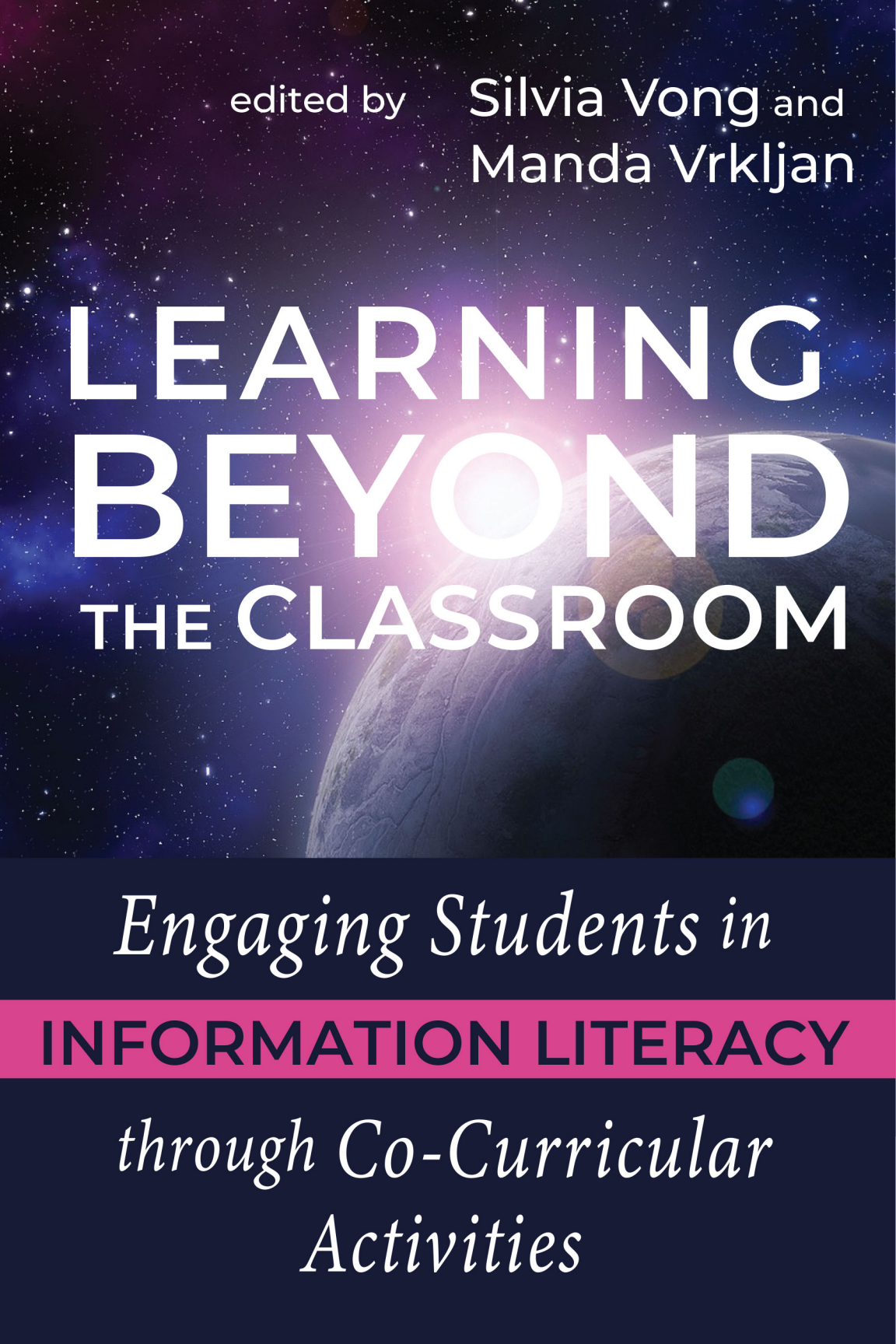
edited by
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THE CLASSROOM
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INFORMATION LITERACY
through Co-Curricular
Activities

LEARNING BEYOND THE CLASSROOM

Engaging Students in INFORMATION LITERACY *through Co-Curricular Activities*

edited by Silvia Vong and
Manda Vrkljan

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This book is dedicated to the hardworking teaching librarians that try and fail and continue trying until they get it right. You got this.

