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Reference & User Services Quarterly

The Journal of The Reference and User Services Association (RUSA)

Faculty Perspectives on Undergraduate Research Skills: Nine Core Skills for Research Success

Outstanding Business Reference Sources 2019

Readers' Advisory: Past is Prologue: Science Fiction and Ways of Working

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RUSA's Newest Achievement Award

The Gail Schlachter Memorial Research Grant

Correspondence concerning this column should be addressed to M. Kathleen Kern, Director of the Miller Learning Center Library Commons, University of Georgia, Athens, Georgia, and Editor, Reference and User Services Quarterly *2018-2021; email: rusqeditor@gmail.com.*

The family and friends of Gail Schlachter have endowed a research grant award in her honor and hosted it with the Reference and User Services Association, where Gail served as president from 1988 to 1989. Gail was also the editor for *Reference and User Services Quarterly* from 1997 to 2000 and had an abiding interest in LIS research that started in the early 1970s with her publication *Library Science Dissertations* (which ran from 1925–1972).[1] The Gail Schlachter Memorial Research Grant will be awarded yearly to encourage and enrich the research in library science.

As befits Gail's career, the purpose of this award is to recognize and financially support research by "an individual or collaborative group conducting research into reference or user services whose research projects aim to better understand or answer key questions related to connecting people to resources, information services, and collections."[2] This focus is at the core of the RUSA mission. As current editor of *RUSQ*, I am excited to see the research that is funded and hope that this grant will enable researchers to undertake larger projects, such as collaborations across institutions, and encourage librarians who have a drive to research but lack encouragement or financial support for it from their employers.

ABOUT THE 2019 GRANT RECIPIENTS

The first grantees for this annual grant award were announced in May of 2019. The first award was presented to a team of librarians at Kansas State University.[3] Adriana Gonzalez, Jason Coleman, Ryan Otto, and Joelle Pitts are conducting research focused on the communication between faculty and librarians around journal cancellations and issues in scholarly publishing. In the spring of 2019, the group was inspired by the results of a local survey that gathered faculty input into journal cancellations. Lead researcher Adriana Gonzalez said, "While we were pleased with the overall response to the survey this spring, there were 13 departments from which we didn't receive any responses. We want to know more about why they did not weigh in and what we can do to encourage them to join in these vital discussions."[4]

The Gail Schlachter Grant will support research into the barriers in communication between faculty and librarians around scholarly publishing and library collections. They will conduct a survey, focus groups, and interviews with faculty.

ABOUT GAIL SCHLACHTER

Gail Schlachter was a leader and exceptional mentor in the library profession. She was a librarian, LIS professor, researcher, author, and publisher. She was an energetic and insightful participant in ALA and RUSA, serving as *RUSQ* editor, president of RUSA, and a member of the ALA Executive Board. Along the way, she mentored many librarians.

Gail led a life of innovation and service. In 1975, she complied and published the *Directory of Internships, Work Experience Programs, and On-the-Job Training,* launching her Reference Services Press, a business responding to information gaps that she discovered during her work as a librarian at the University of Wisconsin. Even after publishing became her full-time job, she identified first and foremost as a librarian. Speaking with Katina Stauch for *Against the Grain* in 1997, Gail said, "Let me start by saying that I still consider myself to be a librarian. At this stage of my career I happen to be a librarian running a publishing company. . . . And, I still have the same passion for reference."[5]

To learn more about Gail's exceptional character and career, I recommend reading "Remembering Gail Schlachter" published in *RUSQ*.[6]

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Progressive Discipline the Right Way

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Personnel actions are among managers' least favorite job duties. If you talk to librarians, you will find few who enjoy the stress, tension, and confrontation engendered by corrective actions that can become as much about interpersonal conflict as the job itself. Many managers also fear failing—that the corrective action will not succeed in correcting the issue, or worse, that the employee will somehow twist the action and win, removing the supervisor's authority and control of the situation. In some instances, when the employee requiring discipline is popular among co-workers, managers dread being labeled as cruel, tarnishing the positive relationships they have with other employees, or inciting fear among them.

However, it is unfair to other employees if a manager does not discipline a member of the staff or allows a toxic situation to continue. If a manager fails to act in time, the fallout can have far-reaching effects: lower productivity and higher risk of burnout among the nontoxic employees. Employee loss can increase by as much as 54 percent, a real financial burden considering the cost of replacing good employees.[1]

KNOW YOUR LIBRARY'S POLICIES

In many libraries, each personnel type may be governed by many different personnel policies. For example, in my academic library, the hourly full- and part-time staff members are unionized and have a contract that outlines specific employee policies, the faculty are governed by their own set of policies, and administrative employees are at will. In addition, the university has an employee handbook and associated policies that must be adhered to. One can't forget about state and federal labor laws.

Beyond a library's official guidelines for its staff, it is not uncommon to find several more unwritten or unofficial policies in effect. A common unofficial policy allows hourly staff to accrue time off by reducing the time normally taken for breaks. If you wish to address this practice in a personnel action, you will need to find out if your supervisor or HR department supports the policy, if they have just looked the other way, or if they were unaware of it (this last one happens more than you might think). Depending on the response, these unofficial policies can carry as much weight as an official one. Be sure to read and fully understand the policies and the relationships among them. Disciplining an employee for an issue that is otherwise permissible by your organization is a quick way to lose credibility among your staff.

Every organization has a method by which corrective actions are administered. The most prevalent method is progressive discipline. Performance improvement plans and positive discipline are other widely used methods. In my experience, these approaches tend to be mixed, and most common performance improvement plans are overlaid onto the progressive discipline process. In this way, managers try to make corrective actions positive, encouraging the employees to improve, rather than threaten their sense of job security. Other managers are afraid that a more emotionally laden process exposes them to greater legal risk and stick with the traditional top-down approach when administering corrective actions.

GET THE DETAILS CLEAR—DOCUMENT, DOCUMENT, DOCUMENT

No matter the approach, the first step in any discipline action is documentation. You need to have a record of observations, facts, and information. Each time you have an interaction that may need to be remembered, you should document it. The simplest method is to e-mail yourself. Include an account of the interaction in the body of the e-mail as a memo for record (MFR). By e-mailing, you create a date/time stamp of the event. Consider sending a courtesy copy to your HR department, higher administration, or board of trustees.

When writing the MFR, stick to the facts and avoid adding personal judgement of the event. Skip adjectives when you can. Instead, use language that represents the facts rather than arguable conjecture. For example, a statement like "librarian John walked into my office, slammed the door, and began screaming" could be debated over how hard the door was closed and the volume of the person's voice. Instead, try "librarian John walked into my office and closed the door with enough force that I saw, though my door window, people flinch and turn their heads toward the door. John then began to speak loudly enough that I was later told by two people in the areas outside my office that they could hear the sound of his voice."

It is also important to write down exactly what the other person said, or to the extent you can remember. Consider the following:

> Librarian Paul was upset that staff member Jane went to Kendra with problems rather than him, Paul— that there was a chain of command. I pointed out that Kendra is Jane's supervisor and therefore is part of the chain of command, and that since we were trying to create a nonpunitive environment perhaps it might not matter to whom Jane went. I also attempted to subtly suggest that Jane felt uncomfortable to go directly to him because of Paul's often caustic reaction to interactions with Jane. Paul kept trying to talk about Jane's personality and how it did not mesh with the others in the work area. I did say that Paul seemed like he did not like Jane, and that might add to the stress between them. Paul said he liked Jane, but that she needed to learn to stay in her place.

In this case, a factual conversation was conveyed; one that might support Paul's suggestion of insubordination or might later support Jane, if she felt that Paul's behavior was unprofessional or aggressive.

TAKE A TEAM APPROACH: TALK TO YOUR SUPERVISOR OR HR

Issues with discipline should not be carried out in a vacuum. If you send an MFR to your supervisor, HR department, or board of trustees in addition to sending it to yourself, you should follow up your e-mail with a fuller, in-person conversation. It is useful both to get a second opinion on the situation and, most importantly, to ensure your supervisor and HR department supports any progressive discipline action you may take. Without their support, it will be difficult if not impossible to ensure any disciplinary or other HR action is successful. It also might help support your case if the employee decides (through a bargaining unit position) to appeal or to sue.

Note: some violations of the rules are so grievous that it allows the organization to skip several steps in the discipline process. Be sure to discuss with your supervisor or team any issue that you feel meets this standard before taking action.

MEET WITH THE PERSON: THE STEPS

Once you know which type of discipline process your organization uses, have made thorough enough notes, and ensured the support of your organization, you can begin to apply the appropriate discipline process. During the progressive discipline process, the steps usually include a verbal warning, a written warning, an on-the-record meeting, suspension, and dismissal.

Verbal and Written Warnings

The difference between verbal and written warnings is subtle, since a formal verbal warning, similar to a written warning, ends up as a documented step in the employee's HR file. Most people think of the verbal warning as a first step in the discipline process, while the written is a second.

For many employees, the informal verbal warning, and the unstated but implied formal discipline that would follow, will be enough to correct the issue at hand. As it is not an official step in the progressive discipline process, you are generally not required to have the employee's supervisor or (if necessary) a union representative there. However, it is generally a good idea to have a witness to any personnel action. The witness should be a higher-ranked individual if possible; do not use one of the employee's peers. You will want to keep the conversation neutral. Start by explaining why you are there. Mention that it is not an official action but that you want to provide the employee an opportunity to know what they are doing that needs to be corrected and provide a timeframe to correct the action. As in the MFR, keep to the facts. Do not allow the conversation to wander into ad hominem attacks, neither by you nor by anyone else in the room. Such actions degrade the impact of the meeting and, if made by you or the supervisor, could make it more difficult to pursue further action. (In fact, such comments could make you the subject of corrective actions.) You can also take the opportunity to engage in a productive discussion on how the employee can learn from the experience and get back on track. In my experience, a productive conversation like this often results with the employee improving their performance. It gives the employee the opportunity to feel they are part of a team that cares about them. A summary of the conversation made during an informal verbal warning will not be included in the employee's personnel record, but a summary of the meeting (much like an MFR but written for the employee) should be written and e-mailed to the employee, and if appropriate, the supervisor.

On the Record

An on-the-record meeting will result in a summary of that meeting being included in the employee's permanent record. No meeting should be carried out without a third party in the room. It can lead to disagreements on what was said or how it was conveyed. In this case, the organization's personnel documents (employee handbook, contract, or guide) should be consulted as to who should be there: either the supervisor, a union representative, or the like.

As with verbal warnings, you should begin the meeting by explaining why you are there, providing the background to the action. You will then outline the disciplinary actions taken prior to the meeting (informal or formal actions, e-mails, etc.). Most likely, a performance improvement plan will be included as part of this meeting. The plan should include specific actions and measurable, achievable outcomes that the employee can follow to get back on track. Provide an opportunity for the employee to provide input. Sometimes this can be very helpful, and sometimes not. From the employee's response, you can determine if further supervision or training may be needed to help remediate the issue. Follow the meeting with a written notification of the personnel action and a notice of when you will meet again to reassess the issue and the required changes outlined in the performance improvement plan. If the employee fails to meet the standards set out in the plan, you have reason to move forward in the discipline process.

Suspension

Suspension is the final stage in the process before terminating the employee. During this step, the employee neither works nor receives pay, and this step hopefully acts as a wake-up call for the employee to recognize that changes must be made or loss of employment is imminent. As in other stages, a meeting should occur which outlines the prior steps taken to address the issue or issues. Sometimes suspension is taken immediately after the meeting, but this is not always required. Under certain circumstances, suspension days can be planned in advance. As with other formal actions, a formal notification must be delivered to the employee, supervisor, or union (if needed), and this document should be added to their permanent file.

Termination

If none of the above is sufficient to correct the employee's behavior, then termination is the next step. If you have been following the above steps, giving the employee opportunities to improve, and advising them when they are not improving, then this final step should not be a surprise to the employee. Arrive for this meeting prepared with the termination letter, and someone to escort the employee back to his or her desk to collect their things and then escort them off the premises. As in previous meetings, check your emotions at the door. Don't bother with should have or could have; the time for that is past. Be ready to listen to the employee's comments, as they may help you stave off legal action by the employee. Either you or your HR department should have administrative information ready on last paychecks, leftover leave, etc. Don't forget to collect keys, IDs, and work in advance with your IT staff or department in advance to ensure network/system access ends directly after the meeting.

FINAL THOUGHTS

Discipline and termination are not easy to carry out and many managers avoid taking action due to confronting and managing their own personal stress about the situation. Allowing a single employee to have the rules reshaped or ignored creates resentment among those who do not get "preferential" treatment. Additionally, employees that do follow the rules may choose to leave in pursuit of a fairer or less toxic work environment. Overall, creating a fair work environment will, in the long run, help engender more loyal employees. Preparing and following the above steps—knowing your policies, ensuring your higher ups are supportive, preparing thoroughly before meetings, sticking to the facts, and not getting emotional—may help to bridge the gap between knowing the right action and performing it.

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Past is Prologue
Science Fiction and Ways of Working

Gillian Speace

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This issue welcomes Neal Wyatt, joining Laurie Tarulli as coeditor of the Readers' Advisory column. With her arrival we introduce an occasional series exploring genre and format. For our first foray, Gillian Speace, Readers' Advisory Librarian, NoveList, provides a guided tour of the reoccurring themes of science fiction, suggesting ways advisors can use its perennial concerns to connect readers to the genre's rich backlist as well as keep them immersed in new works—and worlds. By pairing a classic work to a new title and, conversely, a new work to a backlist staple, advisors can make full use of the collection, expand the range of titles they keep in their proverbial RA back pocket, and help readers access the full richness of the genre.—*Editor*

> *"People like us, who believe in physics, know that the distinction between past, present and future is only a stubbornly persistent illusion."*
>
> —Albert Einstein

One common assumption about science fiction (SF) is that it's about the future. In fact, science fiction is about the present: regardless of setting, stories in this genre reflect the concerns of the era in which they were written. Some anxieties are evergreen (technological advances, ever-changing social mores), while others are more cyclical (authoritarian governments, economic instability), but all turn up again and again in different forms as they respond to current events.

Because of its perennial concerns, readers' advisory (RA) librarians can use classic tropes of SF to help balance readers' love of the old with their desire for the new, crafting a richly textured—and richly resourced—SF RA service. Advisors can introduce fans of Arthur C. Clarke to Chinese author Liu Cixin or connect a longtime reader of military SF to Kameron Hurley's *The Light Brigade*. Classic science fiction can also help more recent converts get in touch with the genre's roots, thereby creating pathways through the collection. Readers of recent "generation ship" stories, such as Rivers Solomon's *An Unkindness of Ghosts* or Kim Stanley Robinson's *Aurora*, can be pointed toward Robert Heinlein's *Orphans in the Sky*, bridging backward to a classic example of the trope. With this concept in mind, here are a few key classic SF themes with contemporary relevance along with suggested titles to pair.

LATE CAPITALISM: CYBERPUNK, MEGACORPORATIONS, AND MASS SURVEILLANCE

Suggested Pairings

Classic to New: Gibson, William. *Neuromancer* (1984). Sprawl trilogy: Older, Malka. *Infomocracy* (2016). Centenal trilogy

New to Classic: Hart, Rob. *The Warehouse* (2019): Orwell, George. *Nineteen Eighty-Four* (1949)

The destabilizing effects of the Great Recession have led to an increase in SF that examines wealth concentration and widening economic disparities that reinforce existing social inequalities on a global scale, from Karl Schroeder's *Stealing Worlds* to Chen Quifan's *Waste Tide* to the film *Sorry to Bother You*. Termed "Late Capitalism," this group of books focuses on economic dystopias.[1]

There's little doubt that the current bull market for economic dystopias reflects anxieties about the contemporary economy: a real world in which children are threatened with family separation over school lunch debt and in which electronic surveillance systems monitor every movement made by warehouse workers (except for their deaths), does not seem so far removed from a fictional one in which individuals are owned by shareholders (as in Dani and Eytan Kollin's *The Unincorporated Man*) or assigned a social credit score based on their perceived value to society (as in Yudhanjaya Wijeratne's *Numbercaste*). However, dystopian fiction built around economic systems is not new. The boom-and-bust economic cycles of the past, as well as the genre's longstanding preoccupation with social inequality, have resulted in numerous works of SF in which powerful conglomerates dictate nearly all aspects of people's everyday lives.

A central trope in economic dystopias is the *megacorporation,* which has come to be closely associated with *cyberpunk,* an SF subgenre that explores the effects of advanced technology on a global capitalist society, often from the perspectives of economically marginalized characters. Megacorporations in SF frequently represent a merging of government and private industry, resulting in interchangeable entities that work hand-in-glove to exploit the general population while suppressing dissent. Notable examples of the megacorporation can be found in William Gibson's Sprawl trilogy, not to mention post-cyberpunk works such as Neal Stephenson's *Snow Crash*.

As deregulation and privatization are real-world results of real-life policy decisions made in the 1970s and 1980s, it makes sense that SF from this period engages with these issues. However, earlier SF contains numerous examples of corporations that become *de facto* rulers of the world, such as the Presteign clan in Alfred Bester's *The Stars My Destination* (1956) or General Technics in John Brunner's *Stand on Zanzibar* (1968), not to mention the monolithic multinationals found throughout Philip K. Dick's novels.

Governments, and corporations fulfilling the traditional functions of government, require effective messaging to convince people to act against their own best interests. The difference is one of terminology: governments rely on "propaganda," megacorporations on "marketing."

The plot of Frederik Pohl and Cyril M. Kornbluth's 1952 satirical novel *The Space Merchants* revolves around a PR campaign—dreamed up by the US government and carried out by an advertising firm—to convince Americans to colonize Venus, a miserable hellscape even by the standards of a twenty-second-century society struggling with resource scarcity due to overpopulation and environmental depredation resulting from intensive fossil fuel extraction. And yet, the general population, despite an ever-declining standard of living, appears to be appeased by a plethora of consumer goods. A decade later, J.G. Ballard's short story "The Subliminal Man" explores consumerism and its dependence on artificially generated needs reinforced by advertising.

Advertising, of course, does not exist without mass media. That may be part of the reason that consumer technology is an ongoing source of anxiety in SF (consider the focus on our relationships with mobile devices and media in Netflix's *Black Mirror* SF anthology series). From the two-way "telescreens" of George Orwell's *Nineteen Eighty-Four* to the wearable "SeeChange cameras" of Dave Eggers's *The Circle*, dystopian SF frequently depicts communication technologies as tools of authoritarian regimes, spreading propaganda and misinformation while conducting mass surveillance. The technologies in question may change (from television to the internet), as might the exact formulation of threat (corporatocracy replaces totalitarianism as the evil regime *du jour*), but the result—violations of basic human rights—is the same.

The interplay of technology, government, and media has taken on renewed relevance in the past two decades, as the twenty-first century has been shaped by events such as 9/11, the resulting "War on Terror," and the surveillance state that has arisen in response, aided and abetted by technology companies that remain largely unaccountable. Cory Doctorow's *Little Brother*, Nick Harkaway's *Gnomon*, and Paul J. McAuley's *Whole Wide World* are just a handful of books that explore these issues.

From Malka Older's Centenal cycle (beginning with *Infomocracy*) to the HBO television series *Westworld*, today's SF is deeply concerned with the rise of Big Data and its weaponization by megacorporations, which profit from violating the privacy of billions and harvesting their personal information. And what Big Data is to twenty-first-century SF, the early internet was to cyberpunk: these contemporary works build upon the foundations laid by Gibson et al. and expand on the themes of bleeding edge technology, rising social inequality, and the corrosive effects of global capitalism.

Meanwhile, the nascent online culture first depicted in cyberpunk has matured, yet its vision of a free and open society made possible by the web has been replaced by a reality in which technology imprisons rather than liberates and in which a handful of wealthy and thus powerful individuals profit at the expense of everyone else. From Lauren Beukes's *Moxyland* to Max Barry's *Jennifer Government*, numerous contemporary SF novels examine the conflicts that arise from technologies underpinning both systems of social credit and social control.

ALIENS: FIRST CONTACT AND INVASION

Suggested Pairings

Classic to New: Heinlein, Robert. *The Puppet Masters* (1951): Thompson, Tade. *Rosewater* (2016). Wormwood trilogy

New to Classic: Liu, Cixin. *The Three-Body Problem* (2008). Remembrance of Earth's Past: Clarke, Arthur. C. *Childhood's End* (1953)

Extraterrestrials represent the ultimate "other," regardless of form (humanoid or nonhumanoid) or intent (benign, malign, or indifferent to humankind). As such, their presence in SF encourages us to examine what we are as well as what we are not. Stories about aliens prompt us to reflect on human nature and to consider our identity and values, whether individually or collectively. Less positively, they can also betray our anxieties about outsiders. Just as anxieties about foreign peoples and nations are cyclical, so, too, can readers of contemporary alien encounter tales find titles of interest in classic SF.

Stories about aliens fall into two broad categories: alien invasions and first-contact stories. Although these themes can overlap, alien invasion stories typically focus on conflict between humans and aliens, while first-contact stories, which take a more anthropological view of encounters between humans and extraterrestrial civilizations, tend to focus on diplomatic relations.

H. G. Wells's 1898 novel *The War of the Worlds* introduced the alien invasion trope to literature. Wells, who also helped to lay the foundations of military SF with "The War in the Air," drew on so-called "invasion literature" of the period to explore the concept of invaders from space.[2] These narratives rise and fall in popularity and, to some extent, reflect the anxieties of the era in which they were written: Edgar Rice Burroughs's 1925 novel, *The Moon Men*, was influenced by the Red Scare of the post-World War I period, and the Cold War would produce a number of alien invasion narratives involving covert infiltration of the human body and mind-control, notably Robert Heinlein's 1951 novel *The Puppet Masters*.

First contact in the modern sense came later. One of the earliest examples of this theme can be found in Murray Leinster's short novel *First Contact* (1945), which is among the first to describe a universal translation device (a perennial interest of SF creators and fans, not to mention technology companies). First contact stories are often concerned with communication as a means of building interspecies trust, although the degree to which this is considered possible or even desirable varies greatly within the genre.

On one end of the spectrum is the *Star Trek* franchise (1966–present), in which peaceful coexistence between different interstellar cultures is both possible and achievable; on the other is Stanislaw Lem's *Solaris* (1961), which argues that the limitations of human bodies and minds renders us incapable of understanding an extraterrestrial intelligence. Somewhere in the middle are stories ranging from China Mieville's *Embassytown* to James Cambias's *A Darkling Sea* to Ted Chiang's "Story of Your Life," suggesting that communication is possible, but that differences in values or worldview may preclude true understanding.

One particularly interesting development in recent SF is Afrofuturist alien invasion tales set in regions grappling with historical legacies of colonialism. Cadwell Turnbull's *The Lesson* unfolds on St. Thomas in the US Virgin Islands, which the alien Ynaa have chosen as their base of operations. Although the Ynaa insist that they mean no harm to the locals, actions speak louder than words as they react to minor provocations with extreme force. Such incidents echo the many historical examples of imperial powers answering native resistance, perceived or actual, with brutal reprisals in the name of peacekeeping.

