way to accomplish a task in Excel; instead, I think of it more as there are easier or more difficult ways. I encouraged them to try different things and see what worked best for them, and in some ways, this literacy was a more fundamentally important take-away for participants that simply finding out how to use a specific feature.

One benefit to teaching an audience with mixed knowledge levels is that you may find yourself learning from them. My mentor noted to me on more than one occasion that she almost always comes away from workshops having learned something new. I saw this in action in my second workshop, when the two of us stayed after to help a UM staff member who wanted to know how to do a work task more efficiently. My mentor was unfamiliar with some of the things the staff member was doing in the program, yet she was able to figure out how to solve the issue and she also learned something new. That is Excel literacy in action—being able to take knowledge of the software and apply it to something one does not know how to do, and learning more in the process.

I learned I could constantly refine this workshop and never achieve perfection. The audience would always have different levels of knowledge and different expectations—each coming with a different understanding of what “beyond the basics” meant. I also did not know what participants hoped to do with the information gleaned from the workshop. There is no way to create a workshop

that works for every participant; the best one can do is strike a balance. What I could do was make them see how they can use Excel in better and faster ways. Maybe my workshop sparked something and allowed someone to see a more efficient way of doing something s/he had already been doing. A graduate student might be bored when I talk about Ctrl + F, but perhaps a middle aged UM staff member has a sudden realization that there is a much faster way to find a specific piece of information in the huge spreadsheet she uses at work. Much like the prior knowledge they come in with, what the participants take away is also unique.

Melissa Bowen is a second year library and information science student at the University of Michigan School of Information. She is interested in instruction, information literacy, and assistive technology. She can be reached at melbowen@umich.edu. You can view her portfolio at melissabowen.com.

INFORMATION LITERACY IN SPECIALIZED SETTINGS

Jennifer Lee Vaughn

I began working at the University of Michigan Music Library shortly after my arrival on the campus as a School of Information graduate student in September of 2011, and this past semester I combined my employment with a practicum that charged me with answering a variety of reference questions, creating LibGuides for first year music history courses, being mentored by the head Music Librarian, and reframing my observations and experiences in terms of information literacy for musicians. It has also been helpful for me to reflect on my own information literacy skills as a musician, and how I have approached the music library at different times in my academic, professional, and even personal life. The practicum experience helped me to see the music library in a different light: to look beyond its physical value as a collection of resources. I began to comprehend more philosophically how the “Library supports the performance, teaching, and research activities of the School of Music, Theatre & Dance, . . . the broader University community as well as national and international scholars, performers and teachers” (MLibrary n.d.).

I have a Bachelor’s and a Master’s degree in music performance, and was a professional cellist for several years before returning to school to become a music librarian. My own background clearly played a part in leading me to my own “aha!” moment in the course of my practicum. The way I approached the idea of “research” for many years as a performer applied primarily to academic subjects outside of musical performance. I have observed this same attitude in many undergraduate performance majors in the library, and feel that it indicates a potential gap in not only the way musicians themselves confront information literacy, but also points to a larger problem in how librarians and academics define and conceive of info lit as a whole.

Dane Ward postulates that librarians have become over-concerned with refining and agreeing on the definition of information literacy to the point of limiting it, writing, “We have risked diminishing a vast and mysterious information universe to one known only through logic and critical analysis” (Ward 2006, 397). I agree with Ward that there is room for a broader definition of information literacy that incorporates the often-ignored affective and psychomotor domains in Bloom’s taxonomy. Musicians abound in these skills, and it should be a natural fit to incorporate those skills into info lit definitions. Incorporating creative aspects into research skills might be a conceptual stretch for science or law libraries, but music libraries could conceivably bridge that gap for the benefit of other types of research.

Unfortunately, I didn’t graduate from the conservatory with a mature perspective on how research processes can fit into a highly creative endeavor like

performance. Most of my undergraduate experience didn't move my limited conception of research as something that was only undertaken in the event of having to write a research paper. Perhaps there wasn't time, and perhaps those with musicology, theory, or education majors did receive better music bibliographic instruction, as music info lit was called in my day. I did gain an excellent technical grounding in my instrument, and an unintegrated conception of the fields of music history and theory. Eventually my own need to develop professionally gave me impetus to connect those seemingly disparate creative and academic elements, but it didn't happen until the tail end of my graduate study.

With the aid of coaches, professors, colleagues, and information professionals, I came to rely upon several aspects of research to inform my own musical interpretations as a performer. A desire to engage in deeper levels of meaning with the printed score motivated me to engage in the process. I came to value being able to analyze the harmonic structures and understand the compositional techniques of a work I was learning to perform. I would seek out both modern and historical recordings of pieces, noting with interest the differences in approach, phrasing, and style among artists. I would read critical studies of composers' works, as well as background historical information that could inform my conception of the period and cultural attitudes and ideas of the time and place from which the work emerged. I was interested in getting into a composer's head, finding out what made him or her tick. Of great value was talking with musicians about their own experiences and interactions. Carol Kuhlthau's conception of "information search [as] a process of construction which involves the whole experience of the person, feelings as well as thoughts and actions" (Kuhlthau 1991, 362) resonates with this type of targeted research. Ultimately, too, my colleagues and I were tasked with making decisions, from selecting repertoire, to how we interpreted it. The practice of performance itself became a type of research which could resolve uncertainty, or even lead to new questions.

In my current day to day experiences in the music library, I come across patrons who occupy various positions on this information literacy spectrum, from those grudgingly or uncomfortably looking for resources for a music history paper, to nearly joyous research being conducted that incorporates the creative with the intellectual. It seems to me that movement towards closing this gap can be achieved in a number of ways:

1. Librarians and instrumental studio instructors can explore new ways to collaborate. Musicology and theory professors seem to be really maximizing utilization and integration of library resources. Performers often come in looking for scores, but rarely look for supporting research materials. This does happen in graduate student performers, but I see no reason why the process can't start sooner.

2. The standards might be revised. The Music Library Association (2005) even specially adapted the ACRL's "Information Literacy Competency Standards for Higher Education" (2000) for music. The guidelines are quite useful, but they perpetuate the notion that research is an exclusively cognitive process. Music libraries have a unique opportunity to demonstrate how creative and multi-faceted research can be.

3. Incorporate more lecture elements into undergraduate performance majors' recitals. It is a common practice for PhD candidates to precede degree-fulfillment recitals with scholarly comments. Giving undergraduates the experience could be beneficial, too, and could allow students to connect with the material being researched on a much more personal level.