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— Silvia Vong and Manda Vrkljan

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Introduction

Silvia Vong and Manda Vrkljan
University of St. Michael's College in the University of Toronto

Learning may begin in the classroom for some students, but it does not always begin or end there. College students are afforded many opportunities to engage in meaningful experiences to enhance their academic life from clubs, work study, and community outreach to academic events. To confine the idea of learning to a stereotypical classroom not only restricts librarians to teaching information literacy (IL) in a lecture hall or computer lab, it also limits students' imagination and application of IL concepts to the course assignment. Students should be able to extend key concepts from a course assignment to any aspect of their lives, including co-curricular opportunities (e.g., fake news, Facebook ads, newspaper articles, etc.). However, when IL is only introduced during class time or enters the minds of students when the professor prompts them for an assignment, students may only relate IL concepts to their college studies. Co-curricular learning can be a way to engage students with the knowledge abilities and to develop their dispositions presented in the ACRL *Framework for Information Literacy for Higher Education*.

What is Co-Curricular Learning?

Benjamin and Hamrick (2011) explain that co-curricular learning or "cocurriculum serves as an applied curriculum that often presents students with the opportunity to put into action what they have learned in the classroom…." (p. 28). They further explain that co-curricular learning may focus on subject content or interpersonal development (Benjamin & Hamrick, 2011). In addition, Wankel and Wankel (2016) write that:

> The term 'co-curriculum' as we see it, is inclusive of learning that is directly related to a formal course of study or that might exist separate and apart from a formal course of study, as in cooperative education, internships, athletics, clubs, organizations, student employment and service, etc. While some may refer to these activities as extra curricular, we see them all as part of the cocurriculum. All of these experiences hold the potential to contribute in meaningful and powerful ways to student learning. That is to say that learning happens everywhere and needs to be adequately identified, leveraged, and documented. (p. 5)

The term co-curricular in the context of higher education is often referred to as activities or programs for students that exist outside of their coursework with intentional learning and development. An example of subject content for a co-curricular activity is a library and information science (LIS) student interning in the cataloguing department of a library. In interpersonal development, a LIS student may join a library conference

organization team and through that experience learn how to network, work in a team, and manage a project.

The foundation of co-curricular learning draws from Kolb's (2015) Experiential Learning. He outlines four key features of experiential learning:

- Learning is not a linear process; it cannot be bound by a set of outcomes.
- Knowledge is created by the learner through inquiry and self-direction.
- Interaction between personal experience and knowledge leads to learning.
- Reflection on the learning and the experience helps the learner identify new knowledge.

It is important to note that co-curricular learning draws from certain aspects of Kolb. For example, at some institutions, learning outcomes are required for co-curriculars as a part of the institution's quality assessment of activities (Stirling & Kerr, 2015). Kolb (2015) discusses at length that learning cannot be restricted by a set of outcomes as learning can vary depending on a learner's personal experience and knowledge. However, co-curricular learning benefits from having clear learning outcomes as well as competencies that connect to students' academic or career goals. Learning outcomes that can be seen by the students will help them identify activities of interest. In addition, a learning outcome that clearly outlines the creation of a final project or the development of a skill not only helps librarians design or assign relevant tasks, it also helps students identify meaningful experiences. For example, learning outcomes that involve the development and application of research skills for a research poster help learners understand the value of library research workshops in developing the necessary skills to complete the project.

In addition, Wurdinger & Carlson (2010) identify several approaches to teach experiential learning:

- *Active learning*, participating in presentations, role-play, debates, and discussion as a form of direct experience
- *Problem-based learning*, resolving real-world type problems through self-direction
- *Project-based learning*, creating and communicating a self-directed project within the parameters of the course subject
- *Service-learning*, engaging in community-based service that requires active participation followed by reflection
- *Place-based learning*, connecting with the local setting by working with a group focused on improving the environment

These approaches are each guided by some of the common principles from experiential learning, such as "hands-on learning, using a problem solving process, real world problems, student interaction, interaction with content, engaging in direct experiences and interdisciplinary learning" (Wurdinger & Carlson, 2009, p. 8).

