



Intellectual Curiosity and the Role of Libraries

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The first and second year college experience

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Preface

CYNTHIA TYSICK AND TIFFANY WALSH

A library evokes a sense of tranquility and reflection. It's a place one goes not only to find an answer but to nourish the soul. Over the centuries people have come to libraries to quench their curiosity. The quest for knowledge and the chance to add to the body of knowledge for posterity has driven scholars to declare, "Libraries store the energy that fuels the imagination. They open up windows to the world and inspire us to explore and achieve, and contribute to improving our quality of life" (Sidney Sheldon). In higher education libraries have been the de facto place students and professors went to feed their intellectual curiosity; however, today, with the advent of so much digital content, it is not just the library where that curiosity can be assuaged. Thus, librarians have become burdened with the task of articulating the library's value to the established, budding, and new scholars.

What we would like to declare in this collected work is that intellectual curiosity is nurtured, molded, and birthed through our patrons' interactions with our spaces, collections (both physical and digital), and people. Throughout these chapters you will see how the first and second year undergraduate is encouraged to explore the information ecosystem with an attitude of curiosity. Without intellectual curiosity our new and budding scholars will find it difficult to stay the course and follow the footnotes, quotes, and data that make up the breadcrumbs of their searching.

What is intellectual curiosity? When we refer to intellectual curiosity we refer to a desire or deep need to learn more about some aspect of the world or your surroundings. Being intellectually curious means wanting to know why things are the way they are, and how one can contribute to what they are exploring. If you

are intellectually curious you see everything as an opportunity to creatively solve the problems you engage with. Through this exploration you are able to think beyond current ideas and propose new and novel theories and approaches.

How does one become intellectually curious? The approach is similar to how librarians teach good topic development to their students. Ask good questions. Follow topics that interest you. Acknowledge what you don't know and see everything as a resource towards delving deeper to find answers, sometimes to questions not yet asked. As you will see throughout this book, librarians encourage our students to explore a plethora of resources in creative ways. We ask students to expand their intellectual curiosity through games, music, movies, projects, mixed use library spaces, librarians, and our collections.

Why is intellectual curiosity an important trait for librarians to encourage? Employers need employees who are agile in their thinking and adaptable to change. Intellectual curiosity increases the likelihood an employee will be able to think critically and creatively problem-solve. According to a 2021 [SAS survey](#), 72% of managers agreed that intellectual curiosity was a top trait necessary for success. Furthermore, they found an 87% growth in curiosity as a listed skill in job postings. If librarians want to help our students succeed post-graduation, we have to do everything we can to foster intellectual curiosity.

These fourteen chapters have been written by academic librarians who are taking up the challenge to grow the intellectual curiosity of their students. Their programs, theories, insights, and curricular designs push the boundaries of academic librarianship. In this way, they encourage students to live a life, both in the classroom and outside, that desires deep knowledge and acknowledges the wonderful journey ahead through a curious mind.

You are about to read stories of how intellectual curiosity was cultivated through library spaces, relationships between librarians and students, collaboration between librarians and faculty, teaching and learning, and even through the dreaded assessment. You will be presented with open houses, research awards, podcasts, escape rooms, learning commons, virtual browsing, compassionate pedagogy, ungrading, and more. We wanted to put together a book that we ourselves treasured reading, a book that is engaging and compelling. We hope that the creativity and innovation of our colleagues inspires you to find new ways to weave intellectual curiosity into your library practice.

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Cynthia also works with students and global non-profit organizations to create applied learning experiences that help NGOs working within the SDG ecosystem to scale up their ideas with assistance of UB students eager to make an impact through learning and innovation.

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I. Curiosity's Construction

Academic Libraries and Curiosity-Driven Exploration

LAUREEN CANTWELL-JURKOVIC

The library-as-space can engage patrons' curiosity in many ways—through novelty, surprise, serendipity, interest, questioning, mysteriousness, persistence, ignorance, openness, and more.

Introduction

One lesson from one teacher is unlikely to establish trait curiosity or domain-specific curiosity. Peterson (2020) notes enduring forms of curiosity are often developed through multiple instances of state curiosity that, given its occurrence within educational contexts, must occur throughout an individual's schooling. Ivan Illich (1971) wrote, "most learning is not the result of instruction [...] but rather the result of unhampered participation in a meaningful setting" (p. 38). This quote highlights the value teachers and learners alike must also place on educational settings, on unstructured opportunities to learn, and their impact on one's ability to engage in curiosity-driven learning behaviors. "At its core, curiosity is the desire for new knowledge, information, experiences, or stimulation to resolve gaps or experience the unknown" (Grossnickle, 2016, p. 26) and "the more one enjoys a task, the more he approaches it and the greater the chance for him to become curious about the task" (Shin and Kim, 2019, p. 864). Libraries, as academic contexts, support the curiosity's development and retention curiosity throughout one's lifetime, affording time and freedom to individuals, and facilitating opportunities for inventiveness,

exploration, and inquisitiveness.

Serendipitous Space

Curiosity is a cognitive state and exploration is that cognitive state in action. Pomerantz and Marchionini (2007) consider libraries' spatial properties a component of how they inspire patrons; they “marry physical space with intellectual space, to link people to ideas and to each other” (p. 506). The library signifies and functions as an inspirational environment, inviting users to explore, browse, and touch items (Björneborn, 2008). Forrest and Bostick note that libraries work to establish themselves as places of “curiosity, engagement, collaboration, and lifelong learning” (p. 140), and underscore the value of responsiveness to stakeholders—the “commodity” is the user's experience, and libraries need to focus on providing memorable experiences that make lasting impressions.

Bennett (2011) argues that informal learning spaces “invite creativity, allow for exploration and play, and increase student autonomy” (as cited in Huang & Vedantham [2019, p. 285]). Huang and Vedantham note the benefits of bringing student research products (e.g., presentations, posters, etc.) into the library environment as a means of highlighting the library's engagement with and support of scholarly collaboration and discovery. The library has a physical role as a “platform to exchange knowledge and ideas” (not just through its content, but through its community) and as a space to “engage with each other through inquiry” (p. 292)—e.g. in study rooms, at a café/watercooler, out in the open, in teaching spaces, and more. By considering its stakeholders, libraries can determine if/where to place recording studios, fishbowl-type rooms, solitary study space, and group

collaboration space. Other space-related deliberations should contemplate stacks, computing, events/programming, archives, faculty-focused spaces, learner-support, gaming, and much more. And they must do this while remaining capable of connecting with their myriad patron types, in flexible/adaptable spaces, in order to tap into their curiosity.

Pomerantz and Marchionini state many students' most frequent library exposure is through its virtual space. Unfortunately, not only is it difficult to replicate the browsing experience virtually, it is also a challenge help patrons visualize and comprehend "the collection" virtually (McKay et al., 2017). Bates's seminal work on browsing (2007), frames why: Browsing involves "glimpsing" a "scene" and selecting an item from that scene to examine more closely with more sophistication—a cognitively demanding process. Virtual library spaces struggle to facilitate such serendipitous glimpses. Huurdeman et al. (2018) claim digital libraries lack the "distinct qualities of exploring and handling materials in physical library spaces" (p. 219) and brainstormed ways to bring the virtual library exploration process closer to the physical library exploration process.

They focus on collection-centric, event-centric, and integrative approaches to digital library "space." Ideas include improvements to navigation, smartphone apps, and touch tables and apps to connect patron curiosity with library collections through virtual exploration. Collection-centric apps for touch table use include SciFi Explorer (a sci-fi collection navigation tool with a "surprise" button) and Recomat (a Pinterest-inspired recommendation app for collection visualization). Kleiner et al. (2013) developed Blended Shelf, a 3D library collection-visualization tool to facilitate virtual shelf-browsing activities. It shows the actual arrangement of books on the shelves and facilitates multiple entry points to the collection. This provides patrons virtual familiarity with the "scene" they are

“glimpsing” as well as virtual experiences of serendipity, thus reinforcing the role of novelty, as well. This approach echoes Peterson and Hidi’s (2019) determination that curiosity has a “sweet spot” regarding pre-existing knowledge and environmental familiarity. Curiosity is strongest when there is a middle ground between the known and the unknown, the familiar and the unfamiliar. These touch table displays induce curiosity and highlight adjacencies—even uncommon ones (e.g., book color)—to enhance serendipitous discovery and feelings of novelty. When inactive, BlendedShelf displays new, recently-returned, often-borrowed, and/or random items. This uses novelty and surprise to trigger patrons pausing and engaging in curiosity-driven exploration.

Touch tables pique patron curiosity through content exploration actions and serendipitous collection exposure. This reinforces Hinrich’s (2013) statement that exhibition spaces provide “entry points” for patron exploration and facilitate connections between “conceptually distinct visualizations that present the same set of information from a variety of perspectives” (p. 287). Hurdeman et al. (2018) emphasize patrons must be given options for next steps—URLs for retrieving items of interest, links to additional resources, ways to text oneself the information or navigate to it on their personal device, or options to scan an ID card to request an item.

But “not all who wander the library are lost” (McKay et al., 2015, p. 10); sometimes they’re exploring, letting their curiosity take the helm. McKay et al. (2017) also discuss browsing behavior in terms of the extent of the physical range covered, the closeness of examination, actions in the stacks (e.g., reading signs, standing back, horizontal and vertical examinations, head tilts, etc.), shelf-related actions (e.g., using their fingers, half pulls and complete pulls,

placemarking, etc.), triage location (at or away-from the shelves), and book evaluations (e.g., tables of contents, indexes, etc.). These actions signify curiosity within browsing. McKay et al. recommend displaying a large range of books for browsing, enabling multiple points of access to the collection, supporting “zooming capability” (unsystematic/scattershot browsing behaviors, e.g., “standing back then refocusing on books”) and placemarking (visible, possibly tangible, ways of marking one’s place), allowing seamless visual transitions from shelf to book, and other browsing- (and browser-) friendly options.

Deliberate, analog-style displays in the library provide additional opportunities to spark curiosity through engagement and interaction (Mikos et al., 2015; Terrile, 2021). Mikos et al. (2015) advocate for displays that move patrons from viewing a “monologue” to engaging in a “dialogue.” Effective displays are ones that create greater interaction and inspire greater circulation. According to press-competence theory (Lawton & Nahemow, 1973), individuals seek out less-challenging environments as they become stressed. Engaging with children’s books at stressful points in the semester could prove to be just the positive distraction a student needs to improve mood and promote stress recovery, thus increasing their openness and curiosity. (Art, music, and nature also reduce stress, according to the same theory.)

Question-posing opportunities, sticky note-based interactivity, action-oriented handouts, and trivia-based activities can be built into displays to increase attention, engagement, and curiosity-driven interaction, plus a sense of connection and community (Terrile, 2021). Terrile posed questions (e.g., “how many words can we make out of marshmallow?”) and tied a white board marker to the display for students’ responses. She also tried a Boggle-style

board for students to find words and a word ladder (e.g., “how many words start with...”). She attempted to build unique combinations of materials for novel vantages on the collection to pique interest, and she created virtual displays for a library homepage image carousel, connecting library database resources and books with upcoming library events. Such novel vantage points act as a useful “antidote” to the “visual predictability” of the stacks (Carlin & Varady, 1999, p. 46).

However, according to Rauser (2015), “Electronic discovery is not a magical fix. This is where the human brain, the ultimate discovery tool, is uniquely designed to get to the heart of the research” (p. 2). Students’ minds must engage with the search and source selection process— “search alone cannot fully meet the needs of information seekers” (McKay et al., 2015, p. 9); information seekers benefit from openness and individualized meaningful information pursuits, too. In whatever ways they can, “discovery” tools and layers must find pathways supportive of serendipity and surprise—the pleasantly unexpected—not just retrieval and relevance, perhaps akin to book and music recommender services.

Readers’ Space

In the 1920s, Suzanne Briet worked to establish libraries as spaces “open” to curiosity, places the public could go to explore (Roberts et al., 2022). This can go beyond how one chooses to explore the physical space. When combined with the concept of curiosity (and its motivations, etc.), we can also include where the mind goes and the virtual “space” built, optimized, and provided by the library. Even the term “open” implies both physical openness (open doors; open for business) and mental openness (open to and open for curiosity and exploration). According to Gorichanaz (2019, as cited in Roberts

et al. (2022)), curiosity goes part and parcel with “meaningful information activities” (p. 615), and there is a basic assumption that such activities occur in libraries.

Libraries exist outside courses and classrooms; students may engage with assignments in the library but the facility itself is outside the environment in which content is delivered to students. Many course-based assignments have structures that hamper students’ engagement with or the further development of their curiosity (be that state or trait style) (Deitering & Rempel, 2017). When students focus on meeting expectations, they experience risk aversion and emphasize “playing it safe”—both of which discourage curiosity. Collaborations between librarians and teaching faculty “create conditions where students feel motivated, capable, and safe enough to explore and learn in the research process” (Deitering & Rempel, 2017, n.p.). This could involve artistic and other aesthetic choices (like furniture and art), architectural design, renovation-related decisions, and more.

Kidd and Hayden (2015) underscore this advice, advocating for learners’ choosing how they want to explore concepts and phenomena. John B. Kaiser suggested in a 1927 Hawkeye yearbook message “that students take time each week to read books on some subject entirely outside [their] regular work...that throughout [their courses] in the university [they] learn to use books as tools and as sources of information; but that, above all, [they] learn to know books as friends” (Lacy et al., 2015, slide 7).

Similarly, Basbanes’s *Every Book Its Reader* (2005) highlights the power of books to “stir” individuals, arouse their curiosity and their passion, and trigger pathways and trajectories for lifelong learning

(Lacy et al., 2015). Peterson (2020) notes curiosity relates positively to one's belief that intelligence and ability are modifiable. Even when reading fiction (e.g., murder mysteries), curiosity can be piqued, as can the reader's belief in their ability to "solve" the mystery or gather the necessary clues; readers are challenged in a useful manner (Loewenstein, 1994). Peterson (2020) highlights the surge in curiosity generated during guessing, inventing, data-collecting, and problem-solving activities—readers experience all this through murder mysteries.

Hearing others' perspectives generates curiosity, too. Academic libraries hosting murder mystery-focused events or book clubs connect their campus community and student-readers with curiosity. If such ventures are not in the comfort zone or staffing model for a library, partnerships can help. Partners could include fiction-writing faculty/community members (especially in this genre), local public librarians or book club organizers, and even staff from an escape room company. Opportunities to invent, explore, and ask questions provide curiosity-triggering experiences that can be integrated into activities that present novel experiences to establish the library as curiosity-driving environment.

Knobloch et al. (2004) analyze curiosity, suspense, and enjoyment triggers for individuals reading novels and news items using structural-affect theory. This could inform librarians' bestseller acquisitions, displays, and reader's advisory work. Libraries can facilitate reading beyond their space, too, by extending the concept of "library" into other campus locations, social media, and online settings, and by creating recreational reading access points in dorms, offering online reader's advisory services, and working to showcase new books through social media access points (e.g., #NewTitleTuesdays; #BookFaceFridays; virtual bookclubs) (Lacy, 2015). Increasing students' access points can generate exploration,

convenience, and social connections, and bring the library into more personalized focus.

Archival Space

One access point, archives and special collections, engages individuals' curiosity, provides serendipitous and exploratory experiences, and highlights the unique, surprising, and novel for patrons. Archival content expands students' impressions of the past and influences their future in terms of research direction, worldviews, argumentation, and more. When we see things differently, we use our powers of observation more fully. Curiosity generates openness to the unfamiliar, providing greater opportunity for an individual to experience joy, delight, and discovery (Kashdan, 2010). Archives and special collections holdings, whether physical or digital, support curiosity in the academic library environment. Rosemary Haddad, quoted in Carlin and Varady (1999), states:

If you are considering acquiring it, do it. If you have already acquired it, make it available as soon as possible. There is no limit to the research potential of these materials, especially if they happen to be popular culture items. Apart from their research value, unusual collections can be major assets in fund-raising and public outreach. (pp. 48-49)

When considering how collections “captivate the user,” “engage the imagination,” and serve as a “catalyst for advanced research and scholarship” (Carlin & Varady, 1999, p. 49), librarians should remember such “users” could be—or become—a donor, too.

Works by Price et al. (2021) and Silva and McIntosh (2019) discuss independent studies in special collections and archives and the nature of awe within science and art museums, respectively. Surprise and uniqueness play a role in both studies, and both characteristics are important to triggering and experiencing curiosity. Price et al. highlight the potential for research projects to shift students from state curiosity into trait curiosity and/or domain-specific curiosity through exposing minds to new and/or awe-inspiring concepts (e.g., a dinosaur skeleton). Prior knowledge can factor into awe, too, through “an appreciation for how much is being learned” in an experience (Price et al., 2021, p. 21), which helps individuals detect knowledge gaps. This “positive awe” is, or should be, deeply embedded in the learning process. Prior knowledge positively predicts awe within museumgoers; the same is true for those engaging in archives research. Visitors benefit from knowing something of what they may see (e.g., baseline knowledge of an exhibit or collection) but not knowing so much that they end up feeling bored instead of engaged, or that feelings of “I know all this already” obstruct innovative perceptions of information or a topic.

Wade and Kidd (2019) argue knowledge gaps drive curiosity and, per Valdesolo et al. (2017), curiosity is an antecedent to awe. Shiota (2016) highlights how awe connects with critical thinking and McPhetres (2019) notes awe can aid individuals in recognizing their own knowledge gaps. The combination of critical thinking, awe, some pre-existing knowledge, and conscious knowledge gaps are all functions of curiosity that museums, special collections, and archive settings inspire for visitors through displays, exhibits, exploration-driving layouts, and more. Price et al. (2021) address display design features for museum-type environments that drive curiosity. They suggest positive awe be interwoven with display-based engagement, believing such spaces (i.e., museums) benefit from the infusion of awe throughout the experience. Curiosity should thus be

pursued throughout the visitor's experience, perhaps even before they arrive.

Scientific Space

Great as inspiring awe can be, libraries must think about other curiosity-driving experiences students may have within the library. Libraries are cross-disciplinary in nature; they trigger scientific as well as artistic and humanities-focused curiosity. Loewenstein (1994) establishes curiosity's critical role within scientific discoveries, and Shin and Kim (2019) argue curiosity can be considered bi-directionally: curiosity for what (forward-focused) and curiosity for why (backward-focused). Both directions are well-suited to science topics and to library environments—there is a complementary relationship between scientific discovery, libraries, and curiosity.

Science Café events within the library provide informal settings for dialogue between scientists and nonscientists—and/or burgeoning scientists (Yu, 2017). Such programming brings individuals into the library by triggering curiosity. Walking past conversations can divert attention, ignite curiosity, and motivate attendance to that or future events. Research shows scientific method instruction and subsequent research project opportunities produce a surge in curiosity, too (Peterson, 2020). Positive peer discussion can also generate curiosity within educational contexts. It stands to reason, then, that informal Science Café events would engage expert and peer attendees in ways that trigger state curiosity and that could generate domain-specific curiosity over time.

Similar informal events have taken place in Harvard's Cabot Science Library's smart learning environment (Huang & Vedantham, 2019).

Having created a student-driven learning environment, bringing student research into that setting plays an important role in the impression of the library itself and how it is used. Patrons see collaboration and know it is a space for that. Patrons see/attend research events (e.g., the Undergraduate Science Research Spotlight), conversations at the Discovery Bar, and poster sessions at the Puzzle Tables and know these things occur there. Patrons understand Cabot as a place of ideas and sharing, a space where learners “actively create and construct new information based on existing knowledge and interaction with peers and the environment” and where “users are encouraged to be generative, creative, proactive, and reflective” (Huang & Vedantham, 2019, p. 289). Thus, the library uses events and space design to inspire and grow curious patrons.

Creator’s Space

Libraries can engage patrons’ curiosity through visual and tactile experiences, too. Pryor (2014) addresses key considerations for artwork and technology locations within an academic library setting—accessibility, visibility, and opportunity. These variables ideally work together—visibility leads to accessibility that arouses curiosity and interest, leading to a sense of opportunity. One job of the academic library is to help students learn and grow by meeting them where they are at. For example, students may be aware 3D printing exists but have little knowledge of how it works, what software can be used to create 3D printing files, etc. (Pryor, 2014). Libraries can engage students’ curiosity by showcasing in-progress 3D print jobs and by facilitating opportunities to experiment with 3D printing at low-/no cost.

Combining interest in novelty with pre-existing knowledge can

inspire students' curiosity about tools/resources and their innovative application potential. If the idea is to showcase tools within a non-classroom, dynamic setting in an attention-getting way that builds interest and exploratory behavior within patrons and stimulates discussion, 3D printers and their activity can be curiosity-drivers. Students may feel anxiety or fear-driven hesitation about exploring technology—they could break it, they may not know what they're doing, it's out in the open and that intimidates them...It may be beneficial to build petting zoo-style programming, skill-building workshops, peer-to-peer learning opportunities, and work with student leaders in student government or residential life, to build comfort that transitions into excitement, curiosity, and exploration.

Artwork, a more traditional form of creative expression housed in libraries, has valuable curiosity-inspiring factors, too. Just how the presence of the arts supports curiosity can be found in library science literature, as well as in that of psychology, museum studies, the health sciences, and other fields. As far back as 1881, Homes advocated for museums of any and every kind existing within libraries—artwork installations would suit similarly. A century later, Simor (1991) states “exhibitions become a library’s new, powerful resource that educates, enriches, and stretches the mind and the senses, inspires, delights, renews, and refreshes” (p. 139).

Campus library artwork, therefore, is an attraction and may even be the institution’s only permanent art collection location (Cirasella & Deutch, 2012). Works can also showcase specific subject areas and community initiatives. Cornell developed visual imagery communication opportunities by displaying innovative student class projects, and science-themed local artists' works, at their library for life sciences, agriculture, and human ecology (Raskin, 2009). The University of Florida established an “Elegance of Science” art contest (Buhler & Davis, 2010) and their science library receives

funds from the artwork sales. Dowling College, the University of Tennessee, and Michigan State University have art contests in the library that offer prizes and/or opportunities for temporary/permanent display. The 1999-2002 renovation and expansion of the Brooklyn College Library thus required budgeting for artwork expenses due to public art-focused city-funded project mandates in New York City (Cirasella & Deutch, 2012). They readily accepted the opportunity to co-exist as a de facto campus art museum; the artwork encouraged curiosity and “careful looking;” provided an educational “starting point,” promoted visual literacy, and supplemented classroom learning (p. 5).

Artwork can elicit specific emotional responses (Rollins, 2011). Red excites while color similarities encourage visual exploration and correlation-seeking, which can prove rewarding. This knowledge could aid libraries debating artwork acquisitions and placement within their setting(s). The concept of “art” can be extended to interior design (the physical aesthetic of libraries) and multimedia as well (e.g., a screen of rotating open-access artwork images). Curiosity has a moderating effect on “daily stressor-related negative mood” (Drake et al., 2022)—meaning negative moods resulting from stressors are higher than usual on days when curiosity is lower than usual. The presence of curiosity-exciting artwork and multimedia, and the aesthetics of the space, could help lower stress-related negative moods for students in the library. Rollins also cites a wealth of medical literature findings which indicate reductions in stress lead to improved outcomes for patients. One could infer decreasing students’ negative stress-related moods could lead to better academic outcomes as well. The look and feel of their environment can clearly impact this. Thus, the potential benefits of positive mood-inducing artwork and curiosity-inspiring artwork go beyond engagement and interest. Emotional congruence theory also has a role in viewing art; individuals often interpret or perceive art in ways that match their own emotional state or feelings (Ulrich, 1999;

Ulrich & Gilpin, 2003). While Berlyne (1960) advocates for blending novelty with the familiar to inspire curiosity, when it comes to ambiguous or abstract artwork, staff should place them outside high-stress library locations.

Lighting theory can impact how individuals make sense of their space, too—brighter light encourages mingling and motion whereas “campfire light” (brighter in the center and darker at the edges) draws individuals in and encourages relaxation and bonding (Goldstein, 1980). Thus, the ways libraries approach lighting choices, and artwork acquisition and its placement, work to create (or dissuade) the types of activity and engagement desired (Rollins, 2011). Quiet study areas benefit from calming and reflective artwork. Collaborative, high-activity spaces could feature rotating artwork, vibrant colors, and/or abstract items to excite and energize students in these areas.

Information-Processing Space

Libraries have become “technologically-pervasive environments” (Arnone et al., 2011); they also observe how students process information as well. Some of this can be done through tracking virtual displays, database searches, and other technology-mediated options, as discussed in earlier sections. Curiosity and well-being can co-occur in spaces (Phillips et al., 2015). Connections with nature, found objects, and the arts all support curiosity and well-being—and can be useful elements to integrate into libraries. As noted in Peterson (2020), the various individuals connected with academic library environments can support curiosity by recognizing [it] as a modifiable characteristic; targeting ideas for which students have moderate knowledge; supporting epistemic beliefs associated with increased curiosity; directly teaching

students question-asking; providing culturally relevant curricula; and advocating for flexible academic contexts that have time and space for curiosity. (p. 11) While these suggestions go beyond library-as-curiosity-triggering-space, academic libraries can consider, customize, and capitalize on these recommendations.

Librarians might contemplate concepts from the gaming world, too. Gaming environments often provide settings where uncertainty serves as an attraction to the task at hand and the game itself (and uncertainty is a significant predictor for curiosity) (Arnone et al., 2011). Some games afford opportunities to create and pursue collaborative curiosity through group gaming, chat rooms/messaging options, and social network connections. Such features might also contribute to sustained interest and engagement. Uncertainty occurs within curiosity-driven exploration in open world video games; there is a resulting, necessary balance between uncertainty and structure—akin to the balance needed between knowing and not knowing (Gómez-Maureira & Kniestedt, 2019). When players become aware of the game world’s capacity for awe-inspiring moments, they are more likely to be curious for when and where the game world might provide additional such experiences.

Gómez-Maureira et al. (2021) note when players expect their exploratory behavior to be rewarded, or otherwise payoff, they experience a shift in their emotional investment in the game, too. Couldn’t the same be said for the academic library’s capacity to provide awe-inspiring moments? To reward patrons? To create lifelong appreciation? By knowing more about how space can factor into curiosity-driven activities and experiences, we can work toward building such moments within the academic library.

Looking Forward

The library-as-space can engage patrons' curiosity in many ways—through novelty, surprise, serendipity, interest, questioning, mysteriousness, persistence, ignorance, openness, and more. Shin and Kim (2019) argue that “iterative cycles of curiosity” (p.853) drive individuals toward this ultimate stage of interest. Libraries, then, should consistently strive to inspire, regenerate, and build upon patrons' curiosity. How academic libraries and librarians pursue, stimulate, and celebrate the capacity for curiosity within their environment holds tremendous possibility for “individuals and society alike” (Dan et al., 2020, p. 154). Library administrators should support curiosity-driven professional development opportunities for academic librarians—to “spark” their curiosity, pursue their interests, and engage with their world serendipitously, rather than strictly through role-focused professional development.

Dan et al. (2020) state “our environment is information-rich in ways that it has never been before” and “this abundance gives epistemic curiosity an unprecedented role in our lives” (p. 154). By identifying what individuals are curious about, we can create opportunities to more clearly perceive their various stages of curiosity—state, domain-specific, trait—and can work to encourage their curiosity's development. Fostering students' enjoyment and recurring engagement leads to patron satisfaction (Forrest & Bostick, 2013) and deeper connections with library environments and services. Such connections may live long into an individual's future as a library user and can impact how individuals share their perspective on libraries with peers and others. This may in turn drive more individuals to a deeper understanding of the role libraries play in supporting learners, may increase library engagement, and even impact library funding at all levels.

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Lauren P. Cantwell-Jurkovic completed her Master of Science in Library and Information Science (MSLIS) at Drexel University with a concentration in academic libraries. She worked in academic libraries at Universities in Pennsylvania, Grinnell College, and the University of Memphis prior to joining Colorado Mesa University (CMU) in 2014. Among other scholarly projects, she's co-edited the books *Finding Your Seat at the Table: Roles for Librarians on Institutional Regulatory Boards and Committees* (Rowman & Littlefield, 2021) and *Memphis Noir* (Akashic Books, 2015); and has authored or co-authored articles and book chapters on topics

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2. “Burning Questions”

*The Role of Conversation and Student-Led Research
Topics in Developing Intellectual Curiosity*

WENDY HARDENBERG

“The opportunity to engage in real discourse with students, where I as a librarian take their ideas and curiosity seriously, allows them to do the same and either use or rediscover the curiosity that should always animate education.”

Introduction

At Southern Connecticut State University (SCSU), all first-year students take a seminar in their first semester called INQ 101: Intellectual and Creative Inquiry. The course is relatively unique among First-Year Experience (FYE) offerings in that it combines “get to know the university” programming with real intellectual work, whereas many FYE seminars focus fully on one or the other. The main academic component is a semester-long, start-to-finish research project called the First-Year Research and Artistry Experience (FYRE), which passes through crafting a research question, seeking out existing knowledge, and carrying out a chosen methodology before culminating in a conference-style poster. The theme for each section is chosen by its instructor based on their personal expertise and interest, but the students develop their own research questions.

First-Year Experience Librarian

As the FYE librarian, my ability to do my job well has been enhanced by teaching my own section of INQ 101 every fall since 2013. For my first four years, the structure of the course was looser, and I oriented mine around the concept of “transliteracy,” which encompassed reading and talking about different types of literacy, including traditional literacy, information literacy, media literacy, financial literacy, and “college literacy.” When our FYE program

moved to the FYRE curriculum in 2017, I retired my transliteracy course in favor of one themed around curiosity. Since I am a librarian, my expertise is much less about any particular subject area and more about a set of skills and attitudes that enable lifelong learning. I had seen many students, both in my own classes and in the library sessions I taught for other instructors, struggle to find true interest and passion in their studies. So, I decided to start the course with having them read a book about curiosity—Brian Grazer’s *A Curious Mind: The Secret to a Bigger Life* (2015)—and then guide them toward both cultivating curiosity and aiming it at what they want rather than what I want.

In practice, this has involved many conversations in various modalities and between varying numbers of people. Grazer’s advice-filled semi-memoir is a perfect starting point for college students in their first semester. It has a breezy, oral style of writing, lots of interesting stories from the life of a famous movie producer, and nuggets of wisdom that can immediately be applied to their own lives. As a class, we discuss things like imagining other people’s points of view and allowing our own points of view to be disrupted, how curiosity relates to human connection, and what to do after you realize that you “can’t Google a new idea” (Grazer, 2015, p. 197). Grazer claims to have essentially built his whole life around the concept of “curiosity conversations,” and I ask my students to try them out on people in their own lives. I meet with each student one-on-one at least twice during the semester, once at the beginning and once during advising time, since I serve as their first-semester academic advisor. I have my students discuss class topics in pairs, small groups, and all together, and I also have them do self-reflective writing, some formal (a 500 word “curiosity memoir,” a final “curiosity reflection” paper) which only I respond to, and some informal (blog posts about their curiosity conversations, events they’ve attended on campus, the things they’ve found themselves curious about each month, etc.) which both I and their classmates respond to. All of this serves to create a climate in which students

can take themselves and their thoughts seriously and know that others are doing the same.

First-Year Research and Artistry Experience

The FYRE project forms the academic and intellectual heart of INQ 101. Each of my students develops their own “Burning Question,” which is shorthand for a researchable, non-Googleable question that the student really wants to know the answer to, and chooses their own methodology. However, they do so in the context of a FYRE group whose members share an overarching topic chosen by consensus. At every step they’re encouraged to use their curiosity and care about their work. Some students enjoy the project more than others, of course, but it is remarkable to see what every student can accomplish. Most importantly, they all learn a lot about research and long-term projects, even if it’s what not to do next time. I also have them write a letter of advice to next year’s class at the end—common themes include time management and procrastination, collaboration and communication, making sure to pick an interesting topic, and asking for help. FYRE is truly an experience for these students.

From the perspective of the Hilton C. Buley Library instruction program, the implementation of FYRE across all sections of INQ 101 completely transformed the one-shot library session that I had spent years building into a required piece of the course. I began in 2011 with approximately 75% of the INQ 101 sections visiting the library, each one representing negotiation and relationship-building with the instructor, who may not have previously envisioned any kind of research project in their syllabus. Once FYRE reached full swing, 100% participation was easy to achieve and the negotiations were nearly non-existent, because the connection to library resources was now so transparent. As far as my workload was concerned, I no longer had to customize worksheets for every class

since we were all engaged in the same project, and I could also post the worksheet online for students to use rather than printing hard copies for everyone. The greatest revolution, though, has been that the “one-shot” session has become part of a continuum of research that stretches the whole semester, a steppingstone instead of an island. I don’t have to worry about trying to do everything anymore—the library session is, rightly, just a small piece.

INQ 101 library sessions begin with a very brief tour of the library building and services, but then allow students to complete the INQ 101 FYRE Library Assignment at their own pace with the assistance of a LibGuide (<https://libguides.southernct.edu/fyre>), plus the librarian, the professor, and sometimes the peer mentor. I recently had some heartening outside validation of my constructivist approach. Though I schedule all the sessions, meet with all the new faculty members, and teach as many of the sessions as I can, realistically I have to get some help from my colleagues. I walk those volunteers through the lesson plan and let them observe me teaching one or more sessions, but old habits die hard. So, I was teaching a session for an instructor who by luck of the draw had always previously had one of my colleagues teach her session. It turns out that in the past my colleague would spend time going through the worksheet with the whole class, which led to students tuning out before they reached the second page where they’re supposed to record the sources that they find. Indeed, though at first glance it might seem to be more efficient to speak to the whole class at once, efficiency for the librarian does not necessarily translate into students truly grasping the activity they’re being asked to engage in. My version—with students all working at their own pace and asking the same questions over and over and chatting with their neighbors—looked significantly more chaotic, but the instructor told me that the students all advanced much further through the assignment on their own than they did when they were walked through it.

While many INQ 101 instructors have stricter parameters on the topics and research questions their students can work on than I do

in my own class, I still do my best to spark intellectual curiosity in each library session. In fact, after another recent session, the instructor—unprompted—noted with approval what he called my “light tone” and habit of kneeling next to students or hopping up on desks to chat about their questions, because he thought it was more engaging for them. It certainly helps that the class is called “Intellectual and Creative Inquiry,” and it’s also helpful that the FYRE project refers to students’ research questions as “Burning Questions,” because it really sets the right mood. Though I am often called over to answer basic procedural questions (“where do I click to find this?”), even those can evolve into a real conversation with the student, during which I honestly want to know their thoughts and the student, in turn, finds their way to articulating them.

Unsurprisingly, I find that my views resonate significantly with those presented in Veronica Arellano Douglas and Joanna Gadsby’s article “The Power of Presence: One-Shots, Relational Teaching, and Instruction Librarianship” (2022). They apply Harriet L. Schwartz’s concept of Connected Teaching to librarianship, not defending one-shot library sessions, but nevertheless identifying them as an opportunity for students and library educators to develop relationships, with all the positive effects that can result from that. As they note, “[w]e can take the time we have to tackle assumptions and uncover needs” (Arellano Douglas & Gadsby, 2022, p. 809), responding directly to what students are asking for in the moment, showing them that they, their thoughts, and their development matter. Arellano Douglas and Gadsby also quote Schwartz on the subject of when students feel that they matter, “describing ‘interactions as important not only when a professor complimented their work but also when they sensed that their ideas or work were important to the professor’” (Arellano Douglas & Gadsby, 2022, p. 811). This can be extended to teaching librarians, especially when students are able to have those one-on-one interactions that wouldn’t be possible in a classroom led entirely from the podium. I recently had a student ask me, after I told him his Burning Question was very interesting, if I really meant it—he’d heard the same thing

from his professor and others as well, and it mattered to him whether we were just saying that or not. This is referred to as “intellectual mattering” by Schwartz (Arellano Douglas & Gadsby, 2022, p. 811), and I believe it is a prerequisite to any pedagogy that wishes to foster intellectual curiosity.