Both Nnedi Okorafor's *Lagoon* and Tade Thompson's Wormwood trilogy are set in Nigeria, the former in a vibrant near-future Lagos, the latter in the fictional city of Rosewater, which encircles an alien biodome. Despite benevolent intentions, the aliens of *Lagoon*—self-described "agents of change"—arguably do more harm than good by imposing their values on the human communities they encounter. The motives of *Rosewater*'s aliens are murkier, yet their presence feels familiar to Nigerian onlookers who are "unimpressed, even in our knowledge that it is the most significant event in Earth's history. We've seen colonizers before, and they are similar, whether intercontinental or interplanetary."

Unlike earlier alien invasion narratives, which cast extraterrestrials as the ultimate "foreign menace" threatening (white) Earthlings and their way of life, recent explorations of this theme draw explicit parallels between space invaders and European imperialists, who literally invade the spaces of people of color and use their "superior" understanding and "advanced" technologies to reshape these spaces to suit the invaders' needs.

THE POSTHUMAN FUTURE: UPLIFT, AI, AND CYBORGS

Suggested Pairings

Classic to New: Asimov, Isaac. *I, Robot* (1950): Wilson, Daniel. *Guardian Angels and Other Monsters* (2018)

New to Classic: Bodard, Aliette de. "The Shipmaker" and "The Waiting Stars." Collected in *Of Wars, and Memories, and Starlight* (2019): McCaffrey, Anne. *The Ship Who Sang* (1969)

One enduring source of speculation in SF is posthumanism, which asks not "What becomes of us?" but "What do we become?" Often (but not always) set in the distant future, posthuman SF imagines how our species might change over time, whether through evolution or technological intervention. Although the methods may differ, the outcome is the same: at some point, by some means, we become something else.

While the theme of posthumanism in SF encompasses numerous avenues of potential transformation, the majority of contemporary posthuman SF falls into two categories: human-like computers and computer-like humans. The former includes stories about artificial intelligence (AI) and the technological singularity; the latter includes stories about cyborgs and biotechnology. These themes are particularly relevant today thanks to concurrent advances in medical and computing technology, which echoes similar advances in the postwar era of the mid-twentieth century. Once again, this presents an opportunity for the RA librarian to draw connections between classic and contemporary works touching on these themes.

Human-like computers appear in the genre first. While mechanical beings can be found in the literature of classical antiquity, our familiar word *robot* (derived from the Czech word *robota*, or "serf labor") makes its first appearance in playwright Karel Čapek's 1920 drama, *R.U.R.*, in which manufactured people revolt against their human enslavers, resulting in the near-extermination of the human species. Although Čapek introduced the ever-popular theme of robot uprisings to SF, Russian-American SF author Isaac Asimov made equally important contributions to AI-themed SF through his short story collection *I, Robot*.[3] Asimov's robot stories take the basic premise of the mechanical servant and use it to explore philosophical issues such as morality or free will, or social ones such as bigotry and discrimination. Artificial beings as diverse as *Star Wars*'s R2-D2, Data from *Star Trek: The Next Generation*, and even *Futurama*'s cigar-chomping robot Bender owe their existence to Asimov.

Of course, AI is not necessarily benign. SF author Vernor Vinge introduced the idea of the technological singularity in his essay, "The Coming Technological Singularity: How to Survive in the Post-Human Era."[4] Drawing on British mathematician I.J. Good's concept of an "intelligence explosion," Vinge describes the hypothetical point at which accelerating technological progress leads to the creation of "entities with greater than human intelligence." At which point, Vinge suggests, humans will become obsolete. Is obsolescence the same as extinction? Will machines destroy humans or enslave them? Or is there even a role for humans in a posthuman world? These are just some of the questions AI-themed SF explores.

Today, advances in AI, anxiety about automation, and expanding conceptions of identity have contributed to a resurgence of SF involving robots. Such stories explore what it means to be human on both a personal level (What is gender? How do our physical bodies, their abilities and limitations, shape our lived experiences?) and a political one (What basic rights are individuals or certain groups entitled to? Who decides?)

Similar concerns about advances in computing are reflected in fiction from the dawn of the computer age. In both the film and novel versions of *2001: A Space Odyssey*, the supercomputer HAL 9000 malfunctions and attempts to kill an entire spaceship crew. The Allied Mastercomputer ("AM") of Harlan Ellison's "I Have No Mouth, and I Must Scream" (1966) is an AI with an unquenchable thirst for revenge; having brought about humanity's near-extinction, it keeps five humans captive to torture them.

However, for every chilling "rise of the machines" tale, such as Daniel Wilson's *Robopocalypse* or Todd McAulty's *The Robots of Gotham*, there are thought-provoking novels featuring sympathetic synthetic lifeforms navigating an unsympathetic world, such as Becky Chambers's *A Close and Common Orbit* or Martha Wells's *All Systems Red*.

By contrast, stories about computer-like humans focus on human evolution as opposed to human obsolescence. Charles Stross's 2005 novel *Accelerando* traces the shift from human to posthuman by following three successive generations of the same family before, during, and after the Singularity, while Greg Egan's *Diaspora* shows a trifurcated thirtieth-century posthuman humanity comprised of "fleshers" (i.e., normal humans), Gleisner robots (human brains embodied in machines), and "polises" (supercomputers containing digital copies of billions of humans).

Although there is no shortage of depictions of societies transformed by cybernetic technology, many SF stories about computer-like humans focus on individual cyborgs, or augmented humans whose capabilities are enhanced or extended by technology. Early cyborgs represented medical interventions designed to restore lost function. C.L. Moore's "No Woman Born" (1941) introduces Deirdre, a popular entertainer whose brain is implanted in a faceless mechanical body following a tragic accident. Similarly, the plot of Anne McCaffrey's 1969 novel *The Ship Who Sang* centers around humans with severe birth defects whose disembodied brains are harnessed to power starships. Although the novel will strike contemporary readers as highly problematic in its depiction of disabled people, it represents an influential treatment of the cyborg theme. The mind-ships of Aliette de Bodard's Xuya Universe can be read as a direct response to McCaffrey's brainships, employing a now-familiar trope to examine issues such as consent and cultural relativism.

The cyborg theme in SF encompasses everything from adaptive technologies (to facilitate bodily autonomy) to technological enhancements (to extend physical capabilities) to technological immortality (to cheat death). However, as advances in technology transform science fiction into science fact, the focus of these stories shift towards achievements still beyond our grasp: namely, immortality. Neal Stephenson's *Fall: Or, Dodge in Hell* chronicles the digital afterlife of a deceased tech mogul whose brain is scanned and uploaded to the cloud, while in Richard K. Morgan's *Altered Carbon* every person has a "cortical stack" (digital copy of themselves) that can be "resleeved" in a new body. Both works owe a great debt to Robert Sheckley's 1958 novel *Immortality, Inc.*, which follows the misadventures of a wealthy deceased man who is revived in a future society where death is inconsequential, due to the ability to download one's consciousness into a new body. Although this novel is not the first to explore mind uploads as a means of cheating death, it does introduce a notable feature of technological immortality in SF, namely, that it depends on one's resources: wealthy individuals can pay to extend their lifespan indefinitely, while others cannot.

Sheckley's observation that wealth buys health has strong echoes in contemporary SF, which expresses ambivalence about scientific breakthroughs, particularly in biotechnology and biomedical engineering, stemming from awareness that not everyone's life will be improved by such advances. Books such as Annalee Newitz's *Autonomous* and Laura Lam's *False Hearts* explore scenarios in which the direct benefits of scientific progress are neither equitably distributed nor accessible to all who need them. In biopunk novels such as Paul J. McAuley's *Fairyland* (1995), Paolo Bacigalupi's *The Windup Girl* (2008), and Jeff VanderMeer's *Borne* (2017), biotechnology even contributes to the creation of sentient beings that lack the rights and protections afforded to humans.

THE END TIMES: CLIMATE CHANGE AND THE DYING EARTH

Suggested Pairings

Classic to New: Ballard, J.G. *The Drowned World* (1962): Robinson, Kim Stanley. *New York 2140* (2017)

New to Classic: Atwood, Margaret. *The Year of the Flood* (2009). MaddAddam trilogy: Butler, Octavia. *Parable of the Talents* (1998). Earthseed series

The existential threat posed by climate change is ever-present in SF, whether as a driver of events or, increasingly, as a background element. Author Annalee Newitz has observed that "any story about the future that's at least a century out has to include a dramatic picture of climate change."[5] Climate change, in other words, is the new normal. Climate fiction, sometimes called "cli-fi," imagines the not-so-distant future of Earth and its endangered inhabitants as they struggle to survive and adapt to dramatic environmental changes, as in Paolo Bacigalupi's *The Water Knife*, Chang-rae Lee's *On a Full Sea*, or Omar El Akkad's *American War*. Accompanying this trend is a rise in dystopian fiction in which current problems lead to unrest and societal breakdown, or even human extinction.

Published in 1962, J.G. Ballard's *The Drowned World* (and its companion novel, *The Drought*) offers one of the earliest realistic fictional explorations of a world ravaged by climate change. Although it explicitly cites the greenhouse effect and the melting of the polar ice caps as catalysts for widespread environmental devastation, the novel attributes the destruction to natural disaster rather than human activity. Although less common than cataclysmic climate change, human-induced climate change is not exactly rare in SF. Writers tended to depict it as the result of nuclear war until the 1970s, a period of heightened environmental consciousness that saw the publication of novels such as John Brunner's *The Sheep Look Up* (1972), which sees a character arrested for trying to obtain air-pollution data; Kate Wilhelm's *Where the Sweet Birds Sing* ("As soon as man stopped adding his megatons of filth into the atmosphere . . . [it] had reverted to what it must have been long ago"); and Arthur Herzog's *Heat* (1977).

Arguably more important than scientifically accurate fictional depictions of anthropogenic climate change are culturally and politically accurate fictional depictions, such as Octavia Butler's *Parable of the Sower* (1993), in which global warming exacerbates widespread societal breakdown, and Kim Stanley Robinson's Science in the Capitol trilogy (2004–07), which focuses on scientists' efforts to avert a slow-motion climate catastrophe stalling in the face of human complacency and a lack of political will.

A clear forerunner of climate fiction is the "dying Earth" novel, which takes its name from Jack Vance's 1950 short story collection *The Dying Earth* about a far-future world in which the sun has reached the end of its lifespan. Blending SF and fantasy, Vance's book spawned an entire subgenre, reaching its apotheosis with the publication of Gene Wolfe's science fantasy epic series Book of the New Sun. Unlike the swift catastrophes of most apocalyptic and post-apocalyptic fiction, where a single asteroid or nuclear bomb ends human civilization in a flash, dying Earth stories resemble the "slow-pocalypses" of climate fiction, in which a dwindling human population survives in the ruins of civilization. Tone is arguably more important than setting: the lyrical, elegiac tone that permeates dying earth novels can be seen in non-climate apocalyptic fiction such as Emily St. John Mandel's *Station Eleven*. Novels that take a dying Earth approach to climate change include Margaret Atwood's MaddAddam trilogy (beginning with *Oryx and Crake*), Claire Vaye Watkins's *Gold Fame Citrus*, and Edan Lepucki's *California*.

One notable difference is that in the dying Earth subgenre, survivors are more likely to respond to their situation with resignation, whereas in modern climate fiction the emphasis is on surviving, adapting, and (where possible) rebuilding. Both Kim Stanley Robinson's *New York 2140* and Alex di Francesco's *All City* take place in a submerged twenty-first-century New York City and feature a diverse cast of characters refashioning society to reflect the new world order. L.X. Beckett's *Gamechanger* envisions a future in which global cooperation leads to an eventual reversal of the effects of climate change and a more sustainable society.

TIME TRAVEL: THE DARKEST TIMELINE

Suggested Pairings

Classic to New: Williamson, Jack. *The Legion of Time* (1952): Newitz, Annalee. *The Future of Another Timeline* (2019)

New to Classic: Crouch, Blake. *Recursion* (2019): Bradbury, Ray "A Sound of Thunder" (1952)

Science fiction excels in extrapolating the effects of small changes in society, so it's no wonder the theme of time travel is a perennial favorite in the genre. Most of the major time travel tropes were laid down during the so-called Golden Age of SF. Ray Bradbury's "A Sound of Thunder" (1952) was among the first to explore the unintended consequences (the "ripple effects") of time travel to the past, while novels such as Poul Anderson's Time Patrol series (1955–95) and Isaac Asimov's *The End of Eternity* (1955) introduce the concept of time police, entities tasked with enforcing the rules of causality to ensure the continued existence of the "correct" timeline.

Of course, the notion of a correct timeline reflects a desire to maintain the status quo by safeguarding the systems that are the source of a dominant group's power. Recently, the adage "history is written by the victors" seems apropos as "change wars" make their way back into SF for the first time in decades. Fought across time, change wars weaponize time travel to ensure the existence of one timeline over another; typical tactics include manipulating causality or laying paradoxes like landmines. Fans of *Doctor Who* will recognize this trope.

The term is derived from Fritz Leiber's Change Wars series, which unfolds against the backdrop of a temporal war called "The Big Time" in which two factions battle for control of the timeline. However, the groundwork for this concept was laid by Jack Williamson's earlier Legion of Time books, about a squad of time traveling warriors deployed to win a key battle in a time war.

As this theme evolves, the reasons for change wars soon shift from pragmatic goals of self-preservation to ideological aims: in Poul Anderson's *Corridors of Time* (1966), opponents represent "two ways of thought and life—of being," Stories that revolve around competing versions of reality resonate deeply with contemporary readers living in a polarized society where it often seems like each side is battling not only for victory but for the extermination of their opponents. Annalee Newitz's *The Future of Another Timeline* casts human history as a kind of Wikipedia page that can be edited by time travelers and pits a coalition of feminist activists against a regressive group of male chauvinists in an ongoing campaign to reshape societal rules and norms.

Amal El-Mohtar and Max Gladstone's lyrical epistolary novel *This is How You Lose the Time War* introduces covert operatives representing rival timelines, framing it (à la *Corridors of Time*, above) as a winner-take-all battle between a technologically advanced future and a more pastoral one. Unusually for books of this type, the novel advocates love over war, emphasizing the protagonists' creative attempts to break down ideological barriers and reach across a divide that seems impossible to bridge.

A related time-travel theme concerns whose stories are heard and whose are believed. In a world of "fake news" and "alternative facts," reality can be difficult to discern (especially with time travel in the mix). Driving the plot of Dexter Palmer's *Version Control* is one woman's nagging sense that something is amiss in her world—the result of scientists testing a time machine, which causes subtle changes to reality. The main character experiences this as "a subtle wrongness—not within herself, but in the world." Despite the correctness of her perception, her concerns are dismissed because she herself is not a scientist and because of her past struggles with alcohol abuse.

Similarly, Blake Crouch's *Recursion* introduces False Memory Syndrome (FMS), a psychiatric condition that results in people having "two sets of memories. One true, one false." Those living with FMS have vivid memories of lives they have not lived, full of loved ones who may or may not exist. In fact, this condition turns out to be a side effect of other people recklessly changing the past without considering the repercussions. The result is a sort of temporal gaslighting, where one's sanity—or entire existence—may be collateral damage to another person's tinkering with history.

A BRIGHTER FUTURE?

Suggested Pairings

Classic to New: Ellison, Harlan (ed.) *Dangerous Visions* (1967): Imarisha, Walidah and adrienne marie brown (eds.) *Octavia's Brood: Science Fiction from Social Justice Movements* (2015)

New to Classic: Chambers, Becky. *Record of a Spaceborn Few* (2018). Wayfarer series: White, James. *Hospital Station* (1962). Sector General series

And yet, not everything is doom and gloom. A welcome recent trend in the genre is a more hopeful SF that looks both outward, with the goal of imagining our future among the stars, and inward, with the goal of creating a more just and inclusive human society here on Earth.

For every SF novel that contemplates humanity's probable extinction, another looks beyond the bounds of Earth to imagine humanity's future among the stars. Stories of space exploration and planetary colonization have undergone something of a resurgence of late, as authors use outer space as the setting for a wide variety of galaxy-spanning societies, from Karen Lord's *The Best of All Possible Worlds* to Becky Chambers's Wayfarer series (beginning with *The Long Way to a Small Angry Planet*) to Nathan Lowell's Golden Age of the Solar Clipper books. The spacefaring societies depicted in these books are not perfect, but they are largely peaceful ones full of moral characters trying to do the right thing.

Hopeful SF has a long and storied history. Television's *Star Trek: The Original Series* is well known for its idealism, but it's by no means the only work of SF that presents an optimistic view of the future. James White's Sector General novels (1962–99), about a hospital space station staffed by medical personnel both human and alien, offers uplifting accounts of interspecies cooperation; its diverse (at least, on the alien side; humans are mostly male and entirely white) cast works together to save lives, not destroy them. Although it lacks Sector General's pacifist worldview, Lois McMaster Bujold's Vorkosigan saga also features characters whose moral integrity drives their actions.

Science fiction has an unfortunate reputation for being a genre written for and by white men. While this perception is not totally inaccurate, SF has also historically been more diverse than people give it credit for. Perhaps the most enduring legacy of New Wave SF of the 1960s and 70s is its success in introducing greater diversity to SF. Although women had been making substantial contributions to SF since the genre's earliest days, writers and editors including Ursula K. Le Guin, Joanna Russ, and Judith Merril pioneered an explicitly feminist SF that explored contemporary social issues through a speculative lens. Other forms of diversity are still a work in progress. While there is a rich tradition of African American speculative fiction dating back (at least) to W.E.B. Du Bois's "The Comet," there is less evidence for a community of black writers in the genre during this period.[6] Similarly, there have always been LGBTQIA individuals within the ranks of SF writers, such as Arthur C. Clarke, but in the pre-Stonewall era there was no real community to speak of. As a black, gay writer of speculative fiction, Samuel R. Delany occupied a singular position in the field, producing groundbreaking SF in which he drew on personal experience to explore issues of race, gender, and sexuality (among others) at a time when this was not familiar territory for the genre.

Nevertheless, the project of creating an inclusive body of SF continues, with recent anthologies such as *A People's Future of the United States*, edited by Victor LaValle and John Joseph Adams, and *Octavia's Brood: Science Fiction from Social Justice Movements*, edited by Walidah Imarisha and adrienne marie brown) collecting SF stories from diverse groups of contributors that approach speculative fiction as a form of activism. Meanwhile, SF attracts increasing numbers of talented writers from traditionally underrepresented groups, including women writers, writers of color, LGBTQIA writers, and international writers whose works are translated and read by an increasingly global audience. Better yet, the call for greater inclusivity and diversity of viewpoints in SF has largely come from fans, who perhaps recognize that big existential problems require the bright ideas of as many minds as possible.

Ultimately, in SF, everything old is new again (and again and again). For this reason, it's crucial to look both to the past and the present to understand the genre's appeal and to help fans navigate the universe of SF. Hopefully, these recommendations will offer useful starting points for introducing new and classic titles to SF readers seeking to expand their horizons.

References and Notes

1. Unlike most of the Frankfurt School's contributions to intellectual discourse, the phrase "late capitalism" has achieved something like "meme" status. Popularized by Fredric Jameson in his influential book *Postmodernism, or The Cultural Logic of Late Capitalism*, the term's meaning has shifted since its introduction, from describing the transformation of culture into commodity to what Annie Lowrey, writing for the *Atlantic*, describes as a "catchall phrase for the indignities and absurdities of our contemporary economy, with its yawning inequality and superpowered corporations and shrinking middle class." See Annie Lowrey, "Why The Phrase 'Late Capitalism' Is Suddenly Everywhere," *The Atlantic,* May 1, 2017, https://www.theatlantic.com/business/archive/2017/05/late-capitalism/524943/.
2. Such as "The Battle of Dorking," a rather prescient 1871 short story that imagined an invasion of Britain by a technologically advanced Germany. See Tom Reiss, "Imagining the Worst," *The New Yorker*, Nov. 20, 2005, https://www.newyorker.com/magazine/2005/11/28/imagining-the-worst
3. The rules, first laid out in Asimov's 1942 short story "Runaround," are as follows: *First Law: A robot may not injure a human being or, through inaction, allow a human being to come to harm. Second Law: A robot must obey the orders given it by human beings except where such orders would conflict with the First Law. Third Law: A robot must protect its own existence as long as such protection does not conflict with the First or Second Laws.* Later, Asimov would append a zeroth law: *"Zeroth" Law: A robot may not harm humanity, or, by inaction, allow humanity to come to harm.*
4. Vernor Vinge, "The Coming Technological Singularity: How to Survive in the Post-Human Era," VISION-21 Symposium, March 30–31, 1993, https://edoras.sdsu.edu/~vinge/misc/singularity.html.
5. Amy Brady, "In 'Autonomous,' Climate Change is a Disease Vector," *Chicago Review of Books*, Sept. 28, 2019, https://chireviewofbooks.com/2017/09/28/autonomous-annalee-newitz-interview/.
6. See Nisi Shawl's superb essay "A Crash Course in the History of Black Science Fiction," *Nisi Shawl*, 2018, http://www.nisishawl.com/CCHBSF.html.

Police Use of Force

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High-profile news stories about excessive use of police force, often leading to a person's death, have filled our news feeds and become a hot-button issue. Karen Evans's column for this months' Alert Collector highlights some of the major books on this topic that will flesh out your collection, whether you serve a criminal justice program, students needing the best sources for a pros and cons essay, or a clientele wanting the best resources to help them understand this complex issue. Evans is the librarian for the School of Criminology and Security Studies at Indiana State University. She holds a graduate degree in criminology and criminal justice, and serves as the editor for the criminal justice section of Resources for College Libraries.

Eric Garner died on July 17, 2014; Brendon Glenn died on May 5, 2015; Walter Scott died on April 4, 2015; Philando Castile died on July 6, 2016; and Freddie Gray died on April 12, 2015. All deaths were deemed to be the result of excessive police force. What is excessive use of force by police officers? The International Association of Chiefs of Police (IACP) defines excessive force as "the application of an amount and/or frequency of force greater than that required to compel compliance from a (willing or unwilling) subject."[1] The National Institute of Justice, part of the United States Department of Justice, says that "the use of force by law enforcement officers becomes necessary and is permitted under specific circumstances, such as self-defense or in defense of another individual or group."[2] Although definitions of excessive use of force vary by law enforcement agencies, the thread running through most of them is that the use of excessive force by a police officer is the use of too much force to make a civilian comply with an officer's orders.