Co-curricular learning, another approach to teaching experiential learning, draws from all of Kolb's principles depending on the type of activity selected by the students. For example, a student may participate in a co-curricular activity as a research mentor for first-year students. The student may have to engage with one-on-one tutoring (student interaction and interaction with content) or provide support to a first-year student struggling with their first research paper (using a problem-solving process and real-world problems). Co-curricular learning involves

students committing to activities outside of regular class time with no course credit and engaging in learning through reflective exercises. Some examples of activities include conferences, professional or research internships, committee work, clubs and associations, mentoring, projects, and participation in workshops or events. The prefix "co" in co-curricular activities implies that the activities complement the curriculum. While learning will take place outside of a course, it should align with the institution or department curriculum. In order for learners to apply concepts from the classroom to the real world, they need to engage in co-curricular learning in different environments. Learners should be able to experiment with knowledge from the class to an internship or draw connections between a research course and a journalism internship. Meaningful tasks, such as writing a proposal for a research project with a team, provide concrete experiences (e.g., teamwork, writing, and research) as well as opportunities to test out ideas while building knowledge through previous experiences.

In addition, co-curricular activities should include time to reflect to allow learners to understand new concepts and/or build self-awareness. Reflection is a vital aspect of ensuring that learners construct new knowledge from present and past experiences. Kolb and Kolb (2017) write, "Reflection requires space and time for it to take place. It can be inhibited by impulsive desires and/or pressures to take action" (p. 129). Some examples of reflections used for co-curricular activities can vary from written submissions (e.g., a short paragraph, a journal, etc.) to group discussions. More importantly, these reflections are typically guided by a prompt(s), aiding students in the reflection by asking them to focus their attention on a particular aspect of their experience. While reflection is a critical aspect of the learning experience, it can often be used as a "last minute" or final activity at the end of an event or experience with little time planned for it. In order for the student to succeed in their reflections, librarians must be educated on the art of reflection so that they can help guide and coach the learners during reflective exercises.* Reflection is important to co-curricular activities as it may lack formal evaluation methods from an instructor (e.g., quizzes, assignments, etc.) or a way for students to identify their strengths and challenges. Reflection provides a way for these students to self-assess and become more self-aware of obtained knowledge and abilities as well as helps students identify shifts in dispositions or attitudes.

* There are some helpful resources that provide information on reflection exercises: Bassot, B. (2016). *The reflective practice guide: An interdisciplinary approach to critical reflection.* New York, NY: Routledge; Brookfield, S. D. & Preskill, S. (2016). *The discussion book: 50 great ways to get people talking*. San Francisco, CA: Jossey-Bass; Moon, J. A. (2004). *A handbook of reflective and experiential learning: Theory and practice.* New York, NY: Routledge; Mezirow, J. & Associates. (1990). *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning.* San Francisco, CA: Jossey-Bass; Reale, M. (2017). *Becoming a reflective librarian and teacher: Strategies for mindful academic practice.* Chicago, IL: ALA editions.

Why is Co-curricular Learning Relevant to Information Literacy?

By teaching IL through co-curricular activities, students engage in the development of IL concepts that benefit their academic careers as well as instilling valuable IL skills for life beyond academia. Lloyd (2010) writes:

> As our research into information literacy proceeds and as we seek new landscape to increase our knowledge of this phenomenon, we are increasingly beginning to understand that the practice of information literacy is not confined to formal learning information environments but is part of human activity in every landscape or context. (p. 1)

In relation to student academics, IL is "both a disciplinary and a transdisciplinary learning agenda, using a conceptual framework for IL program planning, librarian-faculty collaboration, and student co-curricular projects can offer great potential for curricular enrichment and transformation" (ACRL, 2015, p. 13). Moreover, Shenton and Hay-Gibson (2011) write that IL has transdisciplinary features, such as transferable skills, and the potential for collaborations. Simply put, IL can apply to different subject areas or disciplines. The IL concepts fit into a variety of disciplines within the sciences, social sciences, and to the humanities. For example, students may be introduced to the concept of "Information Creation as a Process" in their organic chemistry course and engage in co-curricular activities, such as research poster events, create a chemistry blog to publish their research findings, or help organize an undergraduate chemistry conference. Fine arts students taught the same concept would be able to apply it within their own discipline's context. For example, they may join a collaborative art show presenting their piece, post their artwork on Instagram or help organize an art show.