Intellectual mattering shows up in the INQ 101 library session classroom in a number of ways. One of the most prominent, of course, is talking students through using their curiosity to improve their Burning Questions. Sometimes they need help finding an angle on the class theme that resonates with them. This tends to come up when a student has no ideas written down at all. I will ask them what they’re interested in, just as a person, which then allows me to make a suggestion that fits their professor’s requirements while taking into account the student’s own preferences. As an example, during one recent INQ 101 library session, I was walking around the room, on the lookout for raised hands and glancing at the students’ computer screens to see how they were doing. They had already had more than half an hour to work on the assignment, and I noticed a student hadn’t typed anything on his worksheet at all. I asked how he was doing and sat down in the chair next to him to chat about where he was with his Burning Question. The answer turned out to be nowhere—he hadn’t been able to think of a single thing to work on thus far. When I asked what he was interested in, after much thought he finally said, “food.” I then asked what it was about food that interested him, and he eventually came up with “food and culture.” Since most of his classmates were asking questions that had to do with SCSU, I suggested that he might look into how SCSU students from different cultural backgrounds feel about the food options on campus. Upon hearing this, he perked up and started typing. We talked a little bit about what his methodology beyond the library research might look like, and the fact that he likely wouldn’t be able to find anything about SCSU specifically among the library resources, but that he might be able to find research about food and culture at other colleges. I also told him that I was excited for him and the interesting things he could find out. I may not ever

get to see where that student's research goes or whether the little spark I saw will properly catch fire, but I was still able to help him shape some rather inchoate ideas into something usable that had the potential to feed his intellectual curiosity.

Sometimes a student has, in fact, come up with a question, but it's one that they feel like they "have to" use and have no attachment to. Those students are delighted when I talk them through discarding such a question in favor of one they're actually interested in. In a session a few years ago, I spoke to a young woman whose excitement was palpable when she learned that asking a question about the Marvel Cinematic Universe was entirely legitimate. I believe that validating students' interests as proper avenues for research is a key component in helping them open up to intellectual curiosity, so they can use the tools we teach them on something that is wholly their own. It also happens that students are at first too ambitious in their question, which can often be the case for students whose interests lie in the hard sciences. These students need to have a conversation about the art of the possible—like a student I spoke to recently who wanted to look at how consuming different macromolecules affects the body. She was disappointed, but she understood when I explained that she wouldn't have access to a lab during this class to do that kind of work, but that in the future she'd be able to study all the macromolecules she wanted. She was able to redirect her focus toward how college students understand nutrition, while still knowing that her original idea was perfectly valid, just temporarily unmanageable.

Sometimes the student has already identified what it is they want to research, but they're struggling with the wording of their Burning Question. Those are some of the most rewarding conversations—where the student explains to me what it is they want to know, and I suggest possible formulations that could work as research questions. Many get very excited when I point out that the forbidden "yes/no" question they're currently asking can be instantly improved just by adding the phrase "to what extent" at the beginning. I spoke to a student who started with something

like, “What in the present-day world decides what is ‘cool’ or ‘not cool’?” I asked him about what exactly he meant by “present-day world” and who might be affected by messages regarding “coolness.” We arrived at, “How does social media drive what is ‘cool’ or ‘not cool’ for young adults in the United States?”, which he was very pleased with. Another student started out by asking, “Did you feel forced to get the COVID-19 vaccine?” After a conversation about who “you” might be and what she wanted to do with her research, we came up with, “To what extent did students and employees at SCSU feel coerced into getting vaccinated against COVID-19?” Finally, I talked to a student who had written down, “What should I do as an undergrad in order to get into dental school?” but wasn’t satisfied with it. I talked to her about choosing an aspect of her identity that she could research in relation to dentistry, and after thought and discussion we struck on, “How welcome do Latinas feel in dentistry?” Partnering with students in this way—letting them take the lead on the content of their research and providing assistance only on the finer aspects that take time to develop—gives them ownership over the experience and affirms them as intellectual beings. It also lets them have just enough knowledge to stay curious and pursue their chosen topics.

Beyond the heady conversations that surround Burning Questions are more routine but equally important conversations that advance students’ understanding of how the library functions and how it factors into their work. A conversation that comes up with virtually every student in the classroom is the difference between a topic and a subject area. The worksheet (see Appendices at the end of the chapter) asks students to find the librarian for their major as well as their FYRE project subject area. Nearly all students initially list the subject as either the topic of their question or the theme of their section of INQ 101. They then discover that there isn’t, for example, a “happiness” librarian, so we determine the subject of their question together. Perhaps it’s concerned with what’s going on in people’s heads, so it might be a psychology question. Perhaps it’s focused on college students, so it might be an education question.

This (hopefully) gets them thinking about the fact that you can look at any question from different perspectives, and they get to choose how they want to approach it. This can begin to broaden their minds, and it also lets them know that there are librarians for anything they might study in their college career, not just their major.

Another conversation that I probably should have with nearly every student, though not all of them ask, is about primary and secondary sources for their FYRE project subject area. Even students who feel very confident that they know the difference between a primary and a secondary source are often drawing on the history definition that they learned in high school. Since Burning Questions tend to skew very heavily toward the social sciences, the history definition is rarely useful for what they're doing. So, first I help them navigate to the Different Types of Sources guide. I then quickly point out the generic definition on the homepage before directing them to the appropriate tab at the top where there are examples for almost all the different majors. I read the examples of a primary and secondary source for their FYRE project subject area aloud to them—each consists of a short description above a citation and link to the actual source in question—and then I ask, “What do you think is the difference between those two things?” Occasionally they'll confidently and correctly tell me right away, but more often there will be a pause... sometimes a very long one. I wait out that pause, and I listen to whatever the student has to say next. If they're really unsure, I'll ask more leading questions, such as, “Who writes a research article? Who writes a newspaper article?” Frequently they'll find their way to articulating the difference in a way that I wouldn't have used, but which is still substantially correct, and I tell them that's what they should write on their worksheet to answer the question. Certainly not every student comes out of this conversation with a full understanding of primary and secondary sources, but they have a much better chance, and they also get an opportunity to practice on the sources that they find later on,

because in the box for each source it asks, “Primary or secondary source? How do you know?”

One more conversation that comes up for the vast majority of students is about the Search Strategy Builder. A fantastic tool originally developed by the University of Arizona Libraries, the Search Strategy Builder (<https://libguides.southernct.edu/c.php?g=700711&p=4971712#s-lg-box-17597342>) helps students break their questions into keywords and synonyms, and then puts them together into a proper Boolean search without the students having to know exactly how that works. In the days before FYRE, it was way too much to teach any aspect of search strategy in the INQ 101 one-shot, but during FYRE's pilot phase, I noticed that students' questions on the Library Session Reflection had shifted, and they were suddenly concerned about how to search “better” or “correctly.” Some students will brainstorm keywords and synonyms and then notice that they need the Search Strategy Builder, others will ask about the Search Strategy Builder before starting on keywords at all, and still others will ask about SouthernSearch (Buley Library's branding of the Primo discovery service) and try to skip search strategy entirely. These last ones I will always gently steer back to the Search Strategy Builder along with their classmates, explaining that they need to fill in at least some of the boxes, click the button to create a search string, paste it on their worksheet so they remember what they did, and only then click into SouthernSearch to try it out. I insist on this to make sure that students know they have options that don't include simply typing their entire natural language question into a search box—that approach may work sometimes, but those times diminish significantly the further they get in their education. It's always fun to help students look at their Burning Questions to identify keywords and ponder synonyms, but it's also very important that they get to bang around trying things on their own. First, so they have a better chance of remembering how it works; second, so they can have the experience of getting frustrated in a place where there's someone ready to swoop in to talk to them about what they've done so far and

how they might be able to move forward; and third, so they have the freedom to follow their own curiosity.

Naturally, these strategies for nudging students toward curiosity don't work for everyone—some remain resolutely disengaged, or they accept a modified version of their question without internalizing how it has changed. On the other hand, some of them really latch on and produce amazing and passionate work. I am proud to see the students' hard work exhibited at the program-wide FYRE Day in December. When I see a "to what extent" question, I know that I'm seeing a student who took what I had to offer and ran with it.

Conclusion

The opportunity to engage in real discourse with students, where I as a librarian take their ideas and curiosity seriously, allows them to do the same and either use or rediscover the curiosity that should always animate education. In her article "Investigating Nontraditional First-Year Students' Epistemic Curiosity during the Research Process: An Exploratory, Mixed-Methods Study" (2022), Michelle Keba Knecht found that "librarians and professors should create opportunities for students to select research topics to which they have a personal connection to pique the students' curiosity and encourage them to dig deeper into the research on their topic" (p. 883) and that "[t]he results of this study imply that there is a statistically significant relationship between epistemic curiosity and information literacy self-efficacy" (p. 882). Though SCSU's first-year class consists almost entirely of students starting college right after high school, they come from very diverse backgrounds, including large populations of first-generation students, students of color, and Pell-eligible students. Students from marginalized backgrounds have even more need of librarians' and professors' "guidance and support [to help] alleviate those feelings [of anxiety and frustration]"

(Knecht, 2022, p. 882) that may arise as they begin learning how to do college-level research. I feel strongly that the FYRE curriculum, including the library session, provides our students a solid foundation on which to build their intellectual curiosity and the relationships to make it meaningful.

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Appendices

Appendix 1.

ISQ 101 FYRE Library Assignment

Name: _____

1) Write your Burning Question here:	
2) What is your major?	3) What is your FYRE project subject area?
4) Who is the librarian for your major? Write their name and contact info here:	5) Who is the librarian for your FYRE project? Write their name and contact info here:

- 6) How can a subject librarian (like the one for your FYRE project) help you?
- 7) What is the difference between a primary and a secondary source in your FYRE project subject area?
- 8) To complete this assignment, you will have to use [SouthernSearch](#) to find sources relevant to your Burning Question. Use the chart on the next page to help you figure out what kinds of sources you've found and keep track of them.
- What are the keywords in your Burning Question?
 - What are some synonyms or alternate search terms for those keywords?
 - Type your keywords and synonyms into the Search Strategy Builder on the Finding Sources page of the Course Guide and then paste the resulting search string here:

Questions? Don't forget about the ISQ 101 FYRE Course Guide! (<http://libguides.usfhermi.edu/fyre>)

Appendix 2.

Pro Tip: Check your citations for accuracy! If something seems weird, get a second opinion.

<p>A Background Information (Try books and encyclopedias first)</p> <p>Citation:</p> <p>How will this help with your topic?</p> <p>Primary or secondary source? How do you know?</p>	<p>B Current Information (Try newspapers, magazines, and Google first)</p> <p>Citation:</p> <p>How will this help with your topic?</p> <p>Primary or secondary source? How do you know?</p>
<p>C Academic/Scholarly Information (Try books and journals first)</p> <p>Citation:</p> <p>How will this help with your topic?</p> <p>Primary or secondary source? How do you know?</p>	<p>D Alternative Opinions, Arguments, Solutions (This may be any type of source)</p> <p>Citation:</p> <p>How will this help with your topic?</p> <p>Primary or secondary source? How do you know?</p>

Questions? Don't forget about the ENG 101 FYRE Course Guide! (<http://libguides.southernct.edu/fyre>)

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prf.php?id=58a34948-7cdb-11ed-9922-0a
d758b798c3](https://libguides.southernct.edu/prf.php?id=58a34948-7cdb-11ed-9922-0ad758b798c3)
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Wendy Hardenberg holds a dual MLS/MA in Comparative Literature from Indiana University-Bloomington and has been the Instruction Coordinator for Buley Library at Southern Connecticut State University since 2011. She is also the librarian for the First-Year Experience Program, the Honors College, Interdisciplinary Studies, Music, and Philosophy, and she has taught her own section of the first-year seminar course every fall since 2013, in addition to 50+ library sessions for all the other sections. Despite occasional forays into library science, her creative activity typically consists of literary translation from French, with her translations having been published by or forthcoming with AmazonCrossing, *Asymptote*, *Columbia Journal*, HarperCollins, *One Sentence Poems*, Orison

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3. Curiouser and Curiouser

Redirecting Research Anxieties

CHRISTINE ELLIOTT AND LAUREN MOVLAI

“For students facing research concepts that cause them anxiety, they need practice and a safe space to follow their curiosity in taking broad topics, breaking them down into searchable concepts, and navigating the abundance of resources available through the library. . .”

Introduction

First and second-year students are understandably overwhelmed when starting their research journeys. Academic expectations and the pressures to succeed can increase student anxieties when beginning any research assignment. Where do they start looking for ideas? What do they do when they can't find anything on their own? By creating spaces where students are encouraged to embrace creativity and to try and fail on a small scale, we can help ease their academic anxiety.

This chapter identifies challenges experienced by students with diverse needs and experiences at the University of Massachusetts, Boston, focusing on first-year courses, including orientation and course specific-instruction sessions for 100-level students. We outline activities that help students embrace creativity and overcome research anxieties and examine how instruction librarians can make research inquiry and exploration less daunting. Each lesson/activity is grounded in the standards outlined in the ACRL Framework for Information Literacy, specifically “research as inquiry” frame. The exercises and activities in this chapter include:

- Using “gamification” to enable students to explore library services at their own pace with a digital escape room
- Creating low-stress activities with applications like Slido
- Providing in-class opportunities for students to work through activities and challenges with peers in small groups
- Using keyword identification tools and collaborative worksheets/activities for narrowing and revising broad topics
- Providing prompts for research “dead-ends”

In addition to highlighting these highly adaptable exercises for a wide range of instructional and outreach needs, the chapter includes survey feedback from students participating in 100-level classes that have a library instruction component during the Fall 2022 semester.

Literature Review

This chapter is greatly tied to the Association of College and Research Libraries (ACRL) frame “research as inquiry” in that the focus is on how curiosity or inquiry-based activities are used to address the ongoing prevalence of library anxiety in first-year college students (ACRL, 2015). Students show ongoing struggles in formulating their own research question early in the research process or identifying the main purpose or question in scholarly publications (Fister, 2022; Scharf & Dera, 2021). Having a clear and focused research question or focus is essential for driving curiosity and inquiry-based exploration of available resources (Badia, 2016; Taylor, 1962; Van Der Meij, 1994). It is important for library interactions during the first year to focus on honing this skill.

While it is established that many, if not most, first-year students struggle with university level research, it can be argued that these challenges are at least in part due to transitioning already present research skills to the research norms of their university (Kocevar-

Weidinger et al., 2019). Therefore, when teaching information literacy (IL), instruction should acknowledge and build from these known skills. This is sometimes known as an asset-based, or constructivist, approach to learning (Cooperstein & Kocevar-Weidinger, 2004). One approach to asset-based IL instruction is asking students to list five things they researched in their personal lives during the past year (Kocevar-Weidinger et al., 2019). The responses were coded into five categories, one being reason. Within the category of reason (a motivating factor for information-seeking behavior?), the two biggest factors were curiosity and problem solving. The researchers found that “in addition to curiosity, our participants’ research was frequently motivated by problems that varied greatly in subject, urgency and complexity. Our participants proactively sought answers to their individual problems in a range of areas, including active citizenship, legal matters, health issues, college choices and future careers” (Kocevar-Weidinger et al., 2019, p. 176). These examples show that, while students view their own personal research as inquiry- and curiosity-driven, there is room to infuse the same curiosity into class assignment-driven research.

Another barrier to students further developing their research skills is library anxiety; a well-documented, and well reported, ailment experienced by college students. This is especially present in first-year and first-generation students (Carlile, 2007; Clark, 2017; Hodge, 2022; Jiao & Onwuegbuzie, 1997; Lemire et al., 2021) who are starting their academic careers with little, if any, research and library experience. It can also be helpful to look at how library anxieties contrast in different populations. One study, for example, found that African Nova Scotians expressed very positive attitudes toward public libraries prior to their university experience (Fraser & Bartlett, 2018). Despite these positive attitudes, they experienced an increase in library anxiety through their years attending university. This was due to several barriers, but interactions with library staff were a prominent factor. Caucasian Nova Scotians however, initially had more library anxiety, which then declined slightly during their enrolment. Students felt that librarians/staff “were not visible in the

library and were too few to accommodate the needs of students” (Fraser & Bartlett, 2018, p. 12). This fear of the library, and library staff, can result in students refraining from asking for research assistance despite their need for support (Hodge, 2022; Lemire et al., 2021).

Another source of anxiety, for first-year students especially, is the research process itself. Many first-years are just beginning to explore and establish their knowledge of particular subjects and do not have a journal or author/scholar to use as a starting point (Badia, 2016). In many cases, the use of research paper assignments in the first year is to allow students to explore existing literature on a subject. However, instead of interpreting this as an opportunity, many students see this as a test to meet the basic requirements of the assignment while nervously avoiding plagiarism (Fister, 2022), (2022).

Conversely, there is also a growing focus in the literature about overconfidence in first-year college students (Kruger & Dunning, 1999), which suggests that “persons who are not proficient in a skill tend to overestimate their abilities in that skill and have difficulty recognizing proficiency in others” (Hodge, 2022)—this is called the Dunning-Kruger effect. If a student has trouble with a research task, they will place the blame on the library’s confusing website or building as to why they are unable to succeed as opposed to reflecting on their own skills. Helping students realize that there are research and information-seeking skills that they still need to develop is part of the battle for librarians.

One way to combat library and academic anxiety, as well as this overconfidence phenomenon, is through approaching research with curiosity. Intellectual risk taking, and similar terms such as creative learning, have slightly different definitions depending on who’s doing the defining but most center around the importance of students taking the risk to be wrong, change their assumptions or beliefs with new information, and pursue inquiry (Teagarden et al., 2021). “Creative curricular experiences are designed by allowing for one or more of these elements to be determined by students

(e.g., students can come up with their own problems or task, their own process for addressing the problem and their own ways of demonstrating success”) (Beghetto, 2021 p. 607).

It is impossible to engage in the creative process without some failures. Therefore, a willingness to keep going through potential failures and to accept potential failures are both extremely important. Failure can lead to positive outcomes through the iterative process, but it is also a useful approach that leads us to recognizing and accepting the challenges of uncertainty inherent in problem solving and creative thinking (Henriksen et al., 2021). In educational settings, failure assumes a negative context, even while creativity and curiosity are touted. As education moved more towards measurable outcomes and standardization, the acceptance of uncertainty, unpredictability, and failure became less and less. Many educational systems view failure as a problem to be solved rather than accepting it as part of the learning process (Henriksen et al., 2021).

Creative learning requires more risk-taking and therefore a greater chance of setbacks and failures. Adaptive risk-taking is an approach where risk-taking leads to the development of adaptive behaviors and outcomes (Beghetto, 2021). These adaptive behaviors and outcomes are directly linked to having productive and creative curricular experiences. Adaptive risk-taking can lead to emotional reactions regarding setbacks and failures, which educators should be aware of and prepared for (Beghetto, 2021). Establishing an environment where risk taking is expected and encouraged, and where students are supported, is one way to offset this. This kind of environment lends itself well to creative learning opportunities where failure can be reframed as productive failure that leads to a better solution.

UMass Boston

The University of Massachusetts, Boston (UMass Boston) is a higher education institution that provides undergraduate and graduate-level programs to a highly diverse student population. With around 15,600 enrolled students (based on academic year 2021-2022), UMass Boston serves the surrounding community as the only public research university in Boston. Healey Library serves as the campus library and has diverse offerings to meet the research needs of the surrounding community, including first-generation, commuter, international, graduate, undergraduate students, and non-UMass Boston community members. The 2021-2022 academic year included 74 library sessions for first-year students, provided by the Reference, Outreach, and Instruction (ROI) department. Many of the students that attended these sessions were first-generation or ESL (English as a Second Language) students that may require some unique or supplemental materials to be covered compared to students may be familiar with American university libraries/research.

Learning Activities

The authors are sharing a collection of lesson plans and learning objects created specifically to address research fears and anxieties among first-year students. The activities listed below were used to prompt and inspire curiosity and inquiry-based exploration of a topic and can be found in this [linked toolbox](#) and/or in the references for this chapter (Elliott & Movlai, 2022).

Activity: [Digital Escape Room Orientation](#)

The purpose of this activity is to simulate an in-person tour of Healey Library at UMass Boston. Users are introduced to each floor of the library with highlighted information about library services.

Learning Outcomes:

1. Students will be aware of various library services.
2. Students will familiarize themselves with the different floors of the library.

Delivery: Remote

Summary: The library built a module into the campus's orientation program that allowed individuals interested in the library to use a digital escape room to "travel" through the 11 floors of the library. The escape room is viewable in our toolbox. All questions are presented as low-stakes interactions, allowing users to answer questions as many times as they like before continuing. The escape room highlighted here was built within Google forms and includes a post-activity survey for users to share their experience.

Activity: [Introduction Trivia/Questions](#)

The purpose of this tool is to prompt students to

reflect on their own experience with library services in a low-stakes environment.

Learning Outcomes: Learning outcomes can vary depending on the questions used and the goal of the instructor. For the purpose of this chapter, we focused on the following outcomes.

1. Students will anonymously identify their concerns or confusion when executing specific research tasks.
2. Students will learn about specific library services and tools that help with establishing basic knowledge about a subject.
3. Students will learn about what resources they can use to find relevant scholarly and popular sources.
4. Students will practice keyword generation in a group setting.

Delivery: In-Person, remote, and hybrid

Summary: This activity is highly customizable and can be easily duplicated and focused on any subject or topic. A mix of both broad and focused questions will inspire students to both reflect on their own information-seeking habits and learn about specific tools and databases that contain the sources they need. You can view examples in our toolbox.

The authors used introductory activities like this as a learning tool. For example, when students respond to “Are all library sources peer-reviewed, scholarly sources?” the class transitions to a larger discussion

about why both scholarly and popular sources are available in the library and the benefits of using both in academic research. Open-ended questions about specific subjects are great introductory exercises in curiosity-driven exploration. This is a great opportunity to encourage students to utilize basic internet searches and following links that inspire their curiosity on a topic about which they may know very little.

Activity: [Breaking Through Research Dead-Ends](#)

The purpose of this activity is to help students individually, or in a group, determine how to push past a research dead-end. When a search is resulting in no helpful or relevant sources (or way too many), what is the next step?

Learning Outcomes:

1. Students will identify additional keywords from articles and database-presented subject terms.
2. Students will reevaluate their failed search based on what the problem was (relevance, too many results, not enough) and available sources through the library's discovery tool.
3. Students will execute a new search using newly collected search terms.

Delivery: In-Person, remote, and hybrid

Summary: This activity can be executed a few

different ways. Through collaboration with the instructor, a librarian can challenge the class to search for a specific topic together. The librarian can complete the searches and follow steps provided by the students on a projected screen, searching for a topic as a class and experimenting with search terms to explore different results' pages, particularly when there are no or very few helpful sources on-screen. This also works well as a small group activity, where each group has a worksheet they complete while the librarian and instructor circulate to provide guidance as necessary. Another effective use of this activity is during one-on-one support with a student, either in-class or during a consultation. During this exercise, practice active listening with the student and take notes as they speak.

Methods

To get a better snapshot of the effectiveness of these curiosity-driven lessons and ascertain which information-seeking skills first-year students most struggle with, the authors developed a short, four-question survey. Since the survey is sent out to UMass Boston students, and the anonymized results will be published, the authors went through their institution's IRB approval process. The data collected from this survey helped librarians clearly determine if departmental lesson plans and activities address student anxieties.

The survey itself is very simple and direct: three multiple choice questions, with an opportunity for respondents to select all that apply, and a final open-text question, all through the SLIDO platform. Librarians read this statement to students to ensure they

were informed and comfortable before answering: “Your part in this research is confidential, anonymous, and voluntary. That is, the information gathered for this project will not be published or presented in a way that would allow anyone to identify you. Information gathered for this project will be password protected and only the research team will have access to the data.” After each library session, the librarian downloaded the raw data into a rolling Excel sheet, and entered responses into a Google form, from which the bar charts in the results section are pulled. The survey questions are available in our [toolbox](#).

The fourth question of our survey asked students to reflect on how the library session increased their comfort level in identifying and finding information on their own. We coded responses by reviewing the data, developing the following six themes, and then having each author attach the appropriate theme number(s) to each response. We then reviewed the data as a group to make sure we reached agreement in the few instances where our individual coding differed. We only excluded one entry, “power points,” as we felt it didn’t fit into any of the themes, and didn’t provide enough information to be useful.

Our Themes

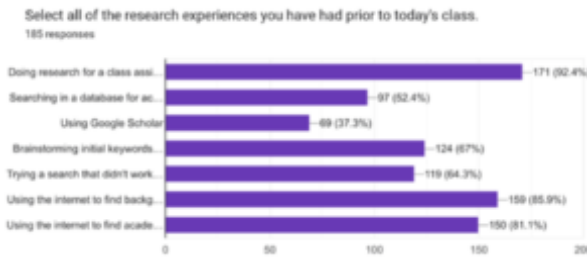
1. Feelings: comments that note a change in feelings, such as “less worried,” “reassured,” and “less overwhelmed.” We also included general positive or negative feelings like “all good” or “you did great.” within this theme. We notably only received positive feeling statements for both.
2. Research strategy: comments that noted the use of Boolean operators, or other search strategies introduced in the session
3. Places to search: specific databases and research tools addressed by the student
4. Assignment: comments that clearly connect how library resources and search methods can be applied to the successful

- completion of their assignment(s)
- 5. Contact: comments that specifically address contacting a librarian, finding support, or using chat services
- 6. Citations: Specific comments relating to APA or MLA citation creation or generators

Survey Results

The survey was launched September 2022 to late October and was presented to a total of 413 students in 100-level courses across various disciplines. We had a total of 264 responses, a 63.95% response rate.

Pre-Session Survey Prior Experience:



Pre-session survey responses

Pre- and Post-Survey Research Experience Comparison

At the start of class, we asked students via pre-session Slido survey “What (if any) aspects of research do you find most challenging? [select all that apply]” At the end of class, we asked students via post-session Slido survey “What aspect(s) of today’s lesson did you

find most helpful? [select all that apply]” The table below compares the responses.

Research experience/ strategies	Pre-session	Post-session	+/-
Knowing where to find articles	92 (42.8%)	161 (80.9%)	+38.1%
Finding useful articles	140 (65.1%)	129 (64.8%)	-0.3%
Being able to tell if an article is helpful or not	125 (58.1%)	104 (52.3%)	-5.8%
Narrowing down topic	129 (60%)	104 (52.3%)	-7.7%
Brainstorming keywords	57 (26.5%)	115 (57.8%)	+31.3%
Using library resources	82 (38.1%)	154 (77.4%)	+39.3%
Asking the library for help	71 (33%)	111 (55.8%)	+22.8%
Understanding what’s expected for your research assignment	115 (53.5%)		

Coded Raw Data from Open Text:

In our only open-text question, students were asked “In what ways do you feel more comfortable finding and identifying helpful library resources after today’s session?” We received a total of 55 responses with percentages recorded cross all six themes below:

- Feelings: 14/55; 25.5%
- Research: 21/55; 38.2%
- Places to Search: 39/55; 71%
- Assignment: 8/55; 14.6%
- Contact: 7/55; 12.7%
- Citations: 4/55; 7.3%

What We Learned

In comparing the pre- and post-data using the table above, we can see that many of the aspects of the research process students found challenging were also the areas they found helpful, which is one thing we hoped to see. For example, the top three aspects they found most challenging were: finding useful articles, narrowing down a topic, and being able to tell if an article will be useful. Over 50% of participants found each of these aspects useful in the post-session survey. It is of note, however, that the two most useful aspects of the library sessions were knowing where to find articles and using library resources. Anecdotally, we believe that students typically overestimate their skills in these two areas the most. Although they know some places to find articles and have used library resources before, we commonly hear that they are surprised by all of the options presented in a class session. It would be interesting to explore the discrepancy between students not ranking these two categories as challenging in the pre-session, but still finding them the most useful in the post session in future research.

In addition, we received a total of 55 open-text responses, which gave students an opportunity to share their feedback and experiences in an unprompted manner. Overall, students' responses highlighted increased confidence in utilizing new search strategies (38.2%) and knowing where to look for research (71%). This included the use of Boolean operators, finding and using database provided subject-terms, and purposeful use of our Library's discovery tool and entry-level databases.

One-fourth of the comments also indicated an increase in positive feelings, with the use of terms like "comfort," "confident," and "less overwhelmed" when using library resources on their own. As written about in our literature review, we believe that reducing academic (and library) anxiety is the best path toward increasing curiosity and creativity in first year college students. In-class, curiosity-driven activities were designed specifically to address

course-related research assignments that carried significant weight on their final grades, and 14.6% of comments reiterated how the IL sessions would specifically support them in completing this requirement. In addition to the 55.8% of students who found learning how to contact the library to be helpful, 12.7% reiterated their appreciation in knowing that they were able to contact library staff in various, accessible ways, such as telephone, 24/7 chat, Zoom, and email. These open text responses were also very helpful in helping us realize possible options to include in a future post-session survey. For example, we didn't have citations or assignment help as options, but both were highlighted in the open-text responses.

These findings are very gratifying to us, as most information literacy activities were built around library resources, specifically. All the in-class activities placed heavy emphasis on practicing search strategies and while working through the process of generating keywords from a general research prompt. Not only is this a critical skill in most academic pursuits, it also is a skill in which curiosity is essential. More specifically, it requires multiple ways to think about and phrase a single topic, and having some of those ways fail, another inevitable aspect of approaching research with curiosity.

In addition to these successes, there are clear indications that one-shot instruction in first-year courses cannot address all student anxieties or instructor concerns. In comparing the pre-and post-surveys, we noticed that only ~52-57% of students found our instruction on “finding useful articles,” “being able to tell if an article is helpful,” and “narrowing down a topic” helpful. While students had an opportunity to evaluate sources and draft key terms in class around an example topic guided by the librarians, not all students had the focus or time in class to work on their own topics. This was due to various interferences, like getting clarification on research expectations from the course instructor, lacking a research-topic all-together, in-class socialization, and other variables. To grasp the extent that the variable of not knowing or understanding their

research assignment had on the effectiveness of the class assignment, students were asked if “understanding what’s expected of their research assignment” was a challenge, and 53.5% of respondents indicated that was. This struggle is particularly concerning and could potentially alleviate a portion of student research anxiety, and allow for a more curious approach, if students had an opportunity to better understand instructor expectations before the IL session.

Conclusion & Recommendations

As indicated in the literature review, one-shot instruction can only be so effective in impacting student research, information-seeking habits, and research anxiety. These sessions are often only one hour out of the entire time a student spends attending classes, more if they have more than one class that has a library instruction component. Despite this short percentage of time, such sessions can still impact a student’s university and research experience. Therefore, spending time researching how to make them as helpful as possible is worthwhile. For students facing research concepts that cause them anxiety, they need practice and a safe space to follow their curiosity in taking broad topics, breaking them down into searchable concepts, and navigating the abundance of resources available through the library and wider internet beyond.

The authors are aware that this study was conducted over a short period of time, with a relatively small sample size of 264 students in 100-level, introductory classes. However, small surveys like this can serve as an effective tool when conversing with faculty, highlighting students’ self-reported concerns, and collaboratively planning on solutions to address these struggles. We plan on sharing our final survey results with our partner instructors in the hopes that this will lead to more embedded librarian interactions, such as follow-up IL sessions or required librarian consultations, to further enforce

strategies introduced in class. We also hope that the inclusion of the survey question regarding the research assignment can help stimulate discussions with instructors. This can help determine the best time of the semester to have a library instruction session and help to increase the frequency of sessions that occur after students have received their research assignment and have had ample time to understand the assignment and choose a topic. In the meantime, librarians are faced with the challenge of asking themselves how we can further inspire curiosity in the research process within and beyond the classroom. Broadly speaking, academic librarians are already trying to create other pathways to engaging with student research with self-driven online modules, research workshops, social media campaigns, and other activities.

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4. Encouraging Curiosity and Experimentation with Ungrading

ALICIA VAANDERING

“A willingness to explore more equitable forms of assessment that encourage rather than discourage student curiosity and exploration is critical for library instructors who grade student work.”

Introduction

Ask a teacher what their least favorite part of teaching is, and grading will likely be part of their response. While teachers and instructors often enjoy engaging in conversations about student learning and progress, the act of marking grades is less gratifying. As Peter Elbow (1997) wrote, “Grading tends to undermine the climate for teaching and learning. Once we start grading their work, students are tempted to study or work for the grade rather than for learning” (p. 127). Traditional grading methods, such as points-based grading and the A-F grading scale, are often at odds with student learning (Beck, 1991; Harland et al., 2015). By providing an extrinsic motivation for learning, these methods often fail to provide students with the intrinsic motivation needed to become lifelong learners (Blum, 2020). They may also disadvantage students with less knowledge or experience with course content, which further exacerbates the challenge to inspire authentic learning and curiosity in the classroom. As students seek the “right” answer, they often ignore their own curiosity in favor of adhering to instructor

or textbook examples in order to achieve a high score (Pulfrey et al, 2011; Feldman, 2019).

A willingness to explore more equitable forms of assessment that encourage rather than discourage student curiosity and exploration is critical for library instructors who grade student work. This case study examines how I implemented specifications grading, which integrates core aspects of ungrading, in a 100-level information literacy course to better support student success for a class of primarily first- and second-year students. Dissatisfied with the traditional grading and feedback process that I had previously used in my course, my goal was to pilot an alternative grading system that offered students greater agency in the classroom by providing them with more opportunities to experiment, fail, adapt, and grow. This study also highlights the challenges and successes I experienced implementing specifications grading.

Literature Review

An Introduction to Ungrading

The current A-F scale that is popular in most American colleges and universities uses a points-based grading system to assign letter grades. It emerged roughly a century ago in response to major shifts in primary and secondary education that were prompted by economic, political, and social upheaval (Rojstaczer & Healy, 2012; Feldman, 2019). During this time, grades transitioned from a means of “internal communication among teachers and families” to external communication that was used to build and define an expanding public education system (Schneider & Hutt, 2014, pp. 202-203).

Despite the ubiquity of assigning letter grades to student work, a number of educators have challenged this practice. Some have

questioned the ability of grades to accurately communicate student progress (Dressel, 1968; Rojstaczer & Healy, 2012; Feldman, 2019). Others have argued that grades are an extrinsic motivator and, as such, undermine learning and education (Beck et al., 1991). However, these voices have remained on the margins of broader conversations about grading and assessment, failing to inspire a major reform (Schneider & Hutt, 2014).

Over the last several decades, ungrading has emerged alongside concerns over traditional grading systems, and it has gained considerable popularity over the last decade. However, a simple definition of ungrading remains elusive. Educator Jesse Stommel (2021) describes ungrading as “raising an eyebrow at grades as a systemic practice,” a term that is “a present participle, an ongoing process, not a static set of practices” (para. 1). Others have described ungrading as a broader set of assessment strategies and practices that challenge aspects of traditional grading (Supiano, 2019; Greenberg et al., 2022). As documented in editor Susan D. Blum’s pivotal book *UNgrading: Why Rating Students Undermines Learning (and What to Do Instead)* (2020), as an umbrella term, ungrading embodies common aims such as decentering the instructor in the grading process, providing students with greater autonomy, and encouraging students to engage in critical reflection and self-assessment. Ungrading encompasses specific practices like contract grading, standards-based grading, and specifications grading.

Understanding Specifications Grading

Falling under the purview of ungrading, specifications grading (also referred to as “specs grading”) centers on students reaching a level of mastery in their work so that grades align with the achievement of learning objectives rather than rank student work on a grading scale. As Linda B. Nilson (2015) notes, when instructors structure grades along an A-F scale, only students who achieve an A have

submitted work that meets instructor expectations. Instructors who implement specifications grading, instead, outline what specific expectations (“specifications”) students must meet in their work to demonstrate that they have met set learning objectives. Specifications set the bar for success with “high yet reachable standards” (Earl, 2022, p. 51).

When using specifications grading, instructors typically grade student assignments using a pass/fail system and offer opportunities for revising failed work through the use of tokens or other established parameters. A student’s grade, then, is based upon either the number of assignments submitted that “pass” or the satisfactory completion of specific objectives across assignments. As Nilson (2015) notes, students can “earn higher grades by jumping more hurdles that show evidence of more learning...and/or jumping higher hurdles that show evidence of more advanced learning” (p. 25). To help students understand how skills and objectives are built and scaffolded across assignments and projects in specifications grading, assignments are often placed within “bundles” that clearly outline what must be completed to specifications in order to earn each grade (Leslie & Lundblom, 2020).