The use of force of any type is based on agency policies, the situation, and the experience of the officer. Police departments have policies on the use of force, usually with stringent guidelines for how and when officers use force to encourage a person to conform to an officer's demands. While officers should know and always adhere to their agency's policies, news reports over the last few years have shown that is not always the case. It should be noted that force to a certain degree is allowed by police agencies to ensure the safety of the police officer, civilians, and the suspect. Force becomes excessive when it exceeds what is needed to control a situation. How do officers determine the amount of force needed in a situation? Many law enforcement agencies have a Use-of-Force Continuum (UFC) to guide their officers in acceptable use of force and under what circumstances. Not all UFC's are the same: some agencies have fewer levels of force and others more, some agencies label their levels of force differently. The point of the UFC is to ensure police officers know the levels of force available to them and under what circumstances levels of force can be used to protect lives. Using the Federal Bureau of Investigation's example of a UFC, the first level is Officer Presence. No force is used at this level. The presence of the police officer is enough to contain the situation. The second level is Verbalization. Under this level, the police officer gives commands to the person. The force used in this situation is the voice of the officer; it may be raised to insure the person understands the officer and follows directions. The third level of the continuum is Empty-hand Control. In this circumstance, officers use a soft or hard technique to control the person. A soft technique involves grabbing, holding, or using a joint lock to remove any threats from the situation. A hard technique involves the officer using physical force against a person to control the situation. The last two levels of the continuum involve more force. Less-lethal methods involve using any of the following resources to subdue a person: a baton or projectiles (e.g., bean bag rounds), chemical sprays (by themselves or as a projectile), and conducted energy devices (CEDs) that use electricity, such as tasers. The last level is lethal force. In this situation of last resort, the officer uses a lethal weapon to subdue a subject. Guns are one of the best-known weapons of lethal force.[3]

Police officers have the legal right to use force to control a situation, to save their lives, or to save the lives of civilians. They also have the legal duty to choose the correct form of control for the situation. Enacting the incorrect form of force or applying too much of a legal use of force can result in tragic circumstances.

PRINT RESOURCES

Albrecht, James. *Police Brutality, Misconduct, and Corruption: Criminological Explanations and Policy Implications*. Cham, Switzerland: Springer, 2017 (ISBN: 9783319644370).

Albrecht, an authority on police use of force, considers five typologies of police misconduct, one of which is excessive use of force by police officers (the others are police corruption, police criminality, abuse of authority, and police misconduct). Using the New York City Police Department, the author illustrates police deviance from the 1960s to the late 2000s. This short volume with fifty-one pages provides an interesting look at how the author believes criminological theories may explain deviant acts by police officers. The author concludes with a blueprint for police departments interested in avoiding hiring officers prone to misconduct. The blueprint focuses on the hiring process and improving the policies of police departments.

Boylstein, Craig. *When Police Use Force: Context, Methods, Outcomes*. Boulder, CO: Lynn Rienner, 2018 (ISBN: 9781626376991).

An interesting chapter in *When Police Use Force* discusses the US federal courts and the police use of force. Covering cases from the 1980s to 2016, Boylstein looks at landmark cases including *Tennessee v. Garner* and *Graham v. Connor*. Like Thomas in *The State of American Policing: Psychology, Behavior, Problems, Solutions* (see below), Boylstein looks at how different groups of people are treated by the police in police-public contact.

del Carmen, Rolando, and Jeffrey Walker. *Briefs of Leading Cases in Law Enforcement*. 9th ed. Waltham, MA: Routledge, 2015 (ISBN: 9781437735062).

Tennessee v. Garner, *Graham v. Connor*, and *Scott v. Harris* are considered primary sources in use-of-force case decisions handed down by the Supreme Court. The Garner case limits the use of deadly force by law enforcement officers. Graham determined that what is relevant is the fact that the force used was objectively reasonable. The Scott case looked at the civil liability police officers may legally face when they employ use-of-force tactics. Another pertinent chapter in this volume is on "stop and frisk" actions by police, which have often been viewed as less than favorable by some factions of society. One of the most important cases highlighting stop and frisk action is *Terry v. Ohio*. This case determined that police officers can conduct a stop and frisk on reasonable suspicion. *Briefs of Leading Cases in Law Enforcement* provides an understanding of important cases in law enforcement, how they were decided by the Supreme Court, and their impact on policing. A tenth edition, published in 2019, adds eight new cases, one of which, *County of Los Angeles, California et al v. Mendez,* is about use of force.

Friedman, Barry. *Unwarranted: Policing Without Permission*. New York: Farrar, Straus, and Giroux, 2017 (ISBN: 9780374280451).

Friedman, Jacob D. Fuchsberg Professor of Law and founding director of the NYU School of Law's Policing Project, believes when citizens do not speak out about police actions, it allows police departments to behave less than admirably. He introduces several real-life scenarios to illustrate his point that officers went too far and used excessive force against citizens, sometimes without any investigation of the situation before they acted. Friedman relates a few similar incidents of questionable police actions, giving credence to his idea that the public should take a more active role in reviewing police actions and speaking up about those actions.

Gallo, Frank J. "Police Use of Force." In *Handbook of Police Psychology,* ed. Jack Kitaeff. New York: Routledge, 2011 (ISBN: 9780415877664).

A recurring theme in several of the sources reviewed is that officers have the legal right to use force in certain situations, particularly where a life is at stake. Gallo also notes this fact in his opening paragraph. The author moves on to a discussion on psychological evaluations and screenings of those interested in entering policing. Psychological evaluation is common among police agencies hiring officers; the evaluations assist the department in determining if the candidate has the psychological characteristics to perform police duties. Gallo explains that officers with excessive force issues often have psychological issues such as personality disorders or job-related traumas. Intervention and treatment are discussed through a fictional character created by the author. This volume provides insight into how departments hire officers and the criteria they should employ to select the best officers for their departments.

Green, Jeffrey L. *Decision Point: Real-Life Ethical Dilemmas in Law Enforcement*. Boca Raton, FL: CRC Press, 2014 (ISBN: 9781482214642).

Green presents real-life incidents in law enforcement and gives readers the opportunity to decide how they would respond. He provides questions to reflect on about the episode, includes considerations to think about to help make a decision, and relates what the actual decision was. Incidents involve misuse of the powers of police officers, search and seizure, and color of the badge. One chapter specifically deals with the use-of-force incidents. The scenarios are thought provoking and provide additional information that can play into a final decision.

Hicks, Wendy. *Police Vehicular Pursuits: Constitutionality, Liability and Negligence*. Springfield, IL: Charles C. Thomas, 2007 (ISBN: 9780398077617).

Although police use of force is often thought to involve physical action or deadly force with the use of a weapon such as a gun, Hicks considers the possibility of vehicle pursuits and deadly force. Should a police vehicle be considered a deadly force, particularly when involved in a chase? Two cases involving police vehicles used as roadblocks to stop fleeing subjects resulted in very different court decisions. *Police Vehicular Pursuits* provides an interesting look at an aspect of use of force many people may consider, that a police vehicle can be a deadly force instrument.

Kappeler, Victor E. *Critical Issues in Police Civil Liability*, 4th ed. Long Grove, IL: Waveland Press, 2006 (ISBN: 9781577664413).

Kappeler, dean of the School of Justice Studies at Eastern Kentucky University, explores the civil liability for police use-of-force actions. He covers excessive, deadly, and non-deadly force, explaining each and the consequences of their actions. Kappeler states that the possible consequences of use-of-force actions are important in order for police administrators to be effective at their jobs.

Prater, Loretta P. *Excessive Use of Force: One Mother's Struggle Against Police Brutality and Misconduct*. Lanham, MD: Rowman & Littlefield, 2018 (ISBN: 9781538108000).

Prater offers a first-hand look at the anguish and questions a family has when a loved one loses his or her life at the hands of the police. She eloquently captures the disbelief, heartache, and numerous questions that follow this type of incident. The chapter on police brutality stands out. As the author points out, police are disciplined more for theft or drug use than for the excessive force used on a person. Although one may disagree with some of Prater's points, her description of fighting for justice for her son is heart wrenching and raises interesting questions about police procedures.

Roberson, Cliff. *Police Misconduct: A Global Perspective*. Boca Raton, FL: Taylor & Francis, 2017 (ISBN: 9781498753340).

Roberson focuses this book on police misconduct, ranging from a historical analysis of misconduct to investigating and complaining about officer misconduct. Excessive force and the use of deadly force are the subjects of two chapters in this volume. Cases such as *Graham v. Connor* and *Tennessee v. Garner* are discussed concerning the use of force. Practicums and discussion questions make this a source to help readers understand the intricacies concerning use-of-force incidents.

Robertiello, Gina, ed. *The Use and Abuse of Police Power in America: Historical Milestones and Current Controversies*. Santa Barbara, CA: ABC-CLIO, 2017 (ISBN: 9781440843723).

A thematic source on the use and abuse of police power, Robertiello's volume provides five sections ranging from Legal and Societal Limits on Police Powers to the Intensive Debate about the "American Police State." Entries in each section include legislation, theories, and incidents involving police. The encyclopedic-type entries provide comprehensive coverage on topics, including Abner Louima, Eric Garner, and deadly force. See also and further reading sections provide additional sources for users.

Thomas, David. *The State of American Policing: Psychology, Behavior, Problems, Solutions*. Santa Barbara, CA: ABC-CLIO, 2019 (ISBN: 9781440860065).

From the beginning chapter on oppressive police practices against minorities to the closing chapter on the future and recommendations for change, Thomas has written a book examining the psychology, bias, and decision-making of police officers, particularly in relation to minorities. Scenarios and case studies help the reader understand how police decisions are made by providing incident information and asking the reader specific questions about the incident. Thomas provides a resource that can help readers understand how officers are trained and how they react while on duty.

Worrall, John, and Frank Schmalleger. *Policing*. 2nd ed. Upper Saddle River, NJ: Pearson Education, 2013. (ISBN: 9780134441924).

Worrall and Schmalleger cover the foundations of American policing, legal issues, and the various aspects of policing as a job. The use of force chapter provides an overview of several different types of force, including lethal and nonlethal. One of the most interesting sections provides a discussion on the terms *use of excessive force* and *excessive use of force*; the same four words but with very different meanings between the two. A third edition, published in 2018, includes the latest changes in law enforcement practice as it relates to use of force and includes the most recent data on the applications of force.

Yu, Szde. "Nonlethal Weapons and Technology." In *Police Use of Force: Important Issues Facing the Police and Communities They Serve,* ed. Michael J. Palmiotto. Boca Raton, FL: CRC Press, 2017 (ISBN: 9781498732147).

Police force is often thought to involve physical contact or contact with a lethal weapon. A particular chapter in this volume concentrates on nonlethal weapons: pepper spray, stun guns, bean bag guns, rubber and plastic bullets, and tear gas. Although nonlethal weapons are obviously not considered lethal, misuse or accidental misfire could result in a fatality. The chapter discusses the controversies of this type of force and the policy implications for nonlethal weapons.

WEB RESOURCES

Federal Bureau of Investigation (FBI): National Use-of-Force Data Collection (https://www.fbi.gov/services/cjis/ucr/use-of-force)

This FBI database collects information on use of force when a person is injured or killed and when an officer discharges his weapon toward a person. It is comprehensive in that it provides representation from all types of law enforcement agencies, including tribal, National Organization of Black Laws Enforcement Officers, state crime investigation agencies, police and sheriff organizations, and the Police Executive Research Forum (PERF). The types of information collected include incident, subject, and police officer. Contributing data to the FBI database is optional for law enforcement agencies; there is no legal requirement.

Los Angeles Police Department: Use of Force Review Division (http://www.lapdonline.org/categorical_use_of_force/content_basic_view/47397)

The Use of Force Review Division illustrates how a police department reviews and reports incidents of use of force by an officer, including bites by canine officers. The division meets on incidents and maintains a database on use-of-force events. The archives may be of particular interest for those looking for an understanding of how departments review use-of-force incidents.

National Police Foundation Use-of-Force Infographic (https://www.policefoundation.org/general-resources/use-of-force-infographic/)

Established in 1970 with a grant from the Ford Foundation, the National Police Foundation's goal is to help police be more effective at their job. The infographic is intended to help the public understand when police can use force and points out that police are the only public employees permitted to use force against others. The UFC is present, with six levels ranging from verbal (presence of police officer) to firearm (lethal force). Explanations of why police use force include establishing control in a situation, protecting themselves or others, and making an arrest. Additional sections include when the amount of force is justified, factors in determining the reasonableness of use of force, and how use-of-force incidents are investigated. This is an excellent graphic with clear information on the multitude of issues involved in use-of-force incidents.

Office of Justice Programs: Bureau of Justice Statistics: Use of Force (https://www.bjs.gov/index.cfm?ty=tp&tid=84)

Collecting use-of-force statistics by law enforcement has been a requirement of the US Attorney General since the passing of the Violent Crime Control and Law Enforcement Act of 1994. Projects sponsored by the Bureau of Justice Statistics and the National Instituted of Justice collected data on several aspects of use of force, including police-public contact (PPCS), arrest-related deaths (ARD), law enforcement management and administrative statistics (LEMAS), survey of inmates in local jails (SILJ), FBI's supplementary homicide reports (SHR), and the FBI's law enforcement officers killed and assaulted (LEOKA). This site also provides links to various publications and products related to police actions and interactions between police and civilians. Definitions are provided for five levels of force, ranging from use of force to deadly or lethal force.

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Backward Design

A Must-Have Library Instructional Design Strategy for Your Pedagogical and Teaching Toolbox

Donna Harp Ziegenfuss and Sarah LeMire

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Library instruction sessions, courses, and programs benefit from a strategic and intentional instructional design approach. This type of approach can provide a framework for librarian discussions with collaborators, such as faculty or other stakeholders, and facilitate librarians' advocacy efforts for information literacy instruction in the curriculum. But in the midst of busy schedules and competing responsibilities, it can be difficult to find time and a strategy that works well for library instructional contexts. This column shares an instructional design strategy adopted by librarians to add intentionality to their instruction. This backward design instructional design process has proven to be an invaluable tool for designing instructional contexts ranging from one-shots to tutorials to semester-length courses.—*Editor*

An increased focus on accountability and assessment is driving changes in higher education. In addition, changing student populations require new approaches to teaching, curriculum design, and assessment. L. Dee Fink, in his book *Creating Significant Learning Experiences: An Integrated Approach to Designing College Courses*, contends that "faculty knowledge about course design is the most significant bottleneck to better teaching and learning in higher education."[1] Therefore, focusing on how instructors design their courses, and not just on how they teach, should be a high priority when trying to improve teaching. However, often library instruction places more effort into showcasing library databases and information literacy teaching techniques and less into designing quality library instruction. Therefore, learning instructional design skills will become more important as librarians continue to strive to integrate the ACRL Framework for Information Literacy into their teaching practice. Instructional design skills using backward design methods can help librarians design instruction. Marrying instructional design models and frameworks with tools to help guide librarianship practice can help librarians adjust to changing times.

LITERATURE REVIEW

Backward design is a process of planning instruction that begins by reflecting about the end of the course and identifying first the learning outcomes you hope students will achieve. Then you move backward to design the course components aligned to these outcomes that will help attain the teaching objectives. This process, embedded in several course design models, helps to ensure that you are actually teaching and measuring the learning outcomes you have established.[2] Although many librarians are familiar with the work of Wiggins and McTighe due to the implementation of the ACRL Framework, which references their work,[3] librarians have also begun to experiment with Fink's backward design process.[4] The visual nature of the alignment grid (appendix A), a backward design process tool, provides a representation of how the instructional plan can help identify gaps and redundancies during the instructional planning process.

Since this model focuses on student learning outcomes, and not on what the instructor is teaching, it is grounded in student-centered learning principles.[5] Evidence from the educational literature suggests that a student-centered approach engages students in the learning process.[6] Bonwell and Eison contend that designing instruction with active and student-centered learning components helps students connect theory to practice, reflect on their own learning, and construct new knowledge as they build upon prior knowledge and experience.[7]

As more focus is placed on demonstrating the value of academic libraries and how libraries impact student success, the literature on student-centered teaching is becoming even more integrated with the library science literature.[8] In addition, an increased demand for assessment and evaluation due to financial constraints and accreditation is also driving change in how academic libraries demonstrate value to the campus community. This will require new instructional design and assessment initiatives as well as more efficient and effective library instruction models.[9] These changes related to library value also mandate a shift in rethinking librarian roles and the need for instructional design, assessment, and evaluation.[10] Professional development in data management and data analysis for assessment is also needed if academic libraries are to adequately contribute to university missions and student success.[11] Learning new instructional design strategies could help equip librarians for this new quality-focused instructional context in higher education.

BACKWARD DESIGN

The backward design process is an instructional design strategy that is particularly useful for librarians because it can be easily applied in a variety of instructional situations, such as for individual lessons, a series of embedded library sessions, or an entire information literacy course. Because the backward design planning process aligns learning outcomes, learning activities, and assessment, it helps librarians ensure that instruction is directly supporting learning outcomes, regardless of the instructional context. Backward design can help librarians manage and prioritize their time, especially in one-shot instruction, when librarians commonly have as little as fifty minutes to make an impact. Backward design forces the librarian to plan out lessons in advance, focusing not on what tools or skills are to be covered but rather on what learning will be achieved. This process helps the librarian use time wisely by honing in on the most impactful activities to achieve the identified learning outcomes. It makes one's rationale visible to ensure that the designed activities are truly supporting learning goals and also helps identify potential gaps or redundancies in lesson planning. The backward design process is also helpful in longer-term instructional scenarios, including instruction delivered across multiple sections, sessions, or modalities. Whether a librarian is teaching a one-shot workshop or a for-credit information literacy course, the principles of backward design will help the librarian ensure that their teaching is directly aligned to student learning outcomes.

The backward design process can also help librarians communicate the value of information literacy instruction to internal and external stakeholders. Backward design produces an artifact clearly delineating the relationship between activities and learning outcomes. By sharing the backward design alignment grid with library instruction coordinators, collaborating instructors, and students, librarians can help these stakeholders understand the purpose of library activities and the terminal learning objectives. For example, librarians can use the alignment grid to support efforts to make library instruction programs more programmatic and intentional. Because it clearly delineates the outcomes and activities involved in an instructional opportunity, librarians can use the alignment grid to map instructional outcomes across an instruction program to identify gaps and points of overlap and to support efforts to advocate for additional instruction time. The librarian can adapt the alignment grid to include course outcomes or department/program outcomes, creating a document that maps the direct relationship between information literacy learning outcomes and the instructor's own objectives. Because assessment is a key element of the alignment grid, the librarian can use the grid to demonstrate how incorporating information literacy instruction into a course will not only help instructors meet their course learning outcomes but will also help them meet department and administrative mandates. A successfully-executed alignment grid can be a powerful tool when advocating for information literacy integration into a course because it can very clearly articulate how the information literacy instruction directly supports the course and or departmental learning outcomes.

INTRODUCTION TO THE FINK BACKWARD DESIGN PROCESS

The backward design process based on Fink's course design model can be broken down into a three-step process that guides the librarian from large-scale, long-term thinking down to the granularity of learning activities and classroom equipment. By following these three steps, the librarian can design instruction that will directly contribute toward achieving those long-term student learning goals.

Step 1: Dream Exercise

The Dream Exercise is the first step of the backward design process, and its function is to orient the instructor's perspective to the long-term. It asks instructors to imagine a conversation with their students a year or two into the future and then to consider what they would want their students to know, be, or be able to do at that point in time. This exercise guides instructors to think not about the end of a one-shot or the result of an information literacy course, but instead to focus on longer-term student outcomes.

As part of the Dream Exercise and reflection about instructional outcomes, librarians should also consider what Fink calls "situational factors" to make sure the dream, outcomes, assessments, and teaching and learning activities align to the instructional context.[12] The situational factors help librarians think about the context of the teaching/learning situation, the nature and scope of the subject, the characteristics of the learners in front of them, and their own teaching philosophy. By considering these factors, the librarian can customize the instruction to meet the needs of the learners based on the format, delivery mode, and context of the instruction.

Step 2: Learning Outcomes

The concept of learning outcomes is familiar to many librarians. Learning outcomes, like the Dream Exercise, are a powerful instructional design tool because they help the librarian design the lesson based upon what the student will do, not on what the librarian does. To create learning outcomes, the librarian takes the broad Dream Exercise goals and breaks them down into concrete learning outcomes. A single goal from the Dream Exercise may have a number of learning outcomes associated with it. Each learning outcome should be measurable, student centered, and focused on different levels of learning. The librarian should craft their learning outcomes carefully, employing action verbs that lend themselves to assessment so they can evaluate whether a student has achieved the outcome. For example, it is common to instinctively want to use verbs such as "know" or "understand" when writing learning outcomes; for example, "At the end of this class, students will understand how to use Boolean operators." But it is extremely difficult to quantify understanding. To make the learning outcome measurable, the librarian can replace "understanding" with another verb that is more easily assessed; for example, "At the end of this class, students will be able to design a search that incorporates Boolean operators." This revised learning outcome depicts the task at hand that students need to perform, which could be easily assessed through simple observation.

In addition to measurability, learning outcomes should focus on different levels of learning. The classification hierarchical framework of Bloom's taxonomy of learning and the updated version by Krathwohl et al. have become the standard frameworks used for designing learning outcomes.[13] They are used for assessment and evaluation of learning, as well as for writing learning outcomes. Designing learning outcomes using terminology from Bloom's taxonomy helps articulate how students will learn and shows how students will be engaged at different levels. Bloom's taxonomy levels include Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating.[14] Fink's model also contains a learning taxonomy. The Fink Significant Learning Taxonomy contains six levels of learning: Foundational Knowledge, Application, Integration, Human Dimension, Caring, and Learning to Learn.[15] The Fink taxonomy is not hierarchical and intended to be used in a way in which levels of learning overlap and integrate with each other. It is the interaction or intersection of several outcomes that Fink defines as the "Significant Learning" experience. For example, helping students apply the skills they learn during a library research session to their research paper assignment can also help students see how the skills they are learning in one place can be integrated with other academic projects and in other courses.

Step 3: Alignment Grid

The alignment grid is the third and final step of the backward design process. The alignment grid helps the librarian take the learning outcomes identified in step two and translate them into assessable activities. In its most basic form, the alignment grid asks the instruction librarian to record four elements: the learning outcome, an assessment method, a learning activity, and any resources or equipment necessary to complete that activity.

When completing the alignment grid, it is important to fill it out in order from left to right, beginning with the outcome. This means that the first step after the learning outcome is the assessment method. Although it may initially seem more natural to move from the learning outcome to the activity, Fink's method requires that the assessment method be determined before designing the activity. In order to successfully achieve the learning outcome, it is important to be able to identify if students have grasped the concept. The assessment need not always be formal or summative in nature. When thinking about the assessment box in an alignment grid, the librarian should ask the question "How will I know if this learning outcome has been achieved?" The librarian can use a simple formative check on learning for some learning outcomes, with a more formal, artifact-producing assessment method used at other points in the lesson.