Co-curricular learning takes IL beyond the walls of the classroom and helps to contextualize concepts in everyday life. For example, a student may question the author and authority of an online article for their research essays. In addition, the student may be a participant in a CCR opportunity related to zine-making. They may begin to question the sources for information in magazines and zines. Who makes the images? Who is the illustrator or photographer? Why has the creator chosen to display these images and what is the purpose? As an extension of that disposition to their personal life, the student may be watching a Snapchat video of a celebrity doing a make-up tutorial and question the purpose and intention of the source and ask, Was there a sponsorship? Who benefits from viewership? What is the purpose of Snapchat for celebrities? This kind of critical thinking should be a natural response from students, particularly college students who are bombarded with information on a daily basis. Head and Eisenberg (2009) reported that students, in their courses and their personal life, were "being challenged, confused, and frustrated by the research process, despite the convenience, relative ease, or ubiquity of the Internet…. frustrations included the effects of information overload and being inundated with resources, but more" (p. 13).

What is a Co-curricular Record?

Elias and Drea (2014) write that "The Co-Curricular Record (CCR) is a multi-faceted program, which in its broadest sense, both encourages and incentivizes engagement…. the CCR, sometimes called a transcript, helps students find and track experiences beyond the classroom, links those experiences to competencies and validates those experiences on an official institutional document" (para. 5). There are three pillars of a co-curricular record as outlined by Elias and Drea (2013):

1. Offering Diverse Opportunities
2. Self-Awareness through Reflection
3. Institutional Support and Recognition

The pillars can help librarians and institutions understand best practices for developing a co-curricular program. More importantly, librarians can apply these pillars when developing co-curricular activities related to IL.

Opportunities. Elias and Drea (2013) write, "by acknowledging the individualized needs of the student population, the CCR program can capture opportunities for the various types of students, and provide mechanisms to foster and facilitate engagement" (para. 6). While at some institutions, scalability seems to be the most efficient method in delivering IL concepts (e.g., library workshop for first-year students), it is important to remember that students learn in various ways and settings. Thus, workshops may limit students to learning in another classroom-like environment. IL concepts and lessons can be embedded in various real-world activities, such as a research internship, an undergraduate conference (discipline specific), or a research mentor for first-year students. Moreover, partnerships with various groups (clubs and departments) allow librarians to present IL concepts in settings other than academia. For example, a communications student in an internship at a media corporation may be able to observe and reflect on the idea that "information may be perceived differently based on the format in which it is packaged" (ACRL, 2015, p. 5).

Reflection. Reflection can be used to assess learning as well as help students draw connections to the experience of IL concepts and applications outside of their studies. However, Moon (2004) writes, "reflective learning [can] take place when the material of learning is not straightforward, or is relatively challenging to a learner who has the intention of attaining meaning (i.e., takes a deep approach)" (p. 123). Thus, it is important to provide students with appropriate prompts, time, and guidance as they reflect on their experiences. Each student will engage in reflection and learning in different ways; for example, some may prefer to reflect on their observations through writing, some may prefer discussion with a mentor, and some may quietly contemplate on their experiences.

Institutional Support and Recognition. When planning and implementing a co-curricular activities program, it is important to include a system of validation, whether it be a form of credit in partnership with student affairs or recognition of achievement. Benjamin and Hamrick (2011) write that some students see the classroom as the learning environment and separate extramural activities, such as clubs and athletics as social or leisurely activities. This transcript can be presented to prospective employers or graduate programs to demonstrate engagement or prove participation.

What Are Some Examples of IL-based Co-Curricular Activities?

This volume of work exemplifies opportunities that develop students' IL knowledge through activities that stimulate them academically, skillfully, and creatively. Each opportunity illustrates a different approach to incorporating the ACRL *Framework* concepts, and the essays are grouped into the themes of Campus Connections, Employment Experience, and Innovative Initiatives. The final section of this volume, Assessment Approaches, discusses the important role of evaluation within co-curricular learning and how best to measure a student's success to show value to the opportunities.