Specifications grading shares many goals with other ungrading strategies and practices, but it focuses more specifically on motivating students with transparent instructor expectations, increasing academic rigor, and reducing the time instructors spend grading (Nilson, 2015). Leslie and Lundblom (2020) have linked the option to resubmit failed work, which is a crucial element of specifications grading, with a greater facilitation of student learning by providing actionable instructor feedback and empowering students in their learning processes. Furthermore, Prasad (2020), who used specifications grading in a mathematics course for preservice educators, found that this alternative grading system helped students revise patterns of thinking and increase risk-taking. However, research has indicated that some goals of specifications grading are more easily achieved than others. For example, Vitale and Concepción (2021) found that using

specifications grading did increase student motivation and academic rigor, but it failed to reduce the time spent grading assignments.

Ungrading and Intellectual Curiosity

There is an undeniable link between curiosity and learning. In a recent study, Gruber et al. (2014) found that participants with states of heightened curiosity experienced increased learning and retention. Perhaps this helps explain why intellectual curiosity is valued so highly within higher education. However, by the time first-year students reach college, they have spent years operating within systems that prioritize extrinsic rewards for learning (Eyler, 2018). This makes it challenging for college students to reframe learning as a process of fulfilling their own curiosity. First-year students may face additional barriers to exhibiting curiosity and risk-taking due to external factors. Concerns of failing, being rejected by one's peers, as well as an "aversion to uncertainty" can prevent students from moving beyond their comfort zone (Choi et al., 2019, p. 74). These concerns may be particularly pronounced in the wake of the COVID-19 pandemic, which, for many students, exacerbated anxiety and feelings of social isolation (White, 2022; Wilson et al. 2021). Jones et al. (2022) also stress that feelings of anxiety and social isolation are especially concerning for students of color who have lost valuable social spaces for discussing racially relevant issues and may be struggling to balance an academic workload with familial responsibilities.

Specifications grading and other methods of ungrading offer promising opportunities for instructors striving to stimulate students' intellectual curiosity and risk-taking in their work. The practice of allowing students to use instructor feedback to revise and improve projects and assignments seems particularly promising. As Gibbs (2020) explains, "Learners need the freedom to make mistakes in order to learn from those mistakes; they should

not be punished for making mistakes” (p. 97). In one study, Gorichanaz (2022) found that students tended to see traditional grades as a game with a “one-size-fits-all approach” that privileges certain pathways to learning and fails to “encourage students to discover other ways of solving problems, thus dampening creativity and limiting perspective—and along the way generating stress and anxiety for students” (p. 7).

Library Instruction and Grading

Although research into information literacy instruction has provided much insight into the role of assessment, particularly regarding authentic assessment, it has been less focused on how assessment computes to grades and the subsequent impact of grades on student learning. For example, Badia (2019) explored the use of holistic and analytic rubrics in assessment for single or multiple library sessions. However, these rubrics were primarily intended to inform future library instruction planning and provide feedback to students rather than to assign grades. Some librarians have graded student work as part of teaching first-year experience and seminar classes or as part of collaborations with faculty, yet much of this research has centered on exploring how librarians’ involvement in grading impacts relationships with faculty and the broader university community (Auer & Krupar, 2005).

While specifications grading and other forms of ungrading have gained ground in fields like mathematics and philosophy, they are largely missing from the literature pertaining to the assessment of information literacy instruction. As many librarians are excluded from the process of assigning students’ grades, this is perhaps unsurprising, although there is a growing number of librarians who engage with grading in their own courses or in collaboration with other faculty. This case study is an attempt to begin to explore how specifications grading can be implemented in information literacy

classrooms to better support student learning by encouraging curiosity and experimentation.

LIB 150: Search Strategies for the Information Age at the University of Rhode Island

Background

The University Libraries, a college of the University of Rhode Island, offers credit-bearing undergraduate information literacy courses. LIB 150: Search Strategies for the Information Age introduces students to the exploration and practice of information literacy and college-level research. As a 100-level information literacy course, it primarily enrolls first-year students, although there is usually a small number of sophomores, juniors, and seniors in the class. The course supports two university General Education Course Outcomes: Communicate Effectively and Information Literacy. An additional learning outcome is for students to learn how to work as part of a group. LIB 150 has the following course objectives:

1. Students will be able to navigate print and digital information research tools and use them for both college-level research and lifelong learning.
2. Students will be able to differentiate information formats and quality and be able to apply these to college-level information research assignments.
3. Students will be able to communicate their findings effectively to specific audiences.

Prior Assessment

I began teaching LIB 150 in 2017, and the structure of my class sessions remained largely unchanged from 2017 to 2021. I interspersed my lectures with discussions and active learn opportunities. Similarly, during this time my assignments and grading schema remained largely unchanged. I graded students on an A-F scale using the following assignments and projects:

- Five skills-based exercises: These exercises help students begin building their information literacy and research skills by developing research questions, evaluating sources, citing sources, using the library catalog and databases, and writing annotations for sources.
- The Database Information Solutions Project: This group project requires students to develop a presentation and model how to use library databases to meet the specific information needs of a provided scenario. Students develop a group annotated bibliography using sources from their databases.
- The Beyond the News Project: This multi-pronged individual project requires students to create a research proposal, develop an annotated bibliography, present their findings, evaluate peers' presentations, and compose a reflective journal.

From 2017-2021, these assignments were scaffolded with later, more substantial projects building on the knowledge and skills gained in the earlier skills exercises. Each assignment was accompanied by an analytic rubric with multiple criteria. The rubrics provided a rating scale that classified student work as exemplary, proficient, developing, or beginner level for each criterion. The breakdown of students' grades can be seen in Table 1.

Table 1

Original Grading Scale for LIB 150

Assignment	Percentage of Grade
Skills Exercises (5)	25%
Database Information Solutions Group Project	20%
Beyond the News Project (topic proposal, annotated bibliography, peer evaluations, and reflective journal)	35%
Attendance & Participation	20%

Like most instructors who choose to engage in a time-intensive overhaul of a major aspect of a course like assessment, my changes stemmed from dissatisfaction with my current practices. While I considered my grading to be a reliable assessment of student learning, I was worried that it missed the mark in both providing assessment for student learning and helping students develop a growth mindset. Students who had more extensive experience with libraries and academic research often easily met course objectives, while those who had less experience, often coming from marginalized communities or low-income high schools, struggled to master critical skills. Additionally, concerns over the disruptions wrought by the COVID-19 pandemic deepened my interest in a grading system that offered greater flexibility and support for students who might be struggling from anxiety, stress, and isolation.

Four years of experience in teaching LIB 150 to students from diverse backgrounds and major areas of studies left me well-situated to consider major adaptations to the course. This experience was essential because, as Streifer and Palmer (2021) have explained in regard to specifications grading, “Layering a complex assessment approach on top of the process of developing fundamental teaching skills could overwhelm novice instructors and lead to low-quality implementation” (p. 5). In Fall 2021, specifications grading became one of many course changes, which also included adopting a flipped instruction model, allowing student choice in selecting in-class activities from a menu of options, and updating assignments to draw more directly on real-world

problems. However, because grades are so deeply ingrained as extrinsic motivation for learning, I found that the adoption of specifications grading had the most significant impact on student learning and achievement in my course. It was also the most challenging change to explain to students, who were usually new to specifications grading and other ungrading methods and practices.

Implementing Specifications Grading in LIB 150

Overhauling a grading system is daunting, so I began by examining the larger pieces of LIB 150 before moving to revise individual assignments and rubrics. This approach helped me maintain a comprehensive overview of how the pieces of the course aligned to ensure that students met course objectives.

Aligning Learning Outcomes Across Assignments & Projects

I began my implementation of specifications grading by mapping which course learning objectives were demonstrated in each assignment and at what level of sophistication. For example, while both Skills Exercise 3: Finding & Evaluating Books and the Beyond the News: Annotated Bibliography align with the first course objective by requiring students to find, evaluate, and annotate a book, the latter assignment requires students to demonstrate more advanced skills in locating books, articles, and other sources and using them to identify the scholarly conversation surrounding their research topic.

After reviewing the course assignments, I discovered that students could meet all required course objectives, student learning outcomes, and general education learning outcomes at their most basic level by completing the five skills exercises and the group project. These assignments, then, became my first grade bundle that determined what must be accomplished to achieve a D in the

course. I then spread the remaining assignments across the other grade bundles with the most complex assignments as part of the work for an A or B. Each grade bundle required students to submit all the assignments of the prior grade bundle to ensure that the development of research skills was amply supported and scaffolded. Figure 1 details the grade bundles constructed for Fall 2021.

Figure 1
Specifications Grading Chart–Fall 2021

			Beyond the News Final Product
		Beyond the News Topic Proposal & Annotated Bibliography	Beyond the News Topic Proposal & Annotated Bibliography
	1 Peer Evaluation	1 Peer Evaluation	2 Peer Evaluations
	Myself, the Researcher Essay	Myself, the Researcher Essay	Myself, the Researcher Essay
Database Teach-In	Database Teach-In	Database Teach-In	Database Teach-In
5 Skills Exercises	5 Skills Exercises	5 Skills Exercises	5 Skills Exercises
D	C	B	A

Because my course is capped at 24 students and I was minimally concerned with the additional time required to assess revised work, I allowed resubmissions on all assignments.

One substantial change that occurred as I moved to specifications grading was the role of attendance and participation. While ungrading does not require eliminating attendance and participation from student grades, those who practice ungrading are more likely to question the role of attendance and participation in assessment (Schulz-Bergin, 2020). Susan Blum (2020) has highlighted that the inclusion of attendance and participation in students’ grades tends to favor students who are extroverted, and it can also become a problem of equity as it benefits students “who are fortunate enough to avoid serious illness, financial challenges, and family responsibilities” (pp. 10-11). The pandemic reinforced my concerns regarding the meaningful and equitable grading of

attendance and participation, so I experimented with eliminating both from my specifications grading beyond a baseline expectation that students would have no more than five unexcused absences. Given the unequal burden of COVID-19 on marginalized communities, I felt that I could better support my students from these communities by dropping a standard that I already felt was challenging to uphold fairly.

Formatting Assignments & Rubrics

My goal in switching to specifications grading was to offer students greater agency in their learning process. As the specifications grading chart took shape, I made further adjustments to assignments, recentering them on real-world situations and providing opportunities for student choice. I did this to encourage students to experiment and follow their curiosity. The Database Information Solutions project became the Database Teach-In, which shifted to requiring students to work in groups to explore a United Nations Sustainable Development Goal of their choice. The Beyond the News Project, which had always allowed students to select a topic of interest but required a live presentation in the classroom, evolved to allow students to replace the live presentation with a final product that they felt best shared their research findings. While a live presentation remained an option, students could instead submit a recorded or poster presentation, extended annotated bibliography, or an alternative option developed in conjunction with me. The research journal that had initially been a key piece of the Beyond the News project also underwent substantial revisions to become the *Myself*, the Research Essay. This assignment now asked students to reflect upon their growth as a researcher over the entire semester. Students could select which assignments, projects, and activities to highlight as evidence of their learning.

All assignment guidelines were updated to include specifications

of what students must accomplish to pass. For example, while assignment directions might tell students to provide a ~100 word evaluation of a source using criteria from the CRAAP test, the specifications would establish that students needed to compose an evaluation of at least 85 words that used no less than three criteria from the CRAAP test to pass the assignment. While these specifications set more rigid expectations, they also provided clear guidelines to students. The specifications also transformed my rubrics to holistic rubrics with just three rating scales: accepted, indicating that all specifications had been met; revise, indicating that the work needed to be revised in order to meet missing specifications; and not submitted.

Takeaways & Next Steps

Encouraging Curiosity & Experimentation

Using specifications grading in my course yielded key benefits, particularly in encouraging students to experiment and take risks in their work. For students who learn better through trial and error, ample opportunities were provided to test out their own methods for meeting specifications. If initial methods fell short, students were able to adjust their approach with no penalty to their grade. This experimentation deepened the learning process as students reflected upon why their initial methods failed and reoriented their approach. Embedding opportunities for revision also mitigated some of the stress of assignments. This helped support the mental health and diverse needs of many students who were struggling during the pandemic. For students who were still figuring out how to balance academic work with other responsibilities, specifications grading provided the opportunity to review feedback, identify errors, and revise work if specifications

were not initially met. This process was particularly helpful for students who had less experience with college-level research.

However, specifications grading did pose challenges. Many students had no prior experience with specifications grading or other ungrading strategies and practices. Over the semester, I had to repeatedly explain not only how their work was being assessed but also why it was being assessed that way. For students to take advantage of the opportunities for experimentation that are so central to specifications grading, they had to be aware of those opportunities and what they offered. Additionally, students sometimes rushed to resubmit work and failed to reflect and ask questions that would deepen their learning. This often resulted in unproductive experimentation that was frustrating and time-consuming to both the student and myself as the instructor.

Quality of Work: Feedback as Conversation

One goal of specifications grading is the restoration of academic rigor, and I was pleased to see the quality of student work improve over the course of the semester. I set assignment specifications at what I would have expected to see students accomplish to receive a B or B+ in my prior grading system. Many students went beyond the specifications in their initial or revised work.

One critical factor that contributed to the higher quality of work was the reframing of feedback as a conversation between student and instructor. In previous semesters, when course assignments and associated grades were final, many students focused exclusively on their grade, ignoring the feedback that I provided to help them in future assignments and research. When I began to allow for the revision of failed assignments, students were incentivized to carefully review my feedback and enter into a conversation about how to strengthen their work. This process also provided me with opportunities to learn more about what interested and motivated

my students, which allowed me to draw connections and contextualize learning with greater nuance.

Moving Forward

Since Fall 2021, I have continued to experiment with specifications grading. Responding to student feedback from Fall 2021, I explored blending pass/fail grading on lower-level assignments (like the skills exercises) with traditional grading on higher-level projects. While this provided opportunities to revise the early skill-building exercises, I was quickly dissatisfied with loss of the grade bundles and the lack of opportunities for revisions on more advanced work, particularly for students struggling with course content. The quality of the work once again slipped as students endeavored to just turn in “something” for each assignment rather than following their curiosity to complete assignments that were of greater interest to them. I considered this a failed experiment and returned to the specifications grading system I initially used, although I now use tokens to limit the number of resubmissions allowed for all work beyond achieving a D in hopes of encouraging earlier questions and conversations about assignments and the research process.

To better align assignments with course objectives and learning outcomes, I again tweaked the final piece of the Beyond the News project. In drafting the specifications for the assignment in Fall 2021, it was challenging to set specifications because students were permitted to submit a wide range of final products. To resolve this problem, I limited the options to submitting a live, recorded, or poster presentation. This change provided students with agency while maintaining more equitable standards for determining when student work met specifications.

Moving forward, I hope to implement specifications grading in the 5-week summer sessions and 3-week winter terms of LIB 150. This implementation has been more challenging since the course is already condensed to enable students to meet the same objectives

and learning outcomes of the typically 13-week course. Figuring out how to provide opportunities for revisions that will still allow students to stay on track to complete the course is a hurdle that I am still seeking a way to overcome.

Conclusion

While transitioning to specifications grading takes time, reflection, and effort, it may be a good fit for library instructors seeking new approaches to support student learning, encourage intellectual curiosity and experimentation, and implement more equitable grading practices. As part of a broader movement to use assessment for learning, specifications grading provides increased opportunities for library instructors to engage students in conversations about their research and work and tailor support to meet the individual needs and abilities of each student. These efforts are crucial to helping students hone their critical information literacy skills, experience authentic learning, and become informed lifelong learners.

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5. A Space of Their Own

Creating a Welcoming Learning Commons to Support Student Intellectual Curiosity and Success

MELISSA LAIDMAN AND CHLOE SANTANGELO

“The many physical changes that took place in the space renovations piqued students’ curiosity to find new places to study and relax... students began to have a sense of ownership and pride in the space.”

Introduction

According to the “Research as Inquiry” frame of the ACRL Framework for Information Literacy for Higher Education (Association of College and Research Libraries, 2016), “learners who are developing their information literate abilities . . . consider research as open-ended exploration and engagement with information,” and “value intellectual curiosity in developing questions and learning new investigative methods” (p. 7). Additionally, intellectual curiosity has been linked to higher academic performance (Von Stumm, et al., 2011) as well as being “the key motivating factor for inquiry-based learning” (Yu, 2017). The academic library can serve as a key place to not only cultivate students’ intellectual curiosity, but to encourage it as a daily habit.

It may seem that information literacy skills develop during library instruction sessions and fall solely under the purview of instruction librarians. However, the library space itself can serve as an environment to stimulate students’ intellectual curiosity, thereby increasing information literacy and fostering student success. Using the conceptual model of intellectual curiosity by Russell (2013), the library space can contribute to preconditions of intellectual

curiosity such as the degree of knowledge related to the topic of inquiry by supplying resources and information to the students. It can impact the attributes of intellectual curiosity itself, such as enhanced cognitive stimulation as a result of the space and the services available in it. The consequences of intellectual curiosity, such as exploratory behavior and knowledge acquisition can also be affected by the physical library space. As Hensley (2004) states, “the first change that educators can incorporate. . . to foster curiosity in teaching and learning, is to create an environment rich in inquiry rather than one dominated by process” (p. 32). The Learning Commons in McGrath Library at Hilbert College has become an environment rich in inquiry as we have undertaken a remodeling project to create a true learning commons over the past two years.

Many academic libraries are moving toward a learning commons model. As defined by Jones & Grote (2018), a learning commons is “a flexible learning environment that blends library resources and technology with collaborative working spaces to promote active and interdisciplinary learning” (p.2). Some may view the transition from “library” to “learning commons” with excitement, others with trepidation. Wherever one falls on this scale, it is of the utmost importance when making decisions to recognize that students rely on librarians to fight for a space to call their own. In the current academic climate, “libraries must be centers of the knowledge economy, of collaborative learning, and of creative production” (Jones & Grote, 2018, p.1).

When considering the physical design of the space, the purpose must be clearly communicated that the space allows for not only the collaboration of students, but the collaboration of college-wide departments. Instead of an emphasis on the collection, there is a greater emphasis on the services that are offered and the flexibility of the space. A study done at Queensland Libraries shows that students prioritize and look for a pleasant, clean, peaceful environment and comfortable furniture above all else when searching for a space to study and collaborate (Abbasi et al., 2014).

Students are more likely to use a space if they are offered a variety of options where they can work individually or with a group.

Space Renovation

Hilbert College is a small, private 4-year college in Hamburg, NY, offering associate, bachelor's, and master's degrees, with an enrollment between 800-900 students. McGrath Library at Hilbert College employs two full-time librarians and three part-time library associates. Other departments are also housed within the building encompassing the Learning Commons in McGrath Library. In both 2020 and 2021, Hilbert College was fortunate to receive a grant from the Mother Cabrini Health Foundation. The grant's purpose was to support and strengthen students' ability to transition and thrive in their educational setting and beyond. While this grant contributed to many initiatives campus-wide, a substantial portion of the 2020 grant and a smaller percentage of the 2021 grant were used to renovate the library space. The library, which had not been updated in many years, was renovated into a learning commons model. In the design process, the concept of flexibility and innovation that encourages collaboration filtered through every decision, ranging from the furniture chosen, to the way the space was utilized.

A few years prior to the renovation of the space, the college implemented the idea of the Learning Commons model, in which the departments of Academic Services, Accessibility Services, and the College's Opportunity Programs, including a testing center, moved into the library building. As such, a workspace was added to the main service desk for a student worker from Academic Services. The student workers' roles include scheduling and setting up tests for students, assisting with tutoring, and directing students to appropriate offices.

While the new location of these offices within a single access point was a benefit, the quick transition necessitated Academic

Services personnel filling offices that happened to be vacant at the time. The layout of the learning commons was initially haphazard, with offices scattered throughout the building. The main floor of the library featured a bank of ten desktop computers with two printers, and densely spaced stacks of books. It offered a few spaces for individual study, including study carrels and a small café table. Group study options were limited to a few tables that could accommodate a group of four, with no spaces for larger groups. Three small couches were available but were dated and worn. In addition, the location of the service desk was along the side of the main library space, far from both entrances, and not immediately in view when one entered the space.



Library reference desk before summer 2021 remodel.



Lower level of the library before summer 2021 remodel.

One of the biggest changes in the renovation was relocating the service desk directly inside the library entrance. The relocation of the service desk has transformed what students experience as they enter the learning commons. Now, when students enter the space, they immediately see people who can help them, whether they are there to get help with research, find a tutor, or schedule a make-up test. Library and academic services staff are also better enabled to greet patrons as they enter. In addition, the main student printers are located at the service desk, which allows staff to help more easily with printing and creates opportunities for frequent staff/patron interaction.



Library reference desk, new collaborative furniture, and newly spaced shelving on the first floor after the summer 2021 remodel.



Newly placed reference desk and furniture after the 2021 remodel.

The next major change in the space was the removal of approximately 1/3 of the bookshelves along the back wall of the library (where most of the windows are located). While this was a large undertaking that involved thoroughly weeding the reference collection and hours of moving books, the result was a much more open space and a brighter, more welcoming environment. The open layout of these stacks has resulted in spaces for collaborative learning near the windows, as well as opportunities to create interactive displays to spark students' interest and curiosity. The more widely spaced stacks have also allowed for better accessibility, as well as making the collection more browsable. Two collaborative workstation desks, equipped with 55" displays, integrated webcams for video conferencing, and screen sharing enabled by Mersive Solstice Pod units, have been placed in the spaces between the stacks. In other openings there are modern lounge chairs in a conversational layout, and a booth-style table. Students can

effectively study within the stacks, as many of the collaborative seating areas are situated between two stacks of books.



Popular new seating area between bookshelves.

The old tables were replaced with modular tables that can be used individually or in groups and can easily be moved to different configurations. Desktop computers were removed, as the college has implemented a universal laptop initiative, and in their place, a table where students can work either individually or in small groups using laptops was added. A large new dual-sided s-shaped lounge chair, a round booth that can accommodate a large group, and a café-height table with a whiteboard surface were all added to allow a variety of seating and work environments. Various lounge chairs in several locations were made available, as well. In the selection of the furniture, accessibility for people with disabilities was a guiding factor. Most of the tables are wheelchair accessible, and the placement of furniture was done with ADA compliance in mind.



First floor after the 2021 remodel, featuring flexible, modular furniture to meet a variety of needs.

With the second round of the Cabrini Foundation grant, we have begun making changes to the second floor of the learning commons. It was repainted, and all the lounge furniture was replaced. We replaced about half of the study tables and chairs, with plans to continue this in the future, as the budget allows. Overall, the layout has remained the same, designed as a “reading room” with many tables and study carrels. Prior to receiving the grant, out of necessity due to COVID-19 distancing restrictions, we added a projector and computer podium on the main area of the second floor. Although COVID-19 restrictions became less prevalent as time has gone on, we made the decision to keep the podium and projector space despite no longer needing it as an instructional classroom. This decision has allowed us to host new types of events in the upper level, including workshops, readings, and even library

instruction classes. Teaching students within the main library space creates a distinct experience, and is conducive to active learning opportunities, with more room to move around, and interact with material in the library. The second-floor area includes a leisure reading area, with a newly expanded leisure reading collection. The space features a board game collection and art station, with supplies ranging from coloring books and colored pencils to acrylic paints and canvases. These provide opportunities for both study and leisure within the shared space.



Leisure reading area featuring new lounge furniture after summer 2022 update.



Second floor after summer 2022 update.

The changes in the space have enhanced cognitive stimulation and encouraged exploration, thereby stimulating the students' intellectual curiosity. Ultimately, the space is only one aspect of this important initiative, and our next priority became strategizing how we could ensure that everyone would feel like they have a place in the learning commons.

Welcoming Students

Once the first round of renovations was nearly complete, the next step was to let students know about the new Learning Commons! We advocated for the opportunity to be included in New Student Orientation in Summer 2021. We had to make a convincing case of the importance of students' being introduced to the new learning

commons for their future success, as the sessions were abbreviated due to COVID-19 restrictions.

Each new student orientation group had twenty minutes in the learning commons space. We gave a brief introduction to the services and features available in the learning commons, as well as a guided tour of the building, with opportunities to find spaces that appealed to them on both floors. Two themes were emphasized. First, that the learning commons is where students can go to get help with any sort of academic problem they might have, and second, that the learning commons space is theirs to make their own. We wanted students to feel comfortable and safe in the space, whether they were there to relax, study, learn, or get help. Additionally, extended library sessions were included in Hilbert's Summer Institute, geared toward students in opportunity programs, allowing our first-generation and other at-risk students to become familiar with the space, librarians, and resources before entering their first semester of college.

In the Fall 2021 semester, we took an additional initiative to increase visits of first-year experience (GS 101) classes to the library. While it was not required that every section of GS 101 had a library session, librarians collaborated with the director of the first-year experience program to encourage as many instructors as possible to schedule library sessions. In these sessions, students discussed their past experiences with libraries and research, as well as their perceptions of libraries and information literacy concepts. They learned about the services and resources available in the learning commons and online. Nine of the thirteen GS 101 sections attended library sessions, up from only five the previous fall.

During the first weeks of the semester, the benefit of introducing new students to the space was evident. We saw many new students in the space during the first weeks of classes. Overall visits were up, and the number of questions recorded at our desk was more than double that of the previous year. We were thrilled to find that students took to heart the message that we are here to help.

Student-Librarian relationships

The many physical changes that took place in the space renovations piqued students' curiosity to find new places to study and relax. Simultaneously, the librarians saw having new patrons in the space as an open door for new student-librarian relationships to form. Most notably, students began to have a sense of ownership and pride in the space, and the librarians started to recognize "library regulars" who had found their own spot to consistently study and spend time daily.

The students' comfort in the space opens the door for the librarians to form connections beyond the everyday small talk and integrate conversations about students' coursework, academics, and build on previous conversations. For example, a conversation about printing often turns into an informal reference interview between librarian and student. While the librarian helps the student connect to the printer, the librarian strikes up a conversation asking the student how classes are going and soon finds out that the student has a research paper due. The librarian then asks if the student needs any assistance with finding resources or working on citations. Gauging the students' response to these questions can help the librarian conduct an informal reference interview and bridge the gap between students asking a question, to naturally include it in conversation. We have found that the best reference interactions occur when the student is the most at ease, without fear of feeling intimidated.

A recent study conducted by James Madison University (Fagan et al., 2021) presented some examples of why librarians may not be approachable to students, with the causes cited for students' perceptions stemming from "library anxiety, insufficient prior experience with librarians, and the tensions between librarians' roles as both guides to knowledge and enforcers of rules" (McClellan & Beggan, 2019). To bridge this gap of library anxiety, an awareness of this perception has helped our library team become invigorated

with a new sense of purpose and motivation. Our goal is to reflect the approachability of the newly renovated space in every interaction with our patrons. A comfortable space can only get so far without staff members in the space who cultivate an environment where everyone feels welcome and seen.

We continue to have an eye on ensuring that the space is a welcoming, safe environment for students and that librarians are not seen as rule enforcers. We have been inspired by Michelle Reale's (2018) book, *The Indispensable Academic Librarian*, and her statement, "Any policies that benefit staff, but exclude patrons are ludicrous; any that prioritize the maintenance of a building above what our students need seems misguided, or even criminal" (p. 81). We do not want to discourage anyone from using our space because they feel like they must adhere to strict rules, or have students perceive us as anything but helpful support. We have removed signs that have a negative or scolding tone. The learning commons is the students' space, and they should be free to use it as they need. Food and drink are welcome with no restrictions. Aside from a quiet study area in the back half of the second floor, we try to have as few "rules" as possible. The inviting environment and attitudes of the librarians allow students to feel comfortable exploring the area and resources while spending more time within the learning commons.

Librarians' roles are always service-oriented, but the COVID-19 pandemic, along with the increased population of first-generation college students who have come to our college through various opportunity programs, have led to an increased need for library services. In an informal poll done with our students from the Hilbert Assisi Scholars opportunity program, 30% of students answered that they were not even aware that their high school had a library. As students were returning from years of social distancing and lost schooling due to the COVID-19 pandemic, we predicted, correctly, that students would need additional support in areas that librarians might not typically address – such as finding their classes and navigating college, as well as traditional areas such as finding books and using databases.

Building relationships between students and librarians forms a bridge between students' information needs that they may be unaware that they even have, and the answers they are looking for. Often, we have found that students who already can put a face to the name of a librarian will come into the library and start with three simple words: "I need help." By starting with this admission, the librarian is then able to meet the student where they are at and ask further clarifying questions that expose the reality that there is often more than one information need at stake. This is related to the students' intellectual curiosity in that we can encourage them to ask additional questions and dig deeper to find more information. In this context, the librarian is more than a resource, but is a lifeline to student success.

Programming, Workshops and Events

The renovated, flexible spaces have had the effect of increased visits to the learning commons, but they have also allowed us to use the library in new and exciting ways to increase student engagement and interest in the learning commons and its resources. The learning commons has held its own programming, as well as hosted programs held by other campus departments.

While it not a new service, drop-in tutoring in the learning commons continues to be popular. Our tutors have all found spaces that work well for them, such as the collaborative workstations, the white board table, or smaller modular tables. Small group workshops have been held at the collaborative stations during this hour as well. The fact that tutoring takes place in the open library creates an environment where the library acts as a space for learning and exploration.

During the fall 2021 semester, programming mainly consisted of academic and career skills workshops presented by departments within the learning commons. To close the semester, we offered

Winter Break Book Boxes, where students could sign up to receive a box to take home for winter break. Librarians selected leisure reading books for students based on their reading preferences and boxed them with gifts and snacks. We hoped that it would make students more aware of the library's leisure reading collection and remind them that we are more than just a place to study or get articles. The signup was done through a link on our Instagram page, serving to increase our followers and engagement on that account. The pick-up dates coincided with our "Fuel Up for Finals" week, where coffee and snacks were available in the library. This program was enormously popular, with far more students than expected requesting boxes. We noticed anecdotally that this had a positive impact on students' attitudes toward the library and librarians. When classes resumed in the spring, several students requested that we purchase further books from series they received. We hosted a Commuter Breakfast at the end of the fall semester, where the Student Life department provided students with a free breakfast. This collaboration was a testament to the flexibility of the new space.

Buoyed by the success of the end of the fall semester programs, we started the Spring semester eager to encourage more students to see the spaces and services available in the Learning Commons. In collaboration with Academic Affairs and Academic Services, we hosted "March Midterm Madness." This event combined stress relief activities with academic support. Other campus departments tabled the event, answering questions about registration, financial aid, career services, and diversity, equity, and inclusion. This was a tremendously successful event and allowed students to see the learning commons as a campus hub for all types of activities.

Finally, we closed the semester with a late-night study party. Having limited staffing, it is difficult for us to extend hours during finals week, but we were able to stay open a few additional hours for one night. Students came to study, finish projects, or just relax. Librarians and tutors were on hand if students needed help with assignments. Food, gift bags and raffle prizes were highlights of the

event. During the party, there were “study breaks” each hour. We found that this event attracted students who might not typically come to the library in the evenings and led to more positive attitudes toward the learning commons space.

Students’ Responses to the Space and Intellectual Curiosity

One way we can measure the success of our space is through simple attendance and reference statistics. Despite nationwide trends of decreasing reference transactions (ACRL, 2021) and visits (DeGroot & Scoulas, 2021) in academic libraries, we have seen tremendous growth, year over year, in both door counts and reference questions. The 2021-2022 school year showed a 13.5% growth in visitors over the previous year. At the time of this writing, the 2022-2023 school year is just beginning, but visits have increased even more, with the first 3 weeks of the semester showing a 30% increase over the first three weeks of the Fall 2020 semester. While we are thrilled to have a vibrant and active learning commons, the tangible evidence of students demonstrating their curiosity is the questions they pose. Overall, there was a 15% increase in the number of questions addressed at the desk from the 2020-2021 school year to 2021-2022. However, looking at this year’s early statistics, the number of questions at the desk has been astronomical, with a 519% increase over the first three weeks of Fall 2020, and a 110% increase over the first three weeks of Fall 2021. We have also been able to gather student feedback using ACRL’s Project Outcome Space surveys. While our response sizes have been small, 100% of respondents have either agreed or strongly agreed that the space has contributed to their ability to learn something new. Most students have indicated that they come to the library to study independently, use the printers, socialize, and relax. Students have indicated a direct impact of the learning commons on their

intellectual curiosity, either through the provision of materials, or the environment allowing them to feel comfortable broadening their horizons, asking more questions and finding answers.

Overall, we feel that the space renovations and relaxed, welcoming atmosphere have benefitted students, and contributed to their success. Students have benefitted directly through the centralized services in the learning commons, the efforts of librarians to reach students, and technology to support their learning. The renovations have also contributed to student success by providing space and resources that stimulate intellectual curiosity and allow students to become active learners in the learning commons. Rather than losing our identity as a library, transitioning into the learning commons model has provided new opportunities to think creatively about the flexibility of our student-centered space, and how we can grow with and support the evolving needs of our students.

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6. Curated Collections for First- and Second-Year Students

Bringing virtual browsing to the discovery experience

REBECCA NOUS AND LAUREN PUZIER

“By supporting browsable collections, libraries help students actively participate in the research and knowledge creation process...finding information by chance while browsing helps spark student research interests and encourages intellectual curiosity.”

Introduction

The University at Albany is a comprehensive research university located in New York's capital district, and is one of four University Centers in the State University of New York system. More than three-quarters of the University's approximately 17,000 students are undergraduates. Supporting first-year students is one of the University's goals. When students enroll at the University, they select one of several First-Year Student programs designed to help them successfully transition to college life and learning. Options include living-learning communities that create a cohort of students with similar interests and academic goals, a zero-credit engagement course that introduces students to support systems, faculty, and activities around campus, and credit-bearing courses that foster relationships between students and faculty and build skills for academic success.

The University Libraries supports the research, teaching, and

learning activities of all students, faculty, and staff at the University as well as community members. Library faculty often participate in the University's First-Year Student programs and teach courses included in them. We are also developing our own creative ways to support first-year students as they adjust to academics at the college level through events, programs, and research support services. From targeted content on our website, such as a Back to School FAQ with questions new students would frequently ask about the University Libraries, to the Award for Outstanding Undergraduate Research, which early career undergraduates are encouraged to apply for, the University Libraries is working to support new students in a variety of ways. Recently, we have also been exploring ways to leverage our discovery tool, Primo VE, to support our new undergraduate students' research and learning needs.

Browsing, Intellectual Curiosity, and Information Discovery

Undergraduate research often starts with topics or questions that are ill-defined or open-ended, which are particularly well-suited to exploratory research methods. Exploratory browsing consists of three primary activities: discovery, learning, and investigation (White & Roth, 2009). Discovery is the process of encountering and identifying new, previously unknown information. Learning is the process of making sense of this newly discovered information, leading to a deeper understanding of the subject. Investigation is a higher-level activity that involves analyzing, synthesizing, and assessing what has been discovered and learned. Libraries have a central role in the discovery part of exploratory research through fostering collection browsing, which is an essential first step in the research and knowledge creation process.

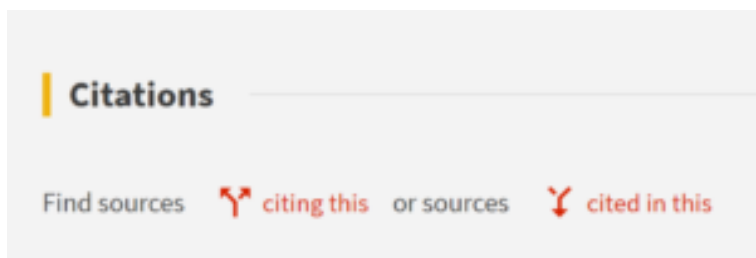
Because libraries typically arrange their collections by subject

using a standardized classification scheme, such as Library of Congress classification, resources about similar topics are shelved near each other in the library's stacks. This helps to support the serendipitous discovery of related titles once a researcher has found an item of interest. Studies have shown that finding information by chance while browsing helps spark student research interests and encourage intellectual curiosity (Foster & Ford, 2003; Nutefall & Ryder, 2010). By supporting browsable collections, libraries help students actively participate in the research and knowledge creation process (Cook, 2018).