Once the librarian determines the assessment method, it is time to craft the activity. It can be challenging to fit existing lesson plans and activities into the alignment grid, so it may be easier to craft an alignment grid for the first time when creating a new lesson plan with new activities. The alignment grid already provides the learning outcome and the assessment, so the instructional delivery method and learning activity should derive directly from those elements. For example, when collaborating with a faculty member for a five-week embedded information literacy series in a business course, the course learning outcomes and assessment method (a group presentation) were predefined. However, the alignment grid helped to "chunk out" the library tasks and align to the Association of American Colleges and Universities (AACU) outcomes being used in the course. As a result, the library instruction was integrated and scaffolded across the semester. The process was graphically visible to both the librarian and faculty member and helped in the communication about and implementation of the library instruction.

The final column in the basic alignment grid is for listing resources needed to implement the lesson plan. That equipment may be a computer lab or a laptop cart. It could be having Zotero installed on all of the computers, or it could be a pack of flip-chart paper. Regardless of the format, the resources section provides a place to pull all external tools together. It is also important to note that additional fields can be added to the alignment grid to make the backward design process more scaffolded or more transparent for the librarian or their instructor colleagues. For example, adding another column to the alignment grid could help align the librarian's learning outcomes to the ACRL Framework or to an AACU rubric.

APPLICATION OF THE BACKWARD DESIGN PROCESS

A variety of instructional design models and frameworks have incorporated the backward design process. At the University of Utah, instructional designers used Fink's backward design process as the foundation for a campus-wide instructional design model called the Quality Course Framework (QCF).[16] This instructional design model contains four phases of instruction design: The Design Phase, the Build Phase, the Teach Phase, and the Revise Phase (figure 1).

The three steps of backward design described previously are integrated into the first phase of the QCF, the Design Phase. Once the alignment grid is completed in the Design Phase, librarians could then use the grid to build the learning materials in the Build Phase, plan the individual teaching activities in the Teach Phase, and reflect on the success of the teaching event in the Revise Phase. Librarians can also integrate learning theories such as the ARCS motivation model into the planning of teaching activities.[17] For example, when building a learning/teaching activity, thinking about how to engage students in that learning activity is just as important as the content of the activity. Using the ARCS model can help librarians intentionally consider how they can (1) grab the attention of the learners (A), (2) establish the relevance of the content you are teaching (R), (3) help build learner confidence (C), and (4) show how the learning is related to a real-world application to satisfy the learner (S). Therefore,

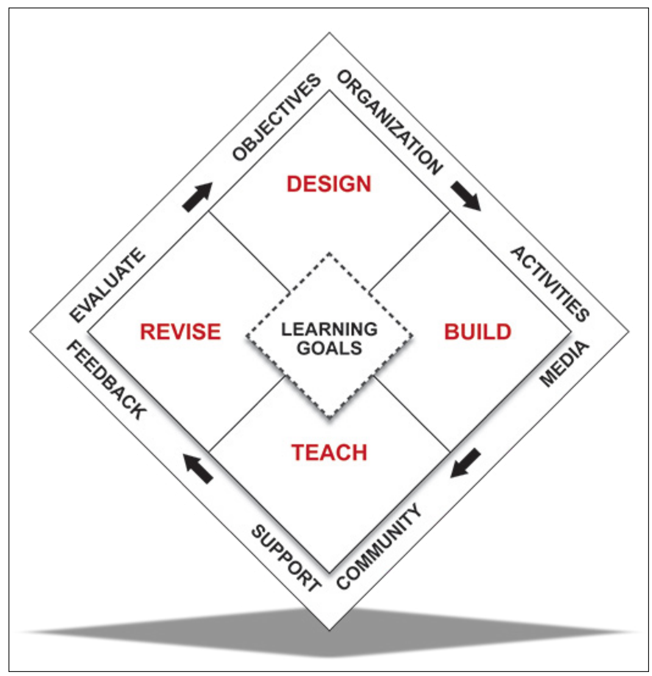

Figure 1. The Quality Course Framework

As Instruction Librarians We Value:	*Faculty Partnerships and Collaboration*	*Effective Instructional Practices*	*Supportive and Shared Learning Environments*	*Professional Responsibility*
Phase 1: DESIGN Instruction **Librarian as Instructional Designer**	• Contact the professor before the scheduled class (in person, email or on the phone) to identify class needs, goals, and outcomes for the session(s) • Plan the session length and content based on professor and student needs	• Design a coherent lesson plan that includes: outcomes, assessments, and teaching and learning activities • Align lesson plan to the course syllabus. Ask for a syllabus in order to see what is included in the readings and what the projects will be. This will help shape and integrate your library instruction presentation. • Align lesson plan to the ACRL framework and/or AACU LEAP outcomes (review the Framework for Information Literacy prior to developing an instructional plan) • Align lesson plan outcomes to the GUS Information Literacy Outcomes	• Compile a variety resources (tutorials, handouts, examples) to incorporate into lesson planning to support student learning • Use relevant or real-world examples if possible to help engage students in the session	• Use professional experience and teaching expertise to select appropriate content for library sessions

Figure 2. The Teaching Guidelines, Phase 1: Design

going through the QCF process can not only help scaffold the instructional design, but also help librarians plan and deliver effective and impactful content for a variety of instructional contexts, from one-shots to full information literacy courses.

Once librarians have used their Fink alignment grid to lay out the instructional plan, they can use that grid to facilitate discussions with faculty partners and demonstrate how library outcomes and learning activities can also align to the overall course outcomes, assessments, and learning activities. To help librarians talk about instructional planning with faculty, a project was undertaken at the University of Utah to create teaching guidelines. The guidelines were built upon the four phases of the QCF and were organized by values identified through brainstorming and discussions with a group of Education Services librarians.[18] In addition, the teaching guidelines matrix document emphasizes the librarian role at each phase of the QCF. In the Design Phase, librarians act as instructional designers. In the Build Phase, librarians could act as instructional technologists and build instructional components for teaching. In the Teach Phase, librarians act as teachers and context experts, and in the Revise Phase, librarians should act as researchers and evaluate the library teaching and learning experience. The teaching guidelines can help librarians think through their different roles at these four phases of instructional design, teaching, and assessment and provide guidance on how they could work with faculty partners at these various phases. For example, figure 2 demonstrates guidelines for how librarians can interact with faculty when designing library instruction. The four columns were values identified by librarians, and bullets in each column are suggestions for how librarians can help facilitate faculty partnerships, design effective instructional practices, create supportive and shared learning environments, and display professional responsibility as they design instruction. A similar process applies to each of the other three QCF phases.[19]

CONCLUSION

By incorporating backward design principles when designing library instruction, the librarian can ensure that instruction is student-focused and that each lesson, whether it is a one-shot workshop, an online module, or a full for-credit information literacy course, meaningfully contributes toward the achievement of information literacy learning outcomes as well as course, departmental, and university learning objectives. Backward design's focus on alignment and assessment allows the librarian to not only improve the quality of instruction for current students, but also helps the librarian demonstrate value and impact to instructors and administrators, lending itself as a powerful advocacy tool for new instructional opportunities. In addition, integrating backward design processes with an instructional design model and reflecting on librarian roles during the design, implementation, and assessment of library instruction can help enhance the value of thinking backward during instruction design and improve the quality and intentionality of library instruction.

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APPENDIX A

Sample Alignment Grid for Aligning Outcomes, Assessment, Teaching and Learning Activities and Resources, Modified by Donna Ziegenfuss from Fink's Worksheet.

Objective/Activity/Assessment Alignment Grid

Learning Objective/Outcome	How Learning Will be Assessed	Teaching/Learning Activity	Technology Resources

Reaching Out and Giving Back

Academic Librarian Works with Grade K–12 Students

Annette M. Vadnais

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Credit on all photos is Jamina Scippio-McFadden.

Sometimes the biggest impact an academic librarian can have is with students not yet in post-secondary education. This outreach librarian describes the joys and struggles in connecting with kids before they even think about university, and the type of long-lasting inspiration it can bring.—*Editor*

To start my story about this particular outreach endeavor, I think it helps to know a little bit about me and where I came from. I grew up in a very small town in western Massachusetts, the youngest of five children. Although my parents wanted us to do well in school, it was not something that they strongly encouraged. My mother had finished high school, and my father had only completed the 7th grade. So the idea of continuing with school after graduation was never really brought up in my home. After high school, I spent a few years working in retail, during which time I became close friends with someone who was applying to college. Her parents were both teachers, and for her, continuing education beyond high school was not a question. At one point she started to encourage me to think about applying to college. Sometimes, she would even lure me out under false pretenses of fun, but instead we worked on my college essay. My mother's only concern was that I apply somewhere close to my home town, and in the end I only applied to one school. Fortunately, I was admitted to the University of Massachusetts (UMass), Amherst, where I earned my first degree. I would not know it until years later, but I was what we would now call a "first-generation, low income student," of which I am very proud.

Fast forward many years of work and schooling later, and I am the student success and outreach librarian at my alma mater, the University of Massachusetts, Amherst. In my role I have many other duties "as assigned." One additional temporary duty was to cover for my supervisor on a faculty senate committee, the Undergraduate Education Council, while she was on leave. At one particular meeting, a newly hired member of campus was brought in to speak. She was hired as the assistant provost for diversity. One of the things she mentioned as she spoke was that she wanted to reach out to the local communities and work with area children to promote college or university as an option after high school. She was so passionate about this project, and it really resonated with me. After the meeting was over, I rushed over and introduced myself. I told her that I would love to help her in any way I could. I explained my background and how something like this may have helped me when I was younger.

About a month later, I was included in an e-mail from the director of marketing and community relations at the UMass

Center in Springfield, Massachusetts. She had received my information from the assistant provost for diversity. The UMass Center is like a satellite campus for the University of Massachusetts's system. It offers classes in various subject areas where working professionals can have a more convenient location while they advance their studies. She was interested in having my help with the College Matters for U program. This program, started at the center in October 2014, works with students from the Springfield public schools in grades K–12. They come to the center and learn about science, technology, engineering, arts, and mathematics (STEAM) careers and are exposed to the idea of continuing their education after high school graduation. The program had representatives from other parts of campus, like nursing and business, but they had never had a librarian participate before. I was thrilled to be asked to be involved in the program and immediately replied that I would love to help. I knew I could contribute in several ways: I wanted to encourage some students to consider librarianship as a career, at the same time removing some of the stereotypes of librarians and libraries. I also wanted to let them know how much assistance was available through the library and to encourage them to use library services and resources more.

I really wanted to do something fun and interactive and get the kids excited. At the very least, I wanted to plant the seed that college could be an option for them. I consulted the Kids' College Almanac: A First Look at College,[1] which was very helpful. It gave me insight to the things that younger students, grades K–8, may not know about college. It was good for background information, some of which I didn't even know. I also used the US Bureau of Labor Statistics and K–12: US Bureau of Labor Statistics websites.[2] These were helpful, especially the Bureau of Labor Statistics's Occupational Outlook Handbook, for finding information on careers, salaries, and necessary schooling.[3] Lastly, I reached out to teacher friends via Facebook to see if they had any ideas for programming or exercises that might work. I received some helpful information that inspired some of my initial programming.

My programming for the high school group has changed very little since the beginning (figure 1). These students seem to come in to these sessions already having an idea of a career and plan to attend college or university. For this group, I really focused on how libraries and librarians can help them be academically successful and how to work smarter, not harder. At the end of the program, I showed them the Occupational Outlook Handbook, which was a big hit. I asked for volunteers to share what career they may want and showed them how they could see things like what the pay and schooling are for each. Apparently after I left they spent their lunch break looking at the site.

The programming for the younger groups, grades K–8, did not go as smoothly. For my first ever program, which was a combination of 4th and 5th graders, I came in very prepared—or so I thought. I brought a spinning wheel that I use for other outreach events, thinking the students might find

Figure 1. Presenting the program to a group of high school students

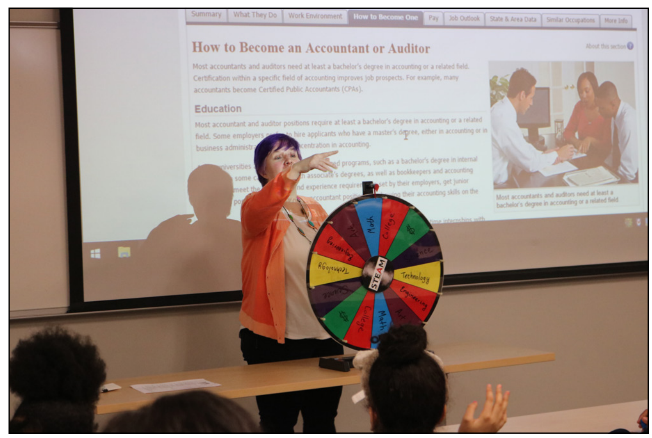
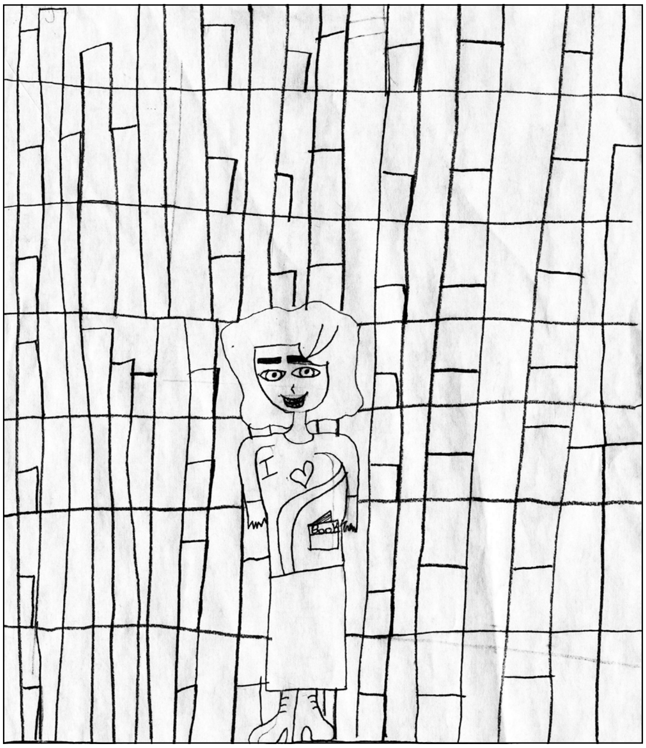


Figure 2. The spinning wheel of STEAM

it fun (figure 2). It had categories for the different STEAM fields for which I had created cards with questions, mostly using information I had found from the US Bureau of Labor Statistics. As I watched the previous presenter, I realized that the questions and answers I had prepared were probably too mature for this age group. For example, I thought learning how much money a surgeon makes would blow their minds. I realized they did not really understand the concept and value of money, so if I had said a surgeon makes $20,000 a year, rather than the $208,000 they actually do make, the students would have been just as impressed.

The rest of the session went by in a blur. I don't remember much, but I do remember improvising. I had the students spin the wheel and tried to make up questions on the spot from the research I had done. I do still remember the kids in the front row, looking very bored and "judgy." I left feeling very crushed but undaunted. I knew I could do better next time and perhaps more importantly, I learned how to think on my feet and go with the flow.

For the next sessions I changed up the format and left the spinning wheel at work. For a few sessions I brought in



Figures 3. A typical student drawing of what they think librarians do

paper and crayons. I would talk about my job and what I do at the library. I had them then draw what they thought my work or office looked like (figure 3). As you can probably guess, there were a lot of books involved.

So again I adjusted my programming. I really wanted the students to see us as more than just books. This time I had six large pictures of librarians, and I started my presentation talking about libraries and librarians. I then put the pictures around the room and asked the students to look at all the pictures and then stand next to the one they thought was a librarian. Of course one of them had books in the photo, while the others were not as obvious. The problem was that students seemed to suffer from herd mentality, and they would all end up at the same picture (figure 4). Even if they tried to stand next to a different picture, at the end they would often move to where everyone else was (figure 5).

I strained to figure out what else could work. I tried to remember back to when I was a young shy student and what would have been an exercise that would have appealed to me. I also consulted with family members who were around that age. I finally came up with the program that I basically still do—although I do change and tweak things often, sometimes just to keep it fresh for myself but also to ensure that any repeat students won't see the exact same presentation.

I start off the program by introducing myself and showing the students where I work. At twenty-eight stories, the W. E. B. Du Bois Library is very impressive, so that helps to get their initial attention. I then ask them what they think of

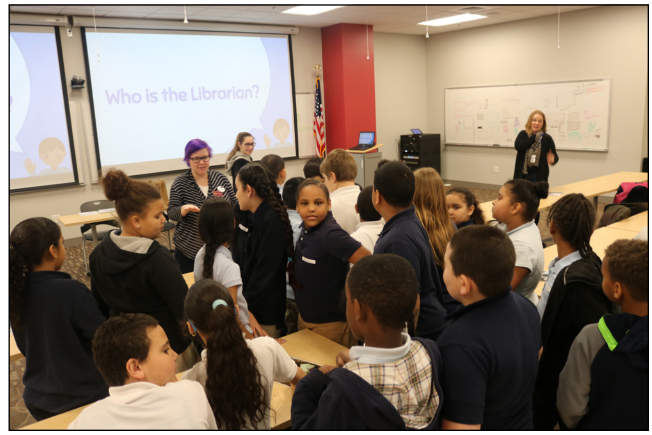


Figure 4. The problem with the pictures and herd mentality

Figure 5. Not surprising, the picture of the librarians with books is always the popular choice

when they hear the words *librarians* and *libraries*. I don't use the word *stereotype* as they may not be familiar with it, but I want to uncover what their preconceived notions are. (I have now added at the end the caveat that Ms. Vadnais will not be offended!) This is always a fun and enlightening exercise for me. Not surprisingly, books are always the most frequently mentioned characteristic. Common comments regarding librarians, include "shushing," "glasses," "old," "grumpy," and "mean." On the other hand, they also sometimes mention "kind," "smart," or "helpful," which always make me swoon. When asked about libraries, the students inevitably mention "quiet," "boring," and "books."

We then move to the activity where I hand out paddles with a thumbs up on one side and a thumbs down on the other. I then show pictures of people and ask them to vote with their paddles, not their voices (figure 6). If they think the picture is a librarian, thumbs up; if not, thumbs down. This way they are not swayed by how other classmates vote, and it seems to help combat the herd mentality. After voting is done, I get an idea of what they think as a group. I then ask students on both sides to answer why they feel this

Figure 6. Voting in action. I love to see the enthusiasm, smiles, and even the teachers getting involved.

Figures 7a and 7b. The students always enjoy seeing the 3D printed items up close.

way. This part can have surprising answers at times. Once I even pretended to be so hurt I laid on the ground. Some of the answers I have received to the question of why certain pictures would not be librarians include, "They are only talking to old people," "That lady is too attractive to be a librarian," and "There are no books, or too much technology in the picture." I try and use pictures of librarians to highlight things that they may not think of. For example, one picture is of a colleague in the Dominican Republic talking to young students. I let them know that as a librarian you may get to travel. I let them know that librarians can attend conferences, and I share that I have been to Chicago, Ohio, and Tennessee for my job. I like to highlight that we are more than books, and all of us do really varied things.

My last slide is of a coworker that works in our Digital Media Lab which is our makerspace. The students almost

Figure 8. Showing the little threads on the Pikachu

always think that this is not a librarian or even a part of the library. I then show all of the technology that we have to support student learning along with a sped-up video of one of our 3D printers in action, made by one of our student workers. I let them know that, while in college, they could get a job at their library, like I did. I then pass around some 3D-printed items (figure 7), which I leave at the end: little 3D-printed Pokemon and other library giveaways (figure 8).

One of my favorite sessions was one of the earliest. I always tell the students that they can e-mail me. If I start getting a flood of e-mails from K–12 kids I may have to reconsider, but so far it's been a manageable number. While I was walking out after the end of the session, a young man waved me over. He quietly asked me to write down my e-mail for him on a piece of paper. He then looked up and said that he wants to be a librarian when he grows up. I was so caught off guard and elated that I floated out of there. I got out to the parking garage and realized that in my state of euphoria I had forgotten my bag and jacket in the center. When I went back in, the director of marketing and community relations for the center was surprised to see me, and I told her what happened. She was just as happy about the interaction as I was.

It has now been three years of working with the UMass Center, with a total of fifty sessions. That means I have presented to 1,250 local students, grades K–12. It continues to be such a special and rewarding part of my job. The chaperones get a survey to fill out after, and one wrote when asked about her favorite part of the day, "It was just giving our students the exposure and planting the seed that they too can go to college. I loved the presentation from the librarian and the many fields of interest one can have." Another chaperone wrote, "I would choose the library presentation as our students do not have access to a school library this year. The librarian's presentation was informative." These comments, along with the students' interest and enthusiasm, make me eager to continue to be a part of this program for as long as possible.

Luckily for me, the UMass Amherst Libraries value this collaboration as much as I do, and I do not see this programming ending anytime soon. I look forward to seeing some of these students as future UMass Amherst students one day. I often end the sessions saying that if they ever end up at UMass to come and find the purple hair librarian, as I will give them a personal tour.

I have come a long way from where I started. Some of it was luck, and some of it was through particular people I met along the way. I was extremely lucky that I had amazing people that helped me at pivotal moments in my life, which really helped me along my journey. I hope that the students I work with get something out of my presentations and experience. And maybe one of them will realize that because I did it, they can too.

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Faculty Perspectives on Undergraduate Research Skills

Nine Core Skills for Research Success

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In an effort to improve information literacy initiatives at Texas Christian University, we sought to understand faculty members' expectations and perceptions of undergraduate student research skills. We conducted three faculty focus groups (n=21) and an online survey (n=100) of faculty members. This study reveals a set of nine core research skills that faculty members expect students to possess. The study compares faculty members' expectations against their perceptions of student capability for each of these nine core skills. Furthermore, this study examines who (librarians, faculty, or both) should have responsibility for teaching which research skills. These findings will inform the library's information literacy initiatives, as well as have a strong influence on the library's marketing and reference services.

Texas Christian University (TCU) in Fort Worth is a private university with a total current full-time enrollment of 10,782 and an undergraduate full-time enrollment of 9,261. There are 1,220 to 2,300 undergraduates each in Business, Communication, Liberal Arts, Nursing and Allied Health Sciences, and Science and Engineering. Fine Arts and Education have smaller enrollments.[1] As librarians at TCU, we wanted to learn more from the faculty to better understand which research skills they perceive to be most important for undergraduate students to possess and further understand their perceptions of students' aptitudes related to those skills. This study will inform our information literacy programming and may open up collaborations with faculty members as we identify new approaches to improve undergraduate research skills.

The term *information literacy* (IL) was coined by Paul Zurkowski in 1974.[2] Since that time, IL has increasingly been a staple component of academic libraries. Its emphasis has evolved and broadened over the years from focusing on basic skills, such as finding information, to including concepts like topic selection, evaluating sources, and understanding ethical use of information.