In Campus Connections, the authors present the value in establishing partnerships with other institutional units in order to incorporate IL learning into new initiatives. Lisa Janicke Hinchliffe and Beth Hoag discuss the importance of IL when teaching information-based problem-solving within the activities of the Illinois Leadership Center at the University of Illinois at Urbana-Champaign. This program, developed by the university's Academic Affairs and Student Affairs, intertwines IL throughout its guiding philosophy and specific competencies for leadership development. Similarly, Marianne Stowell Bracke and Linda J. Pfeiffer describe how IL goals and assessments are incorporated into the activities of Purdue University's College of Agriculture Transformational Experiences' Issues 360™ program, which focuses on educating students how to respectively engage in controversial issues as they develop into agricultural leaders. At the University of Dayton, Katy Kelly and Heidi Gauder partnered with the Housing and Residence Life Department's AVIATE program, which provides students recognition when they participate in the planned activities. The library's activities are structured around the program's learning goals and provide students a contextual experience with the ACRL *Framework* concepts. Finally, Vincci Lui and Silvia Vong's workshop for the St. Michael's College Undergraduate Research Forum, an initiative from the college's Principal's Office, engages students with IL concepts when disseminating their research through the design of academic posters.

In Employment Experience, students are connecting with IL concepts and demonstrating the transferability of the ability through their roles as library staff members. The Ohio State University's Elizabeth L. Black explores the library's role in teaching working place IL skills by intentionally designing student employment positions that are reflective of the High Impact Practices. Purdue University's Tracy Grimm and Neal Harmeyer illustrate how student employees are working with the ACRL *Framework* concepts as they perform their daily duties within the university's Archives and Special Collections Department. At the University of St. Michael's College in the University of Toronto, Manda Vrkljan develops a student fundraising group within the library where the student leaders engage with the *Framework*'s concepts as they oversee the student volunteers' activities in relation to the annual book sale and through coordination a fundraising activity.

In Innovative Initiatives, the co-curricular opportunities showcase how IL concepts are present or deliberately woven into activities that will challenge students as they develop their critical-thinking abilities outside of a classroom setting. Arizona State

University's Michelle Ashley Gohr discusses how games—in particular, escape rooms—are used to teach IL concepts to students and provides best practices when developing this activity within a library setting. Karen Pillon and Yayo Umetsubo developed the English Conversation Group at the University of Windsor, which provides a space for international graduate students to develop their English-language skills. The group's programming has a foundation in IL development with topics ranging from discussing new cultural experiences to conducting library research. At the State University of New York at New Paltz, Madeline Veitch and Lydia Willoughby are introducing zines and zine creation activities as means to develop critical metaliteracy skills. These non-traditional sources of publishing are a unique method to challenge students with the concepts within the ACRL *Framework*. Purdue University's Bethany McGowan explores civic hacking initiatives as opportunities to teach the IL skillsets of searching, managing, and sharing information, which engages students in real-world problems. Finally, the University of Utah School of Dance's service learning opportunity had Lorelei Rutledge and Sarah LeMire introduce students to the IL concepts alongside their social justice education as they prepared to teach dance to youths in Panama.

Finally, Assessment Approaches provides two librarians' views on assessment and its importance in evaluating co-curricular activities. Penn State University, University Park Campus's Hailley Fargo discusses how the inclusion of intentional reflection activities are used to gain knowledge into a student's critical-thinking skills and how it can influence the development of the co-curricular activity. In addition, Stephen F. Austin State University's Melissa Clark explores how co-curricular activities are ideal at capturing evidence of IL acquisition and ultimately demonstrating a higher level of cognitive skills within students.

Summary

Academic libraries' involvement in designing and implementing co-curricular activities provide a valuable opportunity for a student's personal growth that is as rewarding to students as attending university itself. A student's development within their chosen studies prepares them for a future career, but it is the transferable skills they acquire through experiential activities that demonstrate their full understanding of the concepts taught. By including information literacy concepts within co-curricular activities, libraries are preparing students to apply their critical-thinking knowledge to everyday pursuits, thus providing them the opportunity to contextualization these concepts. These activities, be it in or out of the classroom, will instill a lifelong curiosity to comprehend society's information environment and their role within it.

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SECTION I

Campus Connections

Chapter One

Learning, Leading, and Information Literacy

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Information literacy is an important component of exercising leadership and is critical in leadership development and education. This chapter explores the intersections of leadership development through collegiate co-curricular programming, the development of information literacy skills and abilities, and the possibilities that are emergent in these intersections. We posit information literacy as an enabling literacy and information-based problem-solving as an important leadership ability. The chapter is centered in a case study of the Illinois Leadership Center (ILC), which serves as a mechanism to exemplify the possibilities inherent in conceptualizing the intersections of leadership, learning, and information literacy.