While we may initially associate browsing with physical materials in the library, exploratory browsing may also occur virtually through the library catalog, website, research guides, or other online tools. Library catalogs have supported browsing in several ways. Call number browsing and subject heading cross-references have allowed researchers to find related resources in traditional Online Public Access Catalogs and modern discovery services. It is also possible to search by genre, series, author, and several other criteria and get a browsable list of related resources to support research activities.

In modern discovery tools, other virtual browsing features may also be available. In Primo VE, for example, there is a virtual shelf list feature called Virtual Browse that allows researchers to see physical and online resources related to each other by subject. Another feature in Primo VE that facilitates browsing, Citation Trails, links to resources that have cited a given article or that have been cited by a given article right in the catalog record (Figure 1).

Figure 1.



Primo VE's Citation Trail feature.

Visual features, such as images or other visual cues, can be added to a standard results page to support exploratory browsing (Hoeber & Shukla, 2022). These features are designed to support discovery, learning, and investigation, and enable researchers to transition from their preliminary exploratory browsing to more focused searching and research (Hoeber & Shukla, 2022; White & Roth, 2009).

Through reference interactions, we have learned that faculty and students are interested in virtual browsing in the University Libraries' discovery tools. Students have requested help using virtual browsing features and noted that their professors have requested that they use them. This suggests that faculty recognize the value of this type of browsing for their students as they begin their research.

Challenges to Traditional Browsing

While there are many benefits to being able to browse library collections in the stacks, there are limitations to this type of browsing. Traditional browsing only allows for browsing physical materials. While library collections have grown to include an increasing number of online resources, traditional stacks browsing

does not accommodate browsing these online books, journals, and media. This impacts all library users, but has an even greater impact on those engaged in remote teaching and learning. This group may not ever attend the physical library space, and relies solely on the library's online resources. The COVID-19 pandemic and related college and library closures swelled that cohort of faculty and students engaged in remote teaching and learning to unprecedented numbers (National Center for Education Statistics, 2022). Online enrollments were particularly common among undergraduates, among whom the number of students enrolled exclusively online increased 367 percent from 2019 to 2020 (Lederman, 2021).

Academic library faculty and researchers frequently discover important research resources on the shelves through serendipitous browsing (Massis, 2011). However, even for those students who are able to attend the library's physical space, there are shortcomings to browsing physical collections. As available shelf space decreases, libraries often begin to store physical materials in offsite storage facilities or in closed stacks, effectively removing them from the browsing experience. While rows of tightly packed spine labels for related titles in the stacks facilitate efficient subject-area browsing, this is not necessarily conducive to creating a visually appealing, intellectually stimulating browsing experience. The classification of library resources may also create barriers to browsing related materials. Classification by subject may be useful in many instances, but it does not account for cases where genre-related browsing may also be desirable, such as with graphic novels or leisure reading collections.

As with physical browsing in the stacks, there are also limitations to browsing a library's online catalog. The criteria that can be used to link to related resources is limited by the content of the bibliographic record metadata and catalog functionality. The language used for cataloging materials does not necessarily match the language researchers use to find them. This affects all researchers, particularly early-career undergraduate students who

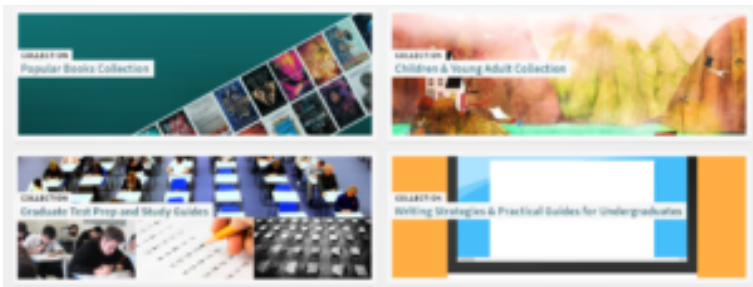
are not yet experts in a given field and its specialized vocabulary. This can make it difficult to find the best resources while searching a library’s catalog, and impacts the relevance of records and cross references that appear in search results.

Curated Collections at University at Albany Libraries

Facilitating Browsing of Online and Physical Resources

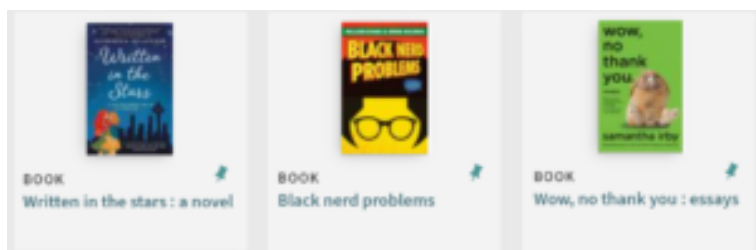
Primo VE has a feature called Collection Discovery which “enables users to navigate the hierarchy of collections and subcollections to locate and view their associated items” (Collection discovery). Collection Discovery presents researchers with a landing page of collections called the Collection Lobby and a visual, browsable interface of titles included in each collection (Figures 2 and 3).

Figure 2.



Collection Discovery Collection Lobby landing page.

Figure 3.



Collection Discovery in-collection browsing interface.

In 2021, the Collections Department sought a way to promote a new collection of popular books for leisure reading. The collection was made possible through the University Libraries' generous donors so it was important to showcase and market it as widely as possible. The Discovery Services Librarian and User Experience Librarian thought Collection Discovery would be a good way to highlight these popular books.

We researched how other libraries used virtual browsing collections to get started. The feature was still relatively new, and there were few examples in action. Libraries were using virtual collections to feature collections that already existed on their own or those that focused on a particular theme. For example, The Spencer Art Reference Library at the Nelson Atkins Museum of Art had a virtual collection called Orderly Nature: Gardens in Art and History, and the University of California, Irvine Libraries had a collection of Diversity Award Winning Books. These examples spurred our thinking beyond using Collection Discovery to promote the leisure reading collection and toward ways they could be used to support research, intellectual curiosity, and exploratory browsing in our discovery environment.

We presented the project to the subject librarians and outlined how the virtual collections could increase exposure and engagement with the new Popular Books Collection. We also emphasized other ways the collections could engage students, such

as those new to the research process and college in general. Shortly after, four librarians started building collections related to their areas of expertise. We named them Curated Collections, and they have slowly and steadily grown.

Art Crime: Heists, Forgeries, and Cons

Art Crime: Heists, Forgeries, and Cons was one of the first collections built (Figure 4).

Figure 4.



Art Crime: Heists, Forgeries, and Cons Curated Collection in the Collection Lobby.

It served as a test case and was used to demonstrate the feature before our leisure reading collection was made publicly available. The description is “The looting of art and cultural property during war and conflict, and other art theft, fraud, and art crime are significant problems. The estimated annual loss from art and cultural property crime is in the billions of dollars” (University at Albany Libraries). This topic relates to our programs at the University at Albany and Albany Law School Affiliation, School of

Criminal Justice, School of Business, and Department of Art and Art History to name a few.

This collection is for anyone interested in true crime, the world of art theft, heists, and cons, the study of art law, or international art and cultural property crime. It may introduce students newly enrolled in those programs to aspects of the fields that they had not considered and that may inspire their research interests. This Curated Collection also engages students that are interested in true crime documentaries and podcasts, with titles related to recent Netflix releases such as *This Is a Robbery: The World's Biggest Art Heist* and *Made You Look: A True Story About Fake Art* and Hulu's popular season two of *Only Murders in the Building*. The popularity of new film and television productions and widespread media coverage have a far-reaching appeal for many readers and researchers. As FBI Special Agent Robert Wittman explained to the BBC about unwavering interest in these cases, "Every country has a different cultural heritage and saving these things brings us closer together as human beings. When it comes to art, it's visceral. It affects us in a deep, emotional way" (Worrall, 2008).

Leisure Reading

The University Libraries' new leisure reading collection is comprised of current best sellers and was the original inspiration for promoting collections using Collection Discovery. These titles now make up the Popular Books Curated Collection. We used recognizable, attention-grabbing book jacket images as inspiration for a cover photo which is displayed in the Collection Lobby. The University Libraries does not collect leisure reading materials by policy, so this new collection was an exciting opportunity for students to engage in self-selected reading for personal or social reasons (International Reading Association, 2014). Each year new students seek assistance at our service desks in search of recreational, pleasure, or independent reading, and this virtual

collection meets that need. If the collection grows in the future, we can break up the virtual collection by adding sub-collections to better facilitate browsing by genre or theme.

Writing Strategies for Undergraduates

Since the 1980s, the University at Albany has had a Writing Center that helps students with all steps of writing process and improving their manuscripts. Each year The Writing Center holds special office hours at the University Library. We were inspired to collaborate with The Writing Center to create a Curated Collection that featured useful guides and books about strategies and tips for writing as undergraduate students. The Writing Center had a list of recommended resources on writing that they shared through their website, and we were able to use that as a jumping-off point to building a collection of writing guides tailored for new college students. This Curated Collection is a fantastic example of gathering a variety of books from across our collections and library buildings into one browsable set.

Children and Young Adult Collection

This large collection of over 11,000 titles has been tucked away behind the University Library's busy media center in the basement. Curated Collections provided an excellent opportunity to pull the Children and Young Adult Collection out of hiding. Curated Collections also gave us an opportunity to describe this collection to patrons using the description field on the collection. Prior to making the Curated Collection, one could not find a good description of this collection's purpose (to support the curriculum of the University at Albany's School of Education, and the graduate program in Information Science), how it could be used (to supplement and

enrich education plans and classroom teaching experiences), and who could use it (everyone!).

Students, parents, and caregivers seeking leisure reading are welcome to use the collection. Students can also find young adult literature in this collection. Due to the collection's size we utilized sub-collections to group similar types of resources together. The sub-collections are displayed at the top of the main collection page and feature their own image, title, and description. To make browsing simple, sub-collections for biographies, picture books, and children's literature are highlighted.

Faculty Compilations

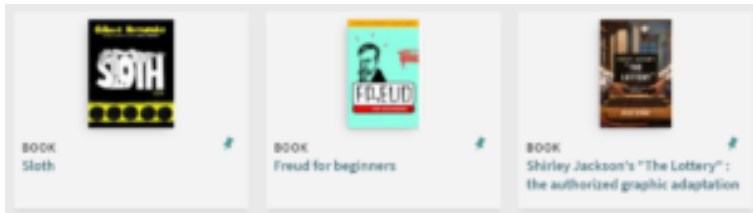
Bringing faculty-authored works into a single collection is an excellent way to showcase academics and introduce students to their professors and their expertise. Highlighting these works also presents students with potential research topics or questions that they may not have considered before, especially first- and second-year students who are just beginning to explore and learn more about their major and minor disciplines.

While a virtual collection of faculty-authored works seemed like the perfect fit for Curated Collections (the books were on various topics, spread throughout the collection across three different buildings), it was a challenge to create. Catalog records did not identify which works were published by the University's faculty. The University Libraries did not have a readily available list of recent publications from faculty. However, subject librarians purchase these titles when possible. The sociology and psychology subject librarians took on the challenge and created Curated Collections for these subjects. Additional faculty publication Curated Collections are expected in the future.

Graphic Novels

The Graphic Novels Curated Collection was a boon to the University Libraries (Figure 5).

Figure 5.



Graphic Novels Curated Collection snippet.

The Reference & Research Services and Circulation desks often receive questions from new students asking for graphic novels, comics, and manga. These were hard to find even for librarians and circulation staff. Graphic novels have traditionally been difficult to discover in the University Libraries because of changes to and inconsistencies with cataloging practice related to assigning appropriate subject headings and genre terms. Graphic novels also tend to be classified according to subject rather than genre, meaning that they are shelved with other titles on the same subject rather than together as a distinct genre. Classifying them this way is not necessarily an issue, but it does make them difficult to discover for students and faculty seeking them as a type of literature, rather than as a research resource on a given topic.

A selection of graphic novels was recently relocated and shelved opposite the leisure reading collection on the first floor of the University Library on prime bookshelves suited for display. Bringing these together and showcasing them near the leisure reading collection now allows for physical browsing in addition to the virtual browsing supported by Curated Collections.

Impact of Virtual Browsing through Curated Collections

Benefits for Students

Supporting virtual browsing through Curated Collections has a number of benefits for first- and second-year undergraduate students. They can be helpful research starters, which support intellectual curiosity through the exploratory research and browsing experience. Curated Collections can help students identify topics of interest for their research and make it easier to find quality, relevant research resources than a standard catalog search would. Curated Collections such as 2022 Russian Invasion of Ukraine or Literature and the Environment can spark undergraduates' interest in exploring timely topics in their research, and help novice researchers identify keywords and search terms to find the best resources for their topic. Catalog searches often present an immense and overwhelming number of search results, especially if search terms and keywords have not been sufficiently refined.

Academic libraries are typically much larger than the school or public libraries that undergraduates are used to, both in terms of physical space and the size of their physical and online collections. Curated Collections and other virtual browsing tools offer an accessible and friendly introduction to academic libraries for new college students. The visual nature of the Curated Collections also makes for an appealing and engaging browsing experience for students accustomed to image or graphic-driven web experiences. Browsing and exploratory research benefit the learning process, especially for undergraduate students not as familiar with how to browse an academic library's physical resources or online catalog.

Additional Benefits of Virtual Browsable Collections

Using Curated Collections to support virtual browsing opens a multitude of collaborative opportunities for librarians, faculty, students, and campus leaders. These collaborations contribute to a more coordinated support system for early-career undergraduate students who are adapting to a new learning environment. For example, librarians may work with the campus' academic success or student support centers to identify resources that can be particularly helpful to undergraduate students. Librarians may also work with the campus' office of accessibility or disability services to identify supportive resources for undergraduates with unique learning, physical, and emotional needs or those who need adaptive technologies to fully participate in the learning process. Personnel in these offices have particular expertise in these areas and would be incredible partners in supporting students requiring these services.

Virtual browsing through Curated Collections can also be used to help first- and second-year undergraduates connect with campus life and initiatives. The University Libraries is currently starting a Banned Books Club in an effort to engage with students and support social activities for them. There is a new Curated Collection to promote this club and to provide access to books and videos that the club will discuss. Browsable collections can be used to encourage student engagement with other social and campus life events as well, such as midterm or finals stress reduction events, school spirit days, or campus-wide reading events. Browsable collections can also be used in cooperation with exhibits at the campus' art museum or shows through the theater department or performing arts center. Gathering resources, background information, and related books, images, films, or music, connects the library to events on campus.

Student Response & Feedback

A number of students have shared their thoughts on Curated Collections through their service on the University Libraries' Student Advisory Board. Several undergraduate students noted that they particularly enjoyed finding the browsable Popular Books and Graphic Novels Curated Collections. One freshman said, "I was surprised to see the collection of fun reading books like graphic novels and romance. I always thought of the university library as a place to work and do research so I was pleased to learn about that collection." Leisure reading or popular books collections can be used as a gateway to encourage student engagement with other library resources and services. If students are browsing the popular reading collections, they may also see other topical, timely collections that can serve as research starters for their learning activities. In fact, one freshman noted appreciating the variety of collections and felt that there were resources on many interesting research topics. Another student noted that he or she really liked the Graphic Novels Curated Collection, which helps to surface graphic novels in our collection that were not easy to find and browse in the online catalog or stacks.

Students have also provided feedback on how to improve the browsing experience through Curated Collections or expand them. One student suggested nesting related collections together into collections and sub-collections to make browsing easier and more efficient, suggesting that he or she appreciates the browsability of the collections for finding related resources. Another student suggested that highlighting "diversity among the authors in their ethnic and racial backgrounds would be nice." Another student recommended a Curated Collection on famous theorists, made of sub-collections with books about individual theorists and books about their hallmark theories since many of their assignments focus on this and it would aid in their research and learning. These

recommendations suggest that students recognize the value of browsing virtual collections for finding library resources of interest.

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7. Imagine | Question | Search | Synthesize

A case study in fostering intellectual curiosity with inquiry-based learning

MARTA SAMOKISHYN AND MARTHA ATTRIDGE BUFTON

“When students are curious and take ownership of their learning, they feel empowered to research their topics of inquiry and, in the process, can increase their understanding of core information literacy concepts and acquire new information literacy skills.”

Introduction

“. . . people learn by confronting intriguing, beautiful, or important problems, authentic tasks that will challenge them to grapple with ideas, rethink their assumptions, and examine their mental models of reality” (Bain, 2004, p.18).

Students might perceive searching a database for peer-reviewed articles to be a bit boring, even tedious. Choose keywords, connect them with Boolean operators, maybe add quotation marks to a phrase—why would they bother with these steps when they can just throw some words into a search field and let algorithms work their magic to solve our information-seeking problems for them? But when students are on the hunt for information to help them understand the link between childhood trauma and anxiety or the impact of police brutality on people of colour, or the relationship between green urban spaces and mental health during the Covid-19

pandemic, then the process of “finding the right stuff” may not be so tiresome. Instead, when they are curious, intrigued, and eager to discover materials that might help solve a problem that matters to them, then constructing a well-structured search can be a task worth doing.

Information literacy programs can be designed to foster such intellectual curiosity and excitement. Following inquiry-based learning strategies, academic librarians can create individual sessions and courses that present students with authentic opportunities to solve complex problems that are meaningful to them and, in the process, teach them how to become better researchers (Hepworth & Walton, 2009). As teaching librarians, we have taught many traditional “one shot” sessions in our subject areas that focus on developing a single skill (e.g. searching) rather than addressing the complexity of information literacy skills and competencies. These sessions are typically one to three hours in length and embedded in discipline-based courses taught by other faculty. The content often consists of a demonstration of a library search tool or a “guest lecture” on a topic related to a specific assignment (Nicholson, 2016).

However, many librarians and information science experts acknowledge this approach to teaching information literacy is inherently problematic (Bastone & Clement, 2022; Nicholson, 2016; Pagowsky, 2021). A single session that is relatively short in length does not provide enough time for students to acquire relatively sophisticated searching and evaluation skills, let alone grapple with key threshold concepts, such as those identified in the *ACRL Framework for Information Literacy for Higher Education* (ACRL, 2015). In addition, students are not typically required to complete graded assignments, so librarians have limited opportunities to assess student learning in these one-shot sessions. Our own experiences, as well as the recent report, entitled *Academic skill*

deficiencies in four Ontario universities, suggest that, due to a lack of information literacy content in undergraduate curricula, Ontario students may be graduating without having acquired the core research skills (e.g., discovering and accessing academic materials) that both they and their professors consider critical to a successful undergraduate experience (Grayson et al., 2019).

Alternatively, a credit-bearing course grounded in inquiry-based learning could more effectively foster students' intellectual curiosity (Zion & Sadeh, 2007), which, in turn, can positively impact student motivation and self-efficacy (Buchanan et al., 2016; Clark, 2017). A semester-long inquiry-based course allows students to engage more fully in the inquiry process and tackle multiple information-related skills. As a result, students acquire a useful set of information literacy skills, such as searching, evaluating, citing, and writing with integrity. The process of acquiring these skills is scaffolded throughout the course and thus enables students to develop an integrated set of research competencies through a series of activities and graded assignments.

In this chapter, we share the case of designing a credit-bearing semester-long course: *Imagine | Question | Search | Synthesize: Critical foundations for undergraduate research*. Over the past year, we have been part of an inter-institutional team of academic librarians that has developed this course for English-speaking students in Canadian universities that could also benefit those teaching in other North American post-secondary institutions. Using a “backwards design” approach to curriculum development and an inquiry-based learning approach, this 14-week course gives students the opportunity to research an “intriguing” problem, i.e., a problem that interests them. By completing a series of scaffolded assignments, culminating in a short narrative literature review, students explore the current scholarly conversations on an issue about which they are curious while learning and applying essential

information literacy skills and competencies. To finish their summative assignment in this course, students must learn to find and evaluate sources as well as closely read and synthesize these materials and write a well-structured academic paper.

Theoretical foundations: intellectual curiosity and inquiry-based learning

Our curriculum for this credit-bearing course is informed by two key concepts: inquiry-based learning and intellectual curiosity. Before proceeding further with the curriculum design, it is important to lay theoretical foundations for these two concepts and share our understanding of their significance for creating and teaching effective information literacy programs.

Inquiry-based learning

Inquiry-based learning is a learner-centered pedagogical approach. It can be defined as engaging “in open-ended research,” often in the form of a “self-directed scholarly investigation” (McKinney, 2014; McKinney & Levy, 2006). Inquiry-based learning values students’ prior knowledge and experiences, focuses on authentic and holistic knowledge driven by students’ interests and leverages “student motivation and engagement through grounding it in an authentic research problem” (Buchanan et al., 2016; Pagowsky & McElroy, 2016).

According to Hepworth and Walton (2009), inquiry-based learning in information literacy is associated with “deep learning.” Students can ask questions within a specific area of investigation, conduct searches, select sources, and report on their findings (Hepworth &

Walton, 2009, p. 82). As a result, they become “researchers” and gain a sense of ownership and responsibility over their learning, both of which are essential for academic success (Hepworth & Walton, 2009; Pedaste et al., 2015). Thus, an inquiry-based approach to learning cultivates students’ sense of agency and self-efficacy while at the same time drawing upon and fostering the development of their intellectual curiosity.

Intellectual curiosity

Intellectual curiosity can be defined as a personality trait, i.e., a set of characteristic patterns of thoughts, feelings, and behaviors. More specifically, intellectual curiosity reflects the trait of openness or a willingness to engage with new ideas and in new experiences (Gatzka & Hell, 2018). Openness is one of the “big five” cluster of psychological traits that also includes conscientiousness, extraversion, agreeableness, and neuroticism (McCrae & John, 1992). While researchers have determined that conscientiousness is linked to academic performance, it can also be argued that openness is also a “pillar” of successful student learning (von Stumm et. al., 2011).

Given that this trait can be a predictor of academic performance, von Stumm et al. (2011) suggest that programs of higher education should be designed to ensure that “students’ intellectual curiosity is continuously stimulated and nurtured” (p. 582). Since intellectual curiosity is also closely related to intrinsic motivation (Gruber et al., 2014), this personality trait can also be an essential determining factor in the level(s) of student engagement as well as creativity, which is an essential element of inquiry-based learning (Hosier, 2022; Karwowski, 2012; Kashdan & Fincham, 2002). Teachers, including academic librarians, need to design programs, courses, and lessons that are learner-centred and feed “hungry minds”.

Using “backwards” curriculum design to create inquiry-based learning

Based on these two concepts, we used a “backwards design” approach to plan our curriculum for a 14-week information literacy course for undergraduate students. Increasingly, those teaching in higher education settings (including academic librarians) are adopting models of instructional design that are “backward” in nature (for example, ACRL, 2015; Mills et al., 2019). These backward or results-focused designs do not begin with the design of content and classroom activities but, instead, start with overarching learning goals that, in turn, determine forms of assessment before finishing with the design of content and interactions that will be integrated into a given lesson or class (Allen & Tanner, 2007; Fink, 2013). Content-focused curricula are more teacher-centred, whereas results-focused curricula are seen as more learner-centred because the emphasis is on deep understanding and the ability to transfer ideas and skills to different contexts (Junisbai, 2014, p. 333).

The “backwards” instructional design model identifies three steps to the curriculum planning process (Wiggins & McTighe, 2005). One, identify desired results (i.e., learning goals). These results can be informed by widely accepted standards. For those teaching in higher education, such standards may be informed by professional bodies or at a faculty and/or program level. However, for some disciplines or areas of teaching, high-level goals or standards may not be broadly articulated or enforced. For example, North American academic librarians are not required to teach a set of information literacy standards. However, Canadian and American librarians teaching in post-secondary institutions have developed models for teaching information literacy that can inform curricular design, such as the ACRL *Framework for Information Literacy for Higher Education*, which articulates six “big ideas” or threshold

concepts (ACRL 2015). These concepts can be used to inform learning goals.

Two, based on these goals, identify the relevant evidence of student performance. Assessment can be for learning, i.e., evidence of how students are progressing through a lesson or course so that feedback can be provided and learning can be improved. Assessment can also be of learning, i.e., what students have learned at the end of a lesson or course. Both forms of assessment should include authentic performance tasks (i.e., tasks that require students to apply the knowledge and skills acquired in the course to problems that they will need to perform in their personal and/or professional lives) as well as other evidence of learning, such as participation in group discussions, reflections, and quizzes. Authentic tasks allow students to pursue those topics about which they are curious and demonstrate knowledge, skill, and understanding through the accomplishment of tasks that they can expect to perform after graduation (Buchanan, 2016).

Three, develop a learning plan to achieve learning outcomes. Instructors can take a variety of approaches to the design of this component. One approach that is widely taught to Canadian post-secondary instructors is the BOPPPS lesson plan (Instructional Skills Workshop Network, 2018). Developed in British Columbia in the 1970s, this lesson plan is flexible—it can be used to develop a “one shot” lecture or teaching session or used to build modules and an entire course—and encourages instructors to provide opportunities for participatory learning as well as assessment for and of learning.

Each lesson begins with a bridge (B) into the topic and the articulation of learning outcomes (O). Some pre-assessment (P) is done to identify the current level of student understanding before moving into participatory learning activities (P). At the end of the

lesson, a post-assessment (P) of students' learning is done before the content and activities are summarized (see our generic learning plan with integrated BOPPS in Appendix 1). By privileging participatory learning in a BOPPPS learning plan, instructors are encouraged to design lessons that are learner-centred and experiential in nature. For example, instructors can design activities that are informed by Kolb's model of experiential learning, which fosters understanding through concrete experience, reflective observation, abstract conceptualization, and active experimentation (Kolb, 1984, p. 42). Participatory learning is central to inquiry-based learning, which encourages students to actively engage with content and activities, based on their own knowledge and interests (Conklin & Boulmasti, 2020).

Critical foundations in undergraduate research: A case study of designing an inquiry-based curriculum to foster intellectual curiosity

North American academic librarians have a “love-hate” relationship with one-shot information literacy sessions (Mery et al., 2012). On the one hand, we welcome the opportunity to work directly with undergraduate students because we believe that they need (and expect to acquire) core research skills in order to succeed in their academic program. On the other hand, as previously mentioned, we do not always have sufficient time to foster student curiosity or to encourage deep learning, i.e., the capacity to understand and transfer ideas and skills across a variety of contexts, both academic and professional (Wiggins & McTighe, 2005). And while some Canadian and American academic librarians have developed and taught semester-long courses, this approach to teaching information is still uncommon (Frail & Severson, 2022; Sobel et al., 2018). Course development requires human and technical resources that are not always available to librarians. For example, librarians

may face barriers to qualifying for grants that would support research into curriculum development (Carson et al., 2014).

Our solution to this conundrum was to find the resources to develop our own open-access credit-bearing course, a course which we could teach and share with colleagues not only in Ontario but also across North America.

In 2021, the authors were members of an inter-institutional research team that received a substantial provincial teaching grant to create an open-access credit-bearing information literacy course for first-year students. This team included:

- Martha Attridge Bufton, Interdisciplinary Studies Librarian, Carleton University
- Marta Samokishyn, Collection Development Librarian, Saint Paul University
- David C Jackson, Teaching and Learning Librarian, Carleton University
- Jennifer Dekker, Research Librarian for Arts, University of Ottawa
- Anne Hemingway, Research Librarian for Arts, University of Ottawa
- Catherine Lachaine, Student Success Librarian, University of Ottawa

Based on individual teaching philosophies and experiences, in addition to the results of the recent report on Ontario university graduates, *Academic skill deficiencies in four Ontario universities*, the team identified the need for a first-year course that would teach students core research skills including the ability to identify good evidence, conduct effective online searches, and find scholarly sources (Grayson et al., 2015). The University of Ottawa team wrote and published a French-language course entitled *Compétences*

informationnelles: Principes fondamentaux, which is available via the [Open Library VLS Collection](#). The team members from Carleton University and Saint Paul University wrote and published an English language course entitled *Imagine | Question | Search | Synthesize: Critical foundations for undergraduate research*, which is also available via the [Open Library VLS Collection](#).

The curriculum for the English course is informed by inquiry-based learning, and the course learning goals and outcomes are mapped to the *ACRL Framework for Information Literacy for Higher Education* (ACRL, 2015). The ACRL Framework identifies six frames or themes that represent the threshold concepts that are central to ways of thinking about, creating, and using information. Each frame includes a definition of the overarching idea as well as the dispositions (feelings, thoughts, values) and practices (skills, actions) of learners, and the frames can be used by academic librarians (and other instructors) to develop their learning plans (ACRL, 2015; Dubicki, 2019). Based on this framework, the overarching theme for the course is Research as inquiry, and the curriculum is divided into modules that reflect the remaining five frames:

- Searching as strategic exploration
- Information creation as process
- Authority is constructed
- Information has value
- Scholarship as conversation

The course maps these ACRL frames to the elements of the research process and the development of the core skills throughout the semester (see Figure 1. Elements of the research process as mapped to the *ACRL Framework for Information Literacy for Higher Education*).

Figure 1.



Elements of the research process as mapped to the ACRL Framework for Information Literacy for Higher Education.

Stage one: Desired results

Each of the five modules reflects the given ACRL threshold concept. The learning goals are derived from the fundamental ideas embedded in each frame and the measurable learning outcomes are informed by the knowledge practices for each frame.

For example, the ACRL Framework offers the following definition of the concept of “Research as Inquiry”: “Research is iterative and depends upon asking increasingly complex or new questions whose

answers, in turn, develop additional questions or lines of inquiry in any field” (ACRL, 2015).

In the learning plan for Module 1 of our course, we have adapted this definition as follows to create an overarching learning goal for the course:

Research as inquiry

Students will understand that disciplinary research is an interactive process of exploring and engaging with information by asking questions, finding answers, and suggesting new questions.

Students will be able to transfer (independently use) their learning to ... use the inquiry processes to find appropriate sources and successfully complete assignments during their degree program.

The “transfer” statement in this learning goal is critical because, ultimately, we want students to be able to use core information literacy concepts and skills to solve problems in a wide variety of contexts (Wiggins & McTigue, 2005).

Stage two: Assessment evidence

Grounded in measurable learning outcomes, assessment “is a learning tool that helps students understand course content and think critically about it, all the while improving chances at retention” (Anderson, 2016). As Oakleaf (2009) argues, “the overriding goal of assessment is to make changes that increase student learning or improve the assessment processes” (p. 87).

Typically, assessment is categorized as summative and formative. Summative assessment is focused on the final evaluation of students' learning, while formative assessment is usually ungraded assignments whose goal is to help students in their learning process (Dolin et al., 2018).

When designing summative assessments, librarians can incorporate learner-centered pedagogy, such as inquiry-based learning and/or problem-based learning, in order to engage students in real-life issues as well as spark their intellectual curiosity. Such an approach allows students to choose their own topic of inquiry and bring their own prior knowledge and interests into their academic work. Formative assessment can be used to measure students' understanding of the subject in order to help them improve their knowledge as a course unfolds and prepare them for the summative assessment. According to McMillan (2007), the formative assessment allows students to “see the connections and clarify meaning in small, successive steps as new knowledge is related to existing understandings” (p. 1).

Librarians have been able to include formative and summative assessments in credit-bearing information literacy courses and embedded information literacy education through collaboration with course instructors. They have often developed assignments based on the *ACRL Framework for Information Literacy for Higher Education* and design assignments to foster students' “greater role and responsibility in creating new knowledge, in understanding the contours and the changing dynamics of the world of information” (ACRL, 2015).

As identified above, in this course the primary learning goal is that students will understand that disciplinary research is an interactive process of exploring and engaging with information by asking

questions, finding answers, and suggesting new questions. When this goal is achieved, students will be able to transfer (i.e. independently use) their learning to use the inquiry processes to find appropriate sources and successfully complete assignments during their degree program. In addition to mastery of course content, successful completion of assignments requires core writing and citing skills.

As a result, integrated performance evidence includes seven scaffolded assignments, culminating in a short, traditional thematic literature review. These assignments or assessments are authentic tasks for a course in research skills. Finding, evaluating, synthesizing and presenting the results of a research project are tasks that are found across disciplines and that students will be expected to perform throughout their undergraduate programs as well as in many work environments. In addition, overall, conducting a literature review allows students to harness their intellectual curiosity by allowing them to explore key issues and write and share their results based on a topic of interest to them. Evidence is scaffolded in order to build core understandings and skills, where core understandings are related to their roles as information consumers and producers.

For example, the first graded activity is the Individual visitor-resident typology mapping activity. In this activity, students are required to create a typology map of the information sources that they use to find information when they are searching.

This map is a visual representation of their information landscapes. By understanding their current information-seeking behaviors, students are laying the foundation for adopting the more sophisticated search strategies that they will need to conduct a literature review.

Stage three: Lesson plans

The BOPPPS framework is used to ensure that individual classes/lessons are participatory/experiential in nature, giving students multiple opportunities to take responsibility for their learning and support their peers. Embedded in these lesson plans are both pre- and post-assessments of student learning that are designed for learning, i.e., are formative in nature.

For example, each class includes small and large group work. Small group work enables students to lead discussions and help each other understand the big ideas of each class. Large group work is an opportunity to share their understandings and also for the instructor to intervene and guide discussions to ensure that learning is productive.

Any of these lessons could be repurposed for one-shot presentations, although they are designed to be scaffolds for learning across weeks and modules (see the course for learning plans that include BOPPPS lesson plans).

Conclusion

“Curiosity begets curiosity” and, in the classroom, inquiry-based learning fosters curiosity by ensuring that students can “conduct research as a way to follow ... personal, professional, creative, scientific, or scholarly curiosity” (Hosier, 2022, p. 32). Moreover, this pedagogical approach also fosters student agency. When students are curious and take ownership of their learning, they feel empowered to research their topics of inquiry and, in the process, can increase their understanding of core information literacy

concepts and acquire new information literacy skills. An inquiry-based approach to teaching information literacy can create student-centered learning environments that put students in the center of the inquiry process and “can have a transformative effect” (Reale, 2019 p. 41).

Certainly, our own experience in designing this open-access credit-bearing information literacy course has been transformative. We have had the opportunity to think more deeply about how to engage and motivate students in acquiring core research skills that can be used in many contexts. We have also been able to use key frameworks for curricular design and information literacy to inform our teaching practices and develop a course that provides students with the time and attention they need to learn deeply.

What’s next? The final version of the course is available via the eCampus Ontario [Open Library VLS Collection](#) for other librarians to access, modify, and teach. This version also includes [a reading guide](#) to the weekly readings, entitled *Imagine | Question | Search | Synthesize: Critical foundations for undergraduate research: A reading guide*, which has published in Pressbooks (see Attridge Bufton & Samokishyn, 2022). Marta has adapted core course content to a 12-week labs, attached to the first-year undergraduate course Critical Analysis, Reading, and Writing Academic Works that she teaches at Saint Paul University. Initial results from this lab suggest that students benefit from the semester-long labs and appreciate the knowledge and information literacy skills they are acquiring through their process of inquiry. Martha and David will be teaching the course to first-year students at Carleton University in the fall 2023 term. This course will be open to all students at Carleton, regardless of their program or faculty.

Designing an information literacy curriculum that pays special

attention to learners is a challenging task. Librarians need to know their students well and understand how to foster their intellectual curiosity so that curricula benefit student learning. In particular, teaching librarians need to design both formative and summative assessments that give students clear guidance and allow them to pursue topics that are of interest to them. When designing information courses using inquiry-based learning, librarians have a unique opportunity to encourage students to be curious and engage in the iterative process of research by asking more complex questions.

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- Figure 1 is licensed under a [Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-nc-sa/4.0/). *The Understanding by Design template has been used to construct the learning plan (See the learning plans in the course here [Open Library VLS Collection](#)).*

Appendix

Stage 1 Goals (desired results)	
(G) Relevant goals (ACRL frame) Students will be able to independently use (transfer) their learning to ...	
(U) Understandings Students will understand that: <ul style="list-style-type: none"> • Big ideas • Identifiable misunderstandings 	(Q) Key questions What questions will foster inquiry, understanding and transfer?
(K) Knowledge Students will know (key facts, ideas):	(S) Skills Students will do/be able to:
Measurable learning outcomes based on K & S	
LO1 LO2 LO3 LO4	
Stage 2 Assessment evidence	
(T) Performance tasks <ul style="list-style-type: none"> • Authentic performance tasks to demonstrate understanding(s) <ul style="list-style-type: none"> ◦ Formative and/or summative • Criteria for assessing performance 	(OE) Other evidence <ul style="list-style-type: none"> • Quizzes, academic prompts, reading reflections • Reflections on learning
Stage 3 Lesson plan (BOPPPS)	

B (Bridge In)

Timing range

A story, an interesting fact related to your content, an icebreaker, or link to previous sessions (if applicable).