The methods of instruction have also evolved over the years and can vary depending on the situation. Librarians have used a plethora of methods, including but not limited to one-shot instruction sessions, library tours, scavenger hunts, and being embedded into course management systems (CMS). Regardless of the method, it can be difficult for librarians to fully understand how well students learn and practice research skills and how their competency compares to faculty expectations. Librarians sometimes have discussions with faculty members about assignments or gaps in research skills; however, these discussions are often quick, happen via e-mail, and only scratch the surface of what the faculty members believe is missing in their students' skillsets.

LITERATURE REVIEW

Academic librarians have long been interested in the definition and dimensions of information literacy. In 2000, the Association of College and Research Libraries (ACRL) published the *Information Literacy Competency Standards for Higher Education,* which defined IL as the ability to recognize when information is needed and then find, evaluate, and use information effectively.[3] In 2016, the ACRL adopted the *Framework for Information Literacy for Higher Education,* which recognized that in a rapidly changing information and educational environment, the concept of IL had become a more complex, interconnected set of ideas. The Framework encourages librarians and faculty members to collaborate more effectively on assignments and to connect student-learning outcomes with IL concepts.[4] These IL concepts provide a basis for many library instruction classes. However, better overall curriculum integration and scaffolding require faculty support and an understanding of how these skills are transferable across departments and fields of research.

Models of Information Searching Behaviors

Librarians are also interested in information searching behaviors and how these behaviors relate to the learning process. Understanding how users look for and use resources informs the way librarians interact with students either in a classroom or in a one-on-one setting. Several models of information searching behaviors exist in the literature. Carol Kuhlthau's classic Information Search Process model focuses on three components: the affective, the cognitive, and the physical aspects of information searching. Students move through six stages from "initiation" to "presentation" as they complete research assignments. The point of intervention by a librarian should be at the student's highest level of uncertainty.[5] Christine Bruce's *Seven Faces of Information Literacy* claims that IL "may be described as a complex of the different ways in which it appears to people/is seen, experienced or understood."[6] Each "face" consists of elements of information technology, information use, and one of seven unique elements such as information sources or information control.[7] Eisenberg and Berkowitz developed the Big6 Model, which takes a systematic approach to information problem-solving at any stage of life. The six stages each contain an information skill and technology skills, and together they form a process to help students learn problem solving. The stages are flexible, and it is not necessary to complete them in order; however, all must be completed to achieve success in information problem-solving.[8] These three models describe how students search for and make use of information, as well as the cognitive processes involved in this activity. Librarians who are familiar with basic models of information seeking behaviors can design instruction that considers both student behavior and the skills to be taught.

Faculty Views of Information Literacy

Studies show that when faculty members are asked about the importance of IL skills, they generally agree that these skills are valuable and that students should possess them by the time they graduate. Eleonora Dubicki found that faculty members were familiar with IL concepts and incorporated them into student learning outcomes. Faculty members thought that ACRL Standard 3, which refers to evaluating information and its sources critically, was the most important standard skill to possess. However, faculty member perception was that students did not master IL skills by graduation. Faculty perceived students to be most skilled at identifying an information need and least skilled at "evaluating and critically assessing the information."[9] Jonathan Cope and Jesús Sanabria interviewed faculty members about their notions of IL and found that faculty had addressed basic literacies with students, especially literacies that related to skills such as reading comprehension, vocabulary, and writing. The interviews also revealed that the notion of IL was not influenced by discipline.[10] Keith Stanger surveyed psychology faculty about the importance of ACRL's psychology IL performance indicators being part of the curriculum and found that ten out of the eleven indicators (ranging from need for information to communicating research effectively) were of great or very great importance.[11] Laura Saunders also concluded that "faculty members overwhelmingly believe that information literacy is important for their students."[12] Yevelson-Shorsher and Bronstein's interviews with faculty revealed that faculty members were aware of the obstacles students face when accessing and using information, and faculty understood the significance of developing IL skills.[13]

Faculty Views of Student Research Skills

Multiple studies surveying university faculty show that they think their students do not have well-developed research skills; however, faculty members see some improvement from freshmen to more advanced students. A faculty survey conducted by Patricia Meer, Maria Perez-Stable, and Dianna Sachs showed that faculty members rated their undergraduate students' ability to find information via library resources or the internet as below satisfactory. Juniors and seniors showed some improvement in using the internet yet remained below satisfactory in using library resources.[14] Sophie Bury's survey revealed that faculty members perceived a gradual improvement in IL competencies from freshmen to graduate-level students' research work. She also noted that "students rely too much on the free Web for information, a behaviour pattern that is compounded by students' overreliance on Google. It is challenging to get students to move beyond this."[15] In 2016, Bury found that students' critical thinking skills, source evaluation, and topic formulation skills were all main concerns for faculty.[16] Shelley Gullikson determined that understanding plagiarism, reading comprehension, and critical thinking were among the highest rated desired outcomes.[17] The *2015 Ithaka S+R US Faculty Survey* indicated that "fifty-four percent of respondents strongly agreed that their undergraduate students have 'poor skills related to locating and evaluating scholarly information.'"[18] Heather Perry's semi-structured interviews with faculty found that the two main areas where student research skills fell short were selecting appropriate or sufficiently rigorous materials and differentiating primary and secondary sources.[19]

Collaborative Teaching Relationships

Research suggests some disagreement on who should be responsible for teaching IL skills and when they should be taught. Wu and Kendall discovered that business faculty members had expectations of students developing library research skills and an awareness of issues of plagiarism. Faculty also indicated that the two main requests they have of librarians are to conduct an overall orientation to library resources and to provide the necessary tools for research.[20] Gullikson listed student learning outcomes that librarians were responsible for teaching, including topic exploration, describing information needs, source evaluation, and appropriate citation.[21] Gloria Leckie and Anne Fullerton found that many faculty members were teaching various aspects of IL and critical thinking skills in their classes yet had not taken advantage of library instructional services.[22] Saunders did not find a clear answer to the question of who should be responsible for teaching IL concepts.[23] William Badke reviewed the many barriers librarians encounter when attempting to share teaching responsibilities with faculty.[24]

Faculty members' perceptions of the librarian's role in instruction has evolved in the last thirty years. In 1987, Gaby Divay, Ada Ducas and Nicole Michaud-Oystryk found that helping with research and providing information about changes in the library were the top two most important functions of a librarian, while assistance in teaching was ranked lower. They also found that faculty members had low expectations of librarians and had a general lack of knowledge of the librarian's responsibilities.[25] In 2004, Ducas and Michaud-Oystryk surveyed librarians who reported that faculty members looked to them for collection development, information services, technology, and lastly as a teaching entity.[26] In 2011, Bury conducted semi-structured interviews with faculty and found that while many faculty members had relied on librarians to teach how to access information, still about eighty percent of them had chosen to teach IL skills themselves.[27] In 2012, Stanger asked faculty about the importance of collaboration with a librarian to support IL indicators and found that the only area where the support of a librarian was considered great or very great was in designing and implementing search strategies.[28]

Between the *2012 Ithaka Survey* and the corresponding 2015 survey, there was a significant upward trend of faculty members' perceived importance of the library's role in undergraduate student research support.[29] This increase was seen across subject disciplines. The upward trend leveled out in the 2018 survey.[30] The *2015 Ithaka Survey* indicated that faculty members were in agreement that "undergraduate students have poor skills related to locating and evaluating scholarly information and, thus, are in need of improved research, critical analysis, and information literacy skills."[31] The 2018 survey showed similar findings in this area.[32] After reading the *Ithaka Surveys* and other research, we concluded that additional research is needed in relation to undergraduate research skills.

METHODOLOGY

The primary objectives of this study are as follows:

- Determine if there is a core set of research skills that faculty members expect students to have.
- Better understand TCU faculty expectations and perceptions of undergraduate students' research skills.
- Develop better collaborative teaching relationships and information literacy initiatives.

Focus Groups

To fulfill these objectives, we decided to hold focus groups with faculty teaching undergraduate students at TCU. This research project was approved by the TCU Institutional Review Board (IRB). To recruit participants for the study, we sent an e-mail to all TCU faculty members and also advertised the study via a university announcement website. These recruitment efforts occurred approximately three weeks before the first focus group.

Ultimately, 21 out of 1,031 (641 full-time and 390 part-time) faculty members who teach undergraduates participated in the focus groups (see table 1).[33] The three focus groups included six, seven, and eight faculty members, respectively, and occurred in November 2016. We assigned each interested faculty member to a specific focus group based on the faculty member's availability. If the participant was available for more than one timeslot, then we assigned the participant to the group that would result in the broadest subject distribution within each group. Each of the three focus groups contained participants from multiple departments on campus representing a range of ranks.

To prevent any bias, a moderator unaffiliated with the university conducted each focus group. He was selected because he holds both a JD and a PhD in anthropology and has taught at the university level. Additionally, he has

Table 1. Focus groups: faculty rank and subject discipline distribution

Rank	**# of participants**
Professor	6
Associate professor	4
Assistant professor	7
Instructor	2
Assistant instructor	1
Adjunct professor	1
Discipline	**# of participants**
Liberal Arts	7
Science & Engineering	7
Fine Arts	3
Nursing & Health Sciences	3
Communication	1

extensive professional training in focus group moderation and has facilitated focus groups and ideation sessions for universities. In preparation for the focus groups, we prepared a written guide (see appendix A) of several questions for the moderator to ask. After a brief introduction, the written guide suggested 20 minutes of questions about the role of student research in the course curriculum, 25 minutes of questions about expectations and perceptions of student research skills, 15 minutes on tools for developing student research skills, and a short brainstorming session. The focus groups concluded with a brief moderator-led wrap-up.

During the focus groups, the moderator could ask other related questions and lead the discussion as he saw fit. We viewed the focus groups via a one-way mirror and recorded the audio of the sessions. Afterwards, we transcribed the recordings. We separated out each focus group comment and then organized all comments into themes based on our original research questions and other topics.

Survey

After processing all data from the focus groups, we decided to explore the research issues further and especially wanted additional information about faculty perceptions and expectations of undergraduate student skills. To accomplish this, we implemented a survey using Qualtrics (see appendix B). We gained approval from the IRB to create the survey and then performed a pilot with a group of three faculty members. In October 2017, we sent the survey via e-mail to all 669 full-time and 351 part-time faculty members with a two-week completion deadline.[34] Each faculty member who completed the survey was eligible to enter a random drawing for a prize. Altogether, 100 faculty members participated in the survey. The first question asked the participants whether they teach undergraduate students, and the survey ended immediately for those who answered "No." There were 91 participants who answered "Yes," and those persons continued with the remainder of the survey.

The survey contained both multiple-choice and open-ended response questions. For each multiple-choice question, we randomized the order of the answer choices; however, when the same choices were presented for consecutive questions, we kept the same order for that participant. We were particularly interested in breaking down faculty responses into their perceptions of upper-level (junior/senior) and lower-level (freshman/sophomore) student groups and tailored some questions to target this distinction. Because participants were free to skip most questions or exit the survey at any time, the number of responses varied from question to question.

We used knowledge gained from the focus groups in constructing the questions. More specifically, after coding the focus group transcripts, we identified several frequently mentioned research skills, which became the basis of several questions at the heart of the survey. We also asked a number of questions that served to classify the participants' responses. Based on their answers to these questions, other questions displayed to certain participants. After the survey deadline, we coded the data received from the open-ended survey questions and began to analyze all the data to identify important trends and other findings.

FINDINGS

Core Research Skills Identified by Faculty Members

Based on the most frequent responses from the faculty focus groups, we identified several student skills related to research. We organized these into categories. We will call these the nine core skills for the remainder of this study. We used these skills as the basis for many of the survey questions. The nine core skills (see appendix C) are as follows:

- Topic selection
- Search strategy
- Finding resources
- Differentiating source types
- Evaluating sources
- Synthesizing information
- Summarizing information
- Citing sources
- Reading and understanding citations

Additional Skills

In addition to the nine core skills used for the survey, focus group participants mentioned other skills, both directly related to research and not. For example, focus group participants mentioned critical thinking. We considered including this in our core group of skills for the survey; however, given that critical thinking " is a highly contentious skill in that researchers debate about its definition; its amenability to assessment; its degree of generality or specificity; and the evidence of its practical impact," we decided not to include it.[35] Some faculty members mentioned confirmation bias but not enough to merit inclusion in the core group of skills for the survey. Other skills that one or two focus group participants mentioned included reading skills, writing skills, time management skills, and work ethic. We did not include these in our final core skill set because they were rarely mentioned, and most of these might be better described as life skills or study skills.

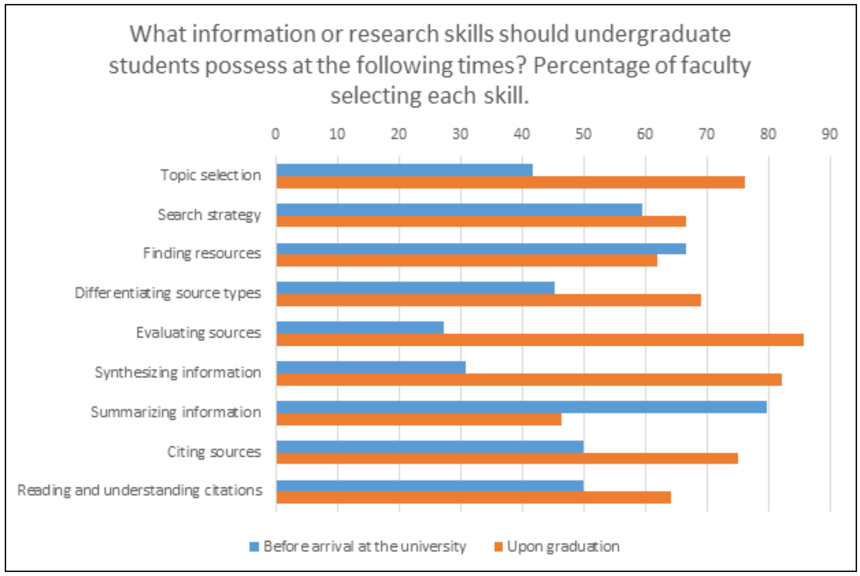

Figure 1. Faculty expectations of information skills before arrival at college and at time of graduation

Faculty Perceptions and Expectations of Student Skills

We presented several survey questions that related to faculty perceptions and expectations of students' research and information skills. We asked which of the nine core skills they expect students to possess at the beginning and end of their undergraduate college career (see figure 1). Of the 84 participants that responded to this question, a majority expect incoming students to possess these three skills: summarizing information (80%), finding resources (67%), and search strategy (60%). Upon graduation, a majority of faculty members expect that students will possess eight of the nine skills examined in this study. The only core skill not selected by a majority of faculty was summarizing information (46%). This actually represents a decrease in faculty expectations for student skills and might indicate some confusion by survey participants. The highest scoring skills selected by faculty for the graduation timeframe were evaluating sources (86%) and synthesizing information (82%).

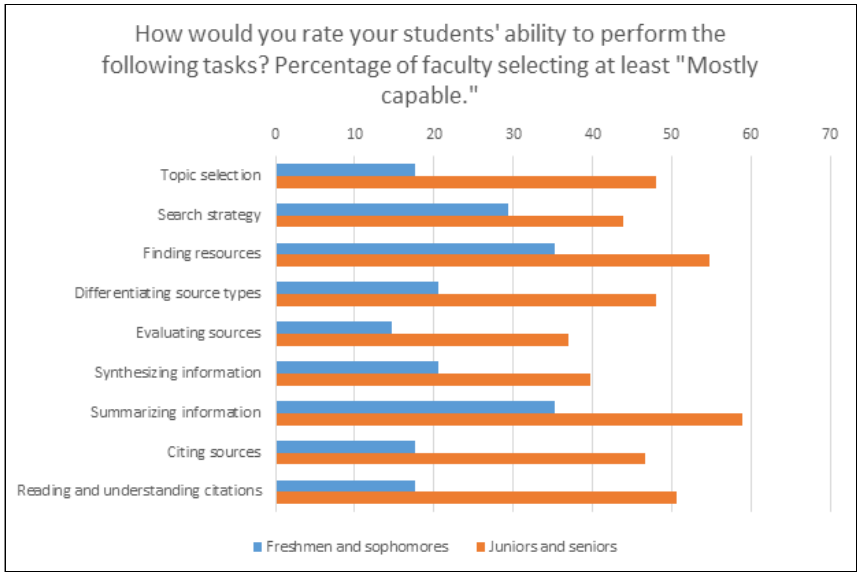

Figure 2. Faculty rating of students' ability to perform tasks

We asked faculty to rate their students' abilities to perform the nine core skills. We asked this separately for lower-level and upper-level students (see figure 2). The question for each level was only asked of those faculty members who indicated that they teach students at that particular level. Using a Likert-type scale, faculty members could select one of five possible responses ranging from "Completely capable" to "Not at all capable." For participants who responded about lower-level students (n=34), there was a tie for the highest rated skill between finding resources and summarizing information (35.3%), based on the summation of the number of completely capable and mostly capable responses. Using the same basis, the lowest rated skill was evaluating sources (15%). For participants who answered about upper-level students (n=73), summarizing information was the highest rated skill (59%). The lowest continued to be evaluating sources (37%).

We also included an open-ended text box question asking which research skills are most lacking among undergraduate students. After we coded the responses (n=87) into categories, we found that the most common responses mentioned the following topics: evaluating sources (30%), critical thinking (29%), and finding resources (26%). One

Table 2. Number of faculty selecting option shown when asked "In your opinion, who should have primary responsibility for teaching these research skills?"

Skill	Professor	Librarian	Joint effort (Professor-Librarian)	Student self-teach
Topic selection/formation and scope	51	1	24	4
Search strategy	3	32	36	9
Finding resources online/in print	3	30	42	5
Differentiating source types	20	10	45	5
Evaluating sources	27	3	48	2
Synthesizing information	59	0	7	14
Summarizing information	49	0	8	23
Citing sources	34	4	31	11
Reading and understanding citations	22	9	37	12

salient quote was "Actually reading material, processing it, and thinking critically about it is something most undergrads don't seem to know how to do."

In the focus groups, faculty members perceived students as not understanding the bigger picture or why they are learning a concept. Faculty members also mentioned the idea of students often being motivated by grades more than learning. One faculty member commented that "the mindset of the student is to finish the assignment . . . as opposed to 'I'm going to learn about this area.'" We also heard from faculty that students want to do research assignments backward. For example, some students draw their conclusions first and then look for research to support their conclusion, as opposed to researching a topic and drawing a conclusion organically.

Collaborative Teaching Relationships and Information Literacy

We asked faculty to identify who should have the primary responsibility to teach the nine core skills, and 80 responded to this question (see table 2). None of the skills received a majority of responses for librarian alone as the primary party to teach a skill. The highest percentage that librarian attained for any one skill was 40 percent for search strategy, followed by 38 percent for finding resources. When the responses for librarian and joint effort were added together, finding resources (90%) was selected the most, followed by search strategy (85%).

We then asked a related question. For those skills where the participant selected either librarian or joint effort, we asked faculty what would be the best way for a librarian to teach those skills. This multiple-choice question had five responses plus an "Other" choice. Of the 77 faculty members who answered this question, the most frequently selected response was inviting a librarian to the professor's class to work on a particular assignment or skill (26%).

We asked survey participants whether they had invited a librarian to their classes, and of the 79 faculty members that responded to this question, 59 percent had. For those who answered "Yes," we gave a follow-up question with a text box, asking what aspect was the most beneficial within the instruction session. We received many answers, but the most common themes were having an opportunity to meet the librarian face-to-face and learning about library resources. On this topic in the focus groups, one faculty member mentioned that "the greatest thing [the librarian] does is give them a name, a face, and a sense of approachability." Another said that the librarian possessed "expertise that I don't have…I know how to do research, but I don't know how to teach it effectively in a 50- or 80-minute class." Some faculty members even mentioned that they themselves learned from the librarian about new resources or specific aspects of searching different databases during these sessions.

Similarly, for survey participants that answered "No" (41%) to the above question, we asked what was preventing them from using library instruction. We gave two possible responses, which were "I was not aware of this service" and "Other" with a text box. Nearly half indicated that they were not aware of this service. The "Other" responses included time constraints and not considering library instruction to be pertinent to their particular class. On this topic in the focus groups, faculty members mentioned a scarcity of class time being a reason that they did not invite a librarian to class. Faculty members also mentioned that in some cases, they wished to teach the content themselves. In addition, there was also a concern about repeated content in library instruction over a student's career.

We then asked faculty how the library can help improve student research skills to better meet faculty expectations. This was a free-form text box, and we received a wide variety of answers (*n*=78). The most common two suggestions from the faculty survey were for librarians to teach research skills such as finding, evaluating, and citing sources and to have online tutorials and webinars. The third-most mentioned suggestion was having one-on-one consultations. In the focus groups, some suggestions that faculty members offered were to increase the presence of librarians in departmental buildings, to use librarians more in introductory classes, and to include librarians at faculty orientation events. In the focus group brainstorming exercise, the participants indicated that it was important to integrate librarians at all levels of the student's college career.

Table 3. Crosswalk between the nine core skills and ACRL *Framework* frames

Nine core research skills	*Framework* frames
Topic selection	Information creation as a process Research as inquiry Searching as strategic exploration
Search strategy	Searching as strategic exploration
Finding sources	Searching as strategic exploration
Differentiating source types	Authority is constructed and contextual Searching as strategic exploration
Evaluating sources	Authority is constructed and contextual Searching as strategic exploration Scholarship as conversation
Synthesizing information	Research as inquiry
Summarizing information	Research as inquiry Scholarship as conversation
Citing sources	Information has value Scholarship as conversation
Reading and understanding citations	Searching as strategic exploration

DISCUSSION

Implications for Our IL Program

The survey results established that faculty members viewed themselves as having the primary role in teaching most of these skills. We were encouraged to see the high number of faculty members who see librarians as having at least some role in teaching almost all of the nine core skills. However, it is discouraging that a large number of faculty members remain unaware of the availability and capability of librarians to teach information skills. Perhaps we need to reconsider our marketing strategies related to IL instruction. We are pleased that those faculty members who do use IL instruction from librarians are highly appreciative of the librarians and their capabilities.

Furthermore, the fact that faculty mentioned having an issue with repeated content in library instruction over the course of a student's career may lead us to consider structural changes in the way we teach these skills. How might we integrate and scaffold library instruction into the overall undergraduate curriculum in such a way that all students will learn this important information, yet not have a high level of repetition?

Scaffolding Skills

Many studies have shown that faculty members generally agree on the importance of IL skills.[36] Our findings also demonstrate this disposition. In the survey, faculty members see progress from freshmen/sophomore to junior/senior level students' research skills in all nine core skill areas. When asked about how a student's ability to find information grows over time, one of our focus group participants stated, "Not just [the] ability to find, but ability to know what is quality information!" Examining these findings, a librarian or a faculty member can gain an understanding of which skills an undergraduate student develops at which times during their years in college. This can guide the development of an instruction session or assignment related to IL. In a larger sense, this can lead to the development of a scaffolded series of assignments, IL sessions, or courses over a four-year undergraduate curriculum. We hope that this leads to conversations between librarians and faculty about how best to engage in curriculum planning.