"The prime objective of all educational programs in music is to provide the opportunity for every music student to develop individual potentialities to the utmost" (National Association of Schools of Music 2012, 1). From an information literacy standpoint, I believe that this statement refers to the duty of educators to make principles of lifelong learning attractive to the wider community of patrons served by the library. Information is sought ultimately to enhance personal connections with the world, not simply to satisfy the momentary requirements of a course assignment. Music as a discipline offers a wealth of paths into the research process in an engaged and creative manner. My informal observation and experience has led me to believe lifelong learning can be successfully introduced into undergraduate courses and instructional objectives, and may result in more emotionally connected and engaged performances that have a deepened sense of personal and musical meaning. I believe that music libraries can embody models of wider definitions of information literacy; alternately they can perpetuate existing practices that exclude affective skills. Music libraries that successfully implement and foster creative research practice can also serve as models for the greater community of academic libraries.

Jennifer Lee Vaughn will graduate from the University of Michigan School of Information in May 2013 with an MSI. Her degree specialization is in Music Librarianship. She hopes to go on to work in an academic music library.

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Leah C. Williams

The responsibilities of an instructional librarian can range far and wide in a broad academic setting, but in a specialty library the needs are more defined. When the majority of patrons are in the same field of study, it makes it easier for the librarian to tailor the instruction to the specific needs of that academic community. In my recent practicum experience at Taubman Health Sciences Library at the University of Michigan, I found the specificity very helpful in preparing my lessons. The drawback, though, is that patrons expect a certain level of expertise in the field. The instructor cannot get away with only an overview of a topic: they must give real examples that reflect the field and subject matter. The instruction is more detailed and often very focused.

My Taubman mentor helped bring me up to speed on the strategies of her department. Unlike the general graduate library, which hosts many students and faculty from the humanities, the health sciences library receives a large number of staff members from the nearby hospital and research facilities who have very specific goals in mind when they sign up for a class or workshop. Many of the workshops provided by the library have to do with using technology effectively for writing grant and research proposals. Patrons often come to class with specific documents or unique problems in mind, so the librarians make sure to allow time for questions and individual help at the end of each class.

For my project I taught two classes at Taubman. The first was titled "Inserting Images and Graphics Into a Word Document" and was geared specifically toward those research proposals that require a strict page limit. Because of the definitive nature of the class, the students all had very specific questions and concerns. This class was designed by one of the full-time instruction librarians and has been taught for a number of years, so the processes were already tried when the script was handed to me. The class was scheduled for an hour and a half, but the actual instruction only took one hour. After that, my mentor and I circled the classroom and worked one-on-one with students who had brought their own files and documents. I found that the students were very excited and grateful at the end of the class because I addressed such specific problems that they had. In this case, the specificity of the topic was exactly what the students wanted.

The second class I taught was titled "EndNote: Beyond the Basics" and was designed and developed by me. EndNote is a popular citation management tool on campus. My mentor saw the need for an advanced class so she suggested a few topics to cover during the workshop. I put them in an order that made sense for demonstration, created a handout guide and wrote the instruction script. The

biggest obstacle that I faced was the fact that it was a “guinea pig” class, meaning I was testing it out for the first time on a group of students. While I practiced giving the presentation, I could not prepare for the kinds of questions I would receive. Another problem I faced came from the “advanced” label on the class. The description did not specify how much experience was necessary to take the class, so there were drastically different skill levels in attendance, which made it difficult to tailor the discussion. This is a case where specificity was more of a hindrance than benefit.

Although a bit rougher around the edges, the second class was an overall success. Again, I allowed time at the end to work with individuals, which made up for the lack of tailored attention during the body of the class. Without the benefit of previous class experience, though, I was unable to predict the questions and issues that came up. Several of the students were quite experienced with the software, while others were barely beyond the basics. One student had no experience at all, but didn’t realize it was an advanced class when she signed up. Unlike the Word class, which addressed a specific niche problem, the advanced EndNote class was a much broader topic and drew students with different needs. This class will need to be slightly different each time it is taught. I would think about more of a question and answer format for the next class. That would ensure that each student gets what they need from the instructor and can learn from the others in the class. In the case of the beginner in the class, I would recommend that she come to a different class that covers the material she needs.

To accompany the EndNote class, I created a series of short screencasts that cover each topic from the class. These are designed to supplement the class and remind students of the step-by-step processes we covered. Each screencast is no more than a few minutes and covers only one workflow from the class. The students can follow along with the steps shown on screen and by listening to voiced directions. The screencasts are a convenient way for the librarians to answer quick EndNote questions via chat and email. They are hosted on Taubman’s YouTube channel (<http://bit.ly/taubman-youtube>).

There are a few lessons to be learned from this experience, all of which are vital for improving instruction planning and techniques. First, it is important to note that specialty libraries teach with a different focus than general academic libraries. By nature, they specialize in a certain field or subject matter, so their instruction is geared toward the needs of their patrons. Second, providing an “advanced” class in anything can be tricky due to the ambiguousness of the prerequisites. For academic coursework you can stipulate specific requirements before enrolling in a class, but for one-shot workshops like those at Taubman it is much more open-ended. It is very important to get to know your students at the beginning of each class and be prepared to answer lots of questions, even if they vary from the designated workflow. This is a case where flexibility is the name of the game. Finally, teaching a “guinea pig” class is always going to be difficult no matter the

subject. Having taught a well-established class and then a brand new one, I learned that the design is never set in stone. No matter how confident you are in your original script, there will inevitably be surprises and issues that you didn't think of in the first class. Going in with an open mind and lots of backup resources is the key to success.

Every time I step in front of a classroom I learn something (or several things) new. Each new experience brings new food for thought, which almost always results in a reevaluation of my teaching style or class design. That being said, library instruction is unique in that you never see the same classroom twice; the students are constantly shifting and the dynamics are never the same, so it is important to remember that one sub-par lesson does not mean you have to scrap the class. This experience taught me that each lesson will always be different, but each lesson also provides much needed experience and opportunity to improve upon yourself as a teacher and your lesson plans. The experience also opened a window into the world of special libraries; each organization is different, but provides relatable examples and lessons that can be applied to the field as a whole.

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Emma E. Hawker

With unique resources described in an array of formats on countless types of databases and catalogs, archival research is labyrinthine. Thus, one would expect archivists to be information literacy pioneers, forging ahead of librarians out of sheer necessity. Unfortunately, unlike the library community, the archival community has largely ignored information literacy. The Society of American Archivists does not even include the term “information literacy” in its online glossary. The reasons for the topic’s absence from the archival sphere are complex, thought provoking, and worthy of further research. However, for the purposes of this chapter, simply note that information literacy is, at best, the wild frontier for archives.

In the fall of 2012, I was privileged to complete my SI 641 practicum at the Bentley Historical Library under the mentorship of Karen Jania, Head of Reference and Access Services. The University of Michigan (U of M) Bentley Historical Library is an archival institution that collects materials related to U of M and the State of Michigan and its people. The Bentley serves a diverse community of patrons including, but in no way limited to, U of M’s students, faculty, and staff.