O Outcomes [learning]

Timing range

What do you want students to learn (the purpose of the learning session)

LO1

LO2

LO3

P (Pre-assessment)

Timing range

A question or survey/quiz to determine what students already know as well as what they need to know (can provide a self-assessment worksheet)

P (Participatory learning activity)

Timing range

Activity planned as per learning goals and assessment evidence

P (Post-assessment)

Timing range

A question, quiz, verbal “check in” on how they will use/transfer what they’ve learned

S (Summary)

Timing range

Restated learning outcomes and highlighted key points of the learning session

Resources needed for the session

About the Authors



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Marta Samokishyn is a Collection Development and Liaison Librarian at Saint Paul University. She holds her MIS from the

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Martha Attridge Bufton is the Interdisciplinary Studies Librarian at the Carleton University Library. She has a MA in history from Carleton (2014) and an MLIS from the University of Alberta (2017), where her research interests include information literacy and game-based learning. Martha supports a number of programs in the Faculty of Arts and Social Sciences, including Digital Humanities. With Prof. Pamela Walker, Martha won the inaugural Brilliancy Prize for Reacting (2019) for the creation of an embedded librarian character (Maud Malone) in the Reacting game Greenwich Village 1913. Her master's thesis, *Solidarity by Association: The Unionization of Faculty, Academic Librarians and Support Staff at Carleton University (1973-1976)*, won the Eugene A. Forsey Prize for the best thesis on labour history, awarded by the Canadian Historical Association. Her published works included a chapter on unionism

in *In Solidarity: Academic Librarian Labour Activism and Union Participation in Canada* and “Play Your Cards Right: An Information Literacy Card Game for Undergrads” in the ALA edited volume 52 *Ready-to-Use Gaming Programs for Libraries*. As a documentary filmmaker, Martha has co-produced *Women at the bargaining table. White collar unionization at Carleton University*, a short documentary film about union activism at Carleton University in the mid-1970s.

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8. Collect all Eight

Choose your own adventure in learning to develop information literacy skills using QR codes for first year students

AMY DYE-REEVES

“the future of the library will be shaped in part by those librarians who have chosen to develop a challenging medium, one of shifting platforms, unproven ideas, and constrained resources” (Hahn 2009)

Introduction

Texas Tech University is a public research university located in Lubbock, Texas. The university is a designated Hispanic-Serving Institution (HSI). The total students are approximately 30,041 undergraduate students and 6,798 graduate students. (Texas Tech University, 2022). The university library contains one dean, two assistant deans, three associate deans, forty-six faculty members (librarians/archivists), and one hundred and two staff members.

The University Libraries building structure includes the Main Libraries, Architecture Library, Costa Rica Library, Peters Family Legacy Library, and Southwest Collection/Special Collections. The library’s mission is driven to “connect users with resources that advance intellectual inquiry and discovery.” (TTU Libraries Mission Statement, 2022).

For this case study, I am part of the Reference, Instruction, and Outreach (RIO) department that provides personalized research assistance to all faculty, staff, and students. The department contains thirteen full-time faculty librarians that support varying academic colleges and departments within the university. The work

in this department includes group instruction, individual student consultations, and participation in outreach programs. Each summer, the department participates in the campus-wide initiative, Red Raider Orientation (RRO), which helps incoming students navigate the university before the start of the fall term. In the past, the RIO department was part of the RRO program by offering extensive group tours with multiple librarians taking students around all the various floors of the library. The tours were often seen as problematic due to many students not hearing all of the information provided by the librarians. Upon returned evaluations, students still felt uncertain about moving comfortably within a sizeable academic library.

Due to various circumstances, the department felt it was critical to begin providing information on both in-person and digital services. The goal was to offer a low-stakes experience where students felt safe to explore library resources online. RRO also began offering all orientation experiences online. As a result we found participants must be self-motivated to complete any extra activities. For motivation we considered offering a prize or special certification would need to be incentivized as this library experience would be voluntary. As discussed later, the task force and I worked with the Communication and Marketing department to give each participant a prize pack for completion. The prize pack included the following: pens, jump drives, sunglasses, and notepads.

The following chapter will discuss a digital library orientation experience.

Literature Review

The reviewed literature is well-documented concerning library-centered orientations and associated library service point tours where students are more likely to request additional research assistance with papers, projects, and presentations. (Boff & Johnson,

2002; Brown, Weingart, Johnson, & Dance, 2004; Du Mont & Schloman, 1995; Pellegrino, 2012; Ury & King, 1995; Vance, Kirk, & Gardner, 2012); as this directly connects to end results of patrons engaging within the digital library orientation. The active learning exercises in the literature included escape rooms and scavenger hunts that provided low-impact opportunities and introduced library locations and services that helped lower anxiety and increased overall completion rates. (Broussard, 2010; Burke & Lei, 2012; Cahoy & Bichel, 2008; Kasbohm, Scheon, & Dubaj, 2006; Marcus & Beck, 2003 McCain, 2007)

During the systematic review process, I retrieved the top three relevant topics that applied directly to the case study. The topics included: understanding physical library orientations, implementing virtual library orientations, and the benefits of gamification within library orientation experiences with a focus on low-stakes games and assessments.

Physical Library Orientation Programs

Rice (1981) explained that library orientations often focus on the physical building, the introduction of library faculty and staff members, and related library procedures. Students will also have different academic backgrounds when participating in this event, which would need to be structured broadly. (Bhornchanit, Leenaraji, et al., 2021; Cook et al.; 2003). Klain- Gabby and Shoham (2019) denote that student orientation programs are needed to propel and highlight library services within a student's academic career. The literature must continue to be examined as a need for knowledge of library services expands to equipping students' comfort level to ensure accessibility, lending materials, and other vital resources needed to support the entirety of the research process. (Hamilton 2009; Sin 2012; Baglier and Caswell 2016). Other authors have explored the positivity of self-guided tours within physical environments to improve one's academic career. (Goldman,

Turnbrow, Roth, Friedman & Heskett, 2018; Kaneko, Saito, Nohara, Kudo, and Yamada, 2018; Ly & Car, 2010; McCain, 2007). Students that receive a library orientation would likely ask for additional research assistance with future course papers, projects, and presentations. (Boff & Johnson, 2002; Brown, Weingart, Johnson, & Dance, 2004; Du Mont & Scholman, 1995; Pellegrino, 2012; Ury & King, 1995; Vance, Kirk, Gardner, 2012). However, physical library orientation might not always be appropriate for everyone and provide flexibility for all involved parties (Granholtm 2007).

Virtual Library Orientation Programs

While conducting the literature review, I found that the virtual library orientations consisted of the following digital structures: asynchronous (Dent, 2004; Dickelson, 2002; Fitz-Walter et al., 2011; Georgas, 2014; Mikkelsen and Davidson, 2011) and hybrid opportunities (Dennen et al., 2015; Elsom et al., 2021; Hicks and Sinkinson, 2011; Kaneko et al., 2015; Leenaraji et al., 2021; Levitan and Rosentein, 2019; Stark, Opuda, McElfresh, et al., 2021; Whitchurch, 2011; Tang 2021). In addition, the author noticed a large amount of virtual programming ranging from escape rooms, scavenger hunts, and other forms of gamification in which to engage their audience.

However, the systematic review focused on studying, creating, and implementing digital library scavenger hunts in this case. Therefore, it would be the main focus of this systematic review section. A library scavenger hunt is an “assignment designed to acquaint novice students with the physical library and its resources. It comprises a list of questions that have no immediate relevance to course content. It is not preceded by a former library orientation or instruction session.” (McCain, 2007). The activity has the participants explore the building and introduce them to library resources and services. Lyn and Car also found the activity to be problematic as a “much criticized, even hated by many instruction

librarians as ineffective ways to teach research skills. (Ly and Carr, 2010).

Benefits of Gamification Held Within Virtual Library Orientations

Gamification looks at the logic and experimental design that engages and motivates users to accomplish a specific or set number of objectives. (Tang, 2021). Multiple studies have shown that educational games can increase attention, engagement, motivation, and knowledge retention (Alsawaier, 2018; Groening & Binnewies, 2019; Kaneko, Saito, Nohara, Kudo, & Yamada, 2018; Subhash & Cudney, 2018; Woolwine, Romp, & Jackson, 2019). In addition, students connect personal relevance to their learning and adopt problem-solving skills within gamification simulations. (Latham, Gross, 2013). Veach (2019) denotes these types of orientation activities can demonstrate a “low stakes, controlled environment where students could feel safe asking for assistance.” (p.558). Finally, Leach and Sugarman (2006) indicated that students are more willing to participate in gamification efforts with the informality of low-stakes gameplay, resulting in lower anxieties and tensions associated with the overall research process.

A disadvantage within virtual gamification efforts consists of technical knowledge and budgetary issue for designers. Mozier et al. (2009) denote that designing games for learning require skills and intangible efforts within creativity and time. Westera (2017) also explains that individuals may have different experiences or struggles centered on technological knowledge and experiences with utilizing various products.

Research also demonstrated that low-stakes activities encourage library usage without being tied to a graded assignment. (Boss, Angell, & Tewell, 2015; Burke, Lei and Rogers, 2014; Cahoy & Bichel, 2008; Foley & Bertel, 2015; Giles, 2015; Kashom, Schoen, & Dubaj, 2006; Marcus & Beck, 2003; McCain 2007; Snyder Broussard, 2010).

The low-stakes activities might also combat feelings of library anxiety by helping students locate resources and services for future usage. (Cahoy & Bichel, 2004; Gross & Latham, 2007; Jiao & Onwueabuzie, 1999; Mellon, 1986; Van Scoyoc, 2003).

Overall, the systematic reviews on physical and virtual scavenger hunts showcase the library as a fun, innovative, welcoming, and forward-thinking experience that helps further their personal academic goals. (Goldman, Turnbrow, Roth, Friedman & Heskett, 2016; Ly & Car, 2010; McCain, 2007). Walsh (2014) explains that gamification and elements of played interaction are critical to providing a “safe environment to experiment and learn new things that may otherwise be reluctant to do” (p.41).

Case Study: “Choosing Your Own Adventure in Learning”- Orientation Library Guide

Background Information

For the past several years, Texas Tech University Libraries have held in-building tours focusing on specific services and resources that would be utilized by all new university students entering the fall term. However, services needed to be expanded to include the digital realm to include all learners despite their geographic location.

To aid in this response, I enlisted the help of the Outreach and User Experience librarians to create a digital scavenger hunt experience. The group met bi-weekly through Zoom to structure the program. The project had a budget of zero dollars, and I would need to be creative when constructing a large-scale project.

I also looked towards the advice of Donald Ray, “a library- an organization of knowledge into fields- addresses itself not to various student populations but various subject inquiries... So

perhaps we first need to ask ourselves what the library, as a library, would offer students...” (Ray, 1989, p.148). Greiner ‘s (2000) observations about working in a college library denoted that “when those who use the library consistently get the help, they need to find the information they want, they will come and come again”. (p. 88). I believe this quote helps library patron understand the purpose of an academic library and who can help them, especially during the beginning steps of entering an academic library.

Beginning Steps of the Project: Creating Learning Objectives for Library Orientation

The goal was to create an online environment with interactive elements. Watts believed that “all students need to be more engaged in their learning, connected to their experiences, and supported in their attempts to understand the world of scholarship”. (Watts, 2005). The task force also looks towards the Association of College and Research Libraries (ACRL) Distance Learning Standard of Access Entitlement for further help

“All students, faculty members, administration, staff members, or any other members of an institution of higher education are entitled to the library services and resources of that institution, including direct communication with the appropriate library personnel, regardless of where they are physically located in relation to the campus; where they attend class in relation to the institution’s main campus; or the modality by which they take course.” (Association of College and Research Libraries, Standards for Distance Learning, 2000).

The first step for the task force was to develop and map out the learning objectives for the digital scavenger hunt. What would the students need to know to navigate the university library resources successfully? The learning objectives need to be broad enough to encompass all academic learning and not focus on a particular major

or minor program of study. After much discussion, we composed the following three learning objectives:

- Each participant will identify the library and related services through the digital library website, such as collections and circulating materials in physical and digital accessible formats.
- Each participant will recognize how to locate their subject librarian for which to learn to ask for assistance with the research process
- Each participant will choose and complete the modular activities for which to further construct information literacy skills to apply in their academic careers.

We found it essential for students to be familiar with the physical and virtual library services upon future stay-at-home orders being lifted. Therefore, the focus was on providing both physical and virtual experiences to meet the needs of all participants.

Beginning Steps: Creating Pre- and Post-Assessments for the Virtual Library Orientation Experience

The main goal was introducing library resources and services to all new first-year students. Therefore, the pre-assessment's main focus was to inquire about past experiences with all types of existing libraries (such as school, public, and community colleges for those taking accelerated courses).

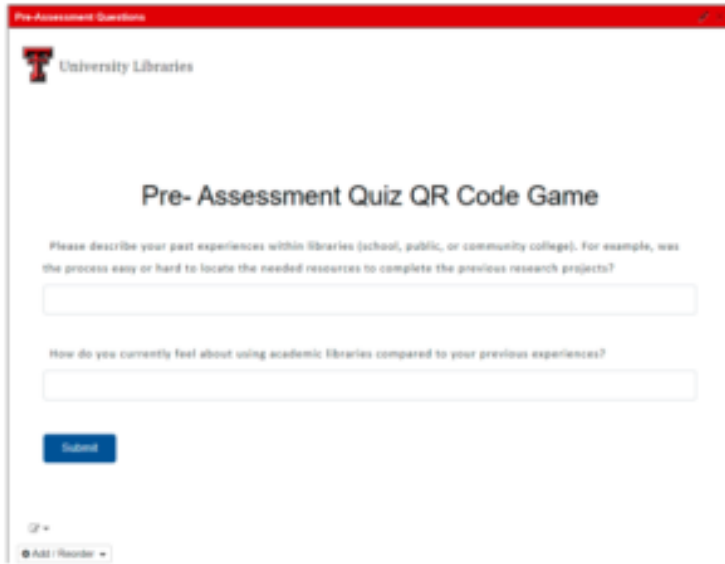
After drafting a list of mock questions in a Google Document, the group agreed upon the following two pre-assessment questions:

1. Please describe your past exposure to using libraries (for example, school, public, or community college). For example, was the process easy or hard to locate the resources needed to complete any previous library research projects?
2. How do you currently feel about using an academic library

based on your previous experiences?

The following screenshot displays the implemented questions used within the quiz feature through LibWizard.

Figure 1.

The screenshot shows a web browser window with a red header bar containing the text "Pre-Assessment Questions" and a close button. Below the header is the "University Libraries" logo and name. The main heading is "Pre- Assessment Quiz QR Code Game". The first question is: "Please describe your past experiences within libraries (school, public, or community college). For example, was the process easy or hard to locate the needed resources to complete the previous research projects?" followed by a text input field. The second question is: "How do you currently feel about using academic libraries compared to your previous experiences?" followed by another text input field. A blue "Submit" button is located below the second question. At the bottom left, there is a "QR =" icon and a dropdown menu labeled "All / Random".

Pre-assessment quiz

Finally, the group created the post-assessment questions centered around the orientation's effectiveness. Later in the chapter, I will explain the incorporation and dissemination of the post-assessment questions.

Beginning Steps of the Project: Exploring Technological Products

During the explorative process, we initially examined four products:

GooseChase, Scavify, Eventzee, and Adventure Lab. Unfortunately, each product was only accessible behind a paywall. The primary issue was the overall cost, and the project had a budget of zero dollars. Therefore, the group needed to explore only freely available options. The options included: Springshare's Libguides (already purchased through the university libraries) and Google Forms. The university currently does not have an agreement with any Google Suite products. Therefore, Libguides and the associated Springhare suite products provided the best option for this orientation project. Everyone was also very familiar with using the Springshare products, and no one in the group would need to spend extra time learning the technological platform.

Creating and Implementing the “Choose Your Adventure in Learning” Game

The task force began by creating a research guide (Springshare Product) to house the entirety of the game. <https://guides.library.ttu.edu/digitalorientations>

The guide, as mentioned, was created using side navigation for ease of mobile usage and ADA compliance based on previous user experience data. The manual consisted of eight modules included the following links: University Libraries Overview, TTU Library Account and Checking Out Materials, TTU Libraries Study Spaces and Reservations; Spaces and Technologies; Computers, Laptops, and Printing; Research Databases and Research Guides; Getting Help at TTU Libraries (Chat and Face to Face Reference Interviews), and Workshops and Library 1100 (one-credit information literacy course).

Figure 2.



Choose your own adventure homepage.

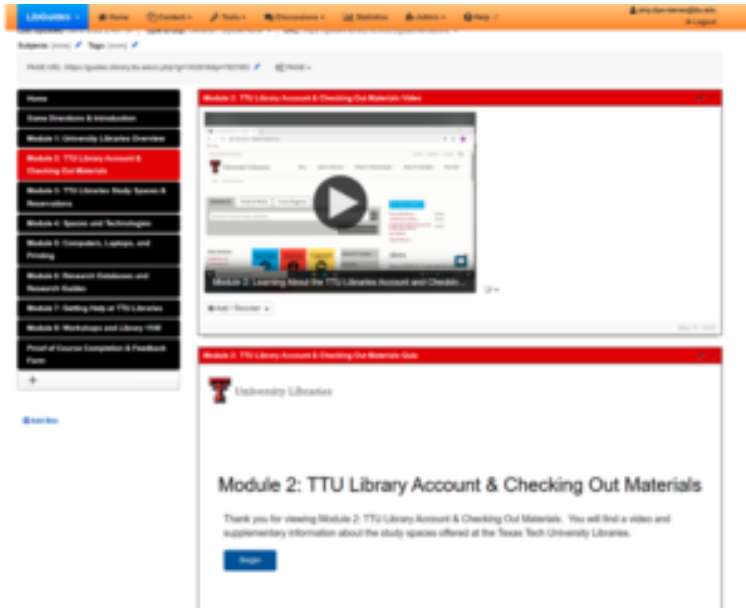
Ready... Set... Go: Game Layout and Directional Information

The first step was laying out the game directions for all participants. The overall goal was for participants to collect all eight QR codes upon completion of each module and upload them within the “Proof of Course Completion and Feedback Form” section. In addition, each section contained a brief instructional video, a list of academic links to explore later, and a short assessment quiz. The screenshot below demonstrates the directions held within the research guide activity.

Upon reviewing the game instructions, each participant will choose their own adventure in learning by clicking on any of the modules and completing the short assessment to ensure learning was completed throughout the modules. All participants need to complete all eight modules to receive a prize pack.

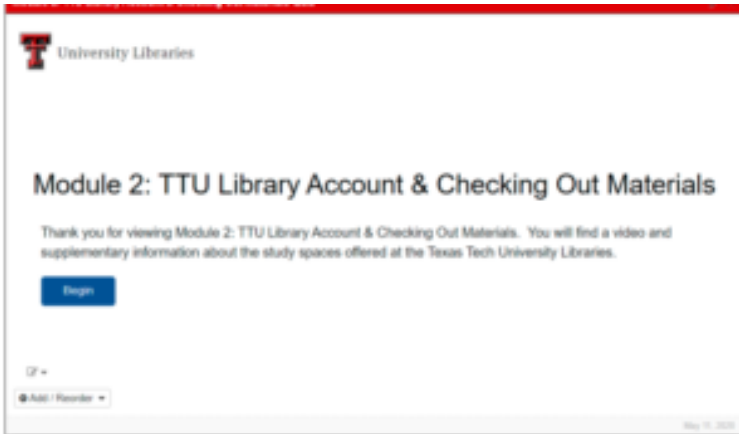
The following screenshots provide examples of the modular layout with academic-focused content.

Figure 3.



Game website with modules.

Figure 4.



Closer look at module 2.

Each module assessment at the bottom of the screen was created using LibWizard and embedded into each section of the guides for consistency. Each quiz would contain only two to three questions per module. The task force group felt that a more extensive assessment would cause students not to complete the overall virtual scavenger hunt experience. The following screenshot shows an example of a modular embedded quiz.

Figure 5.

Module 2: TTU Library Account & Checking Out Materials

You are looking for following item: **Challenging and supporting the first-year student : a handbook for improving the first year of college**



However, this item is not held within the University Libraries. Where do i go to find this item? *(required)*

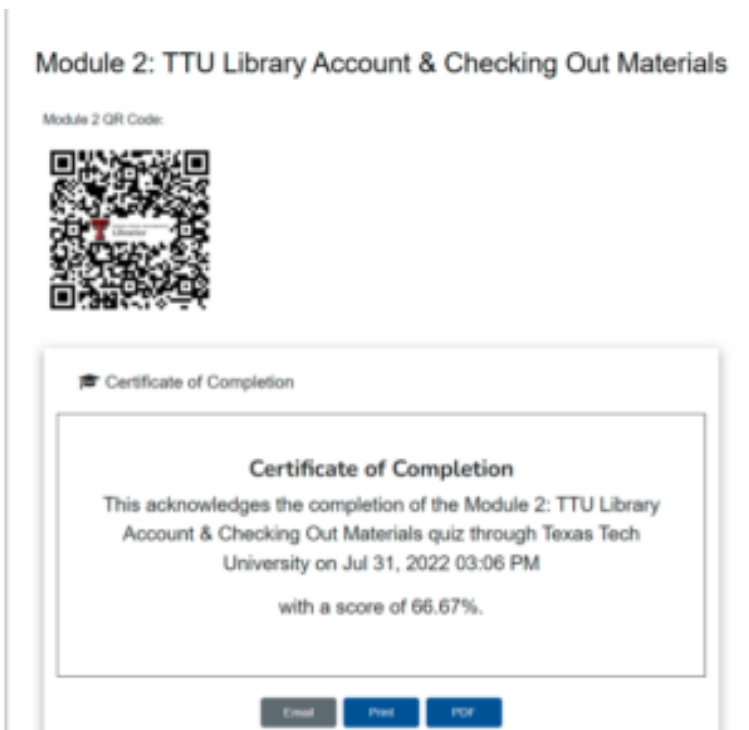
Help!! I lost my library book and I need to pay for the item. Where do i go? *(required)*

I have 5 books checked out from the University Libraries. Is this "too many" books? How many books am i allowed to check out at a time? Where do i go to find this information? *(required)*

Opening screen of module 2.

Each student was required to answer each question and could not leave any answers blank. However, if the student missed a question, they could keep correcting the answers until they received a perfect score. The goal was for each student to feel confident and retain all the provided information. Upon completing each assessment, the student would receive the following message with the associated modular QR code.

Figure 6.



Module 2 completion certificate.

After collecting all eight QR codes, each participant must navigate to the last section of the guide entitled, Proof of Course Completion & Feedback Form and deposit the QR codes within the submission form.

Upon QR deposit, each student would need to take the embedded post-assessment within the listed form or scan the QR code to complete the feedback form concerning their experience with the digital orientation scavenger hunt program. The feedback form was required for completion amongst all student users. We felt that leaving the feedback form optional would allow many students to skip this experience and will not provide the group with any

valuable insight into improving this experience for future iterations. Second, the students must upload all eight QR codes. We also found that the best way for students to upload the QR codes was to copy and paste them within a word document and upload the document within the overall submission form. The following screenshots denote both feedback forms and uploaded forms.

Figure 7.

The screenshot shows a web-based feedback form. On the left is a vertical navigation menu with the following items: 'Choosing Our Materials', 'Module 1: TDU Libraries Study Services & Information', 'Module 2: Search and Technology', 'Module 3: Computers, Laptops, and Printing', 'Module 4: Research Databases and Research Guides', 'Module 5: Getting Help at TDU Libraries', 'Module 6: Workshops and Library 101', and 'Final of Course Completion & Feedback Form' (which is highlighted in red). Below the menu is a 'Back to' link. The main content area is titled 'Digital Library Orientation Feedback Form'. It contains the following sections: 'Please Select The Category That Best Describes You' with radio button options for 'Student- Undergraduate', 'Student- Graduate Student', 'Faculty Member', and 'Other'; 'Please provide your first and last name' with a text input field; 'Please provide your TDU email address' with a text input field; 'What Did You Find To Most Helpful While Taking The Digital Orientation?' with a text input field; 'What did you find to be the least helpful during within the Digital Orientation?' with a text input field; and 'Please Rate the Overall Experience of the Digital Orientation' with radio button options for 'Great', 'Good', 'Fair', and 'Poor'.

Feedback form (part 1).

Figure 8.

Please Provide Us With Any Suggestions or Improvements Concerning the Digital Orientation

Please Screenshot All 8 QR Codes to Finish the Orientation. You can upload a mircosoft word document (putting all 8 into one document) or submit another way. Please email: amy.dye-reeves@tu.edu with any problems or concerns about this process.



Back

Submit

Feedback form (part 2).

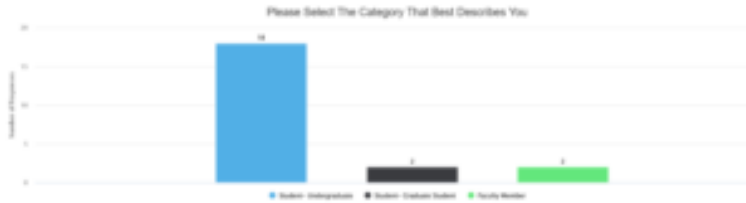
Upon culmination, each participant was given a prize pack for completion. The prize pack included the following: pens, jump drives, sunglasses, and notepads. The students could physically pick up the prize pack upon the reopening of the university libraries. The prize package could also be mailed to participants registered as distance education students.

Digital Scavenger Hunt Reflection

The following infographics correspond with the number of participants who responded to the digital scavenger hunt program. The two university library faculty members listed were invited to beta-test the program. The scavenger hunt was targeted new first-year college students to get them acclimated to using the university library's services. However, the two listed graduate students found the experience through social media posts from the University Libraire's Communication and Marketing department. The two

graduate students were not targeted for this experience but were welcome to participate in the scavenger hunt.

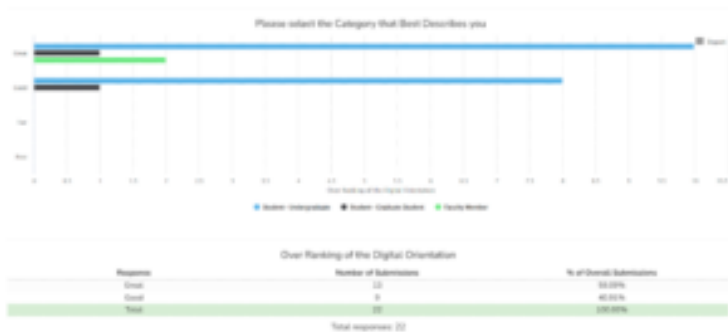
Figure 9.



Graph of participants by type.

The following infographic provided information about the overall experience within the program:

Figure 10.



Experience within the program.

The task force group did not receive fair or poor ratings. However, as discussed, the participants were also required to leave comments to aid in reconstructing future reiterations of the program. The following chart provides the participatory comments on the

modules' helpful and least helpful themes within the digital orientation program

What was the Most Helpful?	What was the Least Helpful?
Videos- Visualization of library skills	Computer Availability
Ask A Librarian Feature (multiple comments) about the virtual chat, virtual consultations, etc	Workshops/LIBR 1100- students noted they had way too many other courses to complete in college
Research Tabs- held within the Modular Guide	Quizzes- found them to be unnecessary
Printing/Laptop Checkout (multiple comments)	Technology section (Makerspace, etc.)
Locating All Library Resources (multiple comments)	Finding Books in the library- "We should have been focused on just electronic books."
Checking Out Books (Physical Materials)	Videos in the Orientation- freezing up on the user's end
Locating Library Study Spaces (multiple comments) for future usage.	Multiple technological errors due to the MediaSite software program used to create the interactive video experience.

Conclusion and Future Casting

From fall 2020 to spring 2021, the team examined ways to improve the digital scavenger hunt program and re-elevate the process with the possibility of gaining funding for the project. The goal was to continue to explore all three different service models: asynchronous, synchronous, and purely face-to-face methods. In 2022, the task force group reassembled and voted on creating a self-guided physical tour due to limitations experienced during the pandemic. The physical walking tour would be a companion to the

already discussed QR code digital orientation game held within this chapter. During the explorative process, the group expanded to additional members of the Marketing and Promotion department and supplementary members of the Reference, Instruction, and Outreach teams. The physical tour contained audio clips, instructional videos, and audio transcripts for the hearing impaired located around critical service points throughout the building, as denoted in the following screenshot. The goal was to make this one hundred percent mobile-friendly within all electronic devices. The physical orientation contains a starting point, and supplementary clues were given throughout the orientation model to lead students to end up at a centralized point to receive a prize upon completion. All readers can find more about the experience here: <https://guides.library.ttu.edu/tomeraider>

I found that Hahn (2009) summarized it well by saying that “the future of the library will be shaped in part by those librarians who have chosen to develop a challenging medium; one of shifting platforms, unproven ideas, and constrained resources.” (p. 273). As I feel that we are constantly are looking towards new idea and shifting paradigms to further meet the needs of all students.

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9. Cultivating and Harvesting Community

Awakening Students' Greater Intellectual Curiosity through Fruitful Partnerships with Faculty

F. ELIZABETH NICHOLSON; LESLIE L. MORGAN; AND MONICA MOORE

“The purpose of the Library Research Awards is to help students to see research as a stand-alone, worthwhile goal. Undergraduate research is an accomplishment in and of itself – the development of a desirable and transferable skill set.”

Introduction

How may librarians help to create an environment in which intellectual curiosity flourishes? First- and second-year students at the University of Notre Dame, as elsewhere, are learning not only about topics in their respective majors, but also how to succeed in the higher education environment. Intellectual curiosity will not be high on a student's priority list if they are struggling with orienting themselves in their role as a Notre Dame student. Walking into Hesburgh Library can be an intimidating experience – fourteen floors to explore, plus an array of services and electronic resources, not to mention learning how to use the printers. Hesburgh Libraries' employees are well-equipped to assist students as they familiarize themselves with the libraries' collections, spaces, and services. This assistance comes in a variety of guises – signage, the HL website, and interactions with library employees at service desks, among others. Helping students find their way at [Hesburgh Libraries](#) is akin

to preparing the soil in a garden plot: if students are comfortable asking for help and navigating the spaces and collections, they will be receptive to learning how Hesburgh Libraries, and interactions with library faculty, may further their intellectual growth. This growth is nurtured through collaborative outreach partnerships between library and teaching faculty, and the seeds for intellectual curiosity are planted in library research sessions and individual consultations. In this chapter, we will share how outreach at Hesburgh Libraries has contributed to first- and second-year students' intellectual curiosity. F. Elizabeth Nicholson will begin with an overview of our efforts to use our library research sessions and individual consultations with students enrolled in a first-year writing course to plant and tend to the seeds of intellectual curiosity. Next, we highlight how developing strategic partnerships with our teaching faculty colleagues leads to fruitful engagement with students, using the specific example of Leslie L. Morgan's work with faculty in the Africana Studies department. In the final section of the chapter, Monica Moore will focus on the "harvest," so to speak, of the students' intellectual curiosity as demonstrated in first- and second-year students' submissions for the Library Research Award.

Planting the seeds in first-year Writing & Rhetoric courses with Elizabeth

At Hesburgh Libraries, the work of subject librarians to foster connection with their respective faculty enables the libraries' resources, spaces, and services to directly impact the intellectual curiosity and scholarly exploration of our students. This impact is felt early in undergraduate students' tenure on campus. Hesburgh Libraries faculty have established a solid relationship with faculty in the department of [Writing & Rhetoric](#), resulting in integration in all sections of first-year Writing & Rhetoric (W&R) courses. The

majority of these library sessions are taught by library faculty in the Teaching, Research, and User (TRU) Services Program, in which the authors of this chapter work. Typical involvement includes two library research sessions per course section. Fruitful collaboration with the W&R faculty led to the creation of a standard curriculum (Figure 1) as well as student learning outcomes based on the [Framework for Information Literacy for Higher Education](#) (Figure 2), for the library sessions (many thanks to our former colleagues, Melissa Harden and Anna Michelle Martinez-Montavon for their excellent work on these materials!).

Figure 1.



Themes of Writing & Rhetoric library sessions

Figure 2.

Frames	Essential Questions	First-Year Student Learning Outcomes
Scholarship as Conversation	<ul style="list-style-type: none"> • What does “scholarship” mean? What do we mean by “scholarship as conversation”? • What barriers exist to entering this conversation? • How can we gain greater understanding of topics by examining the connections and ongoing narratives between different scholarly pieces? • What are my responsibilities when participating in the conversation? 	<ul style="list-style-type: none"> • Define what we mean when we say “scholarship” • Use this metaphor as a basis for understanding readings and the work they are being asked to do and for developing search strategies • Describe how they are entering the conversation and what hurdles may exist
Research as Inquiry/ Searching as Strategic Exploration	<ul style="list-style-type: none"> • What is “inquiry” and how does it relate to curiosity? • How do we know what we don’t know and how do we figure out what is not there? • How is defining a research topic part of the research process? • How can failure and mistakes help us in finding information? • When do you stop bringing in new information to the writing process? • With an abundance of information sources, how do we decide where to look? 	<ul style="list-style-type: none"> • Describe the role that curiosity plays in the research process • Conduct a search, analyze their results and try something new if needed • Justify their decisions related to their search strategy and demonstrate an openness to and flexibility with trying new search strategies as needed

<p>Authority is Constructed and Contextual</p>	<ul style="list-style-type: none"> • How or why do we decide that someone is an authority on a topic? • With an abundance of information, how do we decide what is most relevant to our inquiry? 	<ul style="list-style-type: none"> • Describe various types of authority • Explain why certain communities view certain sources as authorities
<p>Information Creation as a Process</p>	<ul style="list-style-type: none"> • What are the capabilities and constraints of information created through various processes? • How are you a creator of information? 	<ul style="list-style-type: none"> • Articulate the capabilities and constraints of various information creation processes. • Begin to describe all the ways they are creators of information (schoolwork, social media, etc.)
<p>Information Has Value (Information Is Power)</p>	<ul style="list-style-type: none"> • How might the use or absence of citations impact the conversation of research? • How could information be wielded by powerful interests in ways that marginalize others? 	<ul style="list-style-type: none"> • Explain why citation matters, not just how citations are constructed • Reflect on some of the constraints and capabilities of the various places that information “lives” (e.g., in a book in a library, on a web domain, in a journal) • Begin to reflect on how access to information relates to economic or social justice issues

Hesburgh Libraries Information Literacy Outcomes for First-Year Students

Library faculty focus on process-based learning, highlighting the connections between the actions of writing and library research. The first session focuses on exploring topics through search, allowing students to begin to explore their topics in a low-risk environment, with the expert assistance of a library faculty member. The second session continues the research, with a focus on exploring their topics through conversation. Examining how authors converse via scholarly discourse helps students understand how the resources they found during the first session are positioned in current exploration of their topic. This session also serves to introduce the concept that students will also be contributing to the conversation via their writing. Again, this session gives students the time and space to explore their topic with the guidance of a librarian.

Before the sessions take place, library faculty schedule consultations with the W&R faculty, taking the time to review the major writing assignments, and tailor the existing curriculum to the needs of the course. To plant the seeds of intellectual curiosity, both the library and W&R faculty focus on the iterative nature of research and writing, reminding students that both require time to experiment. Just as a first draft requires revision, so does library research; creating that space allows students to further explore and develop their skills, as well as their interest in any given topic. The collaboration between library and W&R faculty before, and during, the library sessions allows the students to see the direct connection between research and writing, creating the opportunity for curiosity to flourish.