Relationship with the ACRL Framework

Looking at ACRL's *Framework for Information Literacy for Higher Education*, we were able to produce a crosswalk (see table 3) between the nine core skills and the six frames that the Framework outlines to assist librarians with creating more cohesive IL curricula.[37] When we aligned the nine core skills with the Framework, we also noticed that several of the nine core skills fall into more than one frame, which is expected given the frames' inter-relational nature. On the flipside, we concluded that all Framework frames are covered by the nine core skills.

Comparisons to the Literature

The 2013 Dubicki study indicates that faculty perceive "evaluating and critically assessing the information" to be the most important IL skill.[38] Our study concurs with Dubicki, showing that evaluating sources is the skill that faculty expect at the highest level for students at graduation. When asked about the actual student skill level, Dubicki finds "evaluating and critically assessing the information" to be the weakest of the skills students possess.[39] Our study agrees in regards to faculty perceptions of evaluating sources for both upper-level and lower-level students.

We also noticed a concurrence with the 2012 Stanger article. The Stanger study showed that faculty valued the librarian most when designing and implementing search strategies.[40] In our study, faculty perceived search strategy to be the skill for which librarians should have the highest primary responsibility.

Limitations

For both the focus groups and survey, faculty members at TCU could choose whether to participate. This self-selection may have produced a biased sample, including bias by subject discipline and pre-existing attitudes or behaviors related to the library and specific library staff. Additionally, it is possible that some faculty members participated in both the focus group and the survey.

CONCLUSIONS

The research presented in this paper used focus group transcript analysis to identify a set of nine core skills critical to the research process that faculty members at TCU expect students to master. The follow-up anonymous survey provided insight that our students are improving in these skills over the course of their college career but do not necessarily attain full mastery as upper-level (junior/senior) students.

Our work demonstrated that faculty members talk about the important components of the research process with a vocabulary that is different from the terms used in the Framework. However, as shown by the mapping of the skills to the various frames, the underlying concepts and abilities are the same. In marketing our services to faculty, we should be cognizant of this difference in language.

An additional takeaway from this study is motivation to increase the avenues through which librarians have contact with faculty and students. This may benefit IL, reference, and other duties common to subject liaison librarians. For example, we hope to have an increased presence in departmental buildings. Another example is the need for an increased presence in our university's course management system. Our increased visibility in the CMS could be an early foundational step towards constructing a comprehensive IL online course.

Mastery of the skills involved in exploring a problem and potential solutions to that problem is a critical life skill. In today's "information overload" environment, the library continues to have a key role in helping students develop this foundational capability. Well-educated students can become life-long learners, contributing to their community and society in general.

We currently have a committee reviewing the data from the study to identify gaps between the library's current practices and faculty expectations. This committee will ultimately make recommendations for programmatic changes. We also recognize that additional directions for further research include understanding library-related or library-adjacent skills such as critical reading or writing. Lastly, we conclude that there are great opportunities to explore the nine core skills in greater detail, including understanding how faculty and students in various subject disciplines differ in their attitudes and behaviors with respect to each of the skills.

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APPENDIX A. FOCUS GROUP QUESTIONS

Objectives

1. Better understand TCU faculty expectations for and perceptions of undergraduate students' research skills.
2. Determine if there is a core set of research skills that faculty members expect students to have.
3. Develop better collaborative teaching relationships and information literacy initiatives.

I. Introduction: 5 min

- Thank you for joining us today. My name is Chris McCollum, and I am an independent moderator. You're here because TCU Library needs your help in better understanding the research skills of **undergraduate** students so that they, the library, can better meet your needs and expectations.
- For our discussion today, let's steer away from the topic of *empirical* research, but otherwise, I'd like you to talk about whatever comes to mind when you think of "student research."
- As we move through our discussion, we will talk about the role that undergraduate research skills play in your classes, as well as the strengths/weaknesses that you perceive in these skills.
- As we share ideas, remember that we are interested in gathering a wide range of opinions (both positive and negative) and are NOT trying to achieve consensus.
- Very important that we turn of cell phones, speak one at a time, avoid side conversations, and have fun!
- Collect homework
- Please write your first name at the top of your pad of paper. You can use this to write down any thoughts you have that you didn't get a chance to share with group.
- Any questions before we get started?

Let's start with an introduction so that we can get to know each other a little better:

- Tell us:
  - Name/department/weekend for fun

II. Role of Student Research in Curriculum: 20 min

1. How often do you use research assignments in your undergraduate classes? (PROBE: reasons for using or not)
   - How does this differ, if at all from when you first started teaching?

2. What types of research assignments do you use?
   - How do you decide on a topic? (PROBE: Personal interest? Student interest? Other?)
   - What type(s) of research assignments do you avoid using, and why?
   - To what extent do you consider the level of students (upperclassmen vs. underclassmen) when deciding to use a particular research assignment?
     - How (if at all) do you vary research assignments based on level?

- Which type(s) of assignments work well with first year students?
- Which type(s) work well with upperclassmen?

3. Describe a typical assignment (PROBE: how structured—components/steps/scaffolding)
   - Do you research topic beforehand?
   - Do you specify which resources students should and/or should not use? (List resources and probe reasons for encouraging/discouraging use)
   - To what extent do you check/verify citations? (PROBE: frequency and methods)

4. What skills or knowledge do you hope students will learn from your research assignments? (List on whiteboard)
   - How do your assignments help students develop each of these skills? (PROBE: which components/steps teach which skills?)

III. Expectations for, and Perceptions of Students' Research Skills: 25 min

5. Overall, how well do your undergraduate students conduct research? (PROBE: underclassmen vs. upperclassmen)
   - What impresses you about your students' research skills? (PROBE: what skills they perform well)
   - What frustrates you about your students' research skills? (PROBE: what skills they are lacking)
     - What are some obstacles/challenges your students face when conducting research?
   - How well do they understand the difference between resources, such as magazine vs. newspaper vs. journal?
   - How have your students' research skills changed over the years?

6. How would you rate your students' ability to find quality information—scale of 1 to 10? (1 is poor and 10 is excellent; go around and mark each participant's score)
   - Reasons for rating high or low
   - What does the "quality information" mean to you?

7. How would you rate your students' ability to evaluate the reliability/credibility of resources—scale of 1 to 10? (1 is poor and 10 is excellent; go around and mark each participant's score)
   - Reasons for rating high or low

8. What research skills do you expect students to have when they arrive at TCU as first years? (List on whiteboard)
   - How successfully do your first-year students demonstrate these skills? (PROBE expectation/performance gap)
     - Which skill is <u>most</u> essential to learn before they arrive at TCU?
   - Which research concepts are the most challenging for your first years to learn and understand?

9. What research skills do you expect TCU students to develop by the time they graduate? (List on whiteboard)
   - How successfully do your seniors demonstrate these research skills? (PROBE expectation/performance gap)
     - Which skill is most essential for students to learn before they leave TCU?
   - Which research concepts are challenging for even your seniors to learn and understand?

IV. Tools for Developing Research Skills: 15 min

10. To what extent do you teach specific research method(s) to your students? (PROBE: specific methods/techniques)
    - Which classes/students?
    - How successful is this approach in developing your students' research skills? (PROBE: which skills)

11. How often do you direct your students to specific library resources?
    - Which resources?
    - Which classes/students?
    - How successful is this approach in developing your students' research skills? (PROBE: which skills)

12. How, if at all do you use librarians to teach research skills to your students?
    - Reasons for using librarian? (PROBE: benefits, enablers)
    - Reasons for not using librarian? (PROBE: obstacles, drawbacks)

13. Which research skills, if any, do you believe you, as a professor, should directly teach your students?
14. Which research skills, if any, do you believe a librarian should be responsible for teaching your students?
15. Which research skills, if any, do you believe students should be responsible for teaching themselves?

V. Brainstorm: How to Improve Students' Research Skills: 5 min

16. Write down (on your pad of paper) as many ideas as you can for ways to improve undergraduate research skills. This is a "brain dump" exercise— so don't worry about whether an idea is realistic or practical, or even a "good" idea. I will only give you two minutes for this first stage—GO! (2 min) (Moderator goes around and encourages/assists individuals as necessary)
17. STOP! Now, go through your ideas and select your BEST idea and circle it on the page. (1 min)
18. Who had an idea he/she would like to share with the group. (3 min)

APPENDIX B. FACULTY LIBRARY INSTRUCTION SURVEY

[Author note: The appearance of some questions was dependent on the answers to prior questions in the survey.]

Thank you for participating in this survey about Faculty Expectations and Perceptions of Undergraduate Students' Research Skills. The survey is anonymous and will take approximately 10 minutes to complete. Taking part in this survey is completely voluntary. Clicking the "Next" button indicates your consent to participate. You may choose to terminate the survey before completing it without any adverse effects. If you have any questions about this survey, please contact Boglarka Huddleston, principal investigator, at (817) 257-6063 or b.huddleston@tcu.edu. After completing the survey, you will have a chance to enter a drawing for a gift basket. Any personal information gathered for the drawing will be kept separately from the survey; your response will not be connected to your answers to the survey questions.
(Next)

For the purpose of this survey, the definition of "**research**" is as follows: An investigation or experimentation aimed at the discovery and interpretation of facts, e.g., collecting information about a particular subject; completing a literature review; using the internet, databases and other library resources to find articles to support an argument; etc.

Do you teach undergraduate classes?
( ) Yes ( ) No

Do you include a research assignment in any of your classes?
Freshman/Sophomore: ( ) Yes ( ) No ( ) Not Applicable
Junior/Senior: ( ) Yes ( ) No ( ) Not Applicable

What is the **main** reason you include a research assignment?
( ) It teaches critical thinking
( ) Students learn more about the topic
( ) Helps to integrate student learning
( ) Students discover something new
( ) Other, please specify ____

What is the **main** reason you do not include a research assignment?
( ) Time constraints
( ) Subject does not lend itself to research-type assignment
( ) Trying to navigate research resources is too complicated (for students)
( ) Students do not know how to do research
( ) Other, please specify ____

What one **essential** information/research skill is most deficient among undergraduate students? ____________________
What information or research skills should undergraduate students possess at the following times? Please mark all that apply.

	Before arrival at TCU	Upon graduation from TCU
Topic selection/formation and scope (narrowing, broadening)	( )	( )
Search strategy (keywords, combining keywords, etc.)	( )	( )
Finding resources online/in print	( )	( )
Differentiating among types of sources (primary, secondary, etc.)	( )	( )
Evaluating sources (credibility, reliability, etc.)	( )	( )
Synthesizing information	( )	( )
Summarizing information	( )	( )
Properly citing sources	( )	( )
Reading and understanding citations	( )	( )

What other information or research skills are important for students to learn?
____

How would you rate your **freshmen/sophomore** students' ability to perform the following research tasks?

	Completely capable	Mostly capable	Somewhat capable	Minimally capable	Not at all capable
Topic selection/formation and scope (narrowing, broadening)	( )	( )	( )	( )	( )
Search strategy (keywords, combining keywords, etc.)	( )	( )	( )	( )	( )
Finding resources online/in print	( )	( )	( )	( )	( )
Differentiating among types of sources (primary, secondary, etc.)	( )	( )	( )	( )	( )
Evaluating sources (credibility, reliability, etc.)	( )	( )	( )	( )	( )
Synthesizing information	( )	( )	( )	( )	( )
Summarizing information	( )	( )	( )	( )	( )
Properly citing sources	( )	( )	( )	( )	( )
Reading and understanding citations	( )	( )	( )	( )	( )

How would you rate your **junior/senior** students' ability to perform the following research tasks?

	Completely capable	Mostly capable	Somewhat capable	Minimally capable	Not at all capable
Topic selection/formation and scope (narrowing, broadening)	( )	( )	( )	( )	( )
Search strategy (keywords, combining keywords, etc.)	( )	( )	( )	( )	( )
Finding resources online/in print	( )	( )	( )	( )	( )
Differentiating among types of sources (primary, secondary, etc.)	( )	( )	( )	( )	( )
Evaluating sources (credibility, reliability, etc.)	( )	( )	( )	( )	( )
Synthesizing information	( )	( )	( )	( )	( )
Summarizing information	( )	( )	( )	( )	( )
Properly citing sources	( )	( )	( )	( )	( )
Reading and understanding citations	( )	( )	( )	( )	( )

In your opinion, who should have primary responsibility for teaching these research skills?

	Professor	Librarian	Joint effort (Professor-Librarian)	Student self-teach (Independent development)
Topic selection/formation and scope (narrowing, broadening)	( )	( )	( )	( )
Search strategy (keywords, combining keywords, etc.)	( )	( )	( )	( )
Finding resources online/in print	( )	( )	( )	( )
Differentiating among types of sources (primary, secondary, etc.)	( )	( )	( )	( )
Evaluating sources (credibility, reliability, etc.)	( )	( )	( )	( )
Synthesizing information	( )	( )	( )	( )
Summarizing information	( )	( )	( )	( )
Properly citing sources	( )	( )	( )	( )
Reading and understanding citations	( )	( )	( )	( )

For the skills that you selected “librarian” or “joint” on the previous question, what is the best way for a librarian to teach those skills?
( ) Librarian teaches as part of basic-level class (e.g., English comp)
( ) Create a for-credit course on research skills/information literacy
( ) Professor invites librarian to class to work on a particular assignment/skill
( ) Librarian-developed web-based tutorial
( ) Individual librarian-student consultation
( ) Other ways librarians can teach these skills: ____

In the past, have you invited a librarian into your class to teach research skills to students?
( ) Yes ( ) No

What was the most beneficial aspect of this instruction session?
____

What’s preventing you from using library instruction?
( ) I was not aware of this service.
( ) Other, please specify: ____

How can the library help improve student research skills to better meet your expectations? Please include as much detail as possible:
____
____
____
____
____

APPENDIX C. ABBREVIATED SKILL NAMES

This table provides clarification on referring to the nine core skills in this document. The left-hand column shows how the nine core skills appeared in the faculty survey; the right-hand column shows how the nine core skills are referenced throughout this article.

Faculty survey	Article
Topic selection/formation and scope (narrowing, broadening)	Topic selection
Search strategy (keywords, combining keyword, etc.)	Search strategy
Finding resources online/in print	Finding resources
Differentiating among types of sources (primary, secondary, etc.)	Differentiating source types
Evaluating sources (credibility, reliability, etc.)	Evaluating sources
Synthesizing information	Synthesizing information
Summarizing information	Summarizing information
Properly citing sources	Citing sources
Reading and understanding citations	Reading and understanding citations

Outstanding Business Reference Sources 2019

BRASS Business Information Sources Committee

BRASS Business Information Sources Committee contributing members: Ben Hall; Holly Inglis, nominations coordinator; Wendy Girven Pothier, selections editor; Lauren Reiter; and Kendra Spahr.

Correspondence concerning this column should be addressed to Wendy Girven Pothier, Business Librarian, Dimond Library, University of New Hampshire, Durham, New Hampshire, USA; email: wendy.pothier@unh.edu

Each year, the Business Information Sources Committee of BRASS selects the outstanding business reference sources published since May of the previous year. This year, the committee reviewed fourteen entries; of these, one was designated as "Outstanding" and four as "Notable." To qualify for the award, the title must meet the conventional definition of reference: a work compiled specifically to supply information on a certain subject or group of subjects in a form that will facilitate its ease of use. The works are examined for the following: authority and reputation of the publisher, author, or editor; accuracy; appropriate bibliography; organization; comprehensiveness; value of the content; currency; distinctive addition; ease of use for the intended purpose; quality and accuracy of index; and quality and usefulness of graphics and illustrations. Additional criteria for electronic reference titles are accuracy of links, search features, stability of content, and graphic design. Works selected must be suitable for medium to large-size academic and public libraries.

OUTSTANDING

Economic Indicators for Professionals: Putting Statistics into Perspective. Charles Steindel. New York: Routledge, 2018. 222 p. Hardcover $150 (ISBN: 9781138559240). Contact publisher for e-book pricing (ISBN: 9780203712955).

Economic Indicators for Professionals: Putting Statistics into Perspective is a reference source that defines and delves into the important economic indicators used by the public, policymakers, economists, analysts, financial markets, and media. Drawing from years of experience as an economist, the author, Charles Steindel, describes different US economic numbers issued by the Bureau of Economic Analysis, Bureau of Labor Statistics, Census Bureau, and other agencies and organizations. Steindel expands beyond detailed explanations of the indicators to discuss how they fit into the larger picture. With this approach, the author has developed a reference book for professionals in business, policy, media, and other sectors; students; investors; and other individuals that would like to gain a better understanding of the US economy through data.

The volume's content is divided into sixteen chapters, each covering specific economic indicators, as well as an introduction and conclusion. The first chapter, which addresses GDP (gross domestic product), is the longest and most in-depth of all chapters. It addresses what GDP measures, why it is used, and how the data are produced. While this chapter does mention formulas used in the computation of aggregate GDP, the book does not focus on technical descriptions, and they are limited throughout the rest of the text. The following several chapters are shorter in length and expand the discussion of GDP by breaking down its components, including consumer spending, inventory investment, imports and exports, and government spending. In these chapters, Steindel explains the data used to construct estimates, suggest a path, and model that indicator, as well as any caveats. For example, he explains that while there is a lack of reliable data to indicate the path of consumer spending, there is an abundance of data that can be used for modeling, such as household income and personal savings rate. Additional indicators discussed in subsequent chapters include income and wealth, pricing, labor market, and state and regional data, rounding out a broad survey of important economic numbers.

The appendix of *Economic Indicators for Professionals: Putting Statistics into Perspective* features an overview of the major US datasets discussed in each chapter. This handy tool covers the dataset, issuer, shortest period references, and frequency of release. Other key features of the book include a high-quality index and significant notes and references at the end of each chapter.

What makes *Economic Indicators for Professionals: Putting Statistics into Perspective* outstanding is that it provides not only explanations of various US economic data but also the context that helps a reader better understand the data and the overall economy. While it is not overly technical, it would be most useful for patrons with some working knowledge of economics concepts. Overall, *Economic Indicators for Professionals: Putting Statistics into Perspective* is a practical, well-organized, and engaging reference source that would be a suitable addition to an academic, public, or special library collection.— *Lauren Reiter, Penn State University*

NOTABLE

The Cambridge Handbook of the Law of the Sharing Economy. Edited by Nestor M. Davidson, Michèle Finck, and John J. Infranca. Cambridge, UK: Cambridge University Press, 2018. 516 p. Hardcover $225 (ISBN: 9781108416955). $180 e-book (ISBN: 9781108271660).

The Cambridge Handbook of the Law of the Sharing Economy is a reference title that handles issues of the sharing economy and its impact on law, as well as how law shapes the sharing economy, a phenomenon that has risen globally over the past decade. The work features scholarly contributions from authors across the globe with diverse academic backgrounds.

The Handbook of the Law of the Sharing Economy is divided into two broad parts and contains a total of seven sections. The first part provides an overview and looks at the regulatory landscape of the sharing economy. The second part addresses specific regulatory concerns within the sharing economy. Both parts cover a wide range of legal jurisdictions, with an emphasis on the United States and the European Union, and a range of companies, both big and small, involved in the sharing economy. Within the two broad parts, sections on topics include an overview and definition of the sharing economy, balancing regulation and innovation, framing the regulatory response, determining who regulates the law and how, employment and labor law, tax law, and consumer protection and privacy law. Each section contains multiple chapters.

The Handbook of the Law of the Sharing Economy is a notable reference title for its groundbreaking content regarding the fast-moving world of regulation and the sharing economy and its wide-arching view of the phenomenon regarding the law. It would be appropriate for addition to an academic, public, or special library collection and will appeal to an audience of students and scholar from business, law, and interdisciplinary backgrounds.—*Wendy Girven Pothier, University of New Hampshire*

Handbook of Research Methods in Diversity Management, Equality and Inclusion at Work. Edited by Lize A. E. Booysen, Regine Bendl, and Judith K. Pringle. Cheltham, UK: Edward Elgar Publishing, 2018. 542 p. Hardcover $260 (ISBN: 9781783476077). Contact publisher for e-book pricing (ISBN: 9781783476084).

The *Handbook of Research Methods in Diversity Management, Equality and Inclusion at Work* focusses on the philosophical foundations, social and historical contexts, and set of practices associated with select research methodologies for equality, diversity, and inclusion (EDI) in management and organizations. In the introduction, the editors state that the book is intended to address the epistemological challenges of EDI research, offering new "methodological perspectives and analytic directions to advance empirical EDI research."

The edited volume contains twenty-two chapters, organized into three parts: "Research Dilemmas in EDI," "Methodology and Methods for Collecting EDI Material," and "Methods and Techniques for EDI Data Analysis." Chapters cover topics such as participatory action research, meta-analysis, autoethnography, grounded theory, and indigenous research. Each chapter provides an overview and discussion of a topic, specific examples of relevant empirical research, potential directions for future research, and a reference list. One of the strengths of the *Handbook* is that chapters integrate epistemological foundations and researcher positions with discussions about the advantages and weaknesses of applying different methods, methodologies, or types of analysis in the context of EDI research. For example, the chapter "Queering Quantitative Research" discusses queer theory as framework for analyzing normative categories, describes heteronormative assumptions in official statistical sources, and gives examples of the ways that organizations are designing surveys to collect more sophisticated and inclusive data.

Though the *Handbook* is oriented toward researchers in management and organizational studies, its contents could be informative for graduate students and faculty in a range of disciplines. This volume would be an excellent addition for most medium- to large-size academic libraries, especially those at institutions with entrepreneurship, organizational studies, management, human resources, or leadership programs.—*Kendra Spahr, Kansas State University*

The Oxford Handbook of Meaningful Work. Edited by Ruth Yeoman, Catherine Bailey, Adrian Madden, and Marc Thompson. Oxford, UK: Oxford University Press, 2019. 544 p. Hardcover $125 (ISBN: 9780198788232).

The Oxford Handbook of Meaningful Work provides an interdisciplinary examination of meaningful work in various contexts. Although it is primarily for the academic market, due to the limited material in this area, the scope of coverage may appeal to large public libraries as well in order to fill a collection gap or provide contemporary perspectives.

There are four sections and twenty-seven chapters within. The first two parts will largely be of interest to academic researchers and parts 3 and 4 have academic and broader appeal. Part 1 covers the Philosophy of Meaningful Work; part 2, the Processes of Meaningfulness; part 3, the Experience of Meaningful Work, and part 4 is about Contexts and Boundaries of Meaningful Work. The authors are primarily interdisciplinary scholars from academic institutions in the United States and the United Kingdom. A few of the authors are from various professions, including an organizational consultant and a nurse.