Among archives, the Bentley is somewhat unique in that it has multiple full-time staff members and part-time information students devoted exclusively to reference services. This robust staff has allowed the Bentley to delve into information literacy more than its peer archives, providing an ever-growing selection of subject guides, research tools, research guides, and classes. My task for SI 641 was to plan and teach a three-hour class on archival research and primary sources for future elementary school teachers from the School of Education.

As I planned the class I had three objectives in mind:

1. that students gain an understanding of archival research;
2. that they learn about local and Michigan history; and
3. that they find primary sources that could be meaningfully used in elementary education.

Admittedly, there were challenges on all fronts. Providing an introduction to archival research is all about balance, saying enough that students feel comfortable approaching archives in the future, without so much detail that they run the other way. Identifying Michigan and local history topics was also problematic because I needed to choose topics that would be interesting to my students - and their future students, and for which the Bentley has elementary friendly materials

(no handwritten manuscripts, ideally lots of drawings, photographs, maps, etc.). Yet, it was my final objective that weighed most heavily on me. I firmly believe that primary sources are the gateway to a love of history. Children's minds are too often closed to history by bad textbooks. I wanted to make sure my students understood the value of exposing their students to primary sources. I also wanted them to learn how to identify primary sources for the classroom and think about composing a narrative around these materials.

As I planned the class, I consulted a variety of resources including my professor, my mentor, the Library of Congress, the National Archives and Records Administration, various educational texts, and Michigan history texts. I settled on a lesson plan that began with a lecture but focused on hands-on work.

On the day of the class, I provided an orientation to research at the Bentley, describing what a finding aid is, how to search the catalog, how to go through a box of archival materials, and so on. I then gave an introduction to primary sources and their potential value in schools. I tried to offer tips on how to approach primary sources, what kinds of questions to keep in minds, and how to fit primary sources into a larger historical narrative. The students were then given ample time to explore the Michigan and local history topics I had selected through the archival materials pulled for the class.

Teaching the class, I was surprised by how many of these future teachers had not, until this point, opened their own minds to the richness of history. As one student described it, "I had never thought of history in terms of individuals before." This gratifying statement conveyed to me that the experience had clicked for that student. And based on the excellent discussions I had with other students, I believe that was the prevailing sentiment. Students were asking stimulating questions. They connected the content of the materials to their own lives and the interests of their students. The primary sources facilitated a connection to history these students had never experienced before.

Thus, I believe my class was effective. As anticipated, the class met its objectives. It taught the students about archival research and history, and it helped them find classroom-friendly primary sources. I was pleased to find that the class also communicated to many of these students for the first time the dynamic, rich, and relatable qualities of history. For me, the class confirmed the potential gravity of embracing archival information literacy. While taking on the role of a teacher is a challenging responsibility, the value of exposing minds to the treasures of archives and the captivations of history is boundless.

So, is it possible or even worthwhile for the archival community to venture into the wild frontier of information literacy? I think my experience teaching at the Bentley is evidence of a resounding "yes!" The archival community should explore and embrace information literacy. While the body of archival literature related to

information literacy is limited, library literature on the subject is voluminous. Archives should study the ways in which libraries have dealt with information literacy and translate those methods to the archival environment. Some archives, like the Bentley, are already doing an excellent job to enact information literacy. The efforts of these institutions provide a strong example for other archives to follow. Archives should also start a conversation on archival information literacy and invite all interested parties to take part. Archives can reach out to possible partners like professors, teachers, and librarians to determine how archives can be a part of their community's information literacy efforts. But most importantly, archives just need to be willing to make that leap and step into the wild frontier.

Emma Hawker is a second year student at the University of Michigan School of Information dual specializing in Library and Information Science and Archives and Records Management. She holds a Bachelor of Arts from the University of Michigan in History and History of Art.

Emma developed the Bentley Historical Library's "Teaching History in the Classroom" webpage (<http://bentley.umich.edu/research/teaching>) in conjunction with the class described in this chapter.

Do They Even Need Us At All?
Teachers, Facilitators, Observers, Sherpas: Where Do The Adults Fit?

Shauna Masura

I am not here to argue that in the Information Age, schools should just turn into Neverland. No. Way. But I do think that the role of adults in youth learning is drastically changing. The traditional teaching role poses an interesting dilemma for those of us (all of us!) who want to see students engage in learning that is personally meaningful—when plugged into a web of seemingly infinite knowledge, does it make sense for us to constantly pull students back to *our* predetermined objectives?

I came to LibraryLand through teaching as a Peace Corps Volunteer in the rural Philippines. I spent most of my service in a traditional high school English classroom but spent my off-hours with an alternative learning system for youth and adults unable to attend regular school. This piece of my experience had the greatest impact on my community and on my own teaching practices. Without the confines of predetermined, tested objectives (yes, even in the middle of a rice field, standardized tests reign supreme in education) I was free to support my students' individual interests. My informal conversation classes became a gathering place for disenfranchised youth where they could learn how to converse in ways that were immediately relevant to their lives. We could talk about Harry Potter, Facebook, getting jobs, relationship issues—whatever my learners felt they needed to know to accomplish what was meaningful to them.

As I entered graduate school, I began to interact with others who found informal “teaching” just as rewarding as I did, and through collaboration with current educators, I became plugged in to the newly-formed Michigan Makers afterschool program. Once a week, a bunch of UMSI students hang out with about 40 middle school students in their school library. We make stuff and think up new ideas and try out new tools—it is a very exciting environment.

Throughout my time with Michigan Makers, I have helped design and maintain the MM website, led a few mini-lessons, and coordinated some of the larger planning efforts. MM Mentors, like me, toe the line between classroom teachers (shepherding 40 students through school-issued technology resources in a confined space) and active observers (who get wildly excited by the projects that students think up on their own time completely without our help in any way).

During SI 641, we all had to create lesson plans to teach some aspect of information literacy. For my plan, I chose HTML as a skill for the students to practice while encouraging participation on the open web. Complete fiasco! Not

being able to try out the tools on each computer before my lesson, I had planned alternative activities just in case. Firewalls and filters on the school computers made war against every option I had prepared to show the students, and after learning of their immense power on the Internet (*they* can put *anything* online?!?!?) the students rebelled against my attempts to corral their attention. Professional tip: once you introduce middle schoolers to Mozilla X-Ray Goggles, prepare for them to stop listening to every single word you say. Talking about it with friends is just way cooler than anything that could possibly come out of your mouth.

I was lucky enough to have Kristin Fontichiaro waiting in the wings to save the day (along with several UMSI students as stunned by the situation as I was). “Have you ever had one of those days when it seems like nothing wants to go the way you planned?” Kristin asked the group. “Do you guys have any ideas for activities that we could do for the rest of our time at Michigan Makers?” Suggestions popped up around the room: Scratch! Batch programming! I want to show people the website I made! Stencyl!