Leadership

The question "what is leadership?" is a quintessential example of what McTighe and Wiggins (2013) term an "overarching essential question." Essential questions are those that cannot be answered in brief, stimulate thought and inquiry, raise even more questions, spark discussion and debate, can be asked and re-asked over time, demand justification and support, and for which the answers may change as understanding deepens (Wiggins & McTighe, 2005). An overarching essential question is one that moves "beyond any particular topic or skill, toward more general, transferable understandings" (McTighe & Wiggins, 2013, p. 9).

The Illinois Leadership Center is a partnership between Academic Affairs and Student Affairs at the University of Illinois at Urbana-Champaign that aims to provide a comprehensive leadership education program for students at Illinois as well as support for teaching and research related to leadership. The Illinois Leadership Center embraces

the nebulous, or ill-defined, nature of its topic and finds a generative productivity in that ambiguity that fosters an ever-growing campus community of practice that includes students, staff, faculty, and community members in engaged inquiry and learning.

The Illinois Philosophy and Model of Leadership is a comprehensive approach to student leadership development. The campus-wide multi-level model draws upon various leadership models and theories, including the Social Change Model of Leadership Development (Astin & Astin, 1996) and adaptive leadership (Heifetz, Linsky, & Grashow, 2009) but is uniquely designed for Illinois students. The influences of these theories are seen clearly in the tenants of Illinois Leadership Philosophy that guides the work of the Illinois Leadership Center and also serves as a touchstone for all leadership activities at Illinois:

- Leaders are individuals who work with others to create positive change. Leadership can be practiced by anyone interested in making a contribution, regardless of formal authority or position.
- Leadership development begins with self-knowledge—understanding one's passions, motivations, strengths, limits, and personal values. Leaders are committed to continual self-discovery, reflection, and learning.
- Learning to work with others is essential since leadership never happens alone.
- Leadership is exercised as members of teams, business, civic, and community organizations, and as global citizens. Leaders recognize and value the multitude of voices, opinions, experiences, and identities in our workplaces and communities, and as leaders, we work to promote greater inclusivity and respect.
- At the University of Illinois, students learn and practice leadership in their academic coursework and out-of-classroom activities.

In 2014, the Illinois Leadership Center hosted multiple campus-wide conversations to enable the community to articulate and define leadership competencies to guide programmatic development and assessment. These discussions were messy, complex, and complicated as well as inspiring and motivating. The goal was not to define leadership abstractly but rather specifically for the leadership community of practice at Illinois. With input from more than 250 students, staff, and faculty, the Illinois Leadership Competencies took shape. These competencies define knowledge, skills, and attitudes necessary for effective leadership practice and provide structure for communicating how these knowledge, skills, and attitudes are interrelated (Seemiller, 2014).

The Illinois Leadership Competencies consist of four levels of practice with skills and attitudes articulated at each level. Within each level, there are various leadership competencies. The four levels are:

1. Personal/Self Level. The practice of effective leadership begins within oneself. Leaders work to develop a set of individual skills and attitudes necessary for being productive members of society.
2. Interpersonal/Team Level. Effective leadership requires working with and influencing others to achieve common goals and shared vision. Leaders need to develop skills for building personal, authentic, and productive relationships.
3. Organization Level. Significant accomplishments achieved within organizations are the result of teams interacting together. Leaders must navigate systems and

influence people when they do not have interpersonal relationships with all others.
4. Community/Society Level. The values and actions of individuals, teams, and organizations interact with and affect the broader communities in which they are situated. Leaders are role models and influencers with several communities simultaneously and must possess skills and attitudes consistent with success in this larger context.

Even a cursory review of the Illinois Leadership Philosophy and Illinois Leadership Competencies quickly reveals the necessity of information literacy for this leadership education.

Information Literacy

"What is information literacy?" is a question that has a relatively straightforward answer since the 1989 *ALA Presidential Report on Information Literacy*, which stated that "to be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information" (American Library Association, 1989, p. 1). Though the recently adopted *Framework for Information Literacy for Higher Education* (Association of College and Research Libraries, 2015) has caused some libraries to revise their information literacy learning outcomes and perhaps their working definitions of information literacy, at Illinois, the Library's *Statement on Learning Goals* (University of Illinois Library, 2003) was reviewed but left as is at the recommendation of the Library Faculty User Education Committee. Instead, the *Framework* has influenced the pedagogy and instructional design of our information literacy programs.