Continuing the care for the seeds planted in library visits and the sessions for Writing & Rhetoric, subject librarians for other disciplines cultivate and nourish relationships with students and faculty through library research sessions and individual consultations. Content for library sessions in the disciplines varies,

based on the assignments and the needs of the students. Subject librarians are located across nearly all departments in Hesburgh Libraries, including TRU Services, Rare Books & Special Collections, the Navari Family Center for Digital Scholarship, Collection Strategy & Acquisitions, Archives, and Metadata Services. Because of this, faculty and students may also benefit from the functional expertise, as well as the subject expertise, of library faculty. Librarians offer connections to foster curiosity, both in a discipline and also for services and collections Hesburgh Libraries offers to facilitate and enhance research.

The Faculty Librarian Student Collaborative: Harvesting a teaching and learning experience for faculty collaboration on behalf of motivated undergraduate students with Leslie

The most gratifying experience of being a librarian within the Hesburgh Libraries is that librarians have many opportunities to connect faculty and students to information and services that transform their understanding of what it means to be critical consumers of information. At the University of Notre Dame, opportunities abound for faculty and librarians to cultivate a collegial relationship that is beneficial to emerging scholars at the undergraduate level.

In the fall of 2016, academic librarians were gifted with the opportunity to incorporate the [Framework for Information Literacy for Higher Education](#) into our teaching and learning practice. This framework presented an opportunity for librarians to engage faculty in the College of Arts and Letters in a more purposeful way. The language used in each of the frames speak to a pedagogical practice often consistent within disciplines in the College of Arts

and Letters. Librarians who choose academic librarianship as their career endeavor, come to the academy with transferable skills (i.e. presentation/communication skills, programming, networking). Collegial collaboration with faculty and students is a process that is best described as a process of cultivation.

Planting

Prior to classes beginning in the fall, librarians at Notre Dame are afforded many opportunities to participate and engage with faculty and students through various orientation activities: new faculty orientation, international student orientation, and first year student orientation sessions. In Africana Studies, I am invited to the department annual retreat held off campus. I am able to present on my engagement and outreach endeavors: library instruction, one to one research consultations, acquisitions/collection development, and ask faculty to share a copy of their syllabus for the development of library research guides with resources from the Hesburgh libraries. Following the retreat, I work to schedule one-to-one “coffee or tea” discussion sessions with faculty on how I can support their teaching and learning efforts in the current semester. These discussions solidify a commitment to set date/dates for library instruction sessions.

The following media clip provides insight into my efforts to engage one of my revered colleagues in Africana Studies, [Dr. Bernard Forjwuor](#). Professor Forjwuor shares information about his pedagogical focus for students enrolled in the Introduction to Africana Studies course. One of the most invaluable insights he shared is archival materials and information resources that examine critically with voices representing the African, Black and diaspora communities in the Caribbean and throughout the world.



Click to watch interview of Dr. Forjuwor.

Growing

Once the dates for library instruction sessions are on the calendar, the faculty and librarian meet to create a lesson plan that encompasses our library strategy, “Connecting People to Knowledge.” The lesson plan often consists of three learning objectives, two active learning activities for 50-minute classes, or three active learning activities for 75-minute classes. (Note: 50-minute classes are held on Monday, Wednesday, and Friday; 75-minute classes are held on Tuesday or Thursday). The faculty and librarian agree to share an anecdotal undergraduate learning experience as a way to connect to students’ experiences of doing research in an academic environment. Information that continues to be invaluable to understanding undergraduate student experiences of doing research comes from [Project Information Literacy \(PIL\)](#) led by Dr. Allison Head. In 2001, Susan Ledlow from the Center for Teaching and Learning Excellence at the University of Arizona, created a document titled, [“Using Think-Pair-Share in the College Classroom”](#) which may be tailored for librarian instructional use.

Tending

A classroom within the Hesburgh Libraries is scheduled, faculty are sent a link to the map of the library classroom location. Students are to bring their laptop computers to class. Students are informed about the library instruction learning objectives and activities they will learn during the session. The library instruction classrooms are equipped and designed for movement of tables and chairs for groups of two to four students for the active learning activities. When students are able to engage in small group activities, lively and engaging conversations and learning engagement occurs. With faculty support, students are advised to arrange a one-to-one research consultation with a librarian. Notre Dame undergraduate students are motivated for academic success and as a result, they are likely to schedule a 15-30 Zoom or in-person library research consultation session.

Throughout the semester, the librarian stays in communication with faculty members in order to see if students are connecting to library resources provided by the Hesburgh Libraries. This point of communication determines whether a second instruction session focused on advanced searching is needed or a research consultation session for the entire class is warranted. As the Africana Studies and Education librarian, often a second or third is scheduled if students have informed their professors of the need for instruction or a consultation instruction session. During the pandemic time when the campus was closed, students valued the hybrid model of instruction and one to one research consultation with a librarian. In the fall of 2021, the libraries returned to in-person instruction, and the option to meet with students via Zoom or in person increased.

Library instruction sessions are planned in collaboration with faculty. Students are able to make connections to information

resources not only for course assignments, but take their critical approaches to the search process in applying for internships, applying for undergraduate research grants and summer research opportunities beginning at the end of their first academic year. More importantly, faculty and students make invaluable connections to librarians and resources: [library services](#), [library spaces](#), and [library research resources](#).

Reaping the harvest: Reflections on the Library Research Award Program from Monica

As much as we are brought into the research questions and by extension, the intellectual life of our undergraduate students, it has often been the case in my – professional career that I find myself wondering how that particular story ended for a student. Did they stick with that topic or find another, related one? Did they ever make it up to the archives to find that primary source? Are they maybe off at graduate school, inspired by their initial research question to pursue it past that grade, that class, or the four years they spent with us? Does the constant activity of cultivating relationships and planting seeds, described in the above sections, bear fruit?

Unlike faculty colleagues who teach the class or manage the creative project for which the student does the research, as librarians we rarely see the end result of it. Perhaps it is for this reason that I look forward to our library's annual research award program each spring. Designed to encourage undergraduate research at each grade level, including first-year and second-year students, this program asks students to reflect on the research journey and the library's role in it. In other words, it is a rare opportunity for students to tell us about how they satisfied their

intellectual curiosity using library information sources, without focusing on the deliverable itself.

Library award programs that target undergraduate research have been around for some time and while there are differences between institutions, the primary focus is often the reflective essay from the student that talks about their research experience (Jones, 2009; Tchangalova & Cossard, 2014). This is certainly true of the [University of Notre Dame Library Research Award program](#) managed by the Hesburgh Libraries.

Although my involvement with this program started in 2018, we have actually been offering these awards since 2010, albeit under a different name. Students apply for them by writing an essay that describes their experiences using Hesburgh Libraries resources for their course assignments or other research projects. When we review these essays, we look for evidence of extensive and creative use of library resources – our print/digital collection, spaces, people, and technologies – and a detailed description of how these resources supported their projects.

However, the thing that really makes an essay stand out is the way students describe their understanding of the research process, and their growing awareness of research as a process that changes direction frequently, requires persistence and curiosity, and which challenges them to develop skills that they didn't know that they needed. They become aware of a larger information landscape, and engage with that landscape. Their intellectual curiosity is the main driver here, and not just the final grade.

And that's what we want, because the purpose of these awards is to get students to see research as a stand-alone, worthwhile goal. The

awards recognize undergraduate research as an accomplishment in and of itself. I'd like to emphasize that point: Research is something distinct in their educational experience here, but many times students conflate the research they do with the outcome of that research. If they got an A on that paper, then they must be good researchers; or, conversely, if they got a C or another unsatisfactory grade, they don't necessarily think about salvaging the research component that went into that work and turning it into something else.

This award program helps to build that awareness. It's quite possible that many of our Library Research Award winners did not get that A when they delivered that research product, yet they still won an award. Why? Because they can recognize the analog research process they went through and view it as a desirable skill set, one that will help them in other areas of their life. Unlike a grade, it isn't a thing to be earned and then forgotten. These skills stay with them and transfer to other areas of their life.

The library has a unique role in helping them to develop those research skills. Our resources – meaning the materials we collect, the people we hire, the spaces we create and the technology we invest in – are all done in support of the development of those lifelong skills and the development of intellectual curiosity. It is very gratifying to see that reflected in these student essays.

While the focus of the award is on the research process and not the research product, we do know that those research products look very different these days. Students are doing more than longform, textual research papers; they do things like SWOT analyses, business memos, and multimedia projects such as poster presentations, podcasts, text and data mining projects, etc. As you can see from this screenshot from our LRA website (Figure 3), we

try to highlight these types of products and projects to remind and encourage students that they in fact are doing research even when they may not realize they're doing it.

Figure 3.



Hesburgh Libraries Library Research Award website

The award program also acknowledges that research is often a collaborative process, by offering a Group award category to students who are using library resources for a group project for a class or for some endeavor. This award category, added in 2019 during a revamp of the award program, saw its first applicants and winners in the 2022 award cycle. One of the applications for this category was from a group of students who used their innate curiosity and research skills to make a formal recommendation to the university related to fair compensation practices for university employees. This was done independently of a course, and serves as a great example of the increasingly collaborative nature of research among undergraduate students in pursuit of a specific goal or passion.

As we continue to offer these awards each year, we see evidence of intellectual curiosity in the students' own words as they describe how library resources supported them during their research journey. Reading their essays each year inspires us as librarians to keep planting those seeds with students and cultivating those relationships with faculty. The end result of this work is captured perfectly by the following quote from a 2022 award winner:

“My thesis journey was not only a testament to my courage and curiosity, but also a demonstration of the Hesburgh Library's excellent and versatile services. Writing a thesis comes with waves of doubt and confusion, but the library services truly lighten the burden.”

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Recommended Resources

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10. Engaging Students’ Curiosity through Library-Based Puzzles in Escape Rooms

HOLLY JACKSON

“By combining library research skills with puzzles in the escape rooms, students get to practice their information literacy skills while having fun and racing against the clock to ‘escape.’”

Introduction

In the path to becoming information literate, I’ve found that students don’t want to sit through lectures or spend too much time on one topic – if they don’t have a vested interest. For me, as a librarian and instructor, the teaching method that seems to work best is a hands-on approach that stimulates their intellectual curiosity about the topic. Gamified or game-based learning practices tend to work well with my students and catch their attention, allowing them to have fun while learning skills that will help them with their research. Over the last couple of years, I’ve found that students and faculty have both been interested in escape rooms that I’ve created for the library, whether in-person or virtual.

Virtual Escape Rooms and Instruction

One of the first escape rooms that I designed, “Escape from North Hall Library,” was virtual and crafted in Google Forms. In 2020, with the pandemic forcing our instruction online and taking away chances for students to roam through the library, I became inspired by other schools and public libraries that were using Google Forms as escape rooms. I decided to try this as an option to provide a way for our library community to engage with the library even though they couldn’t physically be there. This is more broadly applicable for students who are regularly virtual as well, as many classes move to an online format in higher education.

Using images from the library and a series of virtual puzzles, participants got a virtual tour of the library through a gamified method of exploring. This also worked to pique their curiosity by having them complete puzzles as they learned about the library.

Here’s the first part of the virtual room where they were introduced to what was going on:

Figure 1.



Things have been a little weird around here lately – strange noises, books shifting by themselves. We think it might be the resident spirit, Sarah, but we're not sure. Can you help us figure out what's going on?


Yes! Let's do this...

“Escape for North Hall Library” opening screenshot.

One of the unique aspects of our library is that we are rumored to have a ghost named Sarah. It's a local lore that students and the local community both love, and we have ghost hunters, who come on an annual basis to check out the library. Using this as inspiration for this escape room helped bring in a local element that intrigued our library community. For our first-year students, who had not yet been able to see the library, this also gave them a fun connection to the library that might draw them in when we reopened.

Moving forward in the virtual room, participants began “in” our Traditional Reading Room. The first puzzle to get out of that space was structured like they had to enter numbers in a lock to get it to open, but because it was a virtual escape room, it just required them to select the right answer to move to the next part. Using some local history, the answer to this clue was the year that the library opened.

Figure 2.



Oh no! The door has shut behind us! It looks like someone put a number code lock in here while no one was looking...it's got 4 numbers needed to open. I wonder if it might be the year North Hall opened. When was that again?

1902

1853

1874

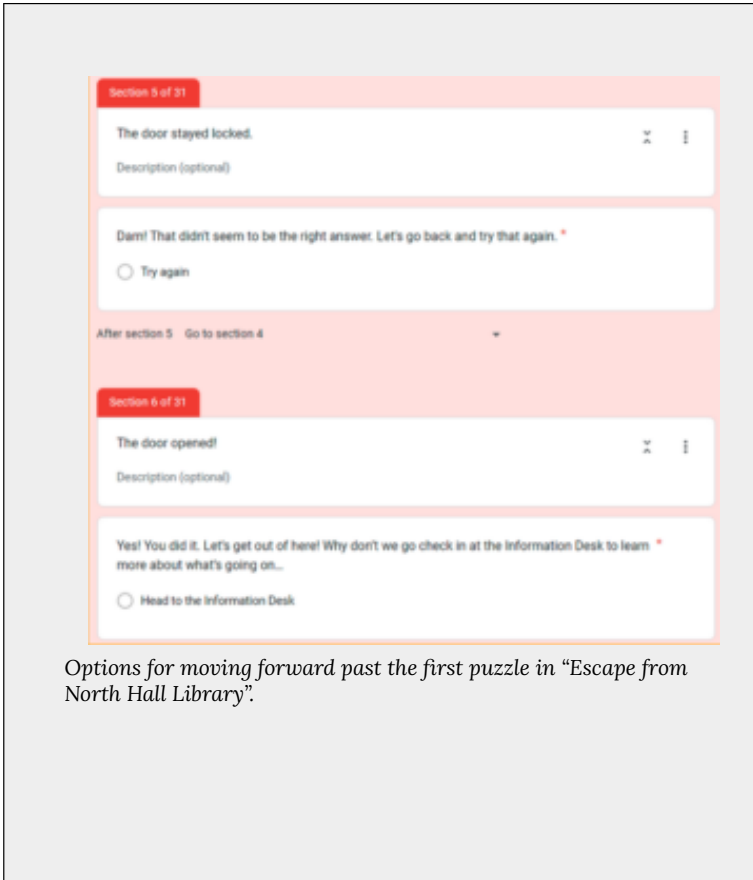
1888

First puzzle in “Escape from North Hall Library”.

In Google Forms, sections are created to help move participants around. If participants typed in the wrong answer, they were simply redirected to the question to try again. If they selected the right

answer, they were moved to the next location – our Information Desk.

Figure 3.



Options for moving forward past the first puzzle in “Escape from North Hall Library”.

At the end of the escape room, after working through the puzzles, participants were asked a series of questions to learn more about who they were, how they found the escape room, and where they were located to get a glimpse of how wide-ranging the escape room

might be. We had over 1000 people play along with our escape room in the first month, which was particularly impressive, since we're a smaller university with around 1400 students currently.

Taking a look at the comments, we noted that people mentioned things like:

- “Really fun! I wish it was longer though.”
- “Loved it! What a clever idea. If it takes off, I would like to see more, with more puzzles :)”
- “This was cool! I think the only thing that could've made it better is having more riddles or more questions with options rather than just one option to continue.”
- “Such fun! An even longer experience would add to that fun! This would also make a great way for a new student to learn the layout of the library; even the whole campus!”
- “Add more options for the rooms! Wrong answers that lead to Sarah getting you, getting trapped in a closet, spooky stuff! But it was awesome! I miss MU.”

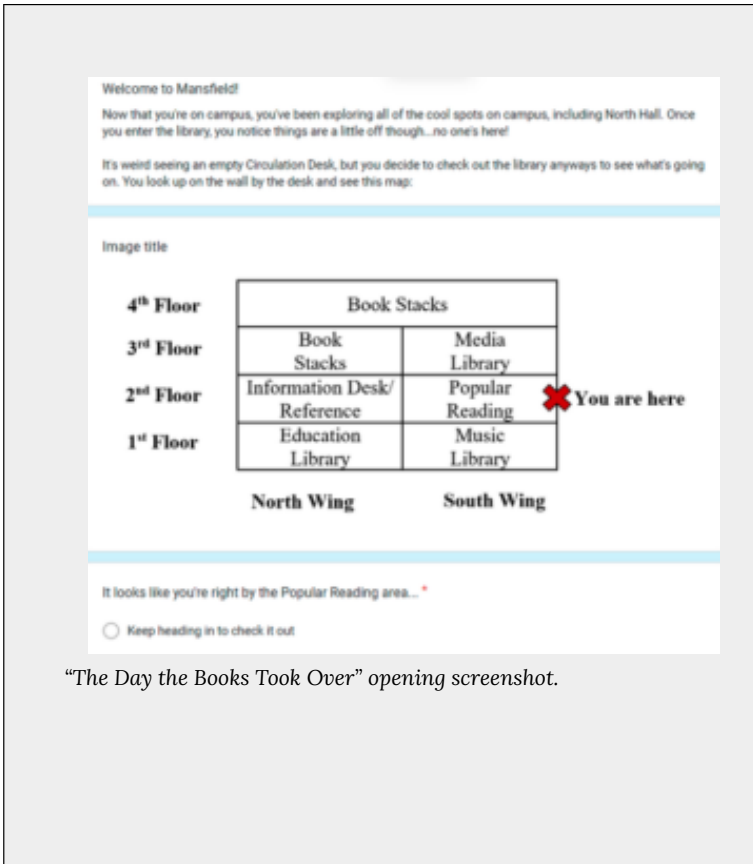
The link to the “Escape from North Hall Library” escape room is <https://bit.ly/escapefromnorthhall>.

We took this to heart and created a second escape room with more challenges and repercussions for wrong answers that was targeted toward our incoming first-year students participating in first year seminars at the university.

Drawing on the idea that students should get a tour to learn about resources, the second escape room was crafted with most of our main areas in the library being represented as an area to solve a puzzle within. We called this escape room “The Day the Books Took Over.”

In this escape room, students started off with a simplified version of a map of the library that would lead them around:

Figure 4.



“The Day the Books Took Over” opening screenshot.

Each of the areas on the map had a puzzle inspired by one of the themed first year seminar courses being offered that fall. Here’s a breakdown of what that looked like:

Floor	Puzzle	Course Inspiration
Music Library, 1st floor	A number lock that is unlocked by answering music questions that lead to the number	Our Lives through Music (a music-inspired first year seminar)
Education Library, 1st floor	Answering the name of a Grimm brothers' story character	Grimm's Fairy Tales (a fairy tale-inspired first year seminar)
Popular Reading Area, 2nd floor	The potion puzzle from Harry Potter and the Sorcerer's Stone	Magic & Muggle Studies (a Harry Potter-inspired first year seminar)
Information Desk/ Reference Area, 2nd floor	A direction lock on a bicycle tied up around one of the room's columns – participants must read through a story with a map and unlock the bicycle by entering the correct compass directions from the story	Climb That Mountain (an outdoor-inspired first year seminar)
Media Library, 3rd floor	Decoding a message said to be from Star Wars characters	Star Wars: The Student Awakens (a Star Wars-inspired first year seminar)
Book Stacks, 3rd floor	A pirate-themed math puzzle solved by figuring out the missing number of a math equation using images representing numbers (inspired by popular social media puzzles going around at the time)	Mummies, Pirates, and Vikings (a first year seminar that involved the history of mummies, pirates, and Vikings)
Book Stacks, 4th floor	Encountering a military officer who directs you to tell him how many differences there are between two pictures of the space in the 4th floor north wing	Experiencing Battle (a first year seminar that's an introduction to military history)

Trying to exit the library	A maze guarded by a minotaur	Becoming a Hero (a first year seminar based on the Hero's Journey)
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Some of the comments we received from participants of this second escape room included:

- “Love the puzzles!!”
- “It was great! Very challenging!”
- “Fun! Didn’t get the goose question, but the other questions were challenging enough to make me think but not impossible to solve”

This solved our “not challenging enough” concern from the first one while still providing a chance to stimulate the intellectual curiosity of our incoming students through puzzles inspired by first year seminars that they might be taking.

The link to the “Day the Books Took Over” escape room is <https://bit.ly/daythebookstookover>

Back to In-Person Instruction and Physical Escape Rooms

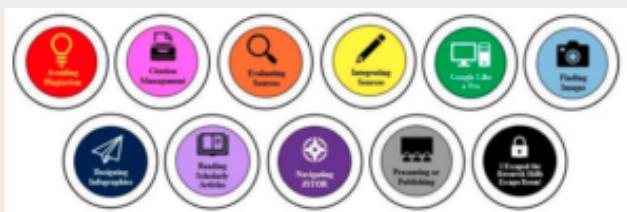
After pandemic restrictions began lifting a bit and we returned to in-person instruction, it was time to begin planning escape rooms that would utilize the physical space of the library.

Beginning in fall 2021, our library began offering a new workshop series called the “Rainbow of Research Skills.” Students could take one of the following workshops spread throughout the academic year:

- Avoiding Plagiarism
- Citation Management
- Designing Infographics
- Evaluating Sources
- Finding Images
- Google Like a Pro
- Integrating Sources
- Navigating JSTOR
- Presenting or Publishing Your Work
- Research Skills Escape Room
- Tips for Reading Scholarly Articles

These are marketed primarily toward first- and second-year students taking their early general education courses. At the end of each workshop, students receive a certificate of participation and a unique button to that workshop. The workshop buttons make up the colors of the rainbow, tying in with the workshop series' title.

Figure 5.

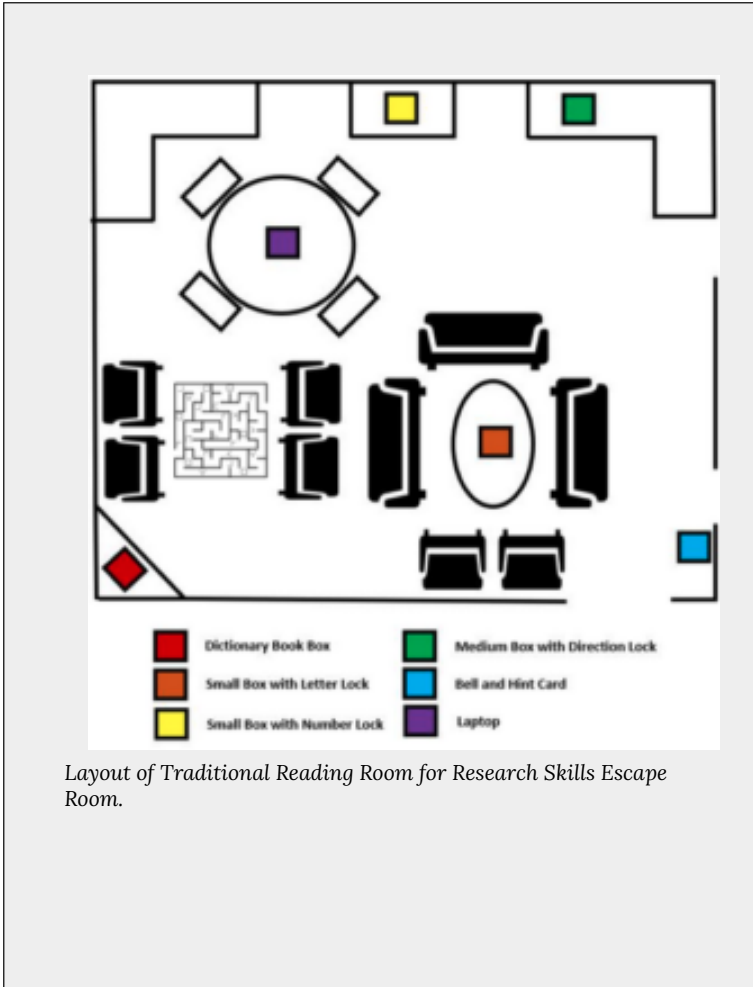


The buttons given out for attending Rainbow of Research Skills workshops.

The culminating event of the workshop series each semester is the Research Skills Escape Room. This room was designed to test students' research abilities based on some of the skills they learned in class and through other workshops they may have attended.

The escape room is held in the Traditional Reading Room in our library. This is a neat space that has couches and a fireplace and is a fairly cozy room. It's also not open except for certain events, so it's appealing to all of our students, who are naturally curious about what's in it. The room is set up like this:

Figure 6:



The puzzles are solved in a linear way that has the students work together in the room to solve them. Each puzzle relates to the library in some way, whether it helps participants practice a skill or provides an introduction or introduces something physically in the room. These puzzles are also tied to the library's learning outcomes for instruction.

	Puzzle	How to solve	Learning Outcome
Clue 1	Missing information from a citation	Use laptop in the room to look up the book in the catalog	Students will be able to cite sources.
leads to a book box with a lock on the fireplace			
Clue 2	A laminated article page	Use the black light keychain found in the book lock box	
leads to students seeing "SIMON ELLIOTT YEAR"			
Clue 3	SIMON ELLIOTT YEAR	There's a plaque in the room that has a quote from Simon Elliott with the year he said it	Students will be able to identify their information need(s). <ul style="list-style-type: none"> Students will identify stakeholders related to a topic.
leads to a locked box in the back of the room with a four-digit number lock			
Clue 4	Locked box with number lock	The year from the Simon Elliott quote	
leads to a word search puzzle			
Clue 5	Word search puzzle of terms to consider when evaluating a source	Crossing out all the terms (reveals FOSTERING CRITICAL THINKING IN FIRST YEAR STUDENTS BY M GOODMAN)	Students will be able to interpret and evaluate research.
leads to a locked box with a 3-letter combination lock			
Clue 6	locked box with letter lock	From the word search puzzle: "The third word - ing will unlock a clue" - THINK.	
leads to a puzzle in the box			
Clue 7	Puzzle	Straightforward small puzzle that reveals a QR code	
leads to a locked box with a directional combination lock			
Clue 8	Locked box with direction lock	The video played from the QR code reveals the direction lock: order (and also gives a verbal tour of the library)	Students will be able to able to develop research strategies. <ul style="list-style-type: none"> Students will have a better understanding of where things are located within the library
leads to a sheet with a code			
Clue 9	A maze on the floor with symbols throughout	Using the sheet with the code from the direction box and writing down the symbols in order by solving the maze	Students will be able to determine their information need(s). <ul style="list-style-type: none"> Students will identify a research question.
leads to escape as participants reveal the hidden phrase in the maze - "research question"			

Puzzle table.

Like the other workshops in the series, the students receive a certificate for participating and a button. If they make it out of the escape room, they receive an "I escaped" button, and if they don't escape, they receive a "so close but no escape" button.

The students who have participated in this escape room so far have really enjoyed it, and we've had interest from faculty who work with first- and second-year students to do the escape room with their classes. Because of the size of the Traditional Reading Room, we're not able to accommodate full classes and attendance for each escape session is capped at 10 people.

With that in mind, over summer 2022, I worked on designing an "escape room" that utilizes the entire library so anyone, whether individually or in a small group or in a full-sized class, can participate. This was shared with our first year seminar faculty as an option to replace the traditional tour for their class sessions and a few took us up on that during fall 2022.

For this escape room, there are 10 clues and students can be split up among the locations to start:

- **Clue 1:** A QR code video that introduces students to what services are available at the Service Desk at the front of the library.
- **Clue 2:** A puzzle in the Popular Reading Area that introduces the area and spells out that students should go to the Atrium next.
- **Clue 3:** Introduces students to the directional wings of the building and has them figure out where to head using the different wing entrances.
- **Clue 4:** Introduces them to study rooms in the library and highlights the screening room on the 1st floor. The clue decodes where they should head in the next area.
- **Clue 5:** Shows them the children's book area of the Education Library and has them look up a book in the catalog to head to their next clue.
- **Clue 6:** Has them find where that book from Clue 5 would be on the shelf on the 4th floor and sends them toward the

Library classroom across the hall.

- **Clue 7:** Shows the Library classroom and directs students to the tutoring area on the 3rd floor.
- **Clue 8:** Introduces students to the types of tutors that meet in the library and has students look up a movie in the catalog.
- **Clue 9:** Has students head to where the movie is on the shelf in the Media Library and then directs them to the nearest printer, showing them where they can go to print.
- **Clue 10:** Sends students to the Service Desk.

Students complete the following worksheet which can be turned in to show participation and helps them keep track of their clues. To escape, they must finish the worksheet:

Library Area 1

Start at the place where you can ask a librarian a question.

Fill out the resources introduced in the video to head to the next clue in the Popular _____ Area (the brackets spell this out):

[R] OOMS to study,
[E] XTRA supplies (white boards, laptops, even umbrellas),
[A] SK a librarian questions,
Get [D] IRECTIONS,
Grab [I] NTERLIBRARY loan materials,
Take [N] OTES using course reserves, and
[G] ET materials checked out.

Library Area 2

What does the puzzle spell out? **ATRIUM**

Library Area 3

What do to the clues spell out:

135	MU	
SIC	LIBRARY	
(North Wing)	(East Wing)	(West Wing)
(South Wing)		

Library Area 4

What does the puzzle spell out? **CABBAGE**

Library Area 5

What is the call number for the book? **TJ 163.2 .E86
2007**

What floor and wing can you find it in? **4th floor
South**

Library Area 6

What number do the clues make?

4	2	9
# of Mounties	# of Seals	# of M's

Library Area 7

What are the three types of tutors?

Peer Research Consultants
Writing Tutors
Spanish Tutors

Library Area 8

What is the call number for the movie? **DVD**
PN1997.2.F5635 2003

What floor and wing can you find it in? **3rd floor**
South

Library Area 9

What was missing in one of the pictures? **The printer**

Library Area 10

What is the place where you can ask a librarian a question? **Service Desk**

Traditionally in our library tour for first-year students, we start them at our Popular Reading Area, located near our combined Service Desk (circulation and information). We explain both areas and then move them into the large open atrium that spans the height of the library and point out information on our other floors. In the atrium, we highlight how to navigate our direction-based wings, where our materials can be found, where the printers are located, and other useful information. This escape room has them physically move to each of the locations, which actually goes a step beyond our tour where we primarily stay in the open atrium and explain where things are.

The role of the library in engaging the intellectual curiosity of first- and second-year students

The escape rooms themselves are intriguing opportunities for students that naturally engage their curiosity. The role of library in the escape room is to engage students through the use of the physical space and some basic information literacy instruction. Combining both of these elements through escape room puzzles helps to maximize the instruction and learning for students. Years ago at a LOEX conference, I heard the term “camogagy,” which stands for camouflaged pedagogy. It’s one of my favorite terms and one that really applies to the escape rooms designed and run through North Hall Library. The instruction that students are receiving is camouflaged within the fun puzzles that they complete that help reinforce skills and knowledge of the library and its resources.

Each puzzle is crafted with an element of the library in mind and how we can creatively engage students in that area. Some examples include:

Figure 7.

In the virtual escape room, “The Day the Books Took Over,” one of the clues takes place in the second floor north wing, which is our reference area. It challenges students to pull relevant information from a story to be able to solve the clue, shows an image of the space to give them a peek at what the physical library looks like, introduces the professor’s newest published book, and then instructs students about what to do with books

when they're done looking at them in the library. This covers some basic skills and some tour elements all while being online in a Google form. Here's the text of the full clue:



Clue on second floor of the north wing, reference area.

As you enter the north wing, you see a woman with a bike helmet holding a bicycle lock that's keeping a bike locked against the center column.

What do you say to her?

□ "Hey! Do you need any help?"

["Oh! That would be great. I had to run into the restroom and when I came back this lock was on my ride, with a note saying that my mountain trip holds the key. Can you help me get this open?"

You tell her, "Sure! Can you tell me the story of your recent trip?"

□ "What on earth are you doing with a bike in the middle of the library?!"

["Well, I had to run into the restroom and when I came back this lock was on my ride, with a note saying that my mountain trip holds the key. Can you help me get this open?"]

You look at her a bit skeptically, but tell her, "I guess...can you tell me the story of your recent trip?"]

You look at the lock as she starts telling you the story and notice that it's a 4-section letter lock. The only options on each section are "E, N, S, W" so you suspect the directions she went on her adventure are going to be the key.

She dives in and tells you...

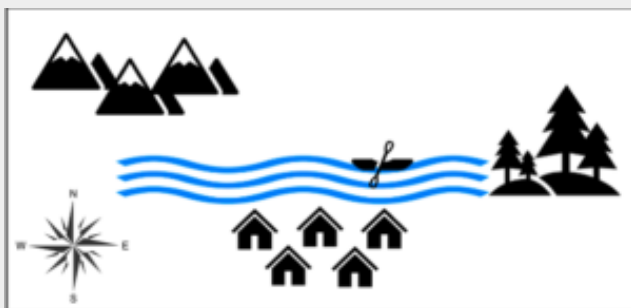
"Well, I started out in this cute little village. The people were super friendly and I told them I needed help because I wanted to go hike the big mountains, but lost my map. They sent me over to the forest and told me to head through there.

From there, I kayaked in the river over to the mountains, which was pretty sweet. The water wasn't too rough so I didn't have too much trouble there.

I hit the mountains and headed to the summit, where I snapped an AWESOME picture of the village from up high.

I headed back to the village to give them a copy as thanks for helping me out.

And that was basically it."



You think you've got it figured out. What code do you put into the lock?

If you select the wrong answer:



You don't know how, but somehow you end up on top of a mountain! What on earth happened? You definitely aren't dressed appropriately...

□ Get me out of here!

If you answer correctly:

The lock opened and you look up to talk to the woman, when you notice that they've both vanished! In their place you find a book called "When Everything Beyond the Walls is Wild" by Lilace Mellin Guignard. You pick up the book and stick it on the cart return on your way out, shaking your head a bit and wondering what on earth is going on.

This clue provides repercussions for the wrong answer that might set students back a little bit but get them to focus more on interpreting the relevant information from the clue to apply to their escape. It also introduces them to a physical space in the library and some of the work a professor has done.

In the physical escape room "Research Skills Escape Room," the starting clue is a citation with some information missing instructing students to "Find the missing citation piece and a similar book to enter it." The citation says:

Trumble, William R., Angus Stevenson, & Lesley Brown. *Shorter Oxford English Dictionary on Historical Principles*. 5th ed. OUP, 2

There is a laptop in the room open to the library's homepage where students should type in the title to pull up the information. Whether they use the "cite"

button on the page or simply look at the information in the item record, they'll find that the year is missing the rest of the numbers – "002."

The similar book mention refers to a lockbox on the fireplace mantle that is designed to look like a dictionary. Once they open that, they'll find a three-digit lock unlocked by the "002."

This clue not only has students engage with the library learning outcome "Students will be able to cite sources," it also has them practice using our catalog and finding information from the records there. It engages their curiosity by having them move around the room trying to find all the missing pieces of the clue to move to the next one.

By combining library research skills with puzzles in the escape rooms, students get to practice their information literacy skills while having fun and racing against the clock to "escape."

Now that we've tried multiple types of escape rooms, we'll continue evolving what works to continue engaging with students. Since this is the second year of running the in-person escape room in our Traditional Reading Room, I plan to create a new version to run next year to alternate every couple of years so that students have different options for playing along. I took our in-person escape room to one of our residence halls recently and the students were excited about it and noted that they saw there was an escape room in the library too. I had to break it to them that the escape room in the library was the same escape room, which prompted me to start thinking of new options for next year.

While the virtual escape rooms were fun during the pandemic, our engagement with them has steeply dropped off. If there's a desire to create more in the future, particularly for our first-year seminar courses or orientation, we can definitely revisit creating more, but for now those are on hold. There are some good how to videos on YouTube about creating escape rooms in Google Forms if anyone is interested in trying their hand at that. One in particular that I recommend is "Create A Virtual Escape Room with Google Forms Tutorial" by Sydney Krawiec from the Peters Township Public Library (<https://youtu.be/xLzbPGF4TzY>).

Overall these escape rooms have been a lot of fun to create and run and our students seem to really enjoy them too.

About the Author



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Holly Jackson is the Student Success Librarian at Mansfield University and Library Faculty Department Chair for Commonwealth University Libraries. She's a big fan of gamified instruction and doing as much outreach around campus as possible. If you can't find her in the library, you'll find her in the residence halls or across campus working with students where she can.

Holly can be reached at hjackson@mansfield.edu

II. The "Dulcie Lives On" Podcast Series

Sparkling Students' Intellectual Curiosity Through Library Instruction

ANGELA CHIKOWERO

"Library instruction helps students grow intellectually and produce impactful research when strategically conducted."

Introduction

"[S]tudents need to acquire ... intellectual curiosity in order to continue to be lifelong learners and ... an understanding of intellectual freedom issues will foster a desire to learn" (Reichel, 1994).