After the students broke off on their own (see Figure 1), I was no longer a “teacher” in the traditional sense, but my role as an adult in this informal situation changed for the better. I could talk with students about projects that they do on their own time, introduce students to new tools, provide a new perspective to push back against their pre-existing understanding, give bits of advice when needed, and connect students with similar interests.



Figure 1: Collaborative work - no teachers! Photo courtesy of Michigan Makers.

As I think about helping students develop information literacy in these environments, I believe that the more hands-off approaches will serve our students better in the long run. In the midst of my HTML lesson madness, I was unable to have meaningful, interactive conversations with individual students about their experiences. Instead, I had to provide one-size fits all advice or direction about a topic which is inherently nuanced and colored by personal representations.

A lot of my own preparation for teaching has focused on the importance of objectives. Objectives make sense for a learning environment in which one person extends their knowledge to a classroom of empty vessels. They bring goals and a sense of focus to these intimidating teaching situations, but they also remove the learner's sense of autonomy. But we know that students aren't empty vessels; they come to us with varied experience and developmental capabilities. If we want to build truly interactive learning environments to support lifelong learning, our goals and objectives must become more flexible, malleable, and collaborative.

Informal learning situations afford a myriad of instructional strategies that are cut off from traditional classrooms. For example, what would it look like to write learning objectives alongside a student? What kind of relationships must be forged for this to occur? What kind of reflective conversations can be had from this situation? What are the ideal environments for these experiences to unfold?

As we strive to make Michigan Makers a place of deeply meaningful learning and peer interaction, I am continually learning what it means to shed my ideas of traditional teaching to become a worthy Sherpa for my students. Until then, guys: ask me questions, watch me try my best, ignore me when you need to, and continue to impress me with your creativity and imagination— it's what I'm really here for.

Shauna Masura is completing her final graduate semester at the University of Michigan School of Information, focusing her studies on Library and Information Science and Community Informatics. Her professional goals are deeply rooted in community-based education, and upon graduation, Shauna is interested in working with youth or as an outreach coordinator in a public library or museum. Find out more about her work at MissMasura.weebly.com.

Halley Todd

When you are a librarian in a small, rural, single branch public library in the Midwest, your patrons expect you to be an expert on all topics, from taxes to movie trivia. At my library, our patron population is mostly Caucasian and in the lower to middle class socioeconomic strata. The library's mission is to further lifelong learning, and in that vein, we strive to create library programs that help all of our patrons, from the very young to elderly, learn something new. During a typical day, we see a wide age range of patrons. However, during the afternoon, we see mostly senior citizens, and unemployed adults, often the same patrons on a daily basis. There is a strong relationship between the library staff and the patrons. It was not a surprise when our patrons began to ask questions about their newly acquired eReaders, and if we had eBooks.

Recently, the most commonly asked reference question at our library is, "How do I get library eBooks to my [reading device]?" Often, the question is asked by senior citizens. My library is part of a consortium that uses OverDrive for our eBook lending. Typically, the patron does not bring their eReader when asking the question, so we quickly demo on our desktops how to access OverDrive from our website, select an eBook, and then check it out. The most trouble occurs, though, when patrons attempt to transfer the eBook to their eReader. You can download the book directly to the eReader using WiFi. Occasionally the eBooks must be transferred using a USB cable. Another step is added if the patron is using an "i-device" (such as an iPad, iPhone or iPod Touch), because an Adobe Digital Editions account must be created as an intermediary between OverDrive and the device. Our patrons do not understand why they have to go through all of these steps. They struggle to understand that an eBook is actually a file and that the file has to be transferred somehow from the library's servers to their personal device, very similar to how one would physically pull a library book off a shelf and then transport it to their home.

Since this question and process is constantly being explained to our patrons, and knowing that the holidays were a few months away and that several of our patrons had expressed an interest in acquiring some type of eReader, my mentor asked me to create a lesson plan and run a trial class with a group of adult patrons about to check out library eBooks. The librarians were concerned that it would be difficult to teach a large class due to the numerous types of eReading devices, and varying technological skills of the patrons. My mentor and I decided that for our test class, we would have less than ten participants, and would seek only patrons with Kindle devices in order to test the waters in a controlled manner. During a

literature review, we had read that the Philadelphia's Central Library had success in teaching older patrons how to use Nooks (available for checkout) in a class setting, with only a brief introduction to other devices (Cofsky 2012). The success of the Central Library's classes confirmed our hunch to focus our workshops on a single device. In our case, we chose Kindle.

It was with little confidence that I met with that small group of patrons. The age range was from mid-30s to late 60s, and the patrons had a wide range of technological skills. I had the patrons bring their Kindles (a mix of Kindle Fires, Touches, Paperwhites, etc.) and their personal laptop if they had one. I decided to teach patrons how to check out eBooks via our library website and online OverDrive catalog instead of on the OverDrive app, just because this way all patrons could participate, because not all eReaders have the capability for apps. We were meeting in a small conference room with a large TV monitor. My plan was to model the process, and have them follow along on their laptops as I was demonstrating what to do using the library laptop and TV monitor.

There were several points during the eBook checkout process where some of the patrons had difficulties. The main areas were in finding an eBook they wanted to read that was available immediately in OverDrive, and in choosing the correct format of the item. I knew to look out for this problem from my literature review. James Buczynski (2010) noted that, "Consumers are confused as to why titles are available for one eBook reader and not another, one retailer and not another, why some can be downloaded and some cannot." Patrons forgot their Amazon login information, too.

However, I was able to help a patron one-on-one, while other members of the group also helped each other. That was an unexpected bonus. The entire group seemed to really respond well to the informal environment. Instead of feeling like I was giving a lesson, I felt more like I was just the person in the group that happened to know the most about the topic. The patrons responded better to me being able to make jokes, laugh, and take extra time to explain steps more in-depth. Sometimes the patrons that ask this question at the reference desk get the rushed version of this process due to long reference lines.

Since this small group session was overall a success, my mentor decided to officially have a class on this topic. Following my advice, we limited the class size to twenty-two patrons, and decided to focus on showing patrons how to check out eBooks for their Kindle eReaders using the library website and digital catalog instead of using the OverDrive app, just to streamline the process.

The key to having a successful class on this topic is to make it as streamlined as possible. Even though the method we are teaching is by far not the most convenient way to check out eBooks for all the different types of eReaders, it is at the closest to being the same process across all the different types of devices.

Don't expect everything to go perfectly, either. It will be best to have at least one assistant that can help individual patrons that fall behind while the main instructor focuses on the larger group. Despite the difficulties of having this class, it will be an invaluable service for our patrons, and will help the librarians continue to build the relationship we have with our patrons.

