Strategic Library™

Librarians, Information Literacy, and Fake News

» Helping students to tell the difference between alternative facts and the real news

BY KATHY STEIN-SMITH

One of the most important responsibilities of an academic librarian is to assist students and faculty with their research and to proactively teach students information literacy skills. These skills include the evaluation of print and online information in terms of reliability, validity, currency, and relative freedom from bias. Students also learn how to determine when information is needed and how to appropriately use and cite information in their work.

Beyond its academic function, information literacy is also a lifelong skill with numerous everyday real-life applications. In order to make better decisions, business managers require the best available data. Making decisions in our lives, and forming opinions that drive other decisions in a cascading flow, require that students have access to accurate, timely, and relevant information. Social media is fantastic for connecting and reading up on some topics, but how easy is it to tell what is real from what is fake?

The scope of information literacy has grown with the proliferation of online library resources and of freely available information media on the web, and information literacy has expanded to include information available through the print, broadcast, online, and social media.

The current role of librarians as information literacy instructors has also expanded exponentially, as information literacy — an essential skill across the disciplines — has extended to multiple platforms. The increased availability, often online, of information is perceived by some as a detriment to library service and value add. To the contrary, the proliferation and increased

How to Recognize Fake News

Sometimes it is relatively easy to recognize fake news, but sometimes it is necessary to do a little work to determine whether a news story in print, online, or on social media is real news or not.

Your librarians can help you to evaluate your sources, but the strategies listed below can help you recognize fake news.

The following are a few **tips** from your Library on how you can determine in your research and in real life to find out if what you are reading actual fact.

- If a news story looks legitimate, check other news sources to see if the story is carried there too.
- If a news story seems unlikely, check it against a reliable source.
- If a news story seems overly dire or scary, check it against a reliable source.
- If a news story is based on a survey, statistic, or poll, check the source to see if it is reliable.
- Check the website – Click on "about us" or "who we are" to get more information on the source.
- Check the URL – sometimes a different extension or a minor difference in spelling will indicate an unreliable, unscrupulous, or satirical website.
- Check the URL – a typo or misspelling can take you to an entirely different website.
- Try to get your news from a variety of sources you know to be reliable. If you know one or more additional languages, try to get your news from those perspectives as well.

When in doubt, check with a librarian!
- Phone – 201-692-2100
- Email -- http://view2.fdu.edu/metropolitan-campus/libraries/giovatto-library/email-an-fdu-librarian/
- Chat -- http://view2.fdu.edu/metropolitan-campus/libraries/giovatto-library/chat-with-a-giovatto-librarian/

headlines and in the forefront of the public conversation.

While it is tempting to believe that fake news is obvious, and that it would be easy to recognize, a Stanford study has demonstrated that the opposite is true, and that students have difficulty judging the credibility of information online. People often do not know what they do not know, but the library (and the librarians) have the expertise to help ensure students and the broader campus community rely on the best information available.

In an information environment where fake news is discussed on a daily basis, students need to be able to deploy their critical thinking skills to effectively evaluate the steady stream of news stories they are exposed to throughout the day.

However, students are not necessarily aware of the link that exists between what they are learning in information literacy workshops and class visits to the library for instruction and the skills they need in order to become savvy evaluators of accuracy of the seemingly relentless flow of news and information. Librarians need to educate students and campus stakeholders on the linkage between information literacy and the ability to recognize fake news.

Librarians can and should assume a leadership role in educating our students to master and utilize the same information literacy skills that have driven library/bibliographic instruction for decades in their daily use of social media and other online news/entertainment sites.

INFORMATION LITERACY AND FAKE NEWS @ GIOVATTO LIBRARY
On the Metropolitan Campus of Fairleigh Dickinson University, librarians have assumed a leadership role in providing information and instruction on how to recognize fake news using information literacy skills. In response to the proliferation of fake news, librarians and staff at the Giovatto Library are working together to effectively address

accessibility of information creates opportunities for librarians to play an important role in interpreting just what information should be relied upon.

THE EMERGENCE OF FAKE NEWS
In the tradition of yellow journalism, sensationalism, and possibly satirical news, fake news has emerged as the nature of the news media has transitioned from one characterized by print newspapers and professional, trained journalists to one where web content, whatever its source, is believed by many.

The library is -- and always has been -- the information crossroads of the campus, where real and fake collide and coincide, and the home of the librarians, the information professionals educated and trained to help students evaluate the validity and reliability of information.

It has been the emergence of the concept of fake news into the public conversation that has made information/media literacy an even more critically needed skill and has re-framed the conversation on information literacy from being a nice-to-have skill to a skill that is literally in the

Librarians preparing for their session on recognizing fake news. Pictured are Paul Dunphy, Head Reference Librarian, and Dirk Wijnen, Senior Reference Librarian.

this pressing need to empower students to use their information literacy skills in determining what is fake news so that they can make decisions informed by fact, rather than opinion or agenda.

Following a quiet period during which the library engaged key institutional decision-makers in dialogue on the urgency of delivering targeted information literacy instruction specifically intended to teach students how to more effectively recognize fake news and worked to develop a collaborative approach, the library launched an active campaign.

Within the context of an active information/media literacy and library research instruction program, which includes on-site, ITV, and online instruction sessions, librarians offer a series of walk-in sessions on Library Basics and Library Research Clinics on specific topics, and have developed a special edition Library Research Clinic devoted to teaching students how to effectively determine what is fake news. An online research guide, "How to Recognize Fake News," was created for the library

website to extend this information to students who may not even be on campus or in the library on a regular basis. The library's Facebook page and WordPress blog have also publicized this initiative.

http://view2.fdu.edu/metropolitan-campus/libraries/giovatto-library/giovatto-library-research-guides/how-to-recognize-fake-news/

http://giovatto.blog.fdu.edu/2017/02/17/how-to-recognize-fake-news/

Future plans include the continuation of these sessions as part of the library's regular program of walk-in research clinics and to collaborate with faculty to develop and offer subject-specific sessions across the disciplines.

THE IMPACT AND IMPORTANCE OF INFORMATION LITERACY SKILLS IN RECOGNIZING FAKE NEWS AND ACROSS THE DISCIPLINES

Information literacy skill impact academics, careers, and our lives as informed citizens. Although this current conversation on fake

news is a perfect example of the importance of information literacy skills beyond the classroom and in daily life, it is interesting to note that relatively few students and even relatively fewer faculty make that connection, with some faculty viewing information literacy as something at the Library, required by a regional or discipline-specific accreditor, or as irrelevant for a particular course they are teaching.

It is essential to make the case that, although information literacy may not be literally required for a specific text-based course, it is the responsibility for all of us in the academic enterprise to ensure that our students have the information and media literacy skills needed for graduate studies, the workplace, and real life.

It is that real-life impact of information literacy on the student that may be forgotten by busy students preoccupied with courses, assignments, internships, and career plans. Demonstrating, and connecting, the library and library services to timely real world issues and to student academic and professional success provides yet another

opportunity to reinforce the concept of the library as a campus hub.

However, information literacy skills empower a student to know when they need information for a course assignment or project, to do better research in a shorter time, and to use the information appropriately, giving credit to its source. Students contemplating the world of work will be well served by information literacy skills as they explore and examine careers and sub-specialties within a chosen career path. Those preparing for internship and job interviews will be better prepared if they have the information literacy skills needed to search out the real news about a specific company or organization.

THE CHALLENGE – ACCESS TO INFORMATION LITERACY EDUCATION FOR ALL

However, although information literacy may not be the catchy buzzword on a pre-professional campus, it is the duty and responsibility of the library as an institution and of the librarians as the institution's information professionals, to make known the connection between information literacy, the workplace, graduate studies, and being an informed citizen.

It is easy to imagine that information literacy skills may enable a student to differentiate between a legitimate advertisement and a scam, or between different product advertisements to determine which is the better deal.

Information and media literacy skills may also empower a student to recognize fake news and determine which side of an issue is the one that they believe in or which candidate better represents them, but in a globalized and interconnected world, citizenship transcends the local and even national level to include global citizenship. In essence, and repeating an oft-cited phrase, there are at least two sides to every issue - students must be able to not only assess different positions, but to do so

knowing that they are relying on high quality information.

Think of the importance of the news about climate change and the news about events in Syria, and how important it is that we all, as global citizens, have the real news about these subjects of real and international importance.

Another aspect of the importance of information literacy is its critical role as an academic, real-life, and citizenship skill and necessity.

What happens to those who do not receive or have access to information literacy instruction?

Their ability to recognize fake news, misleading advertising, scams, political candidates who may not represent their needs and beliefs, is negatively impacted. This is not merely an academic discussion, no pun intended, but is something that will have consequences at the university level and for years beyond.

CONCLUSIONS -- INFORMATION LITERACY FOR ALL?

The current prominence of fake news in the public conversation is an opportunity and responsibility for librarians to assume a leadership role as trained information professionals in providing relevant information literacy instruction to students and to develop and collaborative partnerships with the teaching faculty across the disciplines.

Public and special librarians assume the same role in their communities and organizations respectively. However, with this opportunity comes the responsibility for librarians to ensure access to information literacy instruction to all our students. Information literacy is for all, and access to information literacy education needs to be expanded in the interest of equity and fairness.

In order to achieve this goal, it is necessary to build and strengthen a culture where the librarian is viewed as an information professional and a leader in information literacy education, transcending disciplinary silo-ization.

While satirical and inaccurate news have always existed – just think of War of the Worlds, Jon Stewart's Daily Show, the Colbert Report, and the Onion, the use and discussion of fake news has put the need for information literacy skills for all -- and for the librarians educated and trained to provide this important education -- in the spotlight. ∎

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Salisbury Commons Ushers In Bold Library Concepts

BY BRYAN IRWIN

The hiss of an espresso machine, the clink and scrape of fork against plate, huddled conversations marked with the occasional outburst of laughter—this is soundtrack of the student union and campus cafe. These spaces have a unique vibrancy, that certain hum which amplifies how students engage and connect with their academic community. These spaces are a hallmark and even a cliché of a college student's life. Increasingly, however, universities view them as key elements of the student (learning) experience as collaboration and working in teams have become critical components of both work and school life. This trend presents interesting design challenges, such as how that energy can be incorporated into the campus library—the place often preserved as a zone of silence and solitary study. Salisbury University's Patricia R. Guerrieri Academic Commons, which opened fall 2016, blends these seemingly opposing energies to create a vital atmosphere for students to both connect and learn.