Library instruction is fundamental in helping students understand their knowledge and information gaps and in stimulating their intellectual curiosity. Once aware of their information and knowledge gaps, intellectually curious students can develop a deep propensity to question their thesis, scholarly literature, and their own biases and thought processes. This chapter uses a compassionate pedagogy-driven library instruction session that the author taught to the University of California Santa Barbara Department of Black Studies' class, "Black Diaspora Cinema" to analyze how library instruction is critical to nurturing intellectual curiosity among undergraduate students. The author taught the session in winter quarter of 2022. The key output for the class was the students' production of a 5-episode podcast series titled

Dulcie Lives On. Central to the creation of the podcast was raising awareness of the role that the late African National Congress (ANC) anti-apartheid female activist Dulcie September played in fighting apartheid in South Africa. The project's success was dependent on the library instruction and consultation sessions that the Black Studies Librarian, the author of this chapter, proffered. I utilized the Association of College and Research Libraries (ACRL) Framework, ACT UP, and Bloom's Taxonomy for articulating measurable learning outcomes to spark intellectual curiosity amongst the students.

The chapter explores ways library instruction and subsequent consultation sessions enabled students to develop an aptitude for research and find answers to their varied research questions on Dulcie September, apartheid in South Africa, activism, and the erasure of women activists in the memory of the said activism. I began the library instruction by teaching students podcast-making techniques. Then, through further information literacy instruction and group consultations, students developed skills that helped them to identify their vast research needs, question their biases, and to consult scholarly work with a critical mind. They also employed various research methods like interviews and archival study to find answers to their diverse questions on the assassination of September and her subsequent erasure from history. Instruction and consultation sessions helped students understand the concept of iterative research, develop research topics suitable for the podcast, identify their information gaps, engage in the strategic exploration of resources, and evaluate them for accuracy and credibility.

The instruction and consultation sessions for the class highlighted that librarians are often tasked with teaching the research process and the skills that students require to become competent researchers across disciplinary boundaries, expertise levels, and modalities (Hostetler & Luo, 2021). With emergent technologies, these skills go beyond information literacy to encompass media literacy, which is equally significant to the

development of intellectual curiosity among undergraduates, as the chapter shall demonstrate.

Literature on Intellectual Curiosity and Library Instruction

There is vast literature on the significance of fostering students' intellectual curiosity through library instruction. This literature highlights that library instruction not only helps promote information literacy among students, but it in turn helps nurture intellectual curiosity. Breivik and Gee as cited by Reichel defined information literacy as the ability to determine the need to identify and evaluate information and how this ability is an essential skill base for students (Reichel, 1994). Students need to acquire intellectual interest to continue to be lifelong learners, understand intellectual freedom, and foster a desire to learn (Reichel, 1994). My class instruction and consultation sessions demonstrated how the inquiry-based approach is fundamental to sparking students' intellectual curiosity. The students' critical engagement effectively un-erased Dulcie September from the abyss of history. The instruction and mentoring employed pragmatic instruction techniques, prompting personal experience to find analogies, and emphasizing reflective writing and direct querying of the students' experiences (Hensley et al., 2004). The key to the inquiry-based learning approach is asking critical questions.

Seasoned scholars start their research with a question, a point that most students often fail to understand. As Scharf and Dera emphasize, research is an inquiry process (Scharf & Dera, 2021). When students undertake authentic research, questions arise from their intellectual curiosity, because questioning is central to research in many disciplines (Dillon, 1982). Library instruction is vital in promoting students' inquiry and the propensity for resource

exploration. Students become information literate through library instruction.

Some scholars highlight how information literacy is essential in helping undergraduate students become critical thinkers and lifelong learners (Wong, 2010). Research shows that new undergraduate students are dualistic or early multiplistic. Dualistic or early multiplistic are two stages of early intellectual development provided by Joanne Kurfiss, as cited by Wong (2010). In the dualistic or early multiplistic stage, students begin to realize that conflicting opinions, theories, and points of view are inevitable features of knowledge. However, they might not have a good comprehension of the rationale behind different perspectives. Understanding differing theories, philosophies, or schools of thought emanates from intellectual curiosity, when students start questioning information sources and realizing that they can produce new knowledge through researching and finding answers to their questions.

A compassionate approach to instruction can help students grow intellectually while supporting their mental well-being in the learning environment. Scholars have researched how instructors can create a welcoming and compassionate-filled learning environment where students can connect and communicate. Dickson and Summerville (2018) have written on how a compassionate pedagogy must be grounded in the material health of the learners. They also urge instructors to develop a compassionate pedagogy that mentally helps them and the students (Dickson & Summerville, 2018). The Black Diaspora Cinema class session that is the subject of analysis utilized compassionate pedagogy, which contributed much to the success of the students.

Library Instruction and Intellectual Curiosity

The library instruction sessions I conducted for the Black Diaspora Cinema class at UCSB in the winter quarter of 2022 aimed at

sparkling intellectual curiosity among undergraduate students. Many students in this class were unfamiliar with the white South African oppressive regime of apartheid, and the role that women played in fighting it. As such, I incorporated much background on apartheid in my lecture design, which followed Bloom's Taxonomy by employing the backward design strategy for articulating measurable and observable learning outcomes. Thus, I first asked the instructor the learning outcomes for the class, which then helped me to develop the learning activities, learning tools, and to conduct assessments. I delivered some of the lessons on Zoom, so the learning objectives and objects were designed to suit the online learning environment while striving to spark intellectual curiosity in students. I utilized the questioning technique throughout the entire instruction session so that students understood how the research process is iterative and requires a curious and questioning mindset. I emphasized to the students throughout that they needed to be active knowledge producers instead of being mere passive information consumers.

The Black Diaspora Cinema students needed a clear understanding of the research process, especially since they were studying a new theme on Black women activists' erasure from politics in a relatively unfamiliar African country like South Africa. The library instruction sessions were central to their acquisition of research skills, new knowledge on apartheid, gendered erasure of activism, and on knowledge dissemination through a communication platform like a podcast. Librarians are positioned to contribute to students' intellectual progress; through library instruction, they can work towards designing interventions that solicit cognitive skills matching and thus enhance students' development levels (Wong, 2010).

One reflective learning strategy that we employed in the Black Diaspora Cinema class was having me commence the session by sharing personal experiences growing up in a segregated former British colony, Zimbabwe, which was different from its neighbor Apartheid South Africa only in a matter of degree. Students had an

opportunity to ask questions and share comments and opinions, leading to a reflective and interactive discussion. Scholars like Whitver and Riesen explore how learning transfer can occur when instructors scaffold multiple reflective techniques in a single session (Whitver & Riesen, 2019). Thus, the reflective discussion session proved thought-provoking as students also shared their knowledge and family experiences with racial segregation. The discussion folded with a question to students about who qualifies as an authority when researching and writing about personal experiences.

We also used another instructional strategy that entailed the students listening to two excerpts from the podcast, *They Killed Dulcie*, a series produced by Open Secrets, and *Sound Africa*. While September played a central role in fighting apartheid and the illegal arms trade, not much attention has been paid to her contribution to an “independent” South Africa. Her activism led the apartheid regime to kill her on March 29, 1988, in Paris, France. Before she was assassinated, September had been investigating the arms trade between France and the South African apartheid regime. Sadly, the vital role she played in fighting apartheid was erased from history. I asked the students crucial questions such as their familiarity with the podcast on September before the library instruction session, thoughts on the podcast content, and any experiences related to the podcast content they were willing to share. This strategy proved thought-provoking for the students. They asked critical questions on themes like apartheid in South Africa and Black women’s roles in fighting it, drawing similarities between apartheid and Jim Crow, for instance. They even started questioning the authority of the producers of the podcast, *They Killed Dulcie*.

Information instruction sessions should be designed to facilitate student interaction and idea exchange. Social constructivism maintains that learning occurs when students interact with each other (Pear & Crone-Todd, 2002). Librarians should work toward designing interventions to solicit cognitive skills matching and enhancing students’ intellectual development levels (Wong, 2010).

Librarians are well-positioned to contribute to students' intellectual progress through information and media literacy instruction sessions designed to enable academic growth through student collaboration. I utilized group activity as another strategy to help create an online community of learners and to encourage collaboration amongst the students during the instruction sessions. I consigned the students into 5-minute breakout rooms based on the podcast series that their instructor set. By the end of the instruction session, students were sharing ideas on topics they wanted to research, potential sources to consult, and the rationale behind their choices. Thus, the strategies utilized during the instruction session to engage students and spark their intellectual curiosity included questioning techniques, reviewing podcast excerpts, and group activities.

I designed and conducted a post-instruction assessment of the student's comprehension of the materials. During the instruction session, I introduced the students to essential library resources on apartheid in South Africa. Some researchers have emphasized how intelligence, curiosity, and sound pedagogy that inform quality instruction also inform quality classroom assessment (Buchanan & McDonough, 2017). The students used Padlet, a real-time collaborative web board, to share their resources and search strategies. In addition, I employed techniques like questioning and a one-minute reflection paper to test the students.

During a second instruction session, the students developed topics for their respective podcast series. Each group presented its research proposal to me and four other professors who gave students feedback and asked thought-provoking questions about the content they pitched. This session was critical because it empowered the students to participate actively in the knowledge production process. The students actively discussed their research topics and ideas, and they asked and responded thoughtfully to the questions that I and other faculty members already familiar with the research process posed. By the second session, it was clear that the students had sharpened their critical thinking skills

as they asked more critical questions than during the first session. For instance, one group questioned why most of the sources they consulted featured mostly male figures when it came to fighting oppressive systems not only in South Africa but also in other parts of the world. The nature of the students' questions and ideas showed how they had grown from mere information accumulators to critical thinkers, taking the first steps towards becoming knowledge developers and producers. The podcast project pitching session is an example of undergraduate learning design that pushes students to bring their personality into their understanding of complex issues (Hauke, 2019).

I conducted a third instruction session for the students. At this point, they had all developed their podcast topics and consulted with me several times. During this third session, it was apparent the students were knowledgeable about the history of apartheid in South Africa and the role that women like Dulcie September played in fighting the oppressive system. However, they still needed guidance in a few areas to further develop their various research ideas. I gave them feedback on the research strategies they needed to improve their respective podcast series. Some of the topics covered in the session included methods to effectively conduct interviews when dealing with sensitive issues such as arms trading, and how to interview activists whose lives might already be in danger without compromising their privacy.

Compassionate Pedagogy

According to Hao, critical compassionate pedagogy is a pedagogical commitment that allows educators to criticize institutional and classroom practices that ideologically place underserved students at disadvantaged positions, allowing them to be self-reflective of their actions through compassion as a daily commitment to teaching (Hao, 2011). I utilized a learner-centered approach as part

of a compassionate pedagogy when interacting with the students. Critical compassionate pedagogy was also employed throughout the sessions to create a welcoming and stress-free environment for the students. A learner-centered approach and compassionate pedagogy allow students to explore what and how they want to learn, and their distress and disadvantage are closely monitored and addressed.

Students from the Black Diaspora Cinema class were often encouraged to make decisions and take control of their podcast project through questioning authority figures when reviewing scholarly works or deciding the best resource to utilize for their research. For instance, when students asked me on the best archive to consult on a specific podcast theme, I asked them to review all available archives and critically evaluate them to see which one might be key to their research needs. I also asked what might lead them to settle on one archive over another. This approach of questioning students in a thought-provoking manner helped enhance their analytical and ultimately their intellectual skills.

Rosso stated that when students express interest in one course topic over another, instructors and librarians can direct them to readings that most support their intellectual journey (Rosso, 2021). I guided students to explore various resources critically and settle on authoritative works that best helped them answer their research questions. There are various ways compassionate pedagogy can be included in library instruction. The guiding objective to this approach to teaching was ensuring that no student was left behind and being compassionate to learners from all backgrounds. In that sense, I availed myself to the students throughout their research process beyond the class instruction.

Librarian-Faculty Collaboration

Collaboration between librarians and faculty is one of the strategies

critical to enhancing positive student learning outcomes and nurturing intellectual growth. The success of the student-led podcast series was partly because the instructor of the Black Diaspora Cinema class and I took a collaborative approach to instruct the students collaboratively through three library sessions we determined were sufficient to cover the learning goals. Michelle Selinger, as cited in Dobozy and Gross, discusses how scholars widely acknowledged that educational collaboration could lead to valuable innovations (Dobozy & Gross, 2010). Before the library instruction session, the professor and I exchanged several emails, discussing the podcast project and lesson outcomes expected from the library instruction sessions. Three in-person meetings were conducted to finalize the lesson plans and the support that students needed for the entire quarter. My success with instructing the class was grounded in collaborating with the instructor for the duration of the course. The instructor viewed me as a colleague whose expertise was critical to the success of the student-led *Dulcie Lives On* podcast project.

Library instruction by librarians working together with instructors helps boost students' intellect because librarians impart knowledge of resources, search skills, teaching skills, and understanding of the research process and questioning strategies (Donham & Green, 2004). According to Donham and Green, faculty and librarian collaboration has several important attributes: mutual goals, mutual respect, planning, and substantive contributions by both parties in designing instruction goals and activities and then carrying them out (Donham & Green, 2004). The success of the *Dulcie Lives On* podcast project was partly due to the research and learning strategies I employed in collaboration with the instructor. For instance, I worked closely with the instructor to select the podcast excerpts we shared with the students in the initial instruction session. The podcast listening activity helped students reflect on their understanding of Black women apartheid activists' erasure in South Africa. Through the listening activity we designed, students also learned in-depth the role that Dulcie September

played in fighting apartheid, specifically the arms trade. From the collaborative instruction sessions, students started raising critical questions surrounding September's assassination and erasure from history.

Library Instruction and Podcast-Making

The instructor selected the podcast project to help students develop their research skills and produce their findings using technology for disseminating or sharing knowledge. He wanted the students to learn about apartheid and women activist erasure while acquiring technical skills for podcast making. Podcasting entails making audio or video recorded files available for download by podcast listeners (McGarr, 2009). Institutions of higher learning have been utilizing podcasts as a modality for student learning for a while. Dobozy and Gross shared how many universities have now embedded audio and video-enhanced podcasts (or vodcasts) into the course environment with positive results (Dobozy & Gross, 2010). This usage of podcasts is in response to research suggesting that technology-enhanced collaboration between staff from various departments within a university can facilitate student access to vital information (Michel, Hurst & Revelle, 2009). Podcasts are also an accessible and low-cost form of teaching and learning technology. Libraries and podcasts can be, and often by necessity, shoestring operations. Podcasting lowers the barrier to access to information as it can be produced in a low-cost way (Evans, 2018). I designed the library instruction sessions to allow students to acquire skills to explore resources, evaluate them, and produce knowledge in a low-cost podcast series, allowing students from various backgrounds barrier-free access to information. Students had the opportunity to learn podcast technology, thus create a valuable and accessible learning resource.

It is vital stressing that student learning does not occur when

they access essential information and make reference to it in their papers and projects without critically evaluating it. Students need the intellectual skills to analyze the data they access with a critical lens to be effective knowledge producers. The instructor's approach to having students develop research topics, conduct research, and produce their podcast series positioned them in an active knowledge production role. In five groups, students in the film class developed their research topics and worked collaboratively to produce their respective podcast series. I noticed that during group consultations, the process of brainstorming and coming up with research questions helped students develop critical mindsets.

I introduced the students to the podcast-making process, which I led to do in Anchor, a free podcast-making platform by Spotify, which allows users to upload, record, and edit content to create and publish podcast episodes. I introduced them to what a podcast is, the software they could use to create their series—such as Anchor—and the strategies for producing a podcast that captivates, engages, and educate an audience. The students had a hands-on, in-class activity creating their Anchor accounts, exploring the tools in the platform, and discussing their experiences as a class. They also asked questions related to copyright and the various resources, such as music, scholarly work or interviews, that they were going to use in their podcasts.

The design and learning experience in this course constitute what Dobozy and Gross refer to as technology-enhanced learning (Dobozy & Gross, 2010). Students used the knowledge acquired during the instruction sessions to critically explore and evaluate resources pertinent to their research. They asked critical questions about the sources they were finding, which subsequently helped them develop their podcast scripts. For instance, the group working on the podcast's first episode produced the script below after our several consultations, which empowered them to strategically explore resources, and to review roles played by forgotten women activists even in organizations other than the African National Congress. The students' curiosity to learn about women, activism

and erasure led them to question the experiences of women in various countries and historical contexts.

The students ended up with well-structured script outlines, forming the basis of the content they discussed in their podcasts. For example, the group working on the first series, Group A, wrote a script outline that touched on the points below:

- Clearly state the name of the podcast and episode.
- Define erasure and how easy it is for women activists to be erased from history.
- Explain women's living conditions in post-apartheid South Africa.
 - Give context
- African National Congress (ANC)
 - Explain what ANC is and its goals.
 - Analyze how women were recruited to join ANC.
 - Examine purpose of their original role in the organization.
 - Critical analyze how women were marginalized and their response to this marginalization.
 - Explore women's views on their marginalization.
 - Include Dulcie's views on sexism in the organization.
 - Explain how women activists' work has

been erased from history

- Give examples of some of these women activists including Dulcie September.

Some of the students' approaches to information gathering entailed interviewing fellow students on campus to gauge their knowledge of Dulcie September and women activist erasure. They developed procedures on how they would conduct the interviews, which included securing a quiet place, and exploring effective questioning techniques such as conversations rather than presentation scripts.

The group research consultations gave the students another platform to engage with a librarian. In these sessions, I utilized some questioning techniques and group discussions to prompt the students' curiosity and critical mind frame when consulting various sources, hence developing intellectually.

Librarian and Student Consultations

Librarian and student research consultation is key to supporting student intellectual development. Commenting on the consultation model for librarianship at Cornell College, Donham and Green state, "Students began to view librarians not only as specialists, but also as collaborators, there to help support students' intellectual endeavors (Donham & Green, 2004)." The Black Diaspora Cinema class instruction session culminated in a series of research consultations with the students.

As with the instruction sessions, consultations with the students

were rooted in the Association of College and Research Libraries (ACRL) Framework for Information Literacy, particularly focusing on frames like “authority is constructed and contextual,” “research as inquiry,” and “searching is strategic exploration” (Association of College & Research Libraries, 2015). I also utilized the ACT UP method for source evaluation in the library instruction sessions. Dawn Stahura, who developed ACT UP, defines it as actively engaging in dismantling oppression of people of color and acting upwards to create a more socially just system (Stahura, 2018). Following the ACT UP evaluation strategy, students could lead discussions and openly share their thoughts about publishing privilege, systemic oppression, and the amplification of the voices of women activists. An example of how the students took a central role in leading the research project was when they interviewed the author and asked critical questions about her experiences growing up in a formerly colonized country. These consultation sessions enhanced student learning, proving that they were fundamental to students’ intellectual development beyond the classroom library instructional sessions.

Final Podcast Series

The Black Diaspora Cinema class finalized their project and produced a 5-podcast series by the end of the winter quarter and the instructor and I reviewed the final product and provided the students some feedback. The course instructor conducted the final grading of the project. The students’ podcast series consisted of the episodes listed below:

- Episode 1: Dulcie Activism: A Transformation
- Episode 2: Dulcie and the Cold War Arms Trade
- Episode 3: Women Seeking Change
- Episode 4: Media Invisibility

- Episode 5: Un-Erasing Dulcie September

Overall, we found the podcast to be of high quality with well-researched content on September's erasure after all her contributions to fighting apartheid. The series were shared with the entire Black Studies Department on the departmental [website](#).

When I began working with the students, most of them did not know who Dulcie September was. They had little knowledge of apartheid in South Africa and the arms trade that sustained the regime. They were also unfamiliar with the role played by other women activists like September to fight oppressive systems like apartheid. The instructor and I worked collaboratively to give students research guidance and support as they worked in teams to produce the podcast-series *Dulcie Lives On*. We worked collaboratively, employing various strategies discussed in this chapter to nurture students' intellectual curiosity on apartheid in South Africa. The students explored resources and produced an educative, freely accessible podcast series. The 5-podcast series is informative, providing listeners with rich information on Dulcie September and her significant role in fighting the apartheid regime in South Africa and exposing the ills of the arms trade. The students in the Black Diaspora Cinema class were central to the creation of knowledge utilizing an accessible information dissemination platform like a podcast.

Conclusion

This chapter analyzed how library instruction and collaboration between a librarian and instructor were vital to sparking students' intellectual curiosity in researching and producing *Dulcie Lives On*, a podcast series on un-erasing Dulcie September. Active learning, backward design, ACT UP, the ACRL Framework, and compassionate and learner-centered pedagogy were some of the learning

strategies I applied during library instruction and subsequent consultation sessions with the students in the Black Diaspora Cinema class. Students hail from different backgrounds and have varied learning styles; a mixed learning approach to library instruction and consultation sessions therefore helped them understand their vast research needs in this course. They developed an aptitude for questioning their knowledge and to critically engage scholarly work and other resources they used in their research process. Library instruction helps students grow intellectually and produce impactful research when strategically conducted. For instance, the learner-centered podcast series that the students in the Black Diaspora Cinema class produced helped amplify and un-erase the history of Dulcie September, a prominent anti-apartheid activist. Proceeding from curious minds, the students produced an accessible podcast series now available to others researching the vital role played by women activists like Dulcie September to fight apartheid in South Africa.

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12. Librarian as a Mentor

Perspectives from a Supervisor and a Student

PATRICE-ANDRE "MAX" PRUD'HOMME AND EVALYNN VIERHELLER

“To interact and engage with students has been instrumental in boosting intellectual curiosity and creating a sense of comradery within the office.”

Introduction

Oklahoma State University (OSU) is a land-grant research university in Stillwater, Oklahoma with just under 25,000 students from all over the world. Located at the heart of campus, the Edmon Low Library was built in 1953; it houses over 3 million volumes and a broad array of e-resources to support teaching, learning, and research. Similar to many other academic universities, the Edmon Low Library is a catalyst for learning and knowledge sharing. It is also one of the largest employers of students on OSU's campus. Within the context of the organization, librarians, staff, and students play an important role in supporting the mission of the university. Promoting relationships between librarians and their students is of the essence in encouraging knowledge acquisition and inquiries in order to ensure students' success. This chapter will discuss how the Edmon Low Library has been a driving force for undergraduates at OSU to find mentorship, guidance, and work in different departments to engage with professionals, such as librarians who can act as their supervisors and mentors. It will also expand on the development of intellectual curiosity, and the learning of hard and soft skills for first- and second-year students to become successful in their first years of their undergraduate

studies and beyond.

The Library (and the Archives) at the Heart of the University

The Edmon Low Library plays an essential role in campus life at Oklahoma State University. It is a place where students of diverse backgrounds and life experiences gather to study, research, and socialize. University libraries across the United States have been working to develop new ways to make their spaces attractive and functional to students to reflect new philosophies. Some of the ways that the Edmon Low Library have worked to achieve this is by providing an array of programming initiatives, social events, and volunteering activities while also making study spaces or study rooms conducive to individual or group learning.

The library is a connector; it is a place where students can develop new relationships with peers. These social relationships are key to student life to propel them forward to academic success and beyond their undergraduate experience. The Edmon Low Library usually hosts a house party a few days after students have returned to campus for classes. The event is always successful, and it allows students to have the opportunity to get involved and acclimated to the library by participating in trivia, technology showcases, craft stations, scavenger hunts, and many more activities.

The archives at the Edmon Low Library act as the depository for many academic and administrative documents and official records. Its mission is to preserve and provide access to university, local, and state historical and cultural heritage resources. Within the department, faculty and staff are focusing their work based on two distinct and collaborative areas, the Analog and the Digital.

In my role as Director of Digital Curation, I provide leadership and management in the areas of digital curation, preservation, and discovery of digital resources. Evalynn is an undergraduate senior, student assistant, as well as peer mentor and library ambassador. She has been working in the Archives for the past four years after she started as a first-generation mentee in her freshman year. She was connected to the Archives as a first-generation student through the Student Employment-Mentor Experience at the beginning of her freshman year.

Opportunities for Students to Engage

At Oklahoma State University, the library is invested in offering a multitude of jobs in different departments available to students. Undergraduate student employees at the library are hired as either undergraduate student assistants, ambassadors, interns, or first-generation student mentees. Student assistants can be hired at any level of their undergraduate curriculum, except for first-generation student mentees who are hired as freshmen. The library started the first-generation program in 2017. According to the Oklahoma State library (2022), the Student Employment-Mentor Experience was created “as a way to connect first-generation college freshmen to the Oklahoma State University community. The program’s goal is to positively impact the lives and empower the success of first-generation college students.” First-generation mentees are hired for a job at the library before being systematically assigned a peer-mentor and a senior mentor (librarian).

The peer mentors are first-generation students who have previously been part of the program, making them great role models for first-year first-generation students they are paired with. The peer mentor plays a very vital role in the first-generation

program because they can provide advice on what resources helped them and offer insights from the perspective of another student working at the library as well. Senior mentors (librarians) are full-time adult employees who have volunteered to work with the program, advising a first-generation college student who does not work in their department. This allows the mentee to connect with an adult other than their supervisor. They can ask the mentor questions and get advice about their experience.

Working in the library can be a very formative experience for students because it allows them to gain work experience, helps them bond with peers, and gives them a sense of responsibility. Continuing into her fourth year in the Archives, Evalynn has worked on various projects, such as the digitization of analog materials, transcription of historical research notes and films, metadata creation, and research for website development. She has enjoyed her experience throughout. She thinks it has benefited her immensely during her time at Oklahoma State University.

The Hiring Process

Typically, the hiring of students takes place before the fall semester begins; it can also be mid-year when students leave for one reason or another. For instance, when an undergraduate student transferred to another university at the end of the fall semester last year, she had to be replaced. I noticed that the team was disappointed to hear this news and started to wonder that students may not necessarily commit to work in the archives to earn money per se; they may also see it as an opportunity to gather around peers of different ages, and care for one another. Working in that space is a way for them to demystify the archives, and as I witnessed, students have exhibited unprecedented levels of

intellectual curiosity within that space as they get more involved in their new environment. They progressively engage in various conversations, asking more complex questions that help satisfy their own interest. For example, one student exhibited a strong interest in the transcription work of basketball films from the 1940s that had recently been digitized. Being an aficionado of basketball, the student gazed in awe at the black and white historical films depicting a demonstration of styles and plays by the team from the Oklahoma Agricultural & Mechanical College, which later became Oklahoma State University in Stillwater, OK. This inherent interest helped the student not only complete the project but also allowed them to enjoy what he was doing at a higher level because he already had a curiosity about the subject.

On the first day that students start their job in the archives, we begin by introducing them to the team. Additionally, I give newly hired students a tour of the main areas of the archives and the library (including introducing colleagues who work on the analog side of the archives, as well as the stacks and library spaces in general). The hope is that by taking these initial steps, students can more easily get a sense of comfort in that foreign space and get a feeling of belonging to a new group of peers. Essentially, their first day is also about stimulating their curiosity and triggering their appetite for new knowledge.

Placing the Student-Supervisor Relationship in Context

To supervise with the intention to build a mentoring student-librarian relationship is a collaborative endeavor. Returning student workers like Evalynn are vital to this endeavor and the integration of new workers because they can act as a trainer and place themselves

more easily in the shoes of a new hire. In the day-to-day work in the archives, returning student workers also tend to be more accustomed to the small details than the librarian. They can truly make a difference in the rapport with new library workers. It is worth noting that being closer in age can make a huge difference in being a peer. By contrast, the student-supervisor relationship can be more difficult because while I can be seen as a mentor to the new employee, I also fulfill the role of the boss. Because of this dual role, it can create a degree of separation between the employee and the supervisor. In sum, I want to celebrate these relationships and differences when students share their experiences and inspire one another to grow together in an environment conducive to learning and discovering new knowledge as they progress through their studies.

I believe that providing support and guidance to newly hired students greatly helps them integrate into their new environment. Along those same lines, I strongly encourage students to engage in a dialogue and ask questions, take on the responsibility to reach out to other student peers, and be curious of not only their work in the library, but also about what is around them. It is about broadening their worldview. To that effect, by acting as a mentor, I seek to get students to step out of their comfort zone and engage with peers, particularly freshmen who are just getting acclimated to campus, and who may come from small-town high schools in various parts of the United States.

The Supervisor as a Role Model

As a supervisor and mentor, it is essential for me to act as a role model. Fundamentally, listening is key to all effective communications. Taking the time and actively listening to students'

needs and aspirations is vital to building that librarian-student relationship because it shows that I care. It creates an opportunity to follow up on conversations periodically and ask questions to deepen understanding, which can help create a strong foundation for a librarian-student relationship.

The opposite of talking isn't listening. The opposite of talking is waiting (Fran Lebowitz)

My intention is to create a positive work environment where students are allowed to develop the confidence they need to grow and flourish in their new environment. To that effect, it is in my role to make sure I build trust between the students and myself as well as establish respect towards one another— listening plays a huge part in building these relationship dynamics. Based on these constructive interactions, I can provide adequate support to students for them to reflect on their work and themselves by developing the intellectual curiosity they need to grow.

It is also important for me to set clear objectives and expectations grounded on collaboration, communication, and coordination across the team to bring everybody together working towards a common goal. To that effect, I have organized the work logistics using a work log in which every student reports on their tasks after each work period. The work log is shared with everyone so it can be used to inform one another about project workflows and ask questions. It includes resources, such as, guidelines and standards, a data dictionary, and many others that will help students succeed in their work and become more engaged. With that in mind, I strongly emphasize keeping documentation on every aspect of a project. The rationale brought forth to students is to emphasize the fact that students play an important role in the work of archives, and what they do is critical and needs to be recorded for other students who will take over any given project. While the log can be seen as a forum to ease the lines of communication among students (in-person or

virtual), it is also a tool to encourage their intellectual curiosity about the other projects that students work on and how others approach their work. Listening to students and following up on their inquiries to help them navigate regardless of their familiarity with the archives and the university has been a priority for myself in order to set an example for everyone.

Based on these strategies, I have established good relationships with students as a supervisor and mentor. By encouraging juniors and seniors, such as Evalynn, to be active team players, it has helped students to bond and create cohesiveness as a team where everyone can have constructive dialogues around storytelling and learning more about one another. At the same time, it has created a safe and welcoming environment, in which freshmen and sophomores alike have grown and gained more confidence in themselves.

The Librarian as a Facilitator

As a mentor, I act as a facilitator in making connections possible between student workers and stimulating intellectual curiosity within the team. Because students tend to be curious in nature, storytelling is one good way for students to learn about each other, for example, when they share their experience of living in another county in Oklahoma, another state, or another country. On most occasions, students do not hesitate to ask questions outside of work-related topics. They want to be a part of the whole. They want to learn and share stories. Storytelling can spark curiosity and students have been enjoying these conversations every time. It helps bridge differences between team members and brings them closer together. All these lines of inquiry are fascinating to witness and are always good moments to share with students at a moment's notice.

Along those same lines, the team meets once a week to discuss tasks and have the opportunity to ask questions. Then, I begin each meeting with our word of the week task where each member of the team chooses a word that they find interesting and share it with everyone. Students responded well to it and found it palatable and relatable to their work in general. These short interactions have been transformative and stimulating for everyone, especially freshmen at the beginning of the fall semester, because it is a quick, fun, and easy-going way to learn about those around them. All these different ways to interact and engage with one another creatively and constructively in conversations have been so helpful in boosting the curiosity level of students in general and creating a sense of comradery within the office. It has helped prepare freshmen and sophomores to get the most out of their academic experience by giving them the support they need to integrate into this new environment. Many students expressed that it can be a big step for them to take because some of them grew up and went to school in either small or rural communities so, coming to such a large campus can be a daunting experience.

Engaging Students in New Learning

In most cases, students will work in teams with other undergraduates of different academic levels, ranging from freshman to senior. Students have adapted relatively well to working with one another in any situation. Again, my objective as supervisor and mentor is to encourage those mutual exchanges. For example, as students work on a large collection, there is a need to apply standards and guidelines for developing metadata to describe content. To that effect, an older student will act as a mentor (peer support) occasionally, helping a freshman, sophomore, or another new hire. These moments are always an excellent opportunity to

embrace teamwork allowing the students to bond and learn together.

Students will bring a mixture of both hard and soft skill experience levels to their first time working at the library. Despite these varying skill levels, the librarian knows that each student brings unique qualities to the job; every student is provided necessary training on hard skills and guidance to be an effective team member. Just as essential, if not more so, are the soft skills that will be taught. Above all, the librarian is there to create a positive work environment where respect, trust, and a good attitude are major ingredients to learning and communicating, where team members feel united. And this has made a world of difference for the team.

As a rule of thumb, I encourage freshmen (or sophomores) to adapt to their new environment, make relationships, and develop a keen attitude to learning and be inquisitive at a different pace. With that in mind, I have had students who struggled to integrate for various reasons, in which case a freshman could choose to transfer to a different department in the library. In the event a student has difficulties applying hard skills, for example, I give them more attention and guidance by responding positively and encouraging learning using other ways to tackle a task. For example, a freshman had difficulties working with Microsoft Excel. In that situation, I reassured the student that they could quickly learn the spreadsheet program with the support of the team. To that effect, I quickly noticed the solid teamwork mentality that came into play to help the freshman overcome the difficulties learning spreadsheets.

There are also scenarios in which students are particularly interested in doing more than conventional work. In cases like this, they have taken the initiative to learn more about other techniques

that improved workflow and benefited the entire team. An example of this occurred in 2020 at the beginning of the COVID-19 pandemic when all the students were sent home for the rest of the academic year. Evalynn, who was a freshman at the time, volunteered to work remotely. To do this, she had to switch projects, which required her to learn how to properly transcribe handwritten cursive research notes based on library guidelines. She ended up loving that type of work, which required some degree of research and composition and has even volunteered to continue the work on other occasions.

The team of students is currently working on an extensive collection of photographs depicting the history of the university. Initially, the data files needed cleansing and organizing—the archives have the technology to maximize that work—before the team of students could start developing the metadata to make the collection available online. To do this, I assigned a freshman to the task. The freshman had already expressed interest in data-related work at the beginning of the fall semester. With the student-librarian relationship established to some degree, it was an opportunity for the librarian to empower the freshman. The student embraced the challenge, trained on using OpenRefine, and rapidly demonstrated efficiency in using it. The student appreciated the learning experience because it aligned well with their educational goals.

This experience was an opportunity to create a more cohesive team where students would need to be more communicative among themselves. Once the data are cleaned and organized, other students take the data files and develop the metadata for access purposes. In this scenario, I wanted to incentivize students' learning and curiosity articulated around communication and collaboration. My intention was to help and support students in their collaborative efforts by providing them all necessary feedback, helping them gauge their work, and showing that their work as undergraduates is

genuinely appreciated. Similarly, the library (including the archives) has been very fortunate to have freshmen (including first-generation) and sophomores who have exhibited a high intellectual curiosity. For example, Evalynn fully delved into transcribing handwritten notes from the acclaimed American historian and scholar from Oklahoma, Angie Debo, who wrote several books and hundreds of articles about Native American and Oklahoma history. She was very enthusiastic about the opportunity to learn more about the author. With all this great work and commitment from freshmen and sophomores, the library has shown how it can inspire students, helping them meet their expectations and satisfy their intellectual curiosity. To that effect, students were able to work with their own strengths, and without any doubt, they fulfilled their own interest and elicited natural curiosity.

Students have not just acquired new knowledge; they have expanded their arsenal of hard and soft skills. As a result, most of them demonstrate better judgment in approaching their work and develop a sharper curiosity to their new environment. Engaging in new learning and being exposed to a rich and inspiring environment, such as the library (including the archives) can be a challenge. To that effect, the library has created that comfort zone, where learning, making friends, having fun and a sense of humor, as well as defining and expanding one's worldview are all possible.

Conclusion

Strategically located on campus, the Edmon Low library is always a point of destination on campus tours. For students, the library, which is open seven days a week (five of those being twenty-four hours a day) plays a huge role in ensuring success in their social and academic experience at Oklahoma State University. In addition

to offering a multitude of study spaces and academic and technological resources to the student population at large, the library provides opportunities for mentorship and guidance of first- and second-year students (including work to a broader group of students).