Halley Todd is earning her MSI degree from the University of Michigan. Her research interests include the library as space, informal versus formal learning environments, and the evolving role of libraries in communities. Building strong patron and community relationships are important to her. She believes those relationships are key to making libraries invaluable to their respective communities. Currently, she works in both a public library, and a specialized academic library. Feel free to contact her at Halley.Todd@gmail.com.

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INFORMATION LITERACY AND CREATION

Information literacy, in this book and in the larger conversation, takes on many forms. Before, as a writing teacher, and now as a sort of techno-instructor librarian, I focus on process. When I was tasked with teaching game-design to twenty sixth, seventh, and eighth graders, I didn't think of it as an Information Literacy challenge, but the skills we're trying to teach map onto the research process as well. For the past six weeks, a team of eight other students, a professor, and I have been heading up the road to a local middle school to teach kids about computer programming, origami, circuits, and game design. We call ourselves the Michigan Makers, and we believe that by practicing all of these tasks in a fun, collaborative environment, the students are going to be better able to focus, innovate, and work with others.

One of the activities that I have led for the club is "Introduction to Game Design," where small groups of students brainstorm, decide on ideas to follow up on, and develop a prototype. It was early in the semester, so the students were still getting comfortable with us, each other, and the non-academic stuff we kept asking them to do. After distributing the markers and expansive sheets of butcher paper to the students, we introduced the challenge. "You know how a mustachioed Mario has to jump through caves? Well, that was in part because the creator Miyamoto's childhood was partially spent cave-crawling in the countryside, and when he was making his Mario he knew a man with a well-developed handlebar moustache." That day, they were going to create games, and their responsibility was to pull the textures, images, and looks that excited them or caught their interest and jot them down. They had fifteen minutes.

Unlike Miyamoto, the students weren't creating games whole cloth from their experience and imagination: they had played video games. And so their response was to pull from the games they already knew, often saying "looks like". But the co-teachers and I had been coached—whenever they wrote that they wanted images and looks "just like Minecraft", "Pokemon-style", we forced them to elaborate. What about the look? What types of characters? Why would that be better or cooler to you than the original?

The students filled up the sheets with words and pictures representing the things they liked most and wanted represented in their games (see Figure 1). Gold coins, block heads, tornadoes, warlocks, cloudlands, ancient Rome, underground cities, motorcycles—the ideas piled up on and spilled all over one another, with the kids' excitement for applying them vividly apparent.



Figure 1: Brainstorming; author shown at right. Photo courtesy of Michigan Makers.

The next step in the process was for the students to draw a divider, move to new section of their huge sheet of paper, and go through a similar process for the storylines that they loved from books, movies, video games, and even outside of life (Figure 2). The kids were a bit more hesitant with this objective but were more comfortable with the working dynamics of their groups by then. After a few moments they were bustling along. The hesitancy reminded me that I need to actively research what kids have seen and read, because it is 100% different than what we read at that age! Connecting with the teacher or librarian to find out what they've read in class would be an easy connection.

Now that they had a variety of looks and story elements listed out, the students were given ten minutes to think of game mechanics that they enjoyed and thought were interesting. Four-square and "NBA Jam" were given as examples, hopefully providing useful descriptions of mechanics while proving that I haven't bought a video game in fifteen years.

Lastly, the student groups pulled elements from each of the three categories that had been brainstorming and combined some of the looks, a story arch, and game mechanics to create an idea for a game, which they then shared with the class. This is the fun part, the stage that some of the groups had been naturally progressing to, but new challenges arose: how can you make it different and

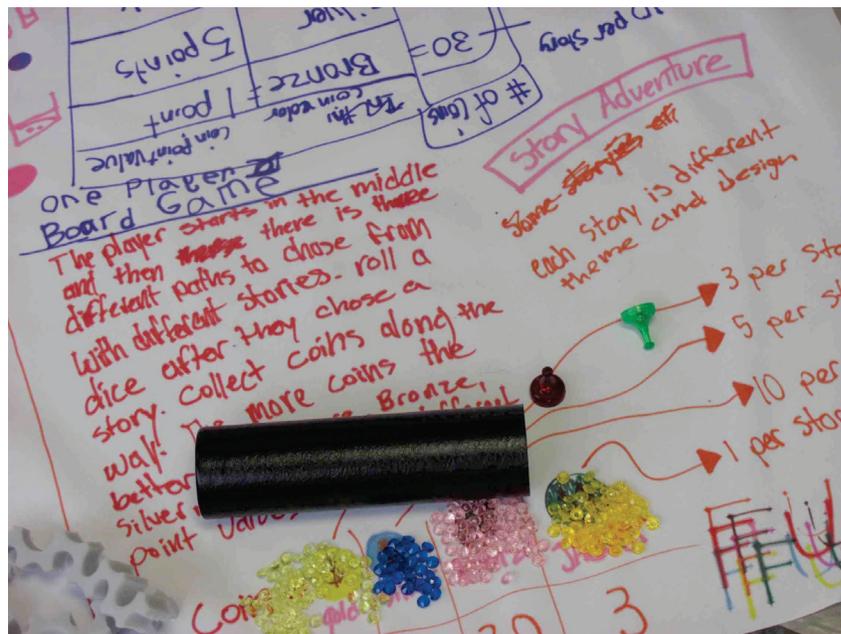


Figure 2: Planning. Photo courtesy of Michigan Makers.

better than the games you've played before? And above that, how can you make it fun?

Middle schoolers returned a week later, refreshed and freshly agitated. New students joined, and the groups reshuffled a bit for the day's task: build a prototype to show the class (Figure 3). They had strange foam shapes, small plastic icons, markers, cardboard, and their plans from the week before. After forty minutes of gluing, cutting, folding, and drawing, the five teams had a wide variety of prototypes, reflecting their interests, team dynamics, and the different ways they had interpreted our directions. A couple students worked on creating a sort of rolling game, with the goal being to sling an icon into different barrels. Another gradually evolved into an elaborate story and play-acting activity, with players progressing through levels, having bosses that would test their puzzle-solving skills. One more had a grid-based card game, and the last had three separate story lines that corresponded to the same map. And as they described their resultant games to the class, they matched with each other in that they were vibrant messy statements of where they had progressed to at that exact moment—some with a clear understanding of what they were going for and others appearing to head in a couple directions without much of a hurry to get to any destination.

At the end, the students were not fully satisfied with their products, and they wanted to spend more time with them. Most times, they didn't fully understand the problems with their games until they had tried explaining their game to



Figure 3: Prototyping. Photo courtesy of Michigan Makers.

others. Over the next two months, we spliced, coded, and squished, and they were frustrated many times. But they had already become comfortable with waiting through that frustration, asking others, and thinking, “Why would anyone want to do that?” when they’d tried to make their own games.

Terence O’Neill works in libraries and schools in the northern Midwest and loves to learn, share, and travel. He’s excited to finish graduate school to devote more time to being in libraries and studying games first hand.