"As we planned the structure, our thinking was not simply to erect a bigger and better library," said Salisbury's President, Janet Dudley-Eshbach, at the Commons' ribbon-cutting, "but to transform the learning experience for students and for the University at a critical time in its evolution."

Over the past few years, Salisbury has energized their institutional mission by creating a student-centered academic community marked by small class sizes and faculty serving as research advisors and mentors. Indeed, the location of the Guerrieri Commons in the heart of the campus, says Dudley-Eshbach, is a nod to Thomas Jefferson's concept of the "academical village"—an organic and lively campus layout that encourages campus circulation and the development of community.

The Guerrieri Commons, which opened

Salisbury's Guerrieri Academic Commons, located at the heart of campus, transforms the students' learning experience

August 2016, has quickly established itself as a vital element in perpetuating that community feel. Siting the Commons at the campus core was important, but just as important was ensuring that students and faculty would feel drawn to interact with the space. Finding just the right balance of programming was critical to providing students with the variety of spaces that meet their task-specific needs.

To establish this proper mix, Salisbury's administration invited Sasaki to open up a conversation around the evolving uses of the academic library. And in the spring of 2013, I brought in some of my most creative colleagues to join me in beginning to design a new kind of library for the future needs of Salisbury's evolving student body.

In my lifetime alone, libraries have changed significantly. I view these larger trends as "generations" of library design, each driven by the period's predominant means of conveying information. Each adequately answered the academic needs of

the time. Libraries of the first generation—dominated by books—were filled with open stacks and individual study spaces. Libraries of the second generation—which came into being with the digital revolution and make up most of our existing libraries—are technology-rich environments peppered with group study areas. The third generation is just coming to its full manifestation now at forward-looking institutions like Salisbury University.

A NEW GENERATION EMERGES

The sweet spot for today's library needs lies somewhere in between a temple of knowledge and a technology-rich research hub. As the pendulum swings back from the second generation, a third emerges. A place where balance is struck between contemplative study space and group work areas, where students can explore the stacks (analog or digital) at their own pace or seek assistance from library staff. Where staff members spend their time less as guardians of ac-
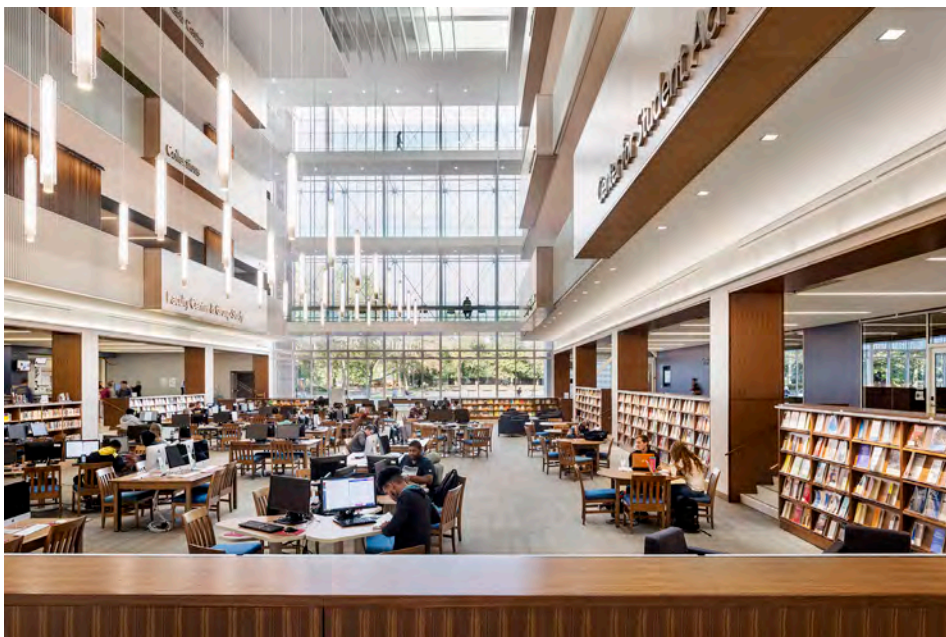
Infused with natural light, the building's core is an inspiring space that connects all of the elements of the Academic Commons

cess, and increasingly more time as experts and champions of the broad resources available. Through my own research and practice I have come to call them modern athenaeums, where the exchange of ideas and shared pursuit of knowledge creates a community of scholars.

The third generation of libraries pre-empts and integrates the reality of "new neighbors." With the rise of the digital revolution and the second generation of libraries came a proliferation of new pro-grams and spatial needs. Writing and math centers, internet labs, the ubiquitous café, and—increasingly—makerspaces, digital media production labs, and even start-up incubators. Existing libraries have made due with these needs as best they could, yet all too often, these reactionary fits have felt awkward and forced.

The impact of these new neighbors was a central area of inquiry explored in our "State of Academic Librarian Spaces," re-leased last year and subsequently published in Strategic Library. To gain insight into the most pressing issues affecting libraries, we surveyed over 400 librarians, represent-ing academic libraries of all shapes, sizes, and locations. Of the respondents, 75% indicated that their library currently shared space with other services, while 30% of respondents said that they anticipated new departments or partnerships in the future. In a telling response, one librarian wrote that they hoped any new partnerships would be "a collaborative arrangement, not just another tenant in our building like the other departments who have moved in over the past 20 years."

FROM RESEARCH TO PROGRAM: A STORY IN FOUR FLOORS

Building on our research, the project team saw an opportunity to incorporate new approaches to programming, staffing, and design. Together, we sifted through many of the common tropes that have transcended each generation of library design to find the best parts and leave the outmoded behind. Through this process, we refined the ingredients that would make this commons impactful, relevant, and vital. The resulting programming follows the daily arc of the student experience—from studying for next week's exam to celebrating community in large group events.

One trope in particular was flipped, more or less literally, on its head. For most existing libraries, there is a certain unspoken spatial logic: the higher you go, the quieter it is. That model—a hangover from the predominance of solitary study and open stacks in the first generation of libraries—left whole floors of libraries were barely activated, with single students tucked away in carrels. At Salisbury, we consciously challenged that expectation. To maximize engagement throughout, we programmed the top floor of the Guerrieri Commons to be as active as the first floor by making it home to Assembly Hall, a flexible 400-seat space for performances and presentations. Large windows and an adjacent patio offer one of the best views of the campus. By placing such a large gathering space this deep into the circulation of the building, people are compelled to cycle through the other floors. This activates the building from top to bottom—motion that is made visible through the Commons' open core and long sight lines.

The other side of the fourth floor is the Edward H. Nabb Research Center for Del-marva History and Culture. As in many other libraries, the special collections is located
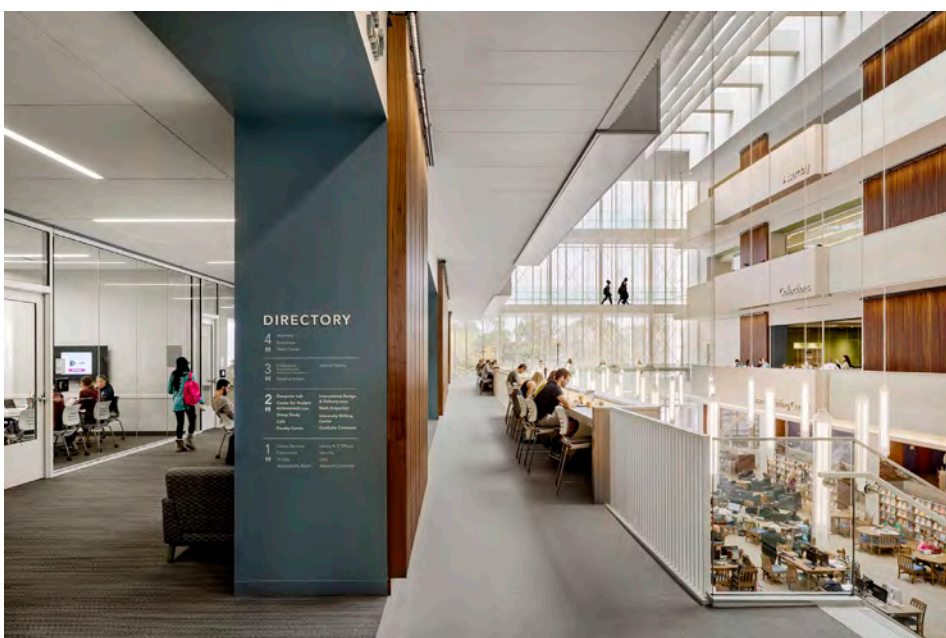

The Commons offers spaces for different modes of the student's day, from solitary study to socializing and group work

on the top floor; a sort of "library within a library." What's different at Salisbury is that instead of treating this collection as conspicuously guarded, the Nabb Center has an open feel that encourages interaction. The center also capitalizes on advances in technology to revolutionize the research experience. Outfitted with 3D printers and scanners, students and researchers alike can literally print duplicates of objects from the collection—enabling a kind of hands-on engagement previously possible only under tight security. Classrooms are tailored to facilitate this experience. Additionally, a suite of labs, processing spaces, and climate-controlled storage provide the center's employees with state-of-the-art archival facilities.

To balance out the high level of engagement on the fourth floor, the third maintains a more traditional feel. Here, students find reading nooks and study carrels for solitary contemplative study. This floor also houses most of the library's collection in open stacks. The intention of this floor was to offer a spectrum of visibility. Those seeking privacy can hunker down along the outside perimeter of the building, while those who want some external stimulation can grab a seat along the inside edge.

Salisbury's student and faculty achievement programs are located on the second floor. Their central location is another expression of Salisbury's vision for this building being at the core of the students' academic experience. Far from viewing these programs as "remedial" or just for bringing students up to speed, these academic excellence programs are just as much for B+ students studying up for a solid A as it is for D students climbing up to a C or B. It's about continuous improvement for everyone, and high visibility celebrates that. In fact, co-locating the faculty achievement center on this floor allows professors to model the pursuit of lifelong learning as a critical component to success at any stage of life or profession.