The Illinois Library *Statement on Learning Goals* offers two pathways for developing learning outcomes for any given information literacy session or program—a conceptual approach and a process approach. Both approaches are aligned with the overall information literacy program and allow librarians to design instruction that best integrates with a given curriculum or program learning outcomes on campus. The conceptual approach focuses primarily on information gathering, scholarly expertise, and bibliographic structures and has four main learning goals:

1. The user understands how information is defined by experts and recognizes how that knowledge can help determine the direction of his/her search for specific information.
2. The user understands the importance of the organizational content, bibliographic structure, function, and use of information sources.
3. The user can identify useful information from information sources or information systems.
4. The user understands the way collections of information sources are physically organized and accessed.

The process-oriented approach that encompasses information gathering as well as information evaluation and use and has five main learning goals:

1. The information-literate student determines the nature and extent of the information needed.
2. The information-literate student accesses needed information effectively and efficiently.
3. The information-literate student evaluates information and its sources critically and incorporates selected information into his or her knowledge base and value system.
4. The information-literate student, individually or as a member of a group, uses information effectively to accomplish a specific purpose.
5. The information-literate student understands many of the economic, legal, and social issues surrounding the use of information and accesses and uses information ethically and legally.

Through a locally developed and offered multi-session professional development program called the Instruction Studio, library instructors are introduced to these goals, writing learning outcomes, identifying key concepts and understandings, and assessing student learning through the backward design process articulated in Wiggins and McTighe (2005), which is referenced in the introduction to the *Framework*. Library instructors tailor information literacy instruction to the needs of campus programs and may use one or both of the approaches to achieve learning goals. Student information literacy learning in the Illinois Leadership Center draws upon both models as appropriate to the particular programmatic setting.

Information Literacy Enabling Leadership

As previously mentioned, information literacy is conceptualized as an enabling literacy for leadership learning and practice in the Illinois Leadership Center. In other words, information literacy is a mechanism or capacity for learning or exercising leadership. This is not to argue that information literacy does not also have inherent value or utility in other settings but only to recognize that information literacy—like communication skills, writing skills, etc.—are conceptualized as being in service to another learning outcome or practice in this context.

As such, although information literacy is not listed as a stand-alone competency within the model, information literacy is woven throughout the philosophy and specific competencies. For example, the Illinois Philosophy of Leadership stresses that leadership is a process, not a position, and that leadership development begins with "self-knowledge—understanding one's passions, motivations, strengths, limits, and personal values" (Illinois Leadership Center, 2016, para. 2). The philosophy goes on to emphasize the imperative for leaders to work with others and to recognize the many "voices, opinions, experiences, and identities" (Illinois Leadership Center, 2016, para. 4). This approach closely aligns with the purpose of information literacy by acknowledging that authority is constructed and recognizing the multitude of voices that create information and guide decisions (ACRL, 2015). This case study now turns to an examination of specific components of programming from the Illinois Leadership Center.

Creating an Information-Rich Environment

The ILC has infused information literacy into leadership education by creating an information-rich environment through the provision of resources, activities, and mentoring. Information literacy practices are supported, encouraged, and modeled through a variety of approaches and strategies. A review of some of the more prominent models follows.

Directing Learners to Information Resources

The Cavenaugh Leadership Resource Library, located within the ILC, is an endowed collection that contains a variety of leadership resources, including academic texts, popular press books, and team-building activities. The library has approximately 800 materials available for checkout to all Illinois students, faculty, or staff. The ILC has used the library as a tool to promote information literacy for stakeholders. Student employees are given cursory training on the Library of Congress classification system and taught how to provide patrons with resources based on their needs. For those seeking leadership-related resources, the ILC staff often guides patrons to investigate resources from multiple sources and highlights differences in leadership scholarship.

In an effort to highlight the wealth of leadership resources available on campus, the ILC collaborated with the Office of Information Literacy in University Library to create a series of LibGuides based on the Illinois Leadership Model. The LibGuides are arranged by the levels of practice