The author thanks Greg Austic of AusticLabs.com for modeling the original design of this lesson.

Living in a Free World:
How Open Content and Creative Commons Taught Me
To Teach Others About Digital Citizenship

Victoria O. Lungu

In this day and age, we live in a world where we create and share information at a faster rate than ever before. These opportunities to share content, whether we ponder it or not, impacts the way we interact with information and other individuals in digital environments. For this reason, it has become important to recognize the value of digital citizenship. We must establish ways of understanding and navigating our roles and responsibilities as part of the open web. Creative Commons (CC) licensing is one way that individuals and organizations can establish guidelines and formal recognition for sharing and utilizing creative content shared on the web. Founded in 2001, the Creative Commons organization was established to provide advocacy for the use of creative cultural materials and to establish licenses for creators to communicate their rights and the rights of users in the use of creative content. It is through my personal exploration of how to help others critically explore the ways to facilitate creativity and sharing through the use of Creative Commons licenses that has taught me the value of responsible digital citizenship and the ways I can instill this value in others.

This personal exploration began with Open.Michigan. Open.Michigan is an initiative within the greater University of Michigan Medical School that aims to encourage the wider academic community to use and distribute licensed and adaptable scholarly content. The initiative provides services to the university community including informing the community about and assist them with tactics to access, use, and create openly-licensed and freely-available academic resources like videos, slides, or interactive modules.

This intervention can take many forms, including

- facilitating workshops on how to license work with Creative Commons;
- hosting Open Educational Resources (OER) on the Open.Michigan collection for other learners and teachers to explore and use;
- creating relationships and collaborating with open education communities around the world.

While the immediate patrons of Open.Michigan and its services are the academic community at the University of Michigan, the efforts to participate in the broader

initiatives around open content exposes Open.Michigan to engaging with diverse populations that can range from African medical students to online, self-motivated lifelong learners.

My exploration started as a journey into the educational resources available to inform audiences on open content accessibility, use, and creation. My work with the initiative was centered on the design of workshops to help people at the University of Michigan and the broader open learning communities learn more about Creative Commons and resources that provide access and tools to assist in using open licenses effectively.

My first opportunity to delve into this practicum was my participation in WIDE-EMU, a local conference established by a few individuals at Michigan regional universities. This “unconference” prides itself on its Do-It-Yourself (DIY) philosophy allowing for anyone with limited cost to participate and refocusing on the purpose of conferences: sharing knowledge and idea collaboration.

This year the core question of the conference was, “*What is composing today? How do people learn (and teach) it?*” To explore this idea I developed a workshop that explored how to “compose” public websites through the use of openly licensed images and resources. Because of the DIY approach, the conference attracts a local population of attendees and presenters that are deeply interested in the conversations and collaborative spirit around the core issues and ideas that are focused on at the conference. The opportunity to participate in WIDE-EMU allowed for me to participate in a workshop and critical discussion that could be tailored to the specific interests of the workshop attendees.

In a very different spirit, I launched the first live group workshop of the Peer to Peer University (P2PU) online course, “Get CC Savvy,” in order to explore how learning a lesson established for self learners can be adapted to a collaborative group setting, allowing for a broader spectrum of learning opportunities and engagement (see Figure 1).

P2PU has established a platform where individuals and organizations can go to teach and learn skills regardless of accreditation. All the content added to P2PU is licensed under a Creative Commons license, enabling users to legally repurpose the content in new learning settings. Within this broader platform, various organizations developed schools to create a space on P2PU where individuals interested in a specific area of study or topic can explore it in depth. With this framework in mind, the School of Open launched in collaboration with the Creative Commons organization and other likeminded institutions in 2011. The School of Open aims to teach people about how to find, use, and create open content through online modules that are driven by personal interest and motivation.

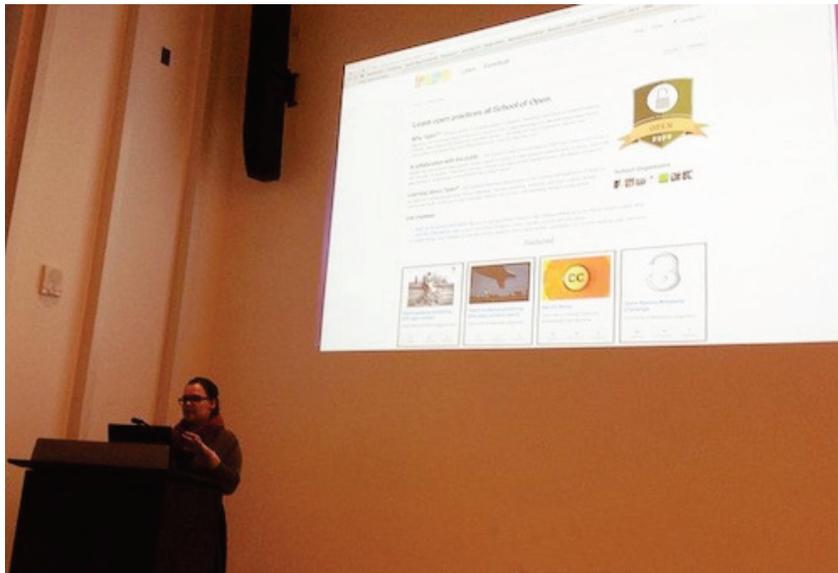


Figure 1: "Victoria Lungu Leading a School of Open Challenge" by Open Michigan on Flickr. Used with a Creative Commons Attribution 2.0 Generic (CC BY) license.
<http://www.flickr.com/photos/openmichigan/8139171889/in/photostream>

The live session worked through the School of Open's "Get CC Savvy." It provided an opportunity to explore the ways that learning in group settings can influence engagement with the ideas presented online. It also raised awareness to the ways in which a course can be constructed to better adapt to a variety of learning environments with the same learning goal in mind.

The workshop left me with more questions than answers, naturally. But it also provided an experience that challenged systems of interactive, live learning and online, individualized learning to work together; creating areas of tension and harmony such as constraints in recording evidence in a group setting to managing tasks targeted for individuals.

This experience was enlightening not only to the process about how to teach others to use Creative Commons licenses and to create or reuse open content but also to the young age of the free culture and open content movements. The fact that Creative Commons is in its early stages of implementation along with the fact that it is an abstract, intangible idea makes Creative Commons and open content a difficult concept for most people to navigate without confusion. This is evident in the distributed audience, mainly creative individuals and higher education professionals, who are currently using Creative Commons licenses. While it has made waves in academic communities, especially in Open Access publishing practices, it is still something that is not largely explored at length by the growing number of online users.