Coverage includes corporate social responsibility, globalization, family life, technological change, and a chapter on the meaningful city which includes civic work. The chapter on the third sector (voluntary or non-profit sector) includes social service, political activism,humanitarianism, and development. Chapter 17, "Does My Engagement Matter? Exploring the Relationship Between Employee Engagement and Meaningful Work in Theory and Practice," provides a succinct overview of the literature and practical examples for employers to use to engage employees instead of practices that repeatedly show poor results.

For electronic access, the index is problematic via the Oxford handbook platform in that it does not indent for subcategories, leaving it to appear as an out of alphabetical order list. It is properly indented in the print version. The electronic index does link directly to related material, saving users' time.—*Holly Inglis, University of Toronto*

The Palgrave Handbook of Wine Industry Economics. Edited by Adeline Alonso Ugaglia, Jean-Marie Cardebat, and Alessandro Corsi. Palgrave Macmillan, 2019. 542 p. Hardcover $169 (ISBN: 978-3319986326). Contact publisher for e-book pricing (ISBN: 9783319986333).

As with each of the Palgrave Handbooks, *The Palgrave Handbook of Wine Industry Economics* provides insights to key development questions. It also offers perhaps the most authoritative international economic comparison of wine industry sectors, regulations, and global business models.

Since globalization has changed the make-up of the international wine market over the last fifteen years, the editors ponder whether "different countries will follow a general convergence trend or if different models can and will coexist [in the wine industry] in the next years." What follows is a noteworthy outline which attempts to answer several specific questions: What are the favorable models of industrial organization in top wine-producing countries? And, what could the world of wine look like by 2030?

The *Handbook* is divided into five main parts. Part 1—the bulk of the handbook—identifies the wine industry supply chain and models of production relative to ten wine sectors worldwide. Adding structure, this part also contextualizes regional markets; for example, "In the Australian domestic market (where 35–40% of production is sold) . . . just two supermarket chains (Coles and Woolworths) account for the majority of domestic wine sales." Part 2 focuses on the influence of trade policies alongside the role of international organizations, such as the International Organization of Vine and Wine (OIV) and the World Wide Trade Group (WWTG). Finally, the concluding parts 3 through 5 provide case studies of relevant wine industry models (e.g., old and new wine worlds) and strategies (e.g., vertical integration), each governed according to national and international micro- and macroeconomic trends.

The Palgrave Handbook of Wine Industry Economics received contributions from economists in Europe, South and North America, Australia, South Africa and China. Although the strategy chapters would be most valuable for wine industry business professionals, the *Handbook's* depth of historical context and commentary on regional trends provide an excellent foundation for anyone who enjoys learning more about wine. This work is a noteworthy resource for inclusion in an academic library or agricultural resource collection. —*Benjamin Hall, Michigan State University*

Sources
Professional Materials

Calantha Tillotson, Editor

RUSQ considers for review reference books and professional materials of interest to reference and user services librarians. Serials and subscription titles normally are not reviewed unless a major change in purpose, scope, format, or audience has occurred. Reviews usually are three hundred to five hundred words in length. Views expressed are those of the reviewers and do not necessarily represent those of ALA. Please refer to standard directories for publishers' addresses.

Correspondence concerning these reviews should be addressed to "Professional Materials" editor, Calantha Tillotson, Instructional Services Librarian, East Central University; email: ctillotsn@ecok.edu.

Beyond Reality: Augmented, Virtual, and Mixed Reality in the Library. Edited by Kenneth J. Varnum. Chicago: ALA, 2019. 144 p. Paper $64.99 (ISBN 978-0-8389-1785-5).

As part of the democratization of information, libraries are expanding their offerings beyond knowledge-based resources into the realm of virtual reality. In *Beyond Reality,* Varnum produces nine unique chapters on augmented, virtual, and mixed realities (AR/VR/MR). Six of the chapters are university case studies, two are from public libraries, and the final chapter is from an intellectual property attorney. The selected case studies offer a variety of geographic locations and sizes, which will help match libraries considering pursuing AR/VR/MR programs.

One prominent theme from the case studies is funding. With library budgets tight, several chapters explain how libraries acquired necessary funds for starting virtual reality initiatives. For example, the University of Utah used student computing fees and university grant funding to purchase their VR tools, and Kutztown University created a dedicated line in the library's acquisition budget (p. 49, 59). In addition, the University of Oklahoma library administration recognizes the VR project "as critical to maintaining the OU Libraries' position as the technological and intellectual crossroads of the University," resulting in financial support for the VR efforts (p. 71).

A second theme from the case studies includes how librarians can support newly created virtual reality programs. For example, librarians at the University of St. Francis posit libraries should become experts on the intersection of augmented reality technologies and user privacy, crafting VR use policies which "align with current library policies regarding technology and user privacy" (p. 106). Additional library policies addressed include preventing theft of equipment, establishing time limits, and training staff (p. 10).

An additional theme addresses the imbedding of VR technologies in future library functions. Librarians at the University of Oklahoma see the possibility of libraries helping students to "develop spatial cognition skills" that will be required in many fields (p. 79). A librarian from Kutztown University pictures a student wearing a VR headset asking where to find books on Tchaikovsky and "the walls she sees will instantly fill with signs pointing her towards the ML410 shelves" (p. 66). Lastly, with book circulation on the decline, VR headsets can attract patrons back to the library, according to librarians at the University of Utah (p. 55).

I do wonder if a book was the best resource for sharing this content. A themed journal, as opposed to a book format, would have been a better option for indexing such diverse examples of AR/VR/MR, as librarians would find the content more discoverable. Nevertheless, it is encouraging to see how different libraries are using AR/VR/MR for their patrons, and if your library is considering an AR/VR/MR program, Varnum's book is a good starting point.—*Daniel G. Kipnis, Life Sciences Librarian, Rowan University, Glassboro, New Jersey*

The Fun of Motivation: Crossing the Threshold Concepts. By Mary Francis. Chicago: ACRL, 2017. 182 p. Paper $48.00 (ISBN 978-0-8389-8933-3).

When ACRL officially adopted the *Framework for Information Literacy for Higher Education* in 2016, fun was not a word many librarians would associate with this new Framework, as it required new ways of incorporating information literacy concepts and skills into library instruction sessions. Instead of strict standards, the Framework interconnects ideas and concepts about information, research, and scholarship that will allow the student, instructor, and librarian greater flexibility in developing new curricula.

The Fun of Motivation is a great resource to use for librarians considering, or in the process of, incorporating the Framework into their instruction sessions. Experienced instruction librarians revising the way they teach library instruction, as well as brand new instruction librarians, will find something helpful in *The Fun of Motivation*. This book helps librarians be deliberate in their teaching of the Framework's threshold concepts by incorporating engaging instruction techniques into their library instruction sessions. The first part introduces motivational theories, the relationship of fun and education, and instructional techniques. Instruction librarians with education backgrounds or who are familiar with education theories, could probably skim through part one quickly. The second part is an application of the theories and techniques discussed in part one, including lessons plans and learning objectives, as well as assessment ideas and rubrics.

The lesson plans and rubrics can easily go from the office to the classroom. By utilizing an instructional design approach, this book helps librarians plan and organize their instruction sessions by starting with learning outcomes. Every chapter also includes a section with ideas on modifications and accommodations for discussions during the session, as well as how to adapt the lessons to different student groups and classes. *The Fun of Motivation* will help librarians, "approach the new Framework with a spirit of fun as [they] work toward the shared goal of developing information-literate students" (p. 4).—*Magen Bednar, Student Success and Engagement Librarian, University of Oklahoma Libraries, Norman, Oklahoma*

Inquiry and Research: A Relational Approach in the Classroom. By Michelle Reale. Chicago, IL: ALA, 2019. 122 p. Paper $57.00 (ISBN 978-0-8389-1784-8).

Why do students seek information from academic libraries? More often than many librarians and other educators might hope, their goal is box-checking, finding the required number of resources of the prescribed type to fill the mandatory bibliography to get the assigned paper finished (and forgotten). Librarians risk reinforcing this mindset when we treat the research process mechanistically, as a sequence of steps to be executed: learn these tools, enter these keywords, apply these limiters, click here to save results—check these literal boxes. In *Inquiry and Research: A Relational Approach in the Classroom*, Reale proposes that librarians instead view their interactions with students as opportunities to encourage a "spirit of inquiry." Begin, Reale proposes, by pausing the hunt for immediate answers in favor of helping students learn to ask interesting and worthwhile questions. Value curiosity and thoughtfulness. Seek opportunities to center students in their own learning, and help them reflect throughout the research process.

The book is organized into ten chapters that outline different aspects of inquiry and discuss how it applies to different contexts. Each chapter concludes with a list of suggested strategies for implementation. Some of the recommendations are for specific actions (e.g., "Let students know you are available for individual consultations by ending each classroom session with your contact information") (p. 104). Others are much less concrete, having instead to do with the attitude or mindset with which librarians might approach instructional encounters (e.g., "Understand the power of conversation and articulation of ideas in the inquiry and research process") (p. 105). This is in keeping with the tenor of the book overall, which is as much conceptual as practical. Although it can be read in barely an hour, this title nonetheless has the potential to encourage librarians to think about our teaching more ambitiously.—*Molly Strothmann, Library Collections Strategist, Oklahoma State University, Stillwater, Oklahoma*

Motivating Students on a Time Budget: Pedagogical Frames and Lesson Plans for In-Person and Online Information Literacy Instruction. Edited by Sarah Steiner and Miriam Rigby. Chicago: ACRL, 2019. 332 p. Paper $64.00 (ISBN 978-0-8389-8949-4).

Information literacy is one of the most important aspects of librarianship. If students do not understand how to find and successfully use library resources, of what use and purpose is a library? In the past (and mostly to this day), live instructional classes were the norm for introducing students to library resources, but for convenience and reach of a wider audience, more and more information literacy sessions are being held online. However, these sessions only last an hour or two. With such a short time frame, how can instructional librarians make an impact on their audience? Editors Sarah Steiner and Miriam Rigby, an instruction librarian at Western Carolina University and a social sciences librarian at the University of Oregon respectively, have created a one-volume library instruction book with enough information on this topic to cover multiple volumes. Throughout its nineteen chapters, *Motivating Students on a Time Budget* explores diverse tools to foster motivation and learning for library instruction students, for both in-person and online library instruction.

The book begins with a useful feature: a chapter dealing with students' motivational analysis, specifically the ARCS model (which stands for attention, relevance, confidence and satisfaction). This model serves as a guidepost for the remaining chapters, which deal with motivational methods such as gaming, as well as using different methods of library instruction. In addition, other successfully engaging motivational tools are highlighted for use in information literacy instruction limited to short periods of time. Each chapter also contains an extensive bibliography and endnotes, along with charts and material to create lesson plans.

Instructional librarians now have a powerful tool in their arsenals to create effective, motivational courses within a narrow period. Highly recommended.—*Larry Cooperman, Adjunct Librarian, University of Central Florida Libraries, Orlando, Florida*

Project Management in Libraries: On Time, On Budget, On Target. By Carly Wiggins Searcy. Chicago: ALA, 2018. 123 p. Paper $54.99 (ISBN 978-0-8389-1719-0).

Project management is not about managing projects, and Searcy's well-written book succinctly demonstrates the difference. Searcy, a certified project management professional (PMP), states, "limited endeavors that create a unique product or service are projects" (p. 1). More formerly, "then project management must be *the use of organizational resources to create a unique product or service that achieves organizational objectives*" (p. 2).

In chapter 1, Searcy uses processes from both the Project Management Institute and the Agile methodology to create a hybrid of five process groups: initiating, planning, executing, monitoring and controlling, and closing. Chapter 2 talks about characteristics of a project manager: tenacity, collaboration, and ethics. Subsequent chapters lead the reader in meeting management, planning a team, costs and budget, execution, and failure.

Each chapter provides clear and simple definitions, describes library related examples, defines and gives specific techniques, circles back to previous chapters well, and ends with a tidy summation. Chapters also provide excellent examples of figures, checklists, registers, and templates. The final chapter outlines the most ignored process, closing. It entails reflection, lessons learned, final reporting, and celebration. A complete bibliography and index are included.

In closing, Searcy states, "the meaningful part of project management is not creating charts or writing plans. It's the conversations, the transparency, the negotiation, and the collaborative problem solving that are required to create the right result . . . if you apply the skills, tools, and techniques outlined in this book while practicing responsibility, respect, fairness, and honesty, you will have better project outcomes" (p. 112).

Searcy has an easy-going, yet focused, writing style, providing a huge amount of information in a small package. *Project Management in Libraries* is a well-written, concise overview directly focused for libraries. Information is also provided for those interested in project management careers.—*Dana Belcher, Director, Linscheid Library, East Central University, Ada, Oklahoma*

Recipes for Mindfulness in Your Library: Supporting Resilience and Community Engagement. Edited by Madeleine Charney, Jenny Colvin, and Richard Moniz. Chicago: ALA, 2019. 144 p. Paper $49.99 (ISBN 0-8389-1783-1).

Much like mindfulness itself, this title does not require a large investment of time and uses minimal structure to achieve results. This collection of chapters can be read all at once or one by one, with each chapter bringing a different perspective on mindfulness in the daily life of a librarian. Topics include applying mindfulness both personally and for library users in areas such as outreach, instruction, collection development, and staff management.

The collection of chapters is a forum of practical ideas on mindfulness in all types of libraries, with examples from medical, public, academic, and school libraries. Those looking for information on best practices, an introduction to mindfulness concepts, or a thorough discussion on how mindfulness fits in with a library's mission and purpose should look elsewhere. The brief chapters vary in the clarity of the writing and in the uniqueness of the ideas. Some chapters present truly unique ideas, such as long-term houseplant checkout for on-campus residents, while others discuss how the application of traditional techniques, such as journaling, influenced the authors' work.

With few works available on applying mindfulness specifically in the library context, this title does fill a gap in the literature. Even though it is a snapshot of current library trends in mindfulness, it is not likely to become quickly outdated because many of the ideas will remain relevant over time. The format and content makes the work useful for librarians with varying levels of experience with mindfulness. Those with little experience would need to supplement this text with some of the ample resources on mindfulness concepts, specifically how mindfulness can affect the workplace and the academic environment. While it is not a comprehensive guide to mindfulness in libraries, this text can be useful for libraries striving to explore mindfulness in a variety of contexts.—*Marla Lobley, Public Services Librarian, East Central University, Ada, Oklahoma*

Sources

Reference Books

Anita J. Slack, Editor

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Correspondence concerning these reviews should be addressed to "Reference Sources" editor, Anita J. Slack, Life and Health Sciences Librarian-Assistant Professor, Kent State University Libraries, 1125 Risman Dr. Kent, OH 44242-0001; email: aslack@kent.edu.

The American Flag: An Encyclopedia of the Stars and Stripes in U.S. History, Culture, and Law. By John R. Vile. Santa Barbara, CA: ABC-CLIO, 2018. 440 p. Acid-free $94.00 (ISBN 978-1-4408-5788-1). E-book Available (978-1-4408-5789-8), call for pricing.

The average American displays the national banner every Fourth of July, shows respect by placing his or her hand over their hearts when it passes by in a parade, and (those of us of a certain age, anyway) remembers facing the starry standard in grade school while reciting the pledge of allegiance. Ask these same average Americans how much they actually *know* about Old Glory, however, and it may become apparent that the answer is "not much." Therein lies the need for the present volume under examination.

Both patriotic primer and ready reference work, this volume's first ninety pages consists of a series of overview essays covering such topics as flag etiquette, our flag's history, its design and creation, and how the United States ensign has influenced American art, music, journalism, and politics. The bulk of the book are the approximately two hundred alphabetically arranged entries, covering such diverse fields as art and artists ("Hassam, [Frederick] Childe," "*Spirit of '76*"); causes, events, and organizations ("Flag Manufacturers Association of America," "Suffragists and the U.S. Flag"); design and construction ("Colors of the Flag," "Stars, Arrangement of on U.S. Flags); famous flags ("Betsy Ross Flag," "Fort Sumpter Flag"); and a plethora of other topics, including songs, poems, and court cases. These encyclopedic articles are uniformly well written and researched, are cross-referenced, and conclude with a brief list of further reading suggestions. Black-and-white illustrations, while not numerous, nevertheless contribute to readers' comprehension of the material presented. Special features include a timeline of important dates and events in the history of our nation's flag, a glossary of vexillological terms, and an ample bibliography.

Author John Vile is a professor of political science and dean of the University Honors College at Middle Tennessee State University. Among his previously published reference works are *The Encyclopedia of Constitutional Amendments, Proposed Amendments, and Amending Issues, 1789–2015* (now in its fourth edition) and four volumes of the Documents Decoded series (all published by ABC-CLIO). He has been ably assisted in this most recent effort by a team of eight contributors, all holding advanced degrees and affiliated with institutions of higher learning.

A literature search strongly suggests that this title is a unique reference work. While many print and digital narrative resources concerning the American flag have been published over the years, this apparently is the first, and so far only, collection of factual material presented as discrete nuggets of information, from "Advertising" to "Zaricor Flag Collection." Considering the book's broad based appeal and its success in filling a gap in the reference literature, this volume is strongly recommended for purchase by all public and academic libraries.—*Michael F. Bemis, Retired Reference Library, Independent Scholar, Oakdale, Minnesota*

The American Middle Class: An Economic Encyclopedia of Progress and Poverty. Edited by Robert S. Rycroft. Santa Barbara, CA: Greenwood, 2017. 2 vols. Acid-free $158.40 (ISBN 978-1-61069-757-6). E-book Available (978-1-61069-758-3), call for pricing.

Analyzation of the middle class is a news cycle staple, but how do we define the middle class, and what does the label mean? In the expansive *The American Middle Class: An Economic Encyclopedia of Progress and Poverty*, a wide range of authors offer statistical categorizations, historical perspectives, and ethnographic explorations of the group that is supposed to define the American dream.

Instead of a standard alphabetical framework of short entries, the encyclopedia begins with a prologue of explanatory essays and portraits of identity-based middle-class segments followed by seven separate sections of entries, each with an overview essay. The sections detail nearly every aspect of American life from the political to the social. While the overview essays themselves make compelling connections between the topic and the middle class, many of the entries—though expansive and well-written with cross-references and recommendations for further reading—are less inherently tied to the overarching theme of the middle class. There is no explanation of why entries like absentee voting, intimate partner violence, or school prayer are necessary to understanding the middle class economically. Additionally, entries vary greatly in both topic and length, ranging from the general, like "Neoliberalism" (v. 1, p. 460), to the highly specific, like "Environmental Crime: The Case of the Navajo" (v. 2, p. 789).

The publisher indicates the set is in alignment with themes of the National Curriculum Standards for Social Studies and standards of the Common Core. While it is commendable to attempt to be inclusive of all aspects of a huge and hard-to-define group, the extremely broad scope makes it hard to envision this encyclopedia as a highly useful tool for the high school and lower-division college users it is developed for; however, its entries are rich with data and explanations that might be challenging for novice researchers to discover elsewhere.—*Emily Mross, Business Librarian, Penn State Harrisburg, Middletown, Pennsylvania*

Dreams: Understanding Biology, Psychology, and Culture. Edited by Robert J. Hoss, Katja Valli, and Robert P. Gongloff. Santa Barbara, CA: Greenwood, 2019. 2 vols. Acid-free $182 (ISBN 978-1-4408-5616-7). E-book Available (978-1-4408-5617-4), call for pricing.

Dreams: Understanding Biology, Psychology, and Culture is a two-volume reference work that aims to educate readers about sleep and dream research. According to the editors, the work covers "evolutionary perspectives on sleep and dreaming to the most current research into the neuroscience, as well as current psychological theory, therapeutic application, and the artistic and cultural treatment of dreams" (xii). Intended for students and researchers interested in current understandings of dreams and how we study them, this is a valuable addition to the literature, as most dream reference guides focus primarily on artistic and cultural responses to dreams.

Dreams is divided into four major sections focusing on the biology of sleep and dreams, dream content, the psychology of dreams, and dreamwork and cultural practices. Each section is further divided into chapters, which group together essays on different aspects of a single theme. The essays in each chapter and the chapters in each section build upon each other to guide the reader through current understandings of dreams in a coherent and logical manner.

One of the main features and strengths of this work is the amount of research incorporated into the essays, which are each written by experts in the field. All of the essays make significant reference to published research, and many further include data in the form of tables and charts. Several essays also detail dream research methodologies and ways to conduct dreamwork.

This two-volume set is intended to be used together, as indicated by the continuous pagination and the location of the cumulative list of references and index at the end of volume 2. This work is an excellent tool for the student or researcher who is looking for a comprehensive introduction to the research being done on various aspects of dreams. It is less well suited for general audiences seeking discussion of popular aspects of dreams, including dream interpretation. Because of the lack of similar reference works on the science and psychology of dreams, the incorporation of significant amounts of current research, and the thoughtful organization of the material, *Dreams* is recommended for academic libraries.—*Shaunda Vasudev, Outreach and Engagement Librarian, Capital University, Bexley, Ohio*

Encyclopedia of Political Assassinations. By Nigel West. Lanham, MD: Rowman & Littlefield, 2017. 359 p. $95 (ISBN 978-1-5381-0238-1). E-book Available (978-1-5381-0239-8), call for pricing.

Encyclopedia of Political Assassinations is a work that sets out to document global political assassinations that have occurred during the last century and a half. It is a one-volume encyclopedia with alphabetically arranged entries that are well researched and written with an objective tone. It also features an abbreviation and glossary section, a chronology, and multiple appendices to assist the reader. The author is very thorough, and although many entries are brief, they make good use of the space by covering both the significance of the victim and the outcome for the assassin.

Political assassinations and espionage are an especially popular area of research currently. This volume is unique as the stated objective from the author was to comprehensively "identify and document assassination as it occurred during this and the previous century," and "where the recent declassification of documents has made it possible, shed new light on old mysteries" (West, p. 4). The author examining and deconstructing the contents of the declassified documents and connecting the dots historically is invaluable for researchers.

This examination is also what sets this volume apart from previous publications that covered this topic. *Assassinations and Executions: An Encyclopedia of Political Violence, 1900–2000*, by Harris M. Lentz III, is a popular volume in many library collections and, prior to *Encyclopedia of Political Assassinations,* was one of the only encyclopedic resources on the topic. However, due to the nature of the volume, the entries in *Assassinations and Executions* are less substantial and do not offer the same level of detail and contextual information. The difference in the depth of coverage can be seen throughout the volumes, but an excellent example is the coverage of the assassination of John F. Kennedy. In both encyclopedias' entries, the events leading up to and following the assassination are listed, but that is where the similarities end. Lentz's entry does an excellent job relaying the facts and briefly mentions the major conspiracies surrounding the assassination, but he doesn't delve any deeper as the objective of his publication was to "present a concise look at the many world leaders who met their end in a violent manner during the 20th century" (Lentz, p. xi). In contrast, West's treatment of the same topic provides the reader with not only the essential facts but also a discussion on the possible motivations of key figures involved in the assassination and the investigation that followed. Documents that were released long after Lentz's work was published greatly aided West's analysis, and researchers and enthusiasts alike will consider this new information fascinating.