Bringing graduate and doctoral students into a shared space was of central importance for the administration, who realized that the usual diaspora of this critical campus population missed opportunities to develop interdisciplinary synergies. A considerable portion of the second floor is programmed to bring this population together. The Office of Instructional Design and Delivery is a center for faculty to explore new pedagogy styles in flexible prototype classrooms. A faculty senate room and
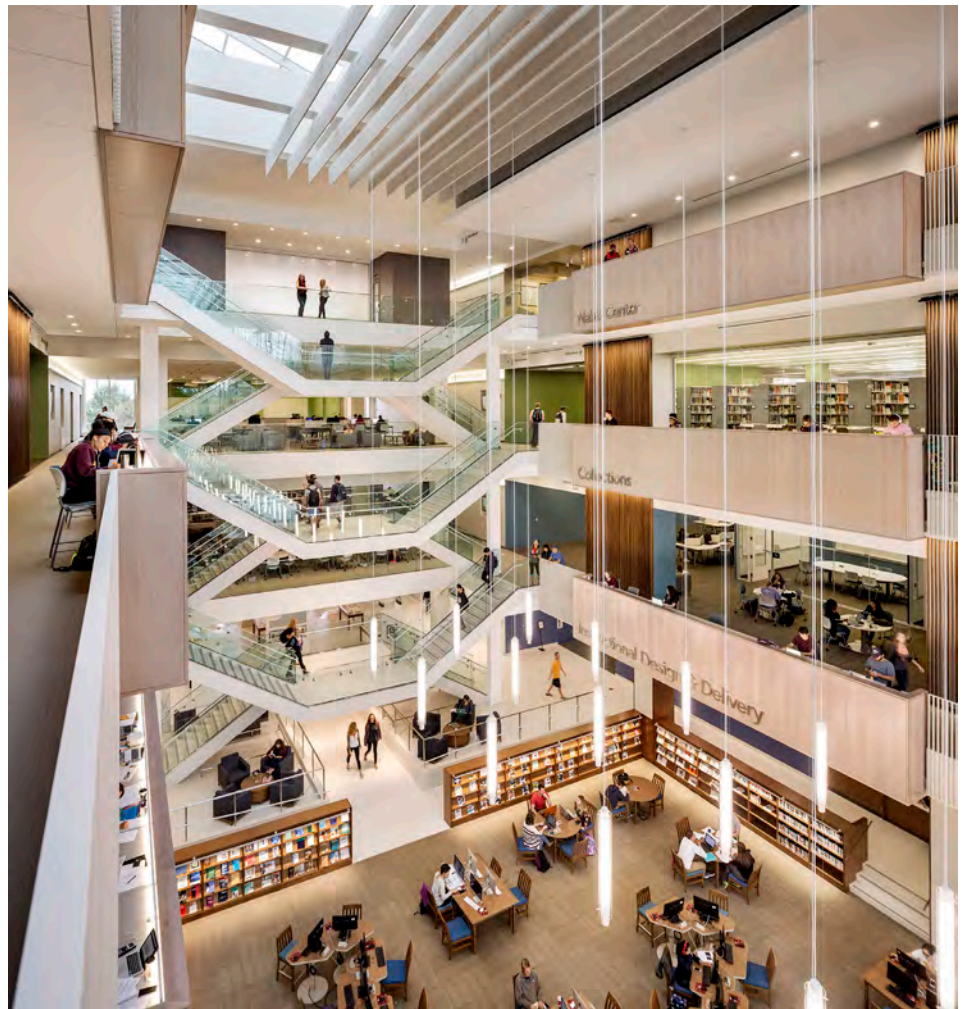
The playful stairs encourage people to take the steps, adding to the palpable energy of the space

Graduate Commons round out the faculty and instructor facilities—encouraging cross-pollination between fields.

Taken together, the programming of the second floor creates an environment conducive to serendipitous connections—students might see their instructors hard at work in the prototype classrooms, or studying hard in the graduate lounge. This proximity dispels the separation between "teacher" and "student," and promotes engagement in learning together, side-by-side.

The first floor—marked by a sunken center that mirrors the soaring open core—is a striking introduction to the Commons. The coves surrounding the center house library and tech service desks, alongside private offices for librarians and researchers. Intuitive arrangement and bold signage make it easy for students and visitors to find the resources they need. A large café and areas for group study make this a social and active space, bustling with productive energy—the vitality of the student union successfully transplanted into the library environment.

The ground floor extends out into the campus in all four directions—gardens, plazas, and colonnades spread the footprint of study spaces outdoors.

SETTING THE TONE: THE ARCHITECTURE OF COLLABORATION

Programming drives the purpose of the Commons, but the drivers of mood and ambiance are harder to identify. In the initial design discussions, Salisbury's president stressed the importance of reducing the physical and psychological barrier between inside and outside. She wanted a space that would wow students, faculty, and even community members and visiting academics with the vivacity and energy of the Commons. Upon entering, one should get the immediate sense that this is a space where productive, creative things happen—that this is exactly where you should be. It was critical to find the correct balance between an activated student union feel and the temple-like quietude of the traditional library. If the atmosphere

Significant use of glass creates a sense of porousness between the inside and out, inviting people in to experience the space

veered too much either way, students would feel uncomfortable and alienated. We delivered the successful balance of nuance and atmosphere through several compounding strategies that create more of an overall intangible impression than a collection of standalone elements.

Much of this is driven by use of light and negative space. Access to natural light is prominent throughout the building—with large skylights and floor-to-ceiling windows providing significant daylight. On the first floor, however, the building's copious glass serves as a much a role on the outside as it does inside. The number of entrances around the building's perimeters conspire with the windows to make the building seem porous, limiting the separation between exterior and interior. The overall effect is one of drawing outsiders in to experience the space.

The large floorplate and cut-away core create long sight lines throughout the building. As soon as you walk in the door, you can see the activity of each floor unfold independently. These sight lines paired with the grand scale of the building give the observer an impression of a hive of learning; each person busy with their own task, independent of those around them.

And then there were the stairs. We went through countless iterations of the stair design before finding just the right approach. There were two main considerations that shaped the design. First, the floor-to-floor height is quite tall—right around 16 feet.

A traditional switchback stair at that scale would seem daunting and discourage use. The second consideration was that a high volume of circulation would be critical to creating the buzz and hum of the Commons. So we designed the steps as a playful crisscrossing double switchback, with large open landings to encourage people to pause and take in the dramatic views of the space. The Commons does have elevators, of course, but we hedged our bets by placing them off to the side so that students would see the stairs first and feel encouraged to use them.

Another critically important element was sound. With a wide-open atrium and sound-reflective materials, we were conscious from the start that this building could easily take on more of a cacophonous din than that pleasant hum of productivity we were aiming for. We worked with a great acoustician who helped us reduce sound to just the right level—not loud, but also not unnaturally quiet.

Working with the acoustician was a classic reminder of how important it is to have the right people on your team. When we showed the acoustician the layout for the Commons' café, he told us bluntly that if we installed the espresso machine in the planned location, people in the farthest corners of the fourth floor would know whenever anyone ordered a latte. It turns out that the frequency range of steaming milk is just such that it carries more efficiently than most other sounds. That's something our

architects would ever have thought of—so we're fortunate to have had such a niche expert on our team! We did end up moving the espresso machine, and the sound was significantly mitigated.

CONCLUSION

"Our highest purpose is to empower our students with the knowledge, skills, and core values that contribute to active citizenship, gainful employment, and life-long learning in a democratic society and interdependent world." – Salisbury Mission Statement

In outlining their mission, Salisbury University acknowledges two great truths that are too often overlooked in these days of distraction and disconnect. We live in a democratic society where individual voices matter, and we're all in this together. The design of thoughtful places has the power to unite people, as one grows closer to their peers simply through sharing space in a productive and meaningful way. As the third generation of library design emerges, the full potential of these spaces is now being realized—as a great promoter of engagement, connection, and education.

Salisbury's Guerrieri Academic Commons is at the forefront of this bold reimagining of the library. Through increasing engagement with fellow students, faculty, and academic resources all in one place, an atmosphere of life-long learning is created. The impact of students rubbing elbows with their instructors or graduate students finding common ground between their disparate fields cannot be overstated—both in terms of academic excellence and creating a sense of connectedness that students carry with them long after graduation. Through smart programming and design, this project team was able to build an atmosphere of manufactured serendipity, one that plays directly into the school's mission of empowering students to be contributing members of "a democratic society and an interdependent world."

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Hey! The Library Is Kind of Awesome!

» Current trends in US public library services for teens

BY DENISE E. AGOSTO

Publisher's note: This article is based on a lecture delivered at the Tenth International Symposium on Library Services for Children and Young Adults, in Seoul, South Korea, on June 28, 2016.

Public library policy in the United States is largely localized, with each of more than nine thousand public libraries and public library systems setting their own operational and service policies. Still, public libraries across the country operate in many of the same ways, and US public library services for teens exhibit many shared practices and emerging service trends. In thinking about the future of US public library services to teens, it is helpful first to consider the historic ways in which public libraries have served their communities. Evans and Carter suggested that there are four main historic roles of the public library:

> Looking at library history, we see that libraries have served and continue to serve their publics, parent institutions, and society in four basic ways. First, libraries meet society's information needs by acquiring the materials deemed valuable or useful to some or all the people. Second, they provide a physical location and an environment for storing and preserving those items. Third, libraries add value to the items acquired by organizing them in some manner to make access more efficient. Fourth, the library's staff improves access by providing assistance to individuals in locating desired information.[1]

Each of these four historic roles is closely connected to library materials, and together they paint a picture of public library services as tightly focused on library collections. This is a largely outdated view of US public library services, as libraries are increasingly moving toward viewing their communities as their core focus, not their collections.

This ongoing shift is particularly evident in teen services. Over the past few decades,

US public libraries have typically served teens in three main ways: (1) as information gateways, with a focus on providing collections and information assistance services; (2) as social interaction and entertainment spaces, bringing teens to libraries for active and passive library programs and social interaction with peers; and (3) as beneficial physical environments, providing physical spaces for refuge, personal improvement, and volunteer or paid work experiences.[2]

Within these three service roles we see a core focus on library collections as well as on supporting teens' healthy and happy lives. While these three roles continue to define many current US public library services to teens, over the past decade many public libraries have been broadening their teen services even more, with an ever-increasing focus on understanding and serving individual communities' information-related needs. Moreover, the concept of "information" in public libraries is taking on an increasingly broader definition beyond just books, web-based tools, and other traditional information resources, leading to a wider array of teen library services than ever before.