This barrier that is currently evident in the divide between users and non-users of open content needs to be chipped away to encourage a greater population of informed and participatory digital citizens. As individuals, we are constantly engaging in digital communities and online exploration and the way we interact with each other and online content should also recognize boundaries and freedoms as we do in the physical world around us. We live in a world that is evolving and, as active members in this world, we must also evolve by understanding and providing education on issues that impact a growing population of digital creators and consumers. Licensing and open content is an area that deserves this teaching approach since it grows ever more important in how we navigate the Internet and the mass amounts of information we come across and use in both academic and personal settings.

The value of this experience for me was the ability to engage individuals in ideas that encouraged social awareness and resulting transformation in digital citizenship. By recognizing the impact of their role in a digital world and providing avenues for participation in recognizing intellectual creativity and freedom, I gave people knowledge beyond a licensing scheme and helpful resources to utilize licensed work. While we have much more work to do and this is an evolving concept that will, undoubtedly, be required to continue to adapt with the growing online network, it is a start and has set into motion a framework that people can consider when exploring ideas of creativity and accessibility in the wild.

Victoria Lungu is a second-year Masters of Information Student at the University of Michigan's School of Information. She is interested and involved in initiatives around online badging and open content and has worked on projects with statewide conferences, P2PU.org, and Creative Commons. In her free time she enjoys going birding, participating in charity runs, and is an avid connoisseur of anything cavity-inducing.

More can be learned at her portfolio: Victorialungu.weebly.com or contacting her directly at vlungu@umich.edu. Learn more about Victoria's School of Open workshop at <http://creativecommons.org/weblog/entry/34800>.

An iPhone case. Chocolate. Custom board game pieces. A mastodon bone. A replacement knee.

What do all these objects have in common? Each is something that has been created using a 3D printer. While some of these creations will require additional work before they are viable for everyday use, the field of 3D printing is advancing rapidly and creators are finding fascinating, unique applications for the growing technology on a regular basis.

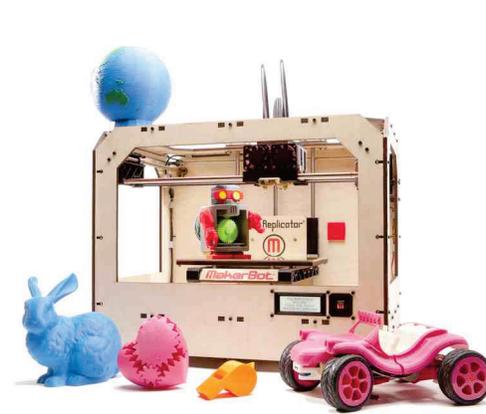


Figure 1: The Makerbot Replicator, a popular, open-source printer, surrounded by printed creations. Strands of solid resin enter the top of the printer, are melted, and are extruded onto the plate (where the completed robot is standing). Image: "The Replicator TM with Prints" by Makerbot Industries on Flickr. Used with a Creative Commons Attribution 2.0 Generic License. <http://www.flickr.com/photos/makerbot/6667803681/>

When I began my placement at the University of Michigan's 3D Lab (a part of the university's library system), I, like many, had only a vague sense of 3D printing and what it was capable of. The technology seemed to have a definite "cool" factor, but what purpose could it serve in the real world, I wondered, and why was I hearing about it being used in libraries? Beyond this, what was its connection to the growing popularity of library makerspaces?

The first thing I learned at the Lab was how a 3D printer works. Just as an ordinary desktop printer lays down ink on paper, a 3D printer lays down layers of material onto a build plate. There is a wide range of materials used by these machines: plastics, powders, and metals are common, while some of the more

unique materials can be food or biological materials. There is even a printer being developed that may one day print using melted lunar rocks (BBC News 2012). While regular printers translate the information contained in a text or image file into a real-world version, 3D printers translate a three-dimensional computer model into a real-world object.

It turns out the similarities between desktop printers and 3D printers do not end there. MakerBot's Andrew Pelkey quotes *Wired Magazine's* editor-in-chief Chris Anderson, saying that 3D printing technology has "made us all into designers. In the way that desktop publishing made us all into publishers...we now have access to design tools" (Pelkey 2012). These days, desktop printers are a standard feature in most libraries, and are generally recognized as useful not only in the library's mission to provide technology access, but also in giving patrons the power to produce, reproduce, and disseminate their ideas. Similarly, 3D printing allows for the average person's creative ideas to be fully realized and achieved, a process I observed first-hand at the 3D Lab as I watched engineering students print design prototypes or heard about the Lab staff printing custom-designed fixtures for their overhead lights.

The biggest revelation for me—and the connection to maker culture—came when I taught my webinar and in-person workshop to introduce people to 3D printing basics. I found that, although many people were familiar with 3D printing as an idea, most lacked an understanding of the technology's potential and uses. Repeatedly, I found attendees asking for additional real-world examples and wondering how to apply the knowledge to their own ideas. What these people were missing, I realized, was a kind of creative literacy.

Maker culture matters for libraries because, essentially, it teaches and promotes that creative literacy. The culture consists of makers—people dedicated to learning and sharing any type of craftsmanship skills. They value individual or small group creation, rather than mass production, and support creation over consumption. To assist with the sharing of knowledge, supplies, and projects, makers often construct and congregate in makerspaces or hackerspaces. The University of Michigan's 3D Lab expands beyond 3D printing into makerspace territory by offering services like motion capture, virtual reality, and even a digital production class where students learn the art of computer graphics. Although in many cases these spaces do involve this type of high-tech machinery, a makerspace can really be any place where people gather to create and participate in Do-It-Yourself projects, ranging from creating electronics to writing software to designing their own clothing. Makerism is not about the specific tools, but about the creation process and spirit.

I see creative literacy as knowledge that gives individuals the power to transform their ideas into reality. This is makerism at its core, and I believe this type of understanding could make all the difference for the people I spoke with during

my webinar and workshop. As a whole, maker culture shifts control to the individual, helping her achieve self-sufficiency and success by giving her power over her own ideas. With makerism and creative literacy, someone with a unique vision understands her options, and can transform that notion into a solid plan. Much as patrons benefit from learning information literacy or digital literacy at the library, they could also be empowered by learning the skills, tools, and attitudes of making.

The mission of the library is not just about access, but about learning, as well, and it is for this reason that makerism in libraries seems like such a natural fit. The Madison Public Library's *Library Makers* blog (2012) writes:

Libraries have always had a reputation for being places of learning. Traditionally, the books housed in libraries have been perceived as the library's main purpose, and indeed books are a great way to learn. However, in today's increasingly digital world, it is important to remind the public that valuable learning also takes place outside of books and libraries are a great source of person-to-person learning experiences.

Maker culture plays directly into these person-to-person learning experiences—as patrons designing and experimenting in makerspaces learn from both librarians and each other—and into the library's existing goal of helping its patrons develop valuable skills.