This resource provides readers with well-researched, informative entries. It is also different from previous volumes that cover the topic because the author had access to the recently released documents pertaining to assassinations that had a major impact historically. It is a relatively inexpensive volume, and I believe it would be a valuable addition to public or academic libraries as the topic has mass appeal and the treatment of the topic is exceptional.—*Marissa Ellermann, Head of Circulation Services Librarian, Southern Illinois University Carbondale, Carbondale, Illinois*

Encyclopedia of Public Health: Principles, Peoples, and Programs. Edited by Sally Kuykendall. Santa Barbara, CA: Greenwood, 2018. 2 vols. Acid-free $198 (ISBN 978-1-61069-982-2). E-book Available (978-1-61069-983-9), call for pricing.

The *Encyclopedia of Public Health: Principles, Peoples, and Programs*, a new addition to Greenwood's health reference catalog, provides a solid resource for libraries looking for a good, low-cost encyclopedia for their public health collection. Dr. Sally Kuykendall, the editor, is a professor of health services at St. Joseph's University in Philadelphia and an independent evaluator of public health programs. She has assembled a knowledgeable team of public health experts, health scientists, and medical historians as contributors, who present topics relating to public health in an easily-readable format for general readers. The two volumes present signed articles alphabetically by entry, with cross-references and bibliographies. The text is scattered throughout with black and white illustrations. Both volumes contain a contents section, a guide to related topics that groups articles by theme, a chronology, and an introduction. Volume 2 contains a glossary, a list of organizations and contributors, and a comprehensive index, as well as a section on "Controversies in public health," which discusses hot button issues like anti-vaccination trends and health care for undocumented immigrants. Kuykendall maintains an even tone and fair treatment of all sides, allowing both pro- and anti-sides of an issue their say.

Given the length restriction of a two-volume set, it is understandable that not all topics are going to be exhaustively covered, but Kuykendall and her authors have done an excellent job of covering the main public health areas of interest. If there is one negative, it would be that Kuykendall has written many of the articles herself or with contributors; more diversity in the voices contributing to the volume would be welcome. However, that is a small quibble for a good resource.

There is a plethora of public health encyclopedias out there, including Academic Press' multi-volume *International Encyclopedia of Public Health* (2017), Springer's *Encyclopedia of Public Health* (2008), and *Gale's Encyclopedia of Public Health* (second edition expected in 2020). However, some of these are either dated or quite expensive. At its $198 price point, the *Encyclopedia of Public Health: Principles, Peoples, and Programs* is a solid, affordable resource for libraries needing public health information for general readers. Recommended for upper level K–12 students, undergraduates, and public libraries.—*Amanda K. Sprochi. Health Sciences Cataloger, University of Missouri, Columbia, Missouri*

From Smartphones to Social Media: How Technology Affects Our Brains and Behavior. By Mark Carrier. Santa Barbara, CA: Greenwood, 2018. Acid free $94 (ISBN 978-1-4408-5178-0). E-book Available (978-1-4408-5179-7), call for pricing.

Many consider the release of the Apple iPhone in 2007 as being the moment, and the device, that brought the smartphone into the hands of millions of consumers. Today, smartphones and social media sites, such as Facebook, Twitter, and Instagram, are ingrained into the human experience for countless millions of people. But how do these technologies and social spaces impact our brains and the ways in which they function? *From Smartphones to Social Media: How Technology Affects Our Brains and Behavior* attempts to help clarify these questions, and many more, as they pertain to the technology we carry with us every day and the digital social spaces that we access and participate on with these devices.

According to author Mark Carrier, "This book focuses on the most recent five to ten years of research into new ICT (information and communications technologies)" (p. xiii). This single-volume reference set is organized into ten chapters. Each chapter runs about 25 pages in length, resulting in a lean 250 page count. Several subheadings provide structure and flow within each chapter and make finding desired information within the book easier, given the length of each chapter. Topics covered in this set include social relationships, electronic aggression, dating and sexual behavior, information and attention, and emotions. The volume concludes with a glossary of terms used throughout the set, a section of citations for curious researchers to continue their research, and an index.

Easily one of the more unique features of this volume is found at the end of each chapter. After the conclusion of each chapter, Mark Carrier includes a section called "Interview with an Expert," where a psychologist specializing in the content of the chapter provides additional insight into the topic in the form of an interview. Questions posed to these experts include "When someone is driven to use technology, what is happening in his or her brain biochemically?" (p. 122) and "What does research say about the impact of technology on positive and negative emotions?" (p. 223). Each interview adds greatly to the content covered in the chapter and sets it apart from many other, similar reference sets.

If there is a critique one could levy against this volume, it would be related to the overall writing style and structure of the set. The lengthy chapters are all written in a style, flow, and structure that is typically found in many traditional, nonreference psychology books. One can easily find themselves reading this book cover-to-cover, rather than seeking a specific piece of information on a specific topic quickly and then moving on to another source. For this reason, many might decide that this set would better serve its readers in a circulating collection, as opposed to a noncirculating reference collection.

The content contained in this set will be of great value to psychology students studying the impact of communication technologies and social media on human behavior. The "Interview with an Expert" section located at the end of each chapter is a unique feature that adds to the value of this set. It is an easy volume to recommend be added to academic libraries. That being said, it's more textbook-like structure lends it to be read cover-to-cover, which is not a typical characteristic for a reference set. Many might find it a better fit as a circulating volume within their library.—*Matthew Laudicina, Senior Reference Librarian, Manuscripts and Special Collections, New York State Library, Albany, New York.*

Gangland: An Encyclopedia of Gang Life from Cradle to Grave. Edited by Laura L. Finley. Santa Barbara, CA: ABC-CLIO, 2018. 2 vols. Acid-free $198 (ISBN 978-1-4408-4473-7). E-book Available (978-1-4408-4474-4), call for pricing.

The existence of gangs and the impact of gang-related criminal activity on communities in the United States has been an issue examined by criminologists and law enforcement officials for decades. While the focus of such inquiry has historically been centered on the harm caused by gangs, it is often overlooked that such groups also have been known to engage in pursuits resulting in social good. In *Gangland: An Encyclopedia of Gang Life from Cradle to Grave*, editor Laura L. Finley endeavors to demystify common gang misperceptions regarding this both intriguing and terrifying facet of the American population.

This two-volume encyclopedia contains over two hundred entries authored by criminologists, community professionals, students, and journalists, which detail the formation, history, membership, purpose, activities, and evolution of the nation's most prominent gangs. Entries also highlight gang-related books, documentaries and films, programs and initiatives, court cases, those individuals involved in gang reduction efforts, collateral consequences of gang-related criminal activity, and criminological theories relative to gang endeavors. Photographs and excerpts from primary source documents associated with each of the aforesaid topics provide additional context and perspective.

Finley begins with an introduction that discusses the volumes' objectives, provides common gang characteristics, and describes the various types of gangs including hate, prison, street, and motorcycle gangs. The preliminary materials also include a segment concerning the Federal Bureau of Investigation's gang classification criteria and how such designations impact arrest and prosecution. This section concludes with a description of those legal initiatives designed to respond to and prevent gang activity. This is followed by a relatively lengthy history of gangs in the United States accompanied by a chronology that begins with the first appearance of gangs in New York City in the 1820s and ends with events occurring in 2017. These two sections provide important background information supporting the entries that focus on the various gangs themselves.

The relatively brief entries afford limited topical coverage and will therefore be of value only to those a seeking an introduction to the material. Depth aside, Finley provides a wide range of topics, which serve to shed light on a plethora of issues not merely about individual gangs but concerning such concomitant issues as how criminologists have studied them and even how they have been depicted in popular culture. Furthermore, the inclusion of see also subject terms, a guide to related topics beginning each volume, and a generous compilation of recommended resources including books, documentary and feature films, journals, and online resources provide an extensive array of suggestions for additional investigation.

Gangland: An Encyclopedia of Gang Life from Cradle to Grave is unique from other gang-related reference materials primarily in terms of its scope. While Finley accurately describes many of the most notable gangs of the United States, she is not predominantly concerned with constitution, recruitment, organization, purpose, and other identifying characteristics. Instead, this encyclopedia has a much broader focus, encompassing a wide array of gang-related topics, including their impact on social media, representation in film and literature, and those initiatives, laws, and people instrumental in the examination and research of gang behavior.

This set offers a respectable overview of the progression and characteristics of gang activity and those persons and initiatives related to them. The list of readings corresponding to each entry and the extensive recommended resources offer an excellent starting point for supplementary inquiry for those interested in further exploration. In sum, *Gangland: An Encyclopedia of Gang Life from Cradle to Grave* is an excellent introductory resource, which will be of value to general readers through undergraduates.—*Dianna Kim, Assistant Professor and Research and Instruction Librarian, Sam Houston State University, Huntsville, Texas*

The Himalayas: An Encyclopedia of Geography, History, and Culture. Edited by Andrew J. Hund and James A. Wren. Santa Barbara, CA: ABC-CLIO, 2018. 326 p. Acid-free $94 (ISBN 978-1-4408-3938-2). E-book Available (978-1-4408-3939-9), call for pricing.

In his preface to *The Himalayas,* coeditor James A. Wren writes that "our understanding of the region is flat. It remains ill-informed—without precision or sophistication—and wildly inaccurate." (p. xiii). This impressive new work sets out to correct the situation by taking a multifaceted approach encompassing the region's geography, flora and fauna, linguistic and ethnic complexity, long history, frequently vexed politics, and rich cultural and religious life.

A detailed eleven-page chronology opens *The Himalayas,* followed by three maps and nearly a dozen thematic essays, covering such subjects as "History of the Himalayas" and "Religious Syncretism" and concluding with suggestions for further reading. The next section is made up of 120 topical entries, ranging from the obvious—"The Great Game," for instance, and "Mount Everest"—to such unexpected entries as "Fermented Beverages of the Himalayas" and "Himalayan Toad." These include not only suggestions for further reading but see also references as well, and many are illustrated with black-and-white photographs. The essays and entries are the work of several dozen scholars, and while they reflect a deep knowledge of their subjects, they are clearly written.

The work's third major section is a collection of ten primary documents, beginning with a short account of the formation of the Himalayas from the ancient Indian *Mahābhārata* and concluding with a text from a Chinese social media site lamenting the declining use of traditional rouge by young Tibetan women. A twenty-page selected bibliography and sixteen-page index conclude the volume.

One of the signal strengths of *The Himalayas* is its coverage of contemporary issues. Among the essays, four pages are devoted to "Climate Change in the Himalayas," five pages to "Cultural Changes in the Himalayas," two pages to "Migration in the Himalayas," and three pages to "LGBTQ Communities and Issues." An entry on "*Hijra* ('Third Sex')" receives four pages and eight suggestions for further reading.

Although there are any number of works on the individual countries lying in or near the Himalaya Mountains, no other work on the region with such a comprehensive approach has appeared within the last decade. *The Himalayas* is highly recommended for undergraduate and larger public library reference collections, as well as for any collection where interest warrants.—*Grove Koger, Retired Reference Librarian, Independent Scholar, Boise, Idaho*

Hip Hop around the World: An Encyclopedia. Edited by Melissa Ursula Dawn Goldsmith and Anthony J. Fonseca. Santa Barbara, CA: Greenwood, 2018. 2 vols. Acid-free $198 (ISBN 978-0-313-35758-9). E-book Available (978-0-313-35759-6), call for pricing.

This encyclopedia consists of over 450 A–Z entries focusing on "Artists," "Concepts," "Countries," and "Styles," as well as finer aspects of cultures within the international hip hop scene. The work is not entirely unique in all of its content. For instance, Rigg's *St. James Encyclopedia of Hip Hop Culture* (St. James, 2018) focuses on the United States and makes a cursory foray into the international hip hop sphere. However, the work under review appears to be the only encyclopedia dedicated to highlighting interrelations and unique threads within hip hop globally, albeit with copious US coverage.

Editing a work such as this is fraught from the beginning as knowledgeable hip hop fans and researchers alike will undoubtedly raise an eyebrow or two for artist inclusions and omissions, especially when the introduction explicitly mentions this is a "comprehensive reference on global hip hop culture." It is expansive, but comprehensive is a bit strong for a two-volume encyclopedia. Nonetheless, the work is laudable in its coverage of countries spanning the globe, from East Timor, Iran, and Burkina Faso to Serbia, The Maldives, Peru, and much in between.

The entries themselves are well written, interesting, occasionally illustrated, and replete with listed connections between artists and movements within and outside of the genre. There are helpful see also references and further reading and listening suggestions, which come in handy when the reader is faced with new information and wants to pursue it further.

Other features of the set include a brief chronology highlighting selected events in hip hop history around the world; a list of artists with stage name, given name, year, and place of birth; lists of record labels, music videos, films, countries with "severely restricted underground activity"; and a short glossary. This work would be useful for general music collections in both community college and undergraduate libraries.—*Brent D. Singleton, Coordinator for Reference Services, California State University, San Bernardino*

International Cookbook of Life-Cycle Celebrations. By Lois Sinaiko Webb, Lindsay Grace Cardella, and Jeanne Jacob. 2nd Ed. Santa Barbara, CA: Greenwood, 2018. 768 p. Acid-free $105 (ISBN 978-1-61069-015-7). E-book Available (978-1-61069-016-4), call for pricing.

The first edition of this book was published in 2000, under the name *Multi-cultural Cookbook of Life-Cycle Celebrations*. The first edition had one author, (Webb) but the new edition has added two more authors. Webb died in 2012, and the new edition is dedicated to her. The preface does not say why the new authors felt a new edition was necessary, but perhaps it was in honor of the original author. The preface does state that there are a few new recipes and a couple new countries that are covered in the second edition.

There is not much that is noticeably different in the second edition. The term *life-cycle* to describe celebrations is meant to mean milestones, such as birth, marriage, death. The table of contents is rearranged, although the arrangement is confusing in both editions. It would make more sense to this reviewer to have it by continent/region and then alphabetically by country. Instead the table of contents is by continent (Africa) and then by region (North Africa, West Africa) or by region (Asia and South Pacific) and country (Bhutan, Australia). For some reason Mexico moved from being under North America in the first edition to being under Central America in the second edition. The United States is the only country that is divided by culture, in this case, Acadian, African American, and Amish.

After the table of contents, there is a section called "Getting Started." This section seems to be geared toward children who have never cooked. For example, one tip is "don't cook alone, have adult help". Since the original author also wrote a cookbook geared towards students (*The Multicultural Cookbook for Students*), it's possible this is a carryover from that book, but it seems out of place in this volume.

Each initial continent or region listed has an introduction. Each country also has an introduction about each life-cycle celebration. For example, under Latin America, Ecuador, there is a brief history of the country along with a description of Andean and Catholic wedding ceremonies. Most recipes also have a description of the celebration where the food is eaten. The recipes are easy to follow and include a list of equipment that is needed to make the food. For more unusual ingredients, there is a suggestion within the recipe on where it may be found. For example, ground dried shrimp is available at Asian food stores. Spot checking several countries between the editions, it seems some recipes were kept, and some were swapped out. A handful of countries that did not have recipes in the first edition (Kuwait, Oman) now have a couple listed.

The volume ends with a bibliography that has more entries than the first edition and an extensive index. The cost of the second edition is over $100, which seems steep for basically a cookbook. If a library already has the first edition, there really is no reason to purchase the second as there is barely any new text information and only some new recipes.—*Stacey Marien, Acquisitions Librarian, American University, Washington, DC*

MLA Guide to Undergraduate Research in Literature. By Elizabeth Brookbank and H. Faye Christenberry. New York: Modern Language Association of America, 2019. 137 p. $16 (ISBN: 9781603294362).

Though the Modern Language Association (MLA) is most known for their style guides, the *MLA Guide to Undergraduate Research in Literature* is part of a small collection of pedagogical treatises the MLA offers for literature and composition instructors, offering entry points to various foundations of most English coursework.

They state that this guide is meant for undergraduate researchers or instructors, but it would be weak as an assigned reading for undergraduates. Its best use is for English teachers hoping for guidance on teaching literary research papers and especially instructional librarians who work in library or composition classrooms. Because the book describes the research process in similar ways to how it is often imagined in library information literacy discourse—with notions like brain storming and keywords, changing research questions, citation management, and conducting Internet searching—it works well as a foundation for research instruction curriculum.

Though it contains similar concepts to information literacy discourse, it differs from something like the ALA's popular cookbook series and similar guides,[1] which offer activity ideas for undergraduate library instruction in general, normally reducing humanities to a singular tradition. The *MLA Guide to Undergraduate Research in Literature* dives deeply into all facets of literary research exclusively, promoting subject-specific databases outside of the MLA's own MLA International Bibliography. Importantly, it tackles particular problems posed in literary research, such as how to research a piece of literature that has not been written about in scholarship or how to conduct advanced literary searches using logic specific to literary criticism, such as theme. It focuses less on activities and more on concepts, though it does include examples and prompts for the classroom.

It is wise to include this book as the foundation of library instruction for the English classroom, following the chronology it offers for literary research and some of its discussions of things like describing *contextual primary sources*. Rather than basing instruction ideas purely on information literacy guides coming from library publishers, this book speaks to the English community's needs, as written by the English community itself.— *Elliott Kuecker, Instructional Librarian / Liaison for First-Year Composition, University of Georgia, Athens, Georgia*

Reference

1. K. Calkins and C. Kvenild, *The Embedded Librarian's Cookboo.* (Chicago: American Library Association, 2014); N. Fawley and

N. Krysak, *The Discovery Tool Cookbook: Recipes for Successful Lesson Plans* (Chicago: American Library Association, 2016); H. McClure, P. Bravender, and G. Schaub, *Teaching Information Literacy Threshold Concepts: Lessons for Librarians* (Chicago: American Library Association, 2015); R. Pun and M. Houlihan, *The First-Year Experience Cookbook* (Chicago: American Library Association, 2017).

Urban Health Issues: Exploring the Impacts of Big-City Living. By Richard V. Crume. Santa Barbara, CA: Greenwood, 2019. 295 p. Acid-free $61 (ISBN 978-1-4408-6171-0). E-book Available (978-1-4408-6172-7), call for pricing.

Due to poverty, climate change, and other factors, the world's populations are becoming more urban. While "urban" is relative to various countries, the shift from rural to urban is happening worldwide. At the beginning of the twenty-first century, the world's populations became, for the first time, evenly split between urban and rural. By mid-century, the prediction is that most populations will live in urban areas. It follows that where there are more people, there are also more health concerns. Richard V. Crume's *Urban Health Issues: Exploring the Impacts of Big-City Living* is an eminently readable, accessible volume that addresses these health concerns.

The author's purpose in writing the book is "to help urban dwellers and health professionals understand the complexities of urban health and prepare for a future when maintaining a healthy urban environment will be of utmost importance" (p. x). Because urban health encompasses so many elements, this topic is an excellent one for a general audience. Each of the twenty-three essays explains an issue, its impact on health, how various cities have implemented or planned to address the issue, and recommendations for those living in urban areas. There are also occasional city spotlights, which detail how a place has specifically addressed the health issue—Melbourne, for example, has implemented a detailed urban forest plan to plant 3,000 trees a year to address warming temperatures—along with brief essays from experts. An appendix offers suggestions for urban dwellers, and there is a directory of resources.

While "urban health issues" might immediately bring to mind a factory chugging out polluted air, it ranges from "environmental pollution and the spread of infectious disease to drug and alcohol abuse and the importance of social support networks" (p. ix). In other words, as the world becomes more urban, these will just be called "health issues." Plus, issues such as stress management, water and sanitation, and health care access affect all of us, urban or rural.

Updated works on this topic are necessary, as health concerns can change rapidly. *Urban Health*, edited by Sandro Galea et al. (Oxford University Press, 2019) would be a comparable volume, though more academic. However, *Urban Health Issues: Exploring the Impact of Big-City Issues* is suitable and recommended for public and academic libraries of all sizes.—*Tracy Carr, Library Services Director, Mississippi Library Commission, Jackson, Mississippi*

The World's Oceans: Geography, History, and Environment. Edited by Rainer F. Buschmann and Lance Nolde. Santa Barbara, CA: ABC-CLIO, 2018. 434 p. Acid-free $94 (ISBN 978-1-4408-4351-8). E-book Available (978-1-4408-4352-5), call for pricing.

"Moving the world's oceans to a central role, from the role of empty space between the continents" (p. ix-x) and a goal of "uniting research in natural and social sciences with the humanities under an overarching theme of history" (p. X), as described in the introduction, are perhaps not what one might anticipate from the title, in which history is sandwiched between more science-based topics. Still, this work may serve to broaden the perspective students who are predominantly engaged by either the humanities or by the sciences.

The first section of the book is a set of thematic essays starting with the oceans in alphabetical order followed by a selection of issues shared by all of those regions in no discernable order. This feels more valuable as a collection of essays than as a reference work. The second section of the book comprises alphabetical topical entries. These are generally well written, interesting, and enhanced by cross-references. The authors acknowledge the constraints placed on the range of topics by the one-volume format. This is a constraint for potential purchasers to keep in mind as well since it limits breadth and depth.

The two references in the essay "Music and Seafarers" (p. 310–13) to specific versions of songs, as if the reader could see them, are a bit concerning: "In the following version…," for example, does not appear to be followed by any version of any song. This is a minor flaw as it does not reflect a lack of editorial attention overall. The indexing is fair, but the first section especially would benefit from greater thoroughness and detail. There is no distinction in the indexing between minor and major references, nor for the presence of images. Figures and images are sparse, and all are black and white. Lists of further reading throughout support its value as a reference work, though the sources listed are of somewhat uneven quality.

Comparable works largely are of more limited scope, geographically or topically, are not focused on history, or are not reference works. *The Encyclopedia of Ocean Sciences,* 3rd edition, edited by Cochran, Bokuniewicz, and Yaeger (Academic Press, 2019) retains its place as one of the preeminent reference works on oceans, but at $3,750, it is a much larger investment. It emphasizes sciences, as the name suggests, with history and other subjects in a supporting role. Current historical works about oceans are not scarce, but most or all are not reference works and place substantially less emphasis on natural and social sciences. Cunliffe's *On the Ocean: the Mediterranean and the Atlantic* (Oxford, 2017) is limited in scope geographically and incorporates natural sciences only as needed. The images are colorful, generous, and engaging, and the glossary and index are strong, but the further reading is stashed away in the back where readers must actively seek it out. Paine's *The Sea and Civilization* (Vintage, 2013) is global in scope, is well indexed, and has substantial references but is not science oriented nor arranged or intended as a reference work.

While occupying an unusual intellectual space, two concerns about *The World's Oceans* are the brevity and the arrangement. While the single volume format reduces costs and the need for shelf space, it also limits depth and completeness. Where the prioritization of history informed by the natural and social sciences would be a valuable approach, *The World's Oceans* is worthy of consideration for lower-level undergraduates or advanced high school students.—*Lisa Euster, Librarian, Washington State Department of Ecology, Lacey, Washington*