I will describe this ongoing shift in US public library services to teens, focusing on

six current trends. These include increasing movement toward:

1. A focus on what the library does over what the library has.
2. An emphasis on information and information services in digital forms and formats.
3. A focus on the library as place.
4. Broadening literacy and learning goals beyond reading.
5. Greater teen involvement in service design and delivery.
6. Increased outreach and collaboration with non-library agencies.

Each of these six trends is discussed below, with examples from library policies and programs to show how they are playing out in libraries across the country.

TRENDS IN US PUBLIC LIBRARY SERVICES FOR TEENS

1. What the Library Does over What the Library Has

The first trend involves a growing focus on what the library does over what the library has. While the vast majority of the US public tends to equate "books" with "libraries," leading teen services librarians think in terms of leveraging library resources and

services to support teens' healthy development as their primary service goal, as opposed to focusing on building great book collections.[3] This means that cutting-edge teen librarians view positive impact on teens' lives as the ultimate goal of library programs and services, first analyzing youths' needs and then designing collections, programs, and services to meet those needs. They think of their collections as just one part of a broader set of resources and services together intended to improve the lives of adolescent community members.

This impact-focused conceptualization of public library services for teens can lead to dramatic changes in strategic planning and daily library operations. For example, in preparation for building a new library, the city of Richmond (CA) oversaw a community needs assessment that involved asking community members from all major community groups what they wanted from their public library. The needs assessment led to the formation of a new strategic goal for young adult (YA)[4] services at the Richmond Public Library, that "the 'whole teen' is nurtured by library programs and services; [and] teens have a distinct area of their own in the library."[5] Note that the YA collection is not mentioned in the strategic goal.

Analysis of data collected from community members as a part of the needs assessment further indicated that the library's teen services priorities should be: "Services that support both the recreational and academic lives of predominantly middle school aged youth; a distinct acoustically isolated teen space with a teen-friendly environment; and constructive activities as an alternative to violence."[6] Again, note the absence of explicit mention of the library collection. This does not mean that the Richmond Public Library places little value on its collection. Rather, it means that the collection is just one aspect of teen services, with strategic goals guiding collection development and use, as opposed to aiming to collect the "best" available materials—those judged by professionals to be of the highest literary and artistic quality.

The needs assessment also led to identification of a suite of teen programs to offer, including "SAT preparation, computer instruction with emphasis on gaming and other topics of particular interest to youth, poetry slams," and programs related to "all aspects of technology, music, writing, [and] public speaking."[7] Many of these programs will likely incorporate elements of the library collection, but regardless, all will be designed with the ultimate goal of supporting teens' happy and healthy development and making positive impacts on teens' lives.

2. Information and Information Services in Digital Forms and Formats

The second trend in US public library services is an increasing emphasis on information and information services in digital forms and formats. Both teen services and teen collections are moving more deeply into the digital world, with a strong emphasis on social media education and services. We know from the research that high school students use social media for collaborating on homework, organizing school club activities and sports practices, coordinating participation in civic organizations and volunteer activities, creative writing and other creative pursuits, and seeking emotional support from peers and family members.[8] Recognizing the range of social and educational benefits that teens can derive from social media use, many teen librarians are incorporating it into their teen programs and services, offering homework help, leading book and other media discussion groups, and teaching teens how to be good digital citizens.

The Teen Zone Social Media Ambassadors program at the Lawrence (KS) Public Library (LPL) serves as a good example of a social media–based public library program for teens. The program was designed for teens to volunteer a few hours each week to promote the library via social media, performing tasks such as vetting book reviews, art submissions, and other contributions from teens in the community and posting them on the Teen Zone Tumblr; reblogging web content likely to be of interest to community teens; tweeting out library news and events; and taking and then sharing photos of library events online in any of the library's various social media accounts. The program was intended to generate publicity to benefit the library, increase interest in the library among community teens, and benefit participating teens by giving them volunteer work experience that they could use as they build their college and career resumes.[9]

LPL recently completed the first year of the new program. According to Molly Wetta, collection development librarian and Ambassadors program supervisor, results from the first year were mixed:

We promoted the program to our older teen library users and reached out to the high school journalism and English teachers to pass it along to potential volunteers, but got zero applications except from one longtime volunteer who I knew was involved in journalism. She did well for a while but then got busy with school and other projects and had to leave the program. We are still contemplating ways to try it again next year, because in principle, it can be a great opportunity for both libraries and teens to have user-generated content. . . However, it really wasn't a time saver for staff as we had intended. And we thought teens would respond better to teen-generated content and that the ambassador would promote the library's accounts to peers, which did happen. We were better able to connect with high school social media accounts and got new high school followers because of it. So it wasn't a total loss, it just didn't turn out exactly how we had initially envisioned it.[10]

The Ambassadors program highlights the importance of creativity, flexibility, and

> **» Recognition of the role of the library as a physical gathering space led to care in making the new teen space comfortable and inviting to teens. The role of the physical library space is especially important in economically disadvantaged communities such as Richmond, where teens often live in neighborhoods with inflated crime and violence.**

persistence in developing teen library programs that use new and emerging digital information forms, formats, and environments as libraries explore how best to provide teen services in these new information environments.

3. The Library as Place

The third YA service trend is a growing focus on the library as place. Despite the emphasis on the digital world, US public librarians continue to stress the value of the physical library as a place for teens to gather and for individual use as well. Many librarians are thinking about the importance of the library as place even more strongly than in the past.

In one of my past studies, Kuhlmann et al. studied how US teens use public library spaces and why they value libraries as physical places.[11] We found teens to use teen spaces in libraries for access to technology, for study space, as places for conducting leisure pursuits such as reading and game playing, and as places to socialize with peers. The emphasis on the library as place can be seen in the Richmond Public Library's community needs assessment discussed above. In response to what they learned from the community needs assessment, the assessment team built the following service objectives into planning for the new library building:

The new library will have an acoustically isolated, visible, teen-friendly area with computers, lounge and table seating, and collections that are attractively displayed. Programs of all types will be offered regularly, including SAT preparation and computer literacy. A structured volunteer program will encourage youth to contribute to their community. Teens will be given an orientation to the Teen Center prior to using it to explain its use and expected conduct.[12]

Thus, recognition of the role of the library as a physical gathering space led to care in making the new teen space comfortable and inviting to teens. The role of the physical library space is especially important

in economically disadvantaged communities such as Richmond, where teens often live in neighborhoods with inflated crime and violence. Public libraries are public buildings, open to all and therefore not guaranteed to be completely safe spaces. Still, with library staff providing adult supervision and watchful eyes, often they are safer places for teens from disadvantaged communities than most other places in their communities where they can go in their free time.

4. Literacy and Learning Goals Go Beyond Reading

The next trend is a broadening of literacy and learning goals beyond reading. Traditional reading and writing skills remain fundamental to literacy, but the definition of literacy has expanded. Teens today must be able to read, write, and interact across a range of platforms, tools, and media from signing and orality through handwriting, print, TV, radio, and film, to digital social networks. Literacy is no longer viewed as a mechanical process, but is understood as the construction of meaning. This expanded definition of literacy impacts the types of services, programs, and collections that libraries provide, as well as the nature of the work that library staff perform.[13]

Again the connection to information and information services in digital forms and formats is key. While most US public libraries continue to promote books and teen reading as a core focus, many are moving toward equal emphasis on digital literacy and "making" (creation activities, such as those occurring in makerspaces and learning labs). As a result, the role of the public librarian is becoming more fundamentally educational than ever before. This movement positions public librarians as public educators and public libraries as public education institutions, with a focus on public librarians as digital literacy educators.

What exactly is digital literacy? ALA's Digital Literacy Task Force defined a digitally

literate person as one who:

- possesses the variety of skills—cognitive and technical—required to find, understand, evaluate, create, and communicate digital information in a wide variety of formats;
- is able to use diverse technologies appropriately and effectively to search for and retrieve information, interpret search results, and judge the quality of the information retrieved;
- understands the relationships among technology, lifelong learning, personal privacy, and appropriate stewardship of information;
- uses these skills and the appropriate technologies to communicate and collaborate with peers, colleagues, family, and on occasion the general public;
- uses these skills to participate actively in civic society and contribute to a vibrant, informed, and engaged community.[14]

This focus on public libraries as digital literacy educators is evident in the Seattle Public Library's Strategic Plan, which states that:

Beyond becoming the source for practical information, the Library must seize the opportunity to become the place where anyone can become tech-savvy. For instance, the Library will develop places where teens can edit and develop audio, video and text for multimedia projects using state-of-the-art technology. Teens aren't the only ones who want to sample the latest technology, though they are certainly a good group to start with. We see the future Library as a learning lab where people can experiment with a variety of tools to see what might help them to turn ideas into reality and share them with others.[15]

Over the past several years, YALSA (the teen services division of ALA) has also made promoting digital literacy a core campaign. YALSA has introduced programs such as

Teen Tech Week, which encourages teen librarians to focus one week each year on teaching teens about the ethical use of digital information and on providing high-interest programs that promote improved digital literacy skills. The wide range of the programs participating libraries have offered during past Teen Tech Weeks is impressive, including such programs as: "robotics demonstrations, a Hollywood digital sound effects guest speaker, geocaching, a technology petting zoo, digital photography and photo editing, QR code scavenger hunts, retro technology and gaming events, and teens making their own library memes."[16] Creative librarians around the country are working to harness teens' interest in entertainment and technology to devise creative informal educational experiences such as these that can build crucial literacy and digital literacy skills.

5. Teen Involvement in Service Design and Delivery

Next, in line with viewing positive impacts on teens' lives, as opposed to building high quality library collections, as the driving goal behind library program and service design, the fifth trend is an increase in teen involvement in service design and delivery. Many US public libraries are working toward a vision of including teens as partners in both the design and delivery of teen services. Probably the most current common method for including teens in program design is the use of TABs—Teen Advisory Boards. Increasingly popular in small, medium, and large public libraries across the country, "a teen advisory board creates a specific role for teens in the library and formalizes their inclusion into the decision-making processes."[17]

For example, at the Cherry Hill (New Jersey) Library, my own local public library, Teen Librarian Melissa Brinn runs an active TAB. Teens interested in participating must complete written applications, and interviews are held once each year to select TAB members. The TAB meets about two times a month during the school year to plan library programs and promote the teen department, to play book- and writing-related games, and to socialize as a group. TAB volunteers receive public service (volunteering) hours in exchange for their time. Many local schools have public service hours requirements, making service on the TAB particularly attractive to teens looking to fulfill volunteer work requirements. In past years, Cherry Hill Public Library TAB members have designed and delivered a wide array of library programs, from children's storytimes to interactive murder mysteries.

However, TABs and other similar groups only enable small numbers of community teens to play a role in program and service design. Subramaniam, among others, has argued that to meet the needs of more teens, especially teens from disadvantaged backgrounds,

surveys, interviews, and forming a teen advisory council [TAB] are no longer sufficient when designing teen programs. Instead, it is time to involve teens themselves as co-designers of programs and services. Teen services librarians need to apply interdisciplinary approaches to establish equal partnership and learning opportunities that facilitate discovery and use of digital media.[18]

As of yet, however, few US public libraries involve teens deeply enough to meet this ideal, and deep and lasting teen partnership in library services remains mostly a future vision.

6. Outreach and Collaboration with Nonlibrary Agencies

Lastly, there is a movement toward increased outreach and collaboration with nonlibrary agencies. To maximize service impact and efficiency, teen librarians are increasingly looking to offer joint services with other agencies that serve teens, often moving library services outside of library buildings to places where teens can be more easily reached. Katz discussed public library and school collaborations, suggesting that there are four characteristics of successful collaborations: communication, cooperation, respect, and practical ideas.[19] Schools are probably the most common agencies with which US teen services librarians tend to form lasting collaborations, but some teen librarians collaborate with a range of agencies, such as local businesses, religious organizations, government agencies, and more.

For example, the Richmond Public Library community needs assessment described above establishes plans to collaborate with several community agencies to achieve their new vision of teen library services:

In developing a Volunteer Academy, the library will work with local middle and high schools that require students to do community service, to publicize the program and develop volunteer opportunities that meet school requirements. The Arts & Culture Commission and the Recreation Department will partner in providing programs for teens.[20]

Each of these community partners—the schools, the Arts & Culture Commission, and the Recreation Department—shares with the library the fundamental goal of improving teens' lives—a shared mission that leads to a natural partnership. In collaborating with the library, the other agencies can increase the impact of their services by sharing staff, knowledge, and other resources, and together with the library they can reach more teens more efficiently than on their own.

BRINGING TEENS INTO THIS NEW LIBRARY SCENE

Although these six trends in public library services are occurring in many cutting-edge libraries across the country, there are challenges to implementing them more broadly and to helping teens move beyond the persistent view of libraries just as paper book providers. Indeed, my own recent research with high school students in a technology-

> » **US public library services for teens are by no means doomed to fail. The single most important element for future success is the potential for teens to develop deep interest and enthusiasm in their libraries.**

focused public high school showed students to have "a widely held perception that libraries represent an outdated past, whereas technology represents these teens' everyday reality. Few saw libraries as relevant to their daily lives, yet most saw social media as relevant."[21] More effective marketing to teens and adults is needed to make the public aware of these changes. The lack of public awareness of the full range of available teen services is compounded by an ongoing emphasis in the professional writing, which focuses predominantly on the discussion and promotion of books.[22] The library field itself must embrace this future vision of broader, impact-based library services before we can hope to convince the public of its significance.

Moreover, these trends are occurring during a period of ongoing tight funding for most US public libraries. In the wake of the 2008 recession, many libraries have experienced multiple years of local and state funding plateaus or even cuts. The recession may now be over, but most public library budgets have yet to rebound. Now more than ever we must work to help the public understand the changing nature of teen services to ensure future public support for stronger funding of our public libraries and to enable more libraries across the country to meet the powerful potential of public libraries as a fundamental social structure and beneficial influence on teens' lives.

Still, US public library services for teens are by no means doomed to fail. The single most important element for future success is the potential for teens to develop deep interest and enthusiasm in their libraries. Luckily, this potential remains strong. As the title of this article indicates, when shown the full range of services that today's public libraries have to offer, teens will often respond positively and become eager public library users. The quote that inspired the title of this article ("Hey! The library is kind of awesome!") comes from my recent study of high school students in a technology-focused public high school, which I referenced

previously.[23] The young woman who made this announcement hadn't used a public library in several years and had assumed that they were outmoded and useless. One day she happened to visit her local library and realized that it had much to offer her, from leisure opportunities, to homework support, to social engagement, to a welcoming place she could frequent other than home, school, or commercial spaces. If we can spread this message of the broad range of available library services to teens across the country, we can ensure the continued healthy growth of the field, and more importantly, the continued power of US public libraries to enrich teens' lives for many generations to come. ■

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Exploring Creative Information Literacy Practices via Divergent Thinking

BY JOSEPH HARTNETT

ABSTRACT

Encouraged by the ACRL Framework's call for librarians to adopt more engaging methods to teach students, as well as for students to assume more active, creative, and reflective roles in relation to the information landscape, the author questioned whether methods put forward by creativity training proponent Edward de Bono for fostering creativity might have any potential value for of helping students to engage in divergent thinking related to developing a research strategy, or as the framework would have it "Searching as a Strategic Exploration." In order to answer this question, the author investigated the work of Edward de Bono and conducted a small experiment where 20 students in an information literacy credit class were randomly divided into a control group and an experimental group. The experimental group was presented with a set of directed strategies offered by de Bono in addition to regular instruction, while the control group was not. Afterwards, all members of the class were given an open ended writing assignment about a vaguely worded topic where they were asked to be creative. Student responses were evaluated for indications of divergent thinking by counting the number of interested parties identified in their writing in relation to the topic. It was found that the experimental de Bono group engaged in significantly more divergent thinking than did the control group, both in terms of originality and in the total number of interested parties that were generated. As such it would appear that de Bono's methods and other similar approaches have potential value for promoting divergent thinking, an essential capacity for creativity, and likely for helping teaching librarians develop more active, creative, and reflective classroom practices. The model used is original within the realm of library pedagogy and has the potential to help librarians apply divergent thinking strategies to information literacy programs.
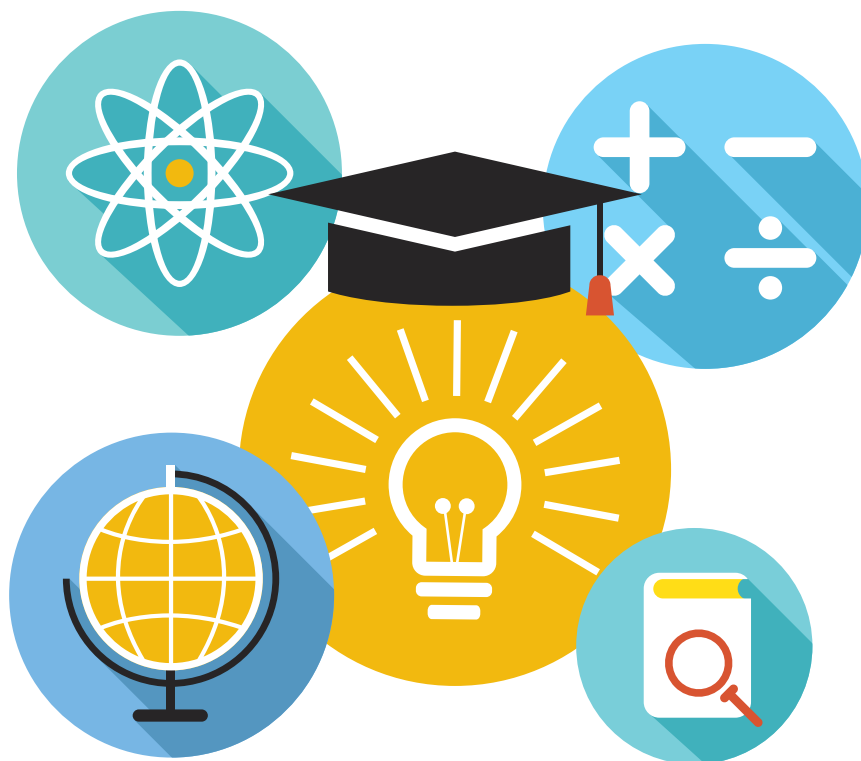
INTRODUCTION

The ACRL framework's constructive, studentcentered approach to information literacy calls for librarians and faculty to adopt more engaging methods to teach students, as well as for students to assume a more active, creative, and reflective role relative to the information landscape (American Library Association, 2015). The framework uses language throughout that describes learners as openminded, reflective creators of information rather than as passive recipients, and for good reason: generative thinking is important. Real life problem solving rarely involves simply picking items from a menu. It often requires creativity, or productive thinking, which Moseley described as "...not confined to the analysis of existing arguments but ...also concerned with generating ideas and consequences for action" (2005, p. 119).

In the author's experience, students do not have trouble converging on ideas, but in seeing information from different perspectives. Most librarians can recall easily the student who wants to find five scholarly articles about a predetermined topic and wants them fast. Many students are more interested in locating a scholarly source than in engaging authentically with the process of research. Moreover, in the age of autosuggestion, there are few subjectrelated structures that allow one to broaden and narrow topics in the electronic environmentÐ ideas emerge only because someone else (the crowd) searched for them previously. The wisdom of the crowd may be helpful in answering questions with definite answers, but is not as useful when one is developing a strategic plan or making a choice. Such dispositions of efficiency and satisfaction serve a purpose, but ultimately, they are not particularly strategic for lifelong learning in the 21st century, which values creativity as a skill (Partnership for 21st Century Skills, 2008).

With this in mind, the author began to investigate ways in which creativity is

encouraged, in order to identify processes or practices that better operationalize and encourage the creative dispositions called for in the framework (in conjunction with preparing to teach a creditbearing information literacy class). While the ACRL framework provides various examples of practices and dispositions in which information literate learners may engage, it does not offer a great deal in terms of the means by which librarians and faculty can increase the likelihood that this type of learning takes place. This is, of course, a feature, rather than a fault of the framework, as librarians are free to develop their own outcomes and activities to meet local contexts. However, librarians interested in such means must look beyond the framework for such guidance.

It appeared that simply reminding students to adopt creative, openminded dispositions was not likely to be as effective as actually providing opportunities for them to practice them.[1] The author had heard of processes and programs designed to promote creativity in the arts, such as those of Eno and Schmidt (2001), who used decks of cards designed to encourage creative thinking by oblique (sideways) strategies with musicians such as the late David Bowie. Further investigation led to the discovery that, rather than leaving it to chance, organizations including those involved in engineering, commonly adopt and promote creative strategies and programs to increase the likelihood that creativity and innovation will occur (Puccio & Cabra, 2010, p. 158).

While investigating along these lines, the author came across the work of Edward de Bono, who offers a wide range of problem solving techniques that claim to teach individuals and groups how to think more creatively. De Bono is known for coining the term "lateral thinking," a cognate for creative thinking that appears in the Oxford English Dictionary and is often mentioned in conjunction with his work (Moseley, 2005, p. 134). De Bono's methods have been adopted widely for use in industry and education, and they have enjoyed considerable popularity and commercial success (Burgh, 2014Ð Higgins, 2015Ð Moseley, 2005, p. 136Ð Puccio & Cabra, 2010, p. 160Ð Smith, Jeffery, & Smith, 2010). De Bono offers a wide range of metacognitive strategies described as "thinking tools," which constitute entire "thinking programs," such as his CoRT Thinking Program (CoRT is an acronym for his company, the Cognitive Research Trust) and his more widely known Six Thinking Hats program.

De Bono's CoRT Thinking Program offers 60 "attention director" processes divided into ten lessons that can be used individually or in sequence. Individual CoRT thinking tools are presented often in the form of acronyms or short descriptors and are designed to be practiced in order to take immediate and deliberative action in relation to thinking (de Bono, 1983, p. 118).

Some tools are simple ones, such as PMI (Plus, Minus, Interesting): learners examine an example situation and consider only its positive points. This is followed by a stage in which they consider only its negative points, and finally, consider only the interesting points of the problem (Moseley, 2005, p. 167). More complex and logical methods include Evidence Structure (Key, Strong, Weak): learners consider an argument and identify which evidence offered is crucial, good, or unnecessary (CoRTthinking.com, n.d.Ð de Bono, 1983, p. 123). There are also more unusual "lateral" techniques that involve the introduction of randomness and the suspension of judgment such as Random Input: learners introduce a new idea in conjunction with the idea at hand to produce something new (de Bono, 1983, p. 123). De Bono describes his theory of lateral thinking as at once an "attitude of mind", and a set of processes designed to help learners break free from habitual "vertical thinking"—thought processes that tend to lead to predictable outcomes (de Bono, 1968, p. 18Ð Moseley, 2005, pp. 121, 138). Lateral thinking involves thinking deliberately about situations in different and sometimes unusual ways to generate new ideas "by suspending instant judgment or by directing the thinker's attention to all the relevant and interesting aspects of a problem" (Moseley, 2005, p. 134).

The concept of lateral thinking is based upon his idea of the brain as a self-organizing system that establishes and uses routine patterns. De Bono describes creativity as a highly unnatural process that necessitates lateral thinking in order to introduce new patterns that produce new connections (de Bono, 1995). De Bono advocates that his processes and thinking programs should be taught as an area of study distinct from the regular curriculum, so that such instruction may serve individuals better than subjectbased instruction (de Bono, 1976, pp. 158–9).

Given the need for instruction librarians to identify means with which to increase the probability that students will develop creative dispositions, the author wondered if any of de Bono's many CoRT processes, lateral thinking or others, may have value in promoting the more thoughtful, exploratory, creative practices and dispositions called for in the new ACRL Framework in relation to information literacy. In order to answer this question, the author performed literature reviews on the major theories behind de Bono's work and then conducted a small experiment.

LITERATURE REVIEW
De Bono and the Field of Psychology
The study of creativity has a long, rich history in the field of psychology, which investigates this complex subject via its processes, the personality traits of creative people, and the characteristics of creative products and environments (Plucker & Makel, 2010, pp. 49, 51). The processes used in de Bono's approach to creativity via lateral thinking are indeed topically situated within this field of investigation. However his theory of lateral thinking is not recognized as a coherent and empiricallyvalidated theory within psychology (Higgins, 2015, p. 20Ð Moseley, 2005Ð Sternberg & Lubart, 1999).

A closer look at de Bono's eloquent and encouraging work on the topic within his many publications soon reveals that they include no external references, other than those to his own previous publications, where he offers evidence in the form of anecdotal accounts and case studies of work he and his associates have conducted. The fact that de Bono does not situate his work within an academic context has been the source of a great deal of criticism on the part of academics over the past four decades (Burgh, 2014Ð Dingli, 2008Ð McPeck & James, 1983).

Psychologists take issue with com-

mercial endeavors such as de Bono's, as they diminish their more rigorous efforts to understand creativity as a field of study (Sternberg & Lubart, 1999). Despite this, they do recognize the potential usefulness of his tools and make a point not to reject them simply because they have not been studied and validated empirically (Begbie, 1970Ð Sternberg, Kaufman, & Pretz, 2002, p. 99Ð Sternberg & Lubart, 1999).

De Bono claims that he refuses to participate in academics because he is simply uninterested in its traditions, which he believes are adversarial in nature, and predisposed to "vertical," deductive, critical, and argumentative thinking that prevents the emergence of new possibilities (Dingli, 2008). However, it should be noted that this lack of interest very likely serves his own interests, as he is in the (apparently successful) business of selling his programs and services. De Bono reports that his methods have been used around the world by schools and governments, as well as business organizations, including AT&T, British Airways, British Coal, DuPont, Ericsson, Prudential, and Siemens. His methods also were used by the organizers of the 1984 Olympic Games in Los Angeles, as well as by the organizers of the 1983 America's Cup (de Bono, 1983, p. 115Ð de Bono, 1995Ð Dingli, 2008). For de Bono, the widespread use of his tools is sufficient validation (Moseley, 2005, p. 137).

Thinking as a skill

De Bono's critics, such as philosopher James McPeck, note that his nonacademic stance is particularly problematic and egregious as he makes strong empirical claims about the nature of the mind and the ability of his products to teach "thinking as a skill" independent of subject matter (McPeck, 1983Ð Weisberg, 1986). There is, in fact, a long-standing academic debate about the notion that universal skills can exist separate from subject content (Smith, 2002, p. 659). In fact, the ACRL Framework rejects this notion specifically and approaches the subject of information literacy instead in terms of practices and dispositions rather than skills (American Library Association, 2015). For these reasons, critics ultimately have rejected de Bono's theories and his claims of being able to generate competence in universal thinking skills. Apart from a Venezuelan study in the 1970s that did show generalized improvement in pupils who completed the CoRT program (Nickerson, 1999) there otherwise is not a great deal of

evidence in the literature that his programs provide generalized thinking competence as de Bono claims they do (Moseley, 2005).

Divergent thinking

Although de Bono may not say so himself in his publications, his programs are noted by Sawyer (2015) as having been inspired by work conducted in the field of creativity studies by psychologist Ellis Paul Torrance, who in the late 1960s developed a battery of psychometric tests designed to investigate and measure the capacity for creativity. Torrance's work is based on the theory of divergent thinking (DT), a highly influential construct developed by psychologist J.P. Guilford in the 1940s, which suggests that "the ability to envision multiple solutions to a problem lies at the core of creativity" (Davidson & Frey, 2011). DT involves generating ideas, options, possible solutions, and different points of view, while convergent thinking, its opposite, involves narrowing thoughts to a single idea and, in doing so, evaluating one's results (Basadur & Hausdorf, 1996). DT thinking alone is of little use without evaluative and convergent thinking (Runco, 2003). DT is still the instrument used most widely in the field of creativity studies, and is referred to commonly as being an essential capacity for creativity (Runco, 2014Ð The RSA, n.d.). Although critics of de Bono's work reject his claims that his tools can develop "thinking skills," they do, however, recognize that de Bono's processes are useful instead for promoting DT (McPeck, 1981, p. 104Ð Paul, 1985Ð Sternberg & Lubart, 1999Ð Weisberg, 1986).

In this respect, the literature shows that portions of de Bono's work are potentially useful. A number of studies have provided evidence that CoRT tools have significant positive effects on increasing individuals' DT (Adams, 1989Ð Alkahtani, 2009Ð Birdi, 2005Ð Nickerson, 1999Ð Ritchie & Edwards,

1996). The literature also indicates the pedagogical usefulness of CoRT tools in structuring the conversation in science and special needs education (Rule & Stefanich, 2012), and for increasing motivation and engagement in work and classroom settings in engineering and design contexts (Barak & Doppelt, 1999Ð Christoforidou, Olander, Warell, & Holm, 2012Ð Raven & Smith, 2007). De Bono's Six Thinking Hats program (which shares a section with CoRT) also has been used successfully for similar purposes in a range of disciplinary contexts (Gregory & Masters, 2012Ð Karadag, Sarltas, & Erginer, 2009Ð Powers & JonesWalker, 2005Ð Schellens, Van Keer, de Wever, & Valcke, 2009).

De Bono's processes do not involve simple brainstorming, but rather a directed problem solving structure for undertaking it in explicit steps. These processes serve to model an example of what problem solving can look like, and provide example considerations through which to reflect and apply DT. It has been shown that both modelling behavior and placing learning activities within a problem context are optimal means to promote memory and transfer (Cook & Klipfel, 2015). Creative activities, such as DT, can provide opportunities for deeper reflection and engagement in relation to subject content, which is a highly effective way to encourage retention (Baer & Garrett, 2010, p. 17).

Thinking routines

De Bono's methods also are useful pedagogically from another perspective. His thinking tools clearly are representations of what are now referred to more commonly as "thinking routines," which are used for teaching thinking dispositions that help deepen content learning ("Project Zero: Visible Thinking," 2015). Such thinking routines are at the center of Harvard's Project Zero Visible Thinking initiative, which views them as potentially highleverage means to promote thoughtful dispositions in classrooms (Ritchhart & Perkins, 2000).Visible Thinking researchers have found that teachers who promote these kinds of dispositions successfully "tend to create, adopt, and use specific routines as scaffolds" (Ritchhart, Church, & Morrison, 2011). Ritchhart (2002) described thinking routines as having the following characteristics:

Have only a few steps, are easily learned and remembered, can be easily scaffolded, get used repeatedly and are useful across a

> » **While nearly every frame within the ACRL framework offers general language that affirms the need for students to adopt open minded, exploratory dispositions, only the frame "Searching as a Strategic Exploration" mentions the word creativity specifically (offered as an example of a disposition).**

variety of contexts. These processes are used both in public as well as in private. They involve creative elaboration and other types of thinking. (p. 92)

Project Zero's Visible Thinking group offers a wide range of such thinking routine processes designed for specific types of thinking ("Project Zero: Visible Thinking," 2015Ð Ritchhart et al., 2011). Such processes provide opportunities for reflection and engagement with planned subject content in groups, as they make thinking visible in the classroom and allow teachers to become aware of and to assess it. Not only do these routines provide opportunities to practice DT, but they also send messages about the constructive and social nature of thinking, messages that are highly consistent with what the ACRL framework proposes. Such messages have the power to influence learners' conceptualizations about learning (Ritchhart, 2006, p. 41).

A difference between visible thinking routines and those that de Bono offers is that, in addition to being available freely, they are to be used to enhance classroom instruction rather than to serve as stand-alone skills.

Experiment: Testing de Bono's Theories in the Classroom

As de Bono was inspired by Torrance's work and because his methods are seen to be useful in encouraging DT, which remains the measurement instrument used most widely in the field of creativity, the author wondered whether presenting students with some of his processes might result in increased DT in conjunction with developing a research strategy and designed an exploratory experiment.

The experiment presented 20 undergraduate students in a creditbearing freshman level information literacy class with an interconnected series of de Bono's thinking tools used in association with the CoRT Thinking Program, TECPISCO, which represents a process that can be used for problem solving. The acronym stands for TargetÐ ExpandÐ ContractÐ PurposeÐ In-

putÐ Solutions, Choice, and Operation. TECPISCO serves as the final unit in the CoRT program and integrates many concepts covered in previous lessons. It is also used in conjunction with Blue Hat thinking in his Six Thinking Hats program (de Bono, 1985, p. 181).

METHODS

While nearly every frame within the ACRL framework offers general language that affirms the need for students to adopt open minded, exploratory dispositions, only the frame "Searching as a Strategic Exploration" mentions the word creativity specifically (offered as an example of a disposition). It also affirms specifically the need for students to engage in divergent thinking (offered as an example of knowledge practice). This knowledge practice is listed together with others, including the need to identify the scope of a research problem, and the need to identify interested parties who might produce information about a topic. Based upon this, the author imagined that presenting students with de Bono's TECPISCO process might have an effect on the number of interested parties they identified in relation to a vaguely worded prompt about a hypothetical topic.

With permission from the college's IRB, the author recruited and obtained informed consent from twenty students, all of whom were enrolled in the author's fall freshman level class, Information Research in the Social Sciences and Humanities. The students included 13 male and 7 female freshmen aged 1820 years. The author divided the class randomly into two groups, a de Bono group (7 males, 3 females) and control group (6 males, 4 females).

Over a period of several weeks during the semester, the author covered with the entire class a group of concepts in the ACRL Information Literacy Standards related to developing a research strategy, specifically the skills identified by SAILS ("SAILS Skill Sets," n.d.). At the end of this period, rather than coming to class, the control group was assigned to review an online module related

to choosing and focusing on a topic, which reinforced many of the topics that had been covered previously with the class as a whole. They were instructed to return to class for the following session ready to be asked about the concepts.

Members of the de Bono group convened in class as usual, and received an approximately 40 minute presentation of de Bono's TECPISCO framework. At the end of the class, students in the de Bono group were assigned to review the same online module as the control group, and were likewise told to come to the following class ready to be asked about the concepts covered. The TECPISCO framework was presented as something that might be useful in developing a research strategy with respect to generating ideas, seeing information from different perspectives, and possibly for uses other than writing papers. The author explained that this framework is not a substitute for thinking, but rather a method to keep considerations related to solving problems organized in a potentially memorable way. Each step of the framework was accompanied by a PowerPoint presentation, and students were given handouts that described each tool. The author did not teach the entire CoRT program, but only the section related to the concept of developing a research strategy. Specifically, the students were presented with the following tools:

- *Target:* Targeting involves identifying the target of the student's focus (de Bono, 1983, p. 123).
- *Expand:* Expanding includes the student's exploration of the target by saying as much as can be said about it (de Bono, 1983, p. 123).
- *Contract:* Contracting involves narrowing the information to determine which aspect(s) is (are) most important. The process is said to be applicable generally and can even be used to help solve problems in the subsequent PISCO phase (de Bono, 1983, p. 123).
- *Purpose:* The hyphen in the mnemonic denotes the existence of two separate, but interrelated processes. The P in PISCO
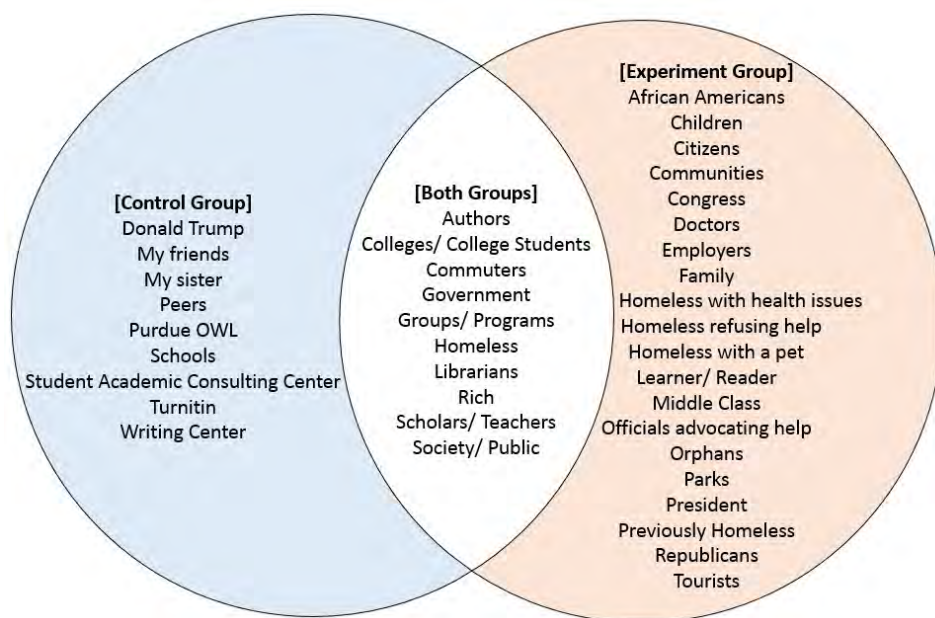
Figure 2: Originality. Control Group: 9. Experimental Group: 20.

[Control Group]
Donald Trump
My friends
My sister
Peers
Purdue OWL
Schools
Student Academic Consulting Center
Turnitin
Writing Center

[Both Groups]
Authors
Colleges/ College Students
Commuters
Government
Groups/ Programs
Homeless
Librarians
Rich
Scholars/ Teachers
Society/ Public

[Experiment Group]
African Americans
Children
Citizens
Communities
Congress
Doctors
Employers
Family
Homeless with health issues
Homeless refusing help
Homeless with a pet
Learner/ Reader
Middle Class
Officials advocating help
Orphans
Parks
President
Previously Homeless
Republicans
Tourists

(a more indepth approach than the general TEC method) refers to Purpose, which requires the student to identify a goal. De Bono makes distinctions among different purposes a learner may have, such as solving a problem, generating a plan, or making a decision (de Bono, 1983, p. 124). Purpose is similar to Target (T) in TEC.

- *Input* follows and involves identifying all of the information that goes into thinking that ultimately will result in output. De Bono asks the learner to consider factors such as the setting and scene, people involved, and information available (de Bono, 1983). Input is similar to Expand (E) in TEC, as it has the learner expand his/her considerations regarding facets related to a topic.
- *Solutions* follow Input. Here, the learner is required to identify multiple different solutions by considering obvious, copied, found (imagining "something" that can fulfill the outstanding needs), and improved solutions built upon existing solutions (de Bono, 2013).
- *Choice* is next. Students are asked to make choices from the list of solutions generated by the previous tool (de Bono, 1983).
- *Operation* is the final step in the PISCO process and focuses on carrying out the choices (de Bono, 1983).

During the following class when the entire group reconvened, all students were presented with an ungraded, openended, inclass writing assignment related to developing a research strategy in which they were asked to be creative, and to elaborate on how they would develop an excellent research paper for the vaguely worded topic, "Homelessness in our cities," for a sociology class in which they were hypothetically enrolled. Students had one hour to complete the assignment. After the writing session, the author collected the student papers, removed identifying information from them, and then counted the number of people or groups each student identified in relation to the openended prompt to see if de Bono instruction helped the experimental group students think (or describe their thinking) more divergently.

RESULTS AND DISCUSSION
(See **Figures 1** and 2) The results of a blind assessment of each paper demonstrated that, in response to the prompt, the de Bono group identified more ideas in the form of interested parties, as well as more original responses, than did the control group, and these results differed significantly. To determine this, the author identified any people or groups mentioned within each student's paper, and counted the number of responses offered as a measure of fluency, as well as the number of original ideas. The de Bono group engaged in more DT in terms of fluency and originality.

These results occurred likely because students were prompted with a list of general contextual considerations related to problem solving that involved divergent and convergent thinking at each step, while the control group was presented with a disconnected set of less memorable considerations. The TECPISCO problemsolving model encourages and incorporates DT in explicit steps, such as in the Expand stage of TEC, and in the explicit instructions it offers in its Input and Solutions stages. Further, the tools likely provided the message that problem solving and DT are valuable. Another possible explanation for these results is that students were prompted with a memorable mnemonic sequence.

LIMITATIONS OF THE STUDY
Admittedly, the author investigated a very narrow facet of student writing. There was no pretest to compare to these experimental results, and an official Torrance test was not used. The TECPISCO process was not offered and repeated multiple times throughout the semester to make it a true routine, and the quality or appropriateness of the results as search terms were not evaluated (although at face value, the de Bono group's original ideas did appear to be more thoughtful). Thus, no claim is made that the responses offered represent the correct or most appropriate keywords one should use to undertake research about homelessness, but rather that they could be seen simply as an indication that students had a greater disposition or inclination to engage in DT because they had more practice and encouragement in doing so.

It is important to understand that DT tests do not measure creativity itself, and that DT should not be viewed as a singular ability or skill, as it is measured differently in different domains. For example, DT tests are presented not only with language cues, but also by using visual images, and there is no relationship between scores on these different tests (Baer, 2011): being a creative short story writer does not make one a creative dancer. It is believed widely that creativity is addressed best in context (Baer, 1998).

By evaluating de Bono's methods using DT alone, one of the most useful qualities of these kinds of processes is actually ignored. Encouraging students to engage in DT on their own in fact limits them to their own conceptualizations.

AREAS FOR FUTURE RESEARCH
These kinds of processes are most beneficial when used in groups. This is the area in which de Bono's tools have found popularity and success, and is the theoretical foundation with which Project Zero's Visible

> ## » This investigation confirmed what appeared clear at face value: that de Bono's processes do indeed have the potential to promote thoughtful, exploratory, creative practices in the context of information literacy.

Thinking initiative investigates them: as a way to enculturate thoughtful classrooms (Ritchhart & Perkins, 2008)Ð this is another area that should be the subject of future research. Both de Bono's tools and thinking routines that incorporate DT, such as those compiled by Project Zero, can very likely be used in a group library instruction environment to address and discuss classroom readings, images, sources, or objects for the purposes mentioned thus far. In addition to TECPISCO, de Bono also offers a wide variety of potentially pedagogically relevant processes with which to investigate learners' values, beliefs, and emotions (especially interesting is his Six Thinking Hats system), all of which involve DT, and some of which diverge to the point of randomness in case the teacher feels adventurous.

With regard to practical uses of the TEC-PISCO framework, it could be beneficial in facilitating group discussions and scaffolding in a problembased learning environment, or in engaging in a group conversation about how students might approach the topic of a research paper.

To determine whether students had more ideas after being presented with the method because they were prompted with a memorable mnemonic sequence, a future study might be undertaken to investigate this by presenting it with and without the mnemonic sequence.

Researchers should note that De Bono's systems are proprietary. While one can easily find examples of his many tools, one must pay to acquire full access to them. This may be neither feasible nor necessary for librarians. The purpose of this exploration was not to advocate such a purchase. This is especially true considering that there are many other thinking routine examples available free of charge. In addition to those offered by Project Zero, there exist other wellresearched and freely available methods that have been validated theoretically and designed to encourage creativity, such as Osborne's Creative Problem Solving process, which in many ways appears quite similar

to TECPISCO ("The Basics of Creative Problem Solving—CPS: Innovation Management," n.d.). Others include the Purdue Creativity Program, and Productive Thinking. All can provide insights to improve classroom teaching.

Librarians interested in DT may also consider investigating the effects that thinking routines may have by using mind maps, a library classroom instruction method already used commonly. Librarians might also take cues from the way that Project Zero schools investigate the efficacy of such routines: by teachers sharing with each other the thinking products made visible with the goal of modifying and improving their practices.

CONCLUSIONS

This investigation confirmed what appeared clear at face value: that de Bono's processes do indeed have the potential to promote thoughtful, exploratory, creative practices in the context of information literacy. Students presented with a range of his tools showed a statistically significant increase in DT, which is an essential capacity in creativity. Therefore, it would appear that other similar approaches encountered while engaging in this investigation also have potential value in promoting DT dispositions, and likely in developing more active, creative, and reflective classroom cultures as opposed to those that promote onesizefitsall skills. Given that the new ACRL framework provides encouragement to investigate, develop, and experiment with such means, librarians should not be afraid to do so, and apply them creatively to instruction in information literacy. ∎

This article, by Joseph Hartnett, is licensed under **Creative Commons Attribution 2.0 Generic License (CC BY 2.0).** *It was originally published by the Journal of Creative Library Practice and can be found here:* **http://creativelibrarypractice.org/2016/04/12/exploring-creative-information-literacy-practices-via-divergent-thinking/**

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FOOTNOTE:
[1] While one might think that finding ways to encourage creativity in the classroom is more likely to distract students from learning than encourage it, this is, in fact, not the case, as "the most effective ways to teach skills and content knowledge often involve the very same activities one would emphasize to promote creative thinking" (Baer & Garrett, 2010). The process of constructing or creating is a highly effective and generally applicable means to engage students, as it allows other types of learning to be incorporated simultaneously (Anderson, Krathwohl, & Bloom, 2001, p. 235).

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Grants & Funding

» An overview of grant and funding opportunities for librarians.

PROGRAM	SPONSOR	CLOSING DATE
Ezra Jack Keats Foundation Mini-Grants. The Ezra Jack Keats Foundation, which fosters children's love of reading and creative expression in our diverse culture, celebrates the 29th year of its Mini-Grant program with a call for proposals. Approximately 60 grants of $500 each will be awarded to qualifying teachers and librarians at public schools and libraries across the United States. Decisions will be emailed to all applicants by early May. **Details**	Ezra Jack Keats Foundation	3/31/2017
The Snapdragon Book Foundation was started in December, 2008 to provide funds to improve school libraries for disadvantaged children. Grants will be awarded to public, private, and experimental schools. Founded by a former school librarian, this foundation exists to put books in the hands of kids. In a time when many schools are reallocating their funds to technology and audiovisual equipment, we hope to make sure that school libraries are still offering children good books to read. **Details**	Snapdragon Foundation	4/1/2017
Preservation Assistance Grants for Smaller Institutions. Preservation Assistance Grants help small and mid-sized institutions—such as libraries, museums, historical societies, archival repositories, cultural organizations, town and county records offices, and colleges and universities—improve their ability to preserve and care for their significant humanities collections. These may include special collections of books and journals, archives and manuscripts, prints and photographs, moving images, sound recordings, architectural and cartographic records, decorative and fine art objects, textiles, archaeological and ethnographic artifacts, furniture, historical objects, and digital materials. **Details**	National Endowment for the Humanities	5/2/2017
The Preservation and Access Education and Training program is central to NEH's efforts to preserve and establish access to cultural heritage collections. Thousands of libraries, archives, museums, and historical organizations across the country maintain important collections of books and manuscripts, photographs, sound recordings and moving images, archaeological and ethnographic artifacts, art and material culture collections, electronic records, and digital objects. The challenge of preserving and making accessible such large and diverse holdings is enormous, and the need for knowledgeable staff is significant and ongoing. **Details**	National Endowment for the Humanities	5/2/2017
Humanities Access grants help support capacity building for humanities programs that benefit one or more of the following groups: youth, communities of color, and economically disadvantaged populations. Humanities Access grants establish or augment term endowments (that is, endowments whose funds are entirely expended over the course of a set time period) to provide funding for existing programs at institutions such as public libraries, local and regional museums, historical societies, community colleges, HBCUs and tribal colleges, Hispanic-serving institutions, archival repositories, and other cultural organizations. Humanities Access grants are intended to seed longer-term endowment-building efforts. **Details**	National Endowment for the Humanities	5/3/2017
The Awesome Innovation in Libraries Chapter was created by a small working group of passionate librarians within Library Pipeline who wanted to provide a catalyst for prototyping both technical and non-technical library innovations that embody the principles of diversity, inclusivity, creativity, and risk-taking. Naturally, we embedded these principles into the grant selection guidelines. We are thankful for our dedicated team of trustees and sponsors who make this initiative possible. If you have an awesome library project that fits within these principles, we want your application! Apply Now, Proposals are due on the 1st of each month, decisions are rendered by the end of the month. Accepting grant submissions on March 1st (deadline to submit is March 15th). Questions? Email us at: **libraries@awesomefoundation.org**	The Awesome Foundation	Ongoing
Beyond Words. Dollar General, in collaboration with the American Library Association (ALA), the American Association of School Librarians (AASL) and the National Education Association (NEA), is sponsoring a school library disaster relief fund for public school libraries in the states served by Dollar General. The fund will provide grants to public schools whose school library program has been affected by a disaster. Grants are to replace or supplement books, media and/or library equipment in the school library setting. **Details**	Dollar General	Ongoing
Bookmobile Grant Program. Lois Lenski, children's book author and 1946 Newbery medalist for Strawberry Girl, had a life-long concern that all children have access to good books. Toward that end, the Foundation provides grants to bookmobile programs that serve children from disadvantaged populations. The Lois Lenski Covey Foundation awards grants to organizations that operate a lending bookmobile for purchasing books published for young people preschool through grade 8. Bookmobiles operated by charitable [501(c)(3)] and other non-taxable agencies, including public libraries or schools, are eligible. The Foundation provides grants to organizations that serve economically or socially at-risk children, have limited book budgets, and demonstrate real need. Grants for 2017 will range from $500 to $3000 and are specifically for book purchases, and cannot be used for administrative or operational uses. **Details**	Lois Lenski Covey Foundation	Ongoing (February-October)

Through the generous donation of Marina "Marney" Welmers, an AASL member and retired middle school librarian, AASL is pleased to offer the Inspire Collection Development Grant, a grant so that an existing public middle or high school can extend, update, and diversify the book, online, subscription and/or software collections in their library in order to realize sustainable improvement in student achievement at their school. The Fund is $20,000 per year. The direct assistance grant shall be capped at $5,000. At least four grants per year will be awarded with the total number of grants determined by number of applicants, geographic distribution, and total unmet need as determined by the Jury. Of the total, at least two (2) grants up to $5,000 per year will be awarded to a public middle or high school that has 85% or more of its student population qualified for Free/Reduced Lunch (FRL) program. **Details**	AASL	Ongoing
The D.U.C. Library Program provides public schools and libraries with free books on contemporary art and culture. All public institutions who self-define as underserved are encouraged to create and account and place an order through our website. This year, A.R.T. is thrilled to feature over 148 new titles, as well as new educational and editorial content on our redesigned website. We hope you will also take a look at our journal to learn more about our activities and the books we distribute. If you have any questions, comments, or suggestions as to how we can better serve you and your students and readers, we hope you will be in touch! Please write us with thoughts and suggestions at: duc@artresourcetransfer.org. **Details**	Art Resources Transfer	Ongoing
Children's author Ann M. Martin and friends began Lisa Libraries as a memorial to a friend. Lisa Libraries donates new books to organizations serving children in low-income areas, and helps to start or expand children's libraries in places such as day care centers, prison visiting areas, and after school programs. **Details**	Lisa Libraries	Ongoing
Barnes & Noble considers requests for national and local support from non-profit organizations that focus on literacy, the arts or education (K-12). In addition, Barnes & Noble is committed to literary-based sponsorships and seeks to partner with organizations that focus their core businesses on higher learning, literacy and the arts. **Details**	Barnes & Noble Booksellers	Ongoing
Surplus Books Program. The Library of Congress has surplus books available to non-profit organizations. The books are a mixture of topics with only a small percentage of publications at the primary and secondary school levels. Your library needs to send or designate someone to choose books from the collection and pay for shipping the material. **Details**	Library of Congress	Ongoing
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