Makerspaces in libraries also help transform many people's traditional understanding of libraries as places of consumption. Often, patrons are used to seeing the library as a source for passive materials like books, movies, and music. As libraries struggle to change this perspective, many are turning toward promoting the space as a place of active creation, as well as finding new ways to reach out to and bring together the community. In *Library Journal*, Lauren Britton (2012) writes:

Incorporating Maker spaces into library service can have a life-altering impact on community members, who then have the tools, access, and training necessary to tinker with and remake their world. Just as libraries are reflections of their patrons, Maker spaces can reflect the needs and desires of the local residents. Typically, the spaces will: foster play and exploration, facilitate informal learning opportunities, nurture peer-to-peer training, work with community members as true partners, not as users or patrons, develop a culture of creating as opposed to consuming.

These ideas are not new for libraries; it is not unusual for them to offer technology or crafting classes or to host events that provide the community with opportunities to interact with and help each other. Therefore, bringing makerism into libraries naturally extends the library's mission to serve residents' needs by

providing the training and resources by which individuals can develop important skills and literacies, and participate in their communities.

During my placement at the 3D Lab, I saw first-hand the benefits and potential of a library promoting and teaching makerism through its tools and services. Whether the technology is a 3D printer, a sewing machine, complicated circuitry, or even just a collection of assorted objects and glue, through maker culture and makerspaces, the library can help its patrons develop the necessary skills for a sense of creative literacy, by which they can take any idea from conception to creation.

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The digital age has allowed us to connect with people from all over the world at the click of a button. But how can we optimize these international interactions and experiences in an educational setting? How can the technology of today be harnessed for schools, teachers, and students in ways that are cost-effective, produce positive learning outcomes, are enjoyable for everyone involved, and promote digital citizenship? How do we navigate the new medias available, and help our students to become literate navigators of them for educational purposes? These “new media literacies” involve being able to think across media, and participate in them as a learner (Jenkins, 2009).

Web 2.0 tools for education are one big way that the landscape of teaching is changing for the better, and teachers should be aware of the variety of useful tools that are out there. LiveMocha (<http://www.livemocha.com>) is one of these tools. Simply stated, it is a web interface for language learning, cultural interaction, and self-paced exploration that mimics social media with an educational twist.

LiveMocha connects users to one of the largest online language learning communities in the world. With over 13 million users and 38 languages to study, the site allows for speaking, writing, reading, and listening activities. The Active Learning modules, which are available for six popular languages, include extensive coursework that goes beyond grammar and vocabulary. Students can create their own flashcards (with recorded audio and uploaded visual content) or download ones from a pool that others have created, and share them with their LiveMocha friends. Students can also be LiveMocha “friends” with their teachers or instructors, so that they may review submitted assignments and view student progress in the modules (even when only using the free version of the site). The free version incentivizes more participation in the learning community through reviewing others’ work to earn points and unlock more personal learning opportunities.

Some considerations or drawbacks to the site include the difficulty of managing student online interactions with the native speaker community, the focus on community for the free version (if a student wants to focus only on personal learning), and some glitches with the LiveMocha invitation and search system to connect with classmates, teachers, and desired native speakers. From an instructional perspective, these limitations create difficulties in time management, individual gains student learning, and discretion surrounding online interactions.

I worked with two organizations during my field placement. One was a large public high school in southeast Michigan. The other was a Language Resource Center at the University of Michigan. The goals for the project were twofold. The first was to develop a set of best practices and examples of ways to use LiveMocha in a world language university setting. The second part was to use the information gained to enrich a student teaching placement in a world language class at the secondary level. The target users of the tool are teachers of world languages at the university and high school levels and, ultimately, their students.

During the project, I worked to research the effectiveness of connecting with native speakers and completing online learning modules through interfaces like LiveMocha to enhance the language learning process. I did a complete literature review of case studies where the tool was used and developed my own lesson plans for use in my placement classroom for 10th and 11th grade students of French. The final product was a GoogleSite affiliated with the University of Michigan (<https://sites.google.com/a/umich.edu/umich-live-mocha>). On this site are resources about how to best use LiveMocha as a tool. Though the site primarily focuses on the undergraduate level of language learning, many of the suggestions included are easily applicable to secondary education.

The major features of the tool that the Google Site provides are: the differences between the free and paid versions (and explaining ways to maximize the free version), basic how-to tutorials and terminology, a guide for students on online etiquette and conversation topics, pros and cons for teachers to consider before getting started, sample uses and lesson plans for the classroom, and research and references.

The real trial run came when I introduced the tool to my high school students as a cultural inquiry activity, with the covert intention of an information literacy lesson.

Students were tasked with connecting with native speakers to further learn about a cultural practice from a person who lives in the francophone country where the practice takes place (after researching the cultural practice through the CultureGrams database via www.mel.org).

In the standards-based education world we live in, this was a great way to cover some of the cultural, comparisons, and community components of the Five C's of Language Learning, which include: Cultures, Comparisons, Communities, Connections and Communication. Additionally, many of the Michigan World Languages Standards and Benchmarks can be satisfied with the use of this classroom tool in its ability to engage students on the fundamental components language learning: listening, reading, speaking and writing.

My students were eager to use computers in the classroom, a change of pace from the usual grind of matching activities, skits, and reading and writing activities

from their textbooks. They were given adequate scaffolding on how to complete the assignment, a chart to record their results, and a rubric for how they would be graded on their output. The students were easily engaged in these activities because they were using language for a real life task that evoked curiosity and interacting with others in the process. Students gained culture-specific understanding by interacting with real people, which involved “both intellect and affect, thoughts and feelings” (Moran 2001), therefore tapping into cognitive and affective domains of learning.

Additionally, students were able to engage in higher order thinking when they reflected back on the experience and described the highs and lows of doing the activity, what they would change about it for next time, what they learned from their conversation partner in terms of culture, grammar, vocabulary, and content, and how they judged the credibility of the site as an interface and the world language partner as a source. Students were asked to think critically about the array of information they had access to, through different types of media; transmedia navigation at its finest. Jenkins (2009) would call this “the ability to both read and write across all available modes of expression”.

Lastly, students were motivated to complete the task because of the curiosity factor. According to Shrum & Glisan (2005), students “want to know the ‘weirdities’ in their own culture as well as others”, and this task allowed for exploration of both things simultaneously. If language teachers specifically can teach the ‘weirdities’ of culture through inquiry and authentic human interaction, rather than cultural stereotypes and textbooks, education can be an engaging experience of both world and self discovery. By strategically using LiveMocha and the transliteracy opportunities it provides, librarians and teachers of many content areas can expose patrons and students to a great language resource, cultural pool, and online learning community.

Colleen McIntee is a master's student at the University of Michigan School of Education, where she will receive secondary teaching certifications in French and Physical Education in 2013. Colleen is a professional circus artist and teacher, and hopes to continue to pursue this art after graduation. To learn more, visit her portfolio at <http://colleenmcintee.wix.com/portfolio>.

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About Our Class:
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.

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