As one of the largest employers at Oklahoma State University, the library offers work opportunities in various departments where students can get hands-on experience, interact with professionals, and cultivate intellectual curiosity. The OSU Library First Generation College Student Employment-Mentor Experience program is one example that illustrates the institution's commitment towards students' success and retention. Sophomores who have been through the program can also serve as peer-mentors to first-generation freshman mentees to help them integrate more easily in their new cultural and social environments at the university and in surrounding areas. Above all, the library (including Human Resources) plays a vital role in providing strategies, support, and guidance for student-librarian mentorship to grow and be a transformative experience for students in their learning and savviness for new knowledge at the beginning of their undergraduate years to last a lifetime.

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13. The Library as a Bridge

Working with Faculty and Student Life to Build a First-Year Seminar

AMANDA BOYER

“Students may never remember everything we teach them, but I knew the one-shots would be so much more enjoyable for the students (and for the librarians) if the students were more engaged.”

Introduction

Susquehanna University is a small, liberal arts college in rural, central Pennsylvania. Currently, we welcome about 580-620 first-year students each year. In 2021, the faculty voted to replace the current first-year college introductory course, Perspectives, with First-Year Seminar, the standard accepted by most other undergraduate institutions. In fall of 2021, I became the university's initial First-Year Experience Librarian. I collaborated with the Faculty First-Year Seminar Coordinator as well as the Senior Director of Leadership and Engagement in Student Life to help ensure the library and information literacy would be an integral part of the newly required First-Year Seminar. In this chapter, I detail my first year serving in this role and how I made library instruction sessions as well as our annual Library Open House required for all first-year students at Susquehanna University.

The Problem with Perspectives

I began my role as the First-Year Experience Librarian shortly after my university had voted to adopt a first-year seminar. Prior to adopting a first-year seminar, all students were required to take a course called Perspectives. This was a two-credit course that typically only met once a week for 50 minutes. The course was mostly grouped by major and served as an introduction to college. The problem with the course was that it varied significantly in rigidity between each section. Some sections were taught by tenured professors, others by adjuncts, and still others by staff members, like athletic coaches. This resulted in some students having little or no homework for their class while others were writing full research papers and doing presentations. There were also several required events for first-year students through Student Life that were not officially associated with the course. Therefore, how their “required” attendance was being enforced was a bit loose. There did not seem to be any clear consequences if students did not attend these unless their specific Perspectives professor chose to take attendance at the event. Again, students’ experiences varied depending on their professor.

As an alumna of Susquehanna, I took Perspectives as a student here. Since I was in the Secondary Education Program, I took the course with other Education majors with a tenured Education professor as our instructor. I don’t recall many of the assignments for the class, though I believe we each did a presentation to introduce ourselves. The course consisted mostly of various campus offices visiting our class to give presentations on their services. We also had lessons on several important skills to help us succeed in college. For example, I recall one lesson on critical thinking and another on meditation. While these skills were useful, the guidelines and requirements for those teaching the course were not specific enough to ensure all first-year students were leaving their

Perspectives course with the same foundational skills. The Central Curriculum (our version of required General Education courses) Handbook stated that one of the learning goals of the course must be to “Develop and practice intellectual skills that are required for college success, such as critical thinking and reading, developing an argument expressed orally or in writing, and others” (Committee on the Central Curriculum, Jan. 2022, p. 22). The wording of this learning goal proved problematic as it did not specify which skills were required for all first-year students in this course to develop. The list read as examples or suggestions; therefore, leaving it up to the faculty teaching the course to individually decide what skills they thought were essential for their students.

This discrepancy between the various sections of Perspectives is what pushed the university to want to adopt the First-Year Seminar. Anyone working in first-year experience knows most higher educational institutions already have this program in place as it is considered a high impact practice. The National Resource Center for the First Year Experience out of the University of South Carolina has been pushing these programs for decades now, and they describe the course as, “the impetus for an international movement to improve the educational experiences of first-year college students” (National Resource Center for The First-Year Experience, 2022). It is surprising for a university not to have one already in place.

The Information Literacy Disconnect

No matter the reason why it took Susquehanna so long to adopt this course, the timing of their implementation created an exciting time for me to begin my role as the First-Year Experience Librarian. Not only was the first-year seminar new to Susquehanna, but so

was the position of a First-Year Experience Librarian. Prior to 2021, there was not a position dedicated solely to first-year students in the library. The librarians would work together to help cover one-shot instruction sessions for all the first-year courses, which included Perspectives as well as Writing and Thinking, Susquehanna University's basic English class. While many Perspectives instructors brought their class to the library, not all of them did as they were not required to do so. Again, there was nothing in the Central Curriculum Handbook that specified information literacy had to be taught as one of the required intellectual skills for college success. In fact, it was not even listed among the example skills in the handbook. Still, since there was not one librarian dedicated to ensuring first-year students received this instruction, it was hard for the library to put too much effort into supporting these courses. By this, I mean that there was a standard one-shot lesson plan created for all Perspectives classes and one for all Writing and Thinking classes. There was no room or time for adjusting the one-shots to better align with the differing assignments (or lack thereof) that students were doing in the individual sections of the courses.

That is not to say our first-year students were getting mediocre library instruction. The one-shots were all built using the ACRL Framework for Information Literacy, and the lessons were well-thought out to meet the needs of first-year students. Some of the skills being taught included how to select an appropriate database for their research, how to cite their sources, and how to determine if a source was reliable. As I began my new role the week of move-in and during the last semester of the Perspectives course, it was not yet time to change things. My goal for my first semester became to observe as much as I could about the current state of the first-year library instruction sessions. To do this, I gathered qualitative and quantitative data. In addition to my personal observations, our library uses the ACRL Project Outcome survey tool to survey our students, so I was able to look through our survey results for

insights as well. Unfortunately, the survey results are only as good as the percentage of the student population surveyed, and with so many of us starting new roles at the busiest time of year, we often forgot to have students fill out the survey.

While I did not have survey data for each of the classes I co-taught, I still could rely on my qualitative data from these sessions. Since I did not have to worry about what I was teaching my first semester, I was able to focus more on observing how engaged the students were with the lessons. I happened to be hired around the same time as two other librarians in addition to our cataloger getting promoted to librarian. For all four of us, it was our first librarian role with an instruction component, and so, we almost exclusively co-taught all the instruction sessions that semester. As I was not leading each activity, I was able to study the students when the other librarian was presenting.

I noticed a large disconnect between the skills we were teaching and the skills the students needed for their courses. This disconnect grew largely from the fact that while we were teaching foundational research skills that we knew our students would need throughout their time at Susquehanna, they did not immediately need these skills for their Perspectives class. As many of us know, “if you don’t use it, you lose it.” Again, this pointed to an issue with the Perspectives course itself rather than major issues with the library curriculum. Since most professors did not require the students to do a research assignment, the students did not understand why they needed to know about using library resources. While we used engaging tools, like Mentimeter and Padlet, to get the students interested, nothing we did could resolve their lack of immediate need for the skills we were teaching.

As we approached midterms, I noticed a vast number of first-year

students on our live chat and visiting us at the library for reference help. It seemed they did not retain what we had taught in the one-shots. However, there was this sense of urgency. The midterm assignments for their other classes were setting off light bulbs in their heads, and they were realizing why we taught them about research in Perspectives. From this, I knew the library instruction needed to be tied to what the students were doing in class for them to see the value in the skills. To me, the best way to do this would be to link our library sessions to a required research assignment for Perspectives, and now First-Year Seminar. Not only would this keep the students engaged for the lesson (“I need to pay attention because I need this to do my homework”), but I also hoped the immediacy of the assignment would help give them more practice using the research skills. Without the assignment, they were more likely to forget these skills by midterms or finals. Students may never remember everything we teach them, but I knew the one-shots would be so much more enjoyable for the students (and for the librarians) if the students were more engaged. Plus, First-Year Seminar courses traditionally have fun themes (For example, our Dungeons and Dragons themed course) to help get students excited about learning and exploring their own interests in college. Most high school research is confined to very specific parameters set by the teacher, whereas college is all about researching what the student is curious and passionate about. If First-Year Seminar gave students the opportunity to research what was interesting to them, then they would in turn be more interested in the research skills we had to teach them.

The New and Improved First-Year Seminar

One of the problems with the Perspectives course lay in how the learning goals were written. Since they were not specific enough, it left faculty with too much freedom to determine what academic

and social skills the course was teaching first-year students. The learning goals for the First-Year Seminar course were much more specific, and there were clear required elements faculty had to list in their syllabi for their course to get approved as a First-Year Seminar course. As First-Year Seminar is a part of the university's central curriculum, anyone wanting to teach the course must get their syllabi and course approved by the Central Curriculum Committee before the Registrar would list the course. Among the new learning goals was to "Develop foundational intellectual skills through the course topic" (Central Curriculum Committee, Jul. 2022, p. 22). To ensure students gained these skills in the course, faculty were required to provide instruction on these foundational intellectual skills as well as dedicate a quarter of the students' final grades to assignments directly linked to these skills. Although this is more rigid than the guidelines for the Perspectives course, it still does not clearly define the exact skills each first-year student should be gaining in this course. The remedy for this came from our First-Year Seminar Coordinator.

Collaborating with Faculty on First-Year Seminar

In order to oversee a smooth implementation of the First-Year Seminar course, our Provost selected a faculty member to be the First-Year Seminar Coordinator. This person was tasked to "Develop, maintain, oversee, and innovate the First-Year Seminar, an area of our Central Curriculum and an integral component of students' first-year experience" (Ramsaran, 2021, p. 1). Some of the specific duties included ensuring each section of the course would meet the learning goals of the First-Year Seminar, and another responsibility was to better integrate the Student Life Co-Curriculum for first-year students into the First-Year Seminar course. The Central Curriculum Committee had already approved learning goals for First-Year Seminar that replaced the learning

goals of the Perspectives course. The combination of the new learning goals and the faculty coordinator to oversee the course would already greatly improve the experiences of all first-year students when they took this course.

To clear up what foundational intellectual skills the course should teach, the First-Year Seminar Coordinator created a sample syllabus with further details on all these skills for faculty to follow. In this syllabus, the following skills were listed: “critical reading, notetaking, and class participation; information literacy and use of research/library resources; effective written communication; unstructured oral communication; structured oral communication; and effective teamwork” (Duperon, 2022, p. 3). While the coordinator left the weights and percentages for each of these skills up to the individual professors, he did re-iterate that all together they had to account for 25% of the students’ grade, and his suggestion for information literacy specifically was 15% of the final grade. He also had a note in the syllabus for faculty that they should expect to work with the First-Year Experience Librarian to help their students meet the information literacy goal. Already, things were working in my favor.

Prior to the faculty coordinator creating this sample syllabus for the faculty to follow, I reached out to him to offer my assistance as the First-Year Experience Librarian. He asked me if I could conduct a literature search for him. He was looking for “research on best practices in FYSEM courses, building belonging, academic skills, etc.” (Duperon, 2021). In total, I pulled one hundred resources on these various topics, and as a librarian, I made sure to include resources on information literacy for first-year students in the final list of sources I sent to the faculty coordinator. As I was new to my role, I had already been doing a lot of research for my own professional development purposes on information literacy for first-year students. Therefore, I was easily able to pull some of those

same great resources for the faculty coordinator. In addition to articles on these subjects, I included a few books as well. The most important of these was The National Resource Center for The First-Year Experience's five-volume book series on implementing a First-Year Seminar. I believe the research support and sources I provided to this faculty member helped ensure information literacy became a required part of the university's First-Year Seminar course. It also helped that the faculty member who was selected for the coordinator role was already a big supporter of the library.

This collaboration continued after the spring semester, when the coordinator held a day-long training for all faculty who had agreed to teach the university's first round of First-Year Seminar courses. Some of these faculty had already worked to create their syllabi and get their course approved by the Central Curriculum Committee, while others were still revising theirs. Overall, the faculty seemed nervous about creating completely new courses in time for the fall semester, since when the university decided to implement the program, they voted to make it effective as of fall 2022. As our faculty coordinator was not selected until the very end of November and the sample syllabus for the course not approved until March, this left faculty with very little time to design these courses, get them approved, and prepare to teach them. To help make this process easier, the day-long workshop was held. I was invited by the faculty coordinator to lead a session during the workshop on the information literacy requirement and how the library would help support faculty in this goal.

I was honored to not only lead a session on how I could support the information literacy part of the First-Year Seminar, but I was happy to be invited to attend the entire workshop. This helped give me a deeper insight into the rest of the first-year seminar course as well as spend the day connecting with faculty on their individual courses. At this workshop, I presented to faculty my plan

for library instruction for all the required first-year courses. I had taken the spring semester to focus on improving and building a curriculum for the library to use for first-year students. I wanted to build a curriculum that met learning goals from all six categories of the ACRL Framework in addition to allowing for customization of each lesson based off the students' assignments. One thing I had learned from students in my first semester was that many of them felt that the content they got from their library sessions was repetitive. As in they often felt like they were getting some of the same instruction from their Perspectives' visit as their Writing and Thinking visit. While the standard one-shots for each of these classes was different, with many of the Writing and Thinking classes, we had made changes based off professor requests. This sometimes led to students getting a similar lesson with the Writing and Thinking class that they had received with their Perspectives class.

To prevent any overlap between the courses, I designated which parts of the ACRL Framework aligned best with both First-Year Seminar and Writing & Thinking. This way I could then re-direct faculty who wanted their students to gain instruction they might already be getting with another course. For example, some of the First-Year Seminar professors asked if I would be covering citations in the library sessions for First-Year Seminar, but I found the "Information Has Value" concept aligned more with the learning goals of the Writing and Thinking course. I was able to tell faculty in these cases that students would get these other skills when they came to the library with other classes. During the workshop, I was able to introduce First-Year Seminar faculty to my plans for the first-year courses, and I was able to show them how the library sessions for First-Year Seminar and Writing and Thinking would complement each other as they both had learning outcomes from different parts of the ACRL Framework. I was able to teach the faculty about the framework, and then, I explained to them how

the concepts I identified for First-Year Seminar library visits aligned with the learning goals for the course.

Within the sample syllabus, the faculty coordinator specified the information literacy skills learned in First-Year Seminar should be different than those taught in Writing and Thinking.

He emphasized that in this course information literacy instruction and assignments should focus on teaching students “to discern quality sources of information to inform self-directed inquiry” (Duperon, 2022, p. 2). To me, this best aligned with ACRL’s “Research as Inquiry,” “Authority is Constructed and Contextual,” and “Searching as a Strategic Exploration.” During my workshop with the faculty, I tried to emphasize that First-Year Seminar should just be about warming students up to the idea that college is about researching what they are curious about—not what the professor wants them to research. One of the biggest struggles I notice in first-year students is when their professor tells them to pick a research topic. They are so used to getting super specific prompts in high school that they have no idea how to create a research topic on their own. Hence, why I wanted the chance in their First-Year Seminar session to help them get used to just exploring their curiosities.

I told the faculty that when students came to the library with their First-Year Seminar class, I would be focusing on teaching them how to tell if a source is reliable, how to formulate keywords for their research topic, and how to select an appropriate database for their research. I also explained how the required information literacy assignment they were to come up with would help the students feel more engaged when they came to the library, and I told them how I planned to tailor the activities to their assignment. The activities would ensure the students met the information literacy learning

goals I had identified, but it would also allow them to work on researching for their specific assignment. The workshop was a huge success for me, and I was able to successfully schedule a library session for each section First-Year Seminar.

Collaborating with Student Life on a Co-Curriculum

The new First-Year Seminar course was also supposed to make certain Student Life sponsored events required for first-year students. In my role as the First-Year Experience Librarian, I have regular check-ins with the Senior Director for Leadership and Engagement. She stressed that this co-curriculum was important to helping establish that sense of belonging first-year students need. The intention of the program was for Student Life to identify learning goals for these events, and then, for other offices on campus to help Student Life host events that would meet these goals.

Every fall the library hosts an Annual Open House. This event is open to all students but is designed to help first-year students learn and get excited about the library. As the First-Year Experience Librarian, I was put in-charge of this event. I wanted to better integrate this event with First-Year Seminar and Student Life, so that more students would attend the event. My hope was that if most first-year students came to the open house, then anything we taught during that event could be left out of the one-shot instruction sessions. This would then leave more time during these sessions for activities to support the learning goals and for students to have time to find sources on their topic.

Student Life built a set of learning goals they wanted first-year

students to achieve by attending certain events throughout their first semester at Susquehanna. The Senior Director of Leadership and Engagement worked with the faculty First-Year Seminar Coordinator to make it required that all first-year students had to attend at least seven out of ten events, which were called “FYEssentials.” Within the sample syllabus, first-year seminar faculty were told that no less than 10% of the final grades for first-year seminar must be based on whether the student attended the required number of FYEssentials events. This meant that any campus event that counted as an FYEssential event was sure to get a large number of first-year students in attendance. Thanks to my great partnership with the Senior Director of Leadership and Engagement, before the applications opened for this series of events, she ensured that the Library Open House would be included in the FYEssentials events. I still did the leg work of filling out the application and aligning our event with some of the Student Life learning goals. I felt our event mostly aligned with their leadership category of goals as these focused on making informed decisions and communicating effectively. One cannot communicate and make informed decisions in the age of information without knowing how to use one’s library. My application was immediately approved, and our Library Open House was used as an example for anyone else wanting to submit an application. While not all first-year students have to attend the Library Open House, it is likely that many will choose to do so, since it counts as an FYEssential event, for which they are required to attend seven.

Conclusion

As the fall 2022 semester progresses, it remains to be seen how all these changes will affect library use among our first-year students. I am hopeful that all my work to collaborate with the faculty and with Student Life will lead to 1) stronger foundational research skills,

2) increased use of library resources, and 3) more confidence in students to ask for help from a librarian. In order to measure the outcomes of these changes, I plan to study the results of our Project Outcome surveys as well as the results of the exit survey we use for our Open House event. I also plan to reach out to all faculty who taught First-Year Seminar to get a sense of how effective they thought the library sessions were on helping their students turnout quality research assignments. Overall, I am confident there must be at least some improvement from these changes.

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14. Cultivating a Disposition of Inquiry

Embedded Librarianship in First-Year Composition

KEVIN AUGUSTINE AND JACQUELINE HOLLCRAFT

“Our embedded librarianship model enables the librarian to collaborate on curriculum with the writing instructor to create learning experiences that develop both research skills and writing in tandem, fostering a supportive learning environment that spans the library and classroom, aiming to develop and sustain intellectual curiosity.”

Identifying barriers between first-year students and librarians

Coming out of high school, the transition to academia is rife with barriers for first-year students as they attempt to acquire a wide range of new skills, reconsider old values, and navigate a series of systems which are completely unfamiliar (Fisher & Heaney, 2011). Early in their academic careers, students typically receive “one-shot” instruction sessions led by librarians introducing them to library research. Determining the information needs for an academic assignment can be complicated for first-year students, and faculty often assume that students know how to navigate the complex information landscape or that a one-shot library instruction session is enough to develop a student’s course-related information-seeking skills. Even in the way first-year students seek information in their everyday lives, they exhibit information-

searching skills that seem to rely on rankings provided by Internet search engines rather than careful analysis of the results (Fain, 2011). First-year students do not yet know about the process of inquiry conducted in the academic world, and they are novices to the scholarly conversations in their disciplines (Refaei & Wahman, 2016). First-year students often struggle not because they lack the abilities to succeed, but because they lack experience with applying skills to unfamiliar tasks and texts within a new academic discourse (Fisher & Heaney, 2011). When encountering academic literature, first-year students may make many ill-informed choices as they gather information sources to complete college-level projects, where some may disregard a source based solely on their inability to read and understand it (Flaspohler, 2012).

First-year students need collaborative learning experiences built by discipline experts and librarians that familiarize them with approaches to academic research and enable them to develop and sustain intellectual curiosity from its origins in inquiry grounded by subject knowledge with an information literacy lens. First-year students are on the periphery of the undergraduate academic community of practice, and through their coursework and accumulation of social capital they move toward the core of the community (Folk, 2021). There is a need for supportive learning environments in the transition to higher education to allow students to become accustomed to discipline norms and academic standards (Wilkes et al., 2015).

Librarians are in a position to foster supporting learning environments, however, they face challenges accessing students and developing comprehensive information literacy instruction models that address the needs of first-year students. Teaching within the one-shot model keeps librarians in a holding pattern, limiting agency within campus power structures (Fister, 2021). This lack of agency, in addition to the devaluation of librarians' time

by teaching faculty who ask for last-minute instruction, and the demand for instruction program assessment further pins librarians to the one-shot model (Nicholson, 2019). Another challenge for librarians to move beyond a one-shot session is faculty support, as librarians struggle to find buy-in from faculty to seamlessly incorporate information literacy skills into the curriculum and assessment tasks (Wilkes et. al, 2015).

Faculty-Librarian Collaboration

In 2019, Stanislaus State's English department facilitated a cohort of First-Year Composition (FYC) faculty and librarians to strategize ways to more effectively integrate information literacy into its first-year writing courses. Stanislaus State's English Department offers a First-Year Composition (FYC) stretch course spanning two semesters as a way of closing achievement gaps through developmental education programming (California State, 2017). These FYC stretch courses include additional goals and learning outcomes aimed at supporting first-year students' sense of belonging in academia, acclimation to college culture, confidence in accessing campus resources, and information literacy.

On an institutional level there has been a significant push towards the implementation of information literacy in general education courses. In 2018 our campus formed the Information Literacy Faculty Learning Committee (IL-FLC), which reported on program curriculum maps and stated that some information literacy coverage happened across disciplines but noted the ambiguity of the meaning of information literacy and the lack of systematic mapping of outcomes to learning goals despite a perceived value. While the committee's findings acknowledged the struggle to formulate an information literacy approach on our campus, the

English departments' FYC stretch course was noted as a course where information literacy is an explicit learning outcome (Information Literacy Faculty, 2018).

Collaboration with librarians is essential when implementing information literacy in composition (DeSanto & Harrington, 2017). D'Angelo et al. (2016) assert "the responsibility to implement information literacy instruction should be shared among all stakeholders, which includes faculty, librarians, administrators, and external stakeholders ..." (p. 3). Collaborations spur deeper conversations about effective pedagogy that go beyond the one-shot sessions and frequently involve considering the intersections between writing and information literacy that inform learning outcomes, activities, assignments, course materials and class instruction (Baer, 2016-b). When librarians and composition instructors do not collaborate and learn from each other and focus only within their discipline, the larger picture of student learning on campus is missed and there is the potential to mistake each individual's part in teaching as the whole (Jacobs & Jacobs, 2009).

Information literacy in composition classrooms reflects shared pedagogical interests between librarians and composition instructors. First-year composition provides the space to engage cognitively and reflectively with the research process through writing. Both composition and librarianship disciplines rely on threshold concepts as they aim to move students from the perfunctory performance of tasks into a contextual use of information within a given rhetorical situation (DeSanto & Harrington, 2017).

As a result of the cohort pairing FYC faculty with librarians, we, an English department lecturer (Jacqueline Hollcraft) and a Research and Instruction Librarian (Kevin Augustine), began collaborating on

curriculum and asking how a more consistent librarian presence in the classroom would impact first-year students' research methods and utilization of sources in assignments. During this time, we discussed our frustrations with the limitations of a one-shot instruction session and the traditional essay assignment. We also asked, how can we develop student confidence in accessing information and establish the relevance of information literacy in their academic and everyday lives? How can we foster initiative approaching librarians for research help? We determined that embedded librarianship might best support first-year students' research needs and overall sense of confidence navigating both research writing projects and academia as a whole.

Embedded Librarianship in First-Year Composition

Definitions of embedded librarianship throughout librarianship literature vary in depth and engagement, and given the wide range of approaches and interpretations, it can be somewhat difficult to define (Schulte, 2012). As a model, embedded librarianship provides opportunities to enable librarians to demonstrate and apply their information expertise in ways that have direct and deep impact on research and teaching while enabling stronger connections and relationships (Carlson & Kneale, 2011). Characteristics of embedded librarianship include collaborating with students, developing partnerships across campus, customizing responses to meet specific students' needs, working outside of the library, becoming immersed in the spaces of students, and understanding the culture and research habits of students in a discipline (Brower, 2011, p. 4). Exposure to embedded librarianship for at-risk students can include a greater willingness to ask questions about the research process, more focused research topics, increase in follow-up consultations, an ownership of and view of librarians as teachers

rather than visitors, and greater appreciation of research (Fisher & Heaney, 2011).

Our interpretation of embedded librarianship is defined by a consistent presence of the librarian in the classroom, an increase in the number of library instruction sessions throughout the course of an academic year, and the co-curricular development of writing assignments, library session activities, other course assignments, and pedagogical approaches. Our embedded librarianship model enables the librarian to collaborate on curriculum with the writing instructor to create learning experiences that develop both research skills and writing in tandem, fostering a supportive learning environment that spans the library and classroom, aiming to develop and sustain intellectual curiosity. Our model also attempts to accomplish the learning outcomes of the university regarding the implementation of information literacy in courses that explicitly have it as a learning outcome.

Our collaboration led to the development of a research project titled, *Embedded Librarianship and the Implementation of Information Literacy in First-Year Composition*. Our purpose was to implement scaffolded information literacy instruction into Hollcraft's FYC stretch courses. We then aimed to assess student writing and responses within coursework to determine if scaffolded development of the research process, in parallel with the writing process, produced effective research and utilization of sources in student writing, thereby facilitating more effective writing while building a sense of belonging, agency, and empowerment in Stan State's academic culture. We also intended to cultivate confidence in first-year students' library-oriented capabilities and the utilization of librarians as a resource for their information-seeking needs. We also hoped to demonstrate the impact teaching faculty and librarian collaboration can have in the classroom throughout an academic year to the campus community.

Overlapping the ACRL and WPA Frameworks

Developing a curriculum for teaching information literacy in first-year composition required us to examine the Association of College and Research Libraries' (ACRL) Framework for Information Literacy for Higher Education (2015) and the Writing Program Administrators' (WPA) Framework for Success in Postsecondary Writing (2011) as the cornerstones for our disciplines. The ACRL framework, which targets the student researcher and those who teach information literacy, does not specifically mention composition or writing in their frames. Similarly, the WPA framework does not explicitly refer to writers as researchers. However, each framework echoes the concepts, goals, and considerations of the other.

While the ACRL framework emphasizes knowledge practices and dispositions, the WPA framework emphasizes opportunities for development, learning experiences, and habits of mind. The two frameworks share emphases on the developmental, process-based approach to learning that must be implemented in a variety of ways across learning contexts, academic disciplines, and social contexts (Baer, 2016-b). Both frameworks acknowledge the student's role in knowledge construction and meaning-making and the exercise of their critical voices and involvement both in and beyond their academic communities (Albert & Sinkinson, 2016). Also, both frameworks' emphasis on the environments in which writing, research, and information use occur may help students recognize the relevance these practices have in their everyday lives and in their communities (Baer, 2016-a).

Blending Frameworks to “Research and Writing as Inquiry”

The knowledge dispositions in the ACRL Frame “Research as Inquiry” and the WPA’s habit of mind “Curiosity” both emphasize the need for researchers/writers to confront problems, engage in dialogue and disagreement, examine and challenge assumptions, and refine and expand methods of exploration and investigation of a topic. Blending the two frameworks offers a way to introduce first-year students to their own intellectual curiosity, facilitate their pursuit of answers to respond to that curiosity, and develop their writing to articulate their newfound knowledge resulting from their investigations. We both agreed on an inquiry-driven, process-based curriculum, which we decided to call “Research and Writing as Inquiry.”

We determined that a good starting point in our curriculum would be translating students’ real-world knowledge and expertise when seeking out information in their everyday lives into an academic context. Alison Head’s (2013) research showed that students continue to rely on familiar methods and sources like Google to seek out information, and we speculated that facilitating acknowledgement of students’ everyday life information-seeking behaviors would transfer into more complex, unfamiliar, academic research strategies. We also acknowledged the need to scaffold first-year students into those strategies and to model the iterative, challenging nature of college-level research. We began by facilitating activities where students practice inquiry-based research strategies first in everyday-life contexts and then develop those strategies in the context of an academic research and writing assignment.

As Johnson and Kolk (2016) observe:

Although students may be persistent, flexible researchers in

some sectors of their lives, writing teachers and librarians should consider how to help students enact these habits in their academic research and writing – a context where research questions are located in scholarly discourse communities and where research consequences may be less concrete (pp. 11–12).

The challenges students face in academic research with dead-end searches, conflicting information, and ill-formed research questions requires flexibility to find new research paths and build persistence while engaging with difficult information (Johnson & Kolk, 2016).

Curriculum Development

Our interwoven curriculum includes co-developed activities, discussions, and writing assignments that develop and foster intellectual curiosity and are facilitated in both the composition classroom and the library instruction space. Over the course of an academic year, we implement six library instruction sessions and additional classroom visits, moving beyond the traditional one-shot session. We focus on fostering blended learning environments, normalizing the librarian presence in the classroom, and increasing the students' presence in the library for information literacy instruction.

From the composition angle, first-year students engage in methods of inquiry, create multimodal projects that articulate their developing understanding of information literacy, and participate in consistent discussions and group-work centered on metacognition of their information-seeking behaviors and methods. Writing assignments and online discussions incorporate reflection on their research process as well as allow them to pursue answers to the research questions they developed on chosen topics relevant to

their interests and/or academic goals. Three major elements of our curriculum are the implementation of question formulation at the beginning of their research process, research logs as a tool for documentation, evaluation, and reflection, and the “Research and Writing as Inquiry Portfolio,” which wraps up their experience in the course with an academic research essay.

Question Formulation Technique (QFT)

Early in the curriculum we implement Rothstein and Santana’s (2011) Question Formulation Technique (QFT). The method assists students in guided brainstorming by quickly generating multiple questions on a topic. We introduce the method in the classroom through group work using everyday life topics. We then scaffold the students into applying the method to their chosen topics for the culminating portfolio assignment. The QFT has been an essential tool in spurring multiple avenues of inquiry for students who are intimidated and anxious at the beginning of the research process for a major academic assignment. The QFT is a method that students can use beyond our course curriculum as they transfer the approach of question formulation to research assignments in other disciplines.

Research Logs

The research logs span 4-5 weeks of the term, and students submit one log each week as they begin researching for the “Research and Writing as Inquiry Portfolio.” The logs are a way for students to state their research questions, describe their information needs, record their gathered sources, detail their methods of finding those sources, and metacognitively engage with their research process. Research logs allow students to use writing to simultaneously

develop and express their emerging understandings as they unfold in response to inquiry's discoveries without the pressure of an asserted thesis (Bush & Mason, 2016).

Students use writing to observe and reflect on their attitudes, approaches, and behaviors associated with their research process. By using writing to articulate their experiences with their research process, they are then able to evaluate the effectiveness of that process and decide on the need for new strategies and approaches. We make it clear that they should honestly record their strategies, methods, behaviors, and attitudes, because we want them to reflect on and evaluate their authentic process, even if (or rather, especially if) it is messy, disorganized, cursory, rushed, or unproductive. We also ask them to document when, how often, and for how long they engage in research over the course of a week. Self-reflection on the research process at various points during the semester provides opportunities for holistic interventions that foster students' intellectual curiosity over time.

“Research and Writing as Inquiry Portfolio”

The purpose of the “Research and Writing as Inquiry Portfolio” is for students to immerse into the research experience with a topic of interest and then to write about both the topic and their approach to research. Students are allowed to choose the topics they research and write about in order to acknowledge and validate their individual curiosity and show that any topic can be approached in an academic context, which reinforces the need for consistent guidance and scaffolding by both the librarian and composition instructor. Students may often not know how to pursue their topics using scholarly resources, and teaching multiple strategies of increasing complexity and implementing interventions when

students encounter obstacles are vital to maintaining students' motivation and interest throughout the project.

The assignment goes beyond a traditional academic essay by weaving in description, evaluation, and metacognition of their research process with either an argumentative or informative approach to their topic, which also impels the students to reference their research logs. The assignment blends information literacy and composition goals and outcomes and reflects our blended approach to the overall “Research and Writing as Inquiry” curriculum. Peer-review is also incorporated into the process of this assignment, so students have the opportunity to read about their peers' approaches to research and to provide feedback from their own experiences.

Project Assessment

When assessing both embedded librarianship and our curriculum “Research and Writing as Inquiry,” we must determine whether embedded librarianship directly correlates with a more meaningful development of the research and writing processes. We also must determine whether embedded librarianship increases student confidence in their research process, their sense of belonging in academia, confidence navigating library resources, and interactions with librarians in their research process. Finally, we must assess the effectiveness of our pedagogy, teaching methods, and curriculum in meeting the goals of our project and the learning outcomes of composition and information literacy instruction.

We realized the need to rely on the observations and responses of the students in order to determine answers to our assessment questions, and so student writing, our pre/post survey, responses on library instruction activities, and responses to course evaluations

became the principal avenues of acquiring data informing our research project, pedagogical approaches, and curriculum development. We discovered that in addition to curriculum development, we also needed to collaborate on evaluating assignments, activities, student responses, and writing. This revealed another area where librarianship and composition blended.

The scope of data that informs the effectiveness of information literacy instruction is difficult for librarians to assess. When it comes to estimating the value of the use of library terms or systems, the questions end up being shaped to prove the worth of a program rather than a genuine desire to improve learning (Head, Bull, & Macmillan, 2019). However, partnering in the evaluation of students' assignments can help determine whether or not students apply information literacy skills in their assignments, and our immersive embedded librarianship model spanning the entirety of an academic year allows for a better assessment of how much students use and retain research and information literacy skills (Brower, 2011). This increased level of collaboration brings librarians into new territory and further dismantles boundaries preventing librarians from accessing student feedback on the effectiveness of instruction methods.

Over the course of our project, our observations have led to continued refinement of our curriculum in order to better scaffold the students into more complex research methods and provide writing situations that better facilitate metacognition of the research process. Each year we have modified and consolidated assignments, restructured the order of the library instruction sessions, and revised assignment prompts to better incorporate opportunities for metacognition. Our continued engagement with our curriculum revealed that, like the research and writing

processes we are attempting to develop in our students, co-curriculum development itself is iterative in nature.

Challenges

As we look to deliver the results of our endeavors to various stakeholders at the departmental and institutional level, we have faced many challenges. Designing, implementing, and evaluating our curriculum demands time, energy and resources. From fall 2019 onward, our challenges have grown in complexity and mirrored our developmental progress.

Our initial challenges involved navigating the University Institutional Review Board process for all of our instruments, contending with colleagues' initial impressions and questions about our project, acquiring funding for Hollcraft's time (as she is a non-tenure-track, contracted lecturer), and transitioning our curriculum online at the onset of the COVID-19 Pandemic. The pandemic continued to be a catalyst for transitioning our curriculum from in-person, to online, to hybrid, and back to in-person, which required significant time and energy.

In 2020 and 2021 we encountered new and repeated challenges. We contended with the problem of having to exclude minors from our project, continued seeking funding for Hollcraft's time, purchased qualitative analysis software, and initiated the hiring process for student assistance in migrating data for qualitative analysis. We also scaled our curriculum to a one-semester course in Fall 2021 due to enrollment issues and changes to Hollcraft's assigned course load, which compelled us to reduce the amount of instruction sessions and condense our lesson plans while still retaining the essential components of our curriculum.

Project Outlook

Our project has ambitious goals in its attempt to break down the barriers between librarians and the first-year students who are new to complex information landscapes. Our embedded librarianship model is an attempt at meeting first-year students where they are in a comprehensive, holistic way that is intended to make an impact beyond the FYC classroom. We have received support and funding for our project at both the departmental and institutional levels, as various stakeholders are interested in effective approaches toward supporting first-year student success. In the 2021-2022 and 2022-2023 academic years, we were awarded consecutive institutional grants supporting our collaboration and research. As we gather and migrate data from our activities and instruments, we hope to gain insight into the effectiveness of our methods based on student reflections, feedback, and observations. As we assess student input, we continue to refine our curriculum and shape how we cultivate a disposition of inquiry in first-year students. We also hope that our collaboration serves as a model for librarians and faculty across our campus to consider ways of coming together to develop approaches to information literacy instruction that provide librarians consistent access to students and a more immersive, meaningful presence beyond the one-shot instruction session in the academic learning experiences of first-year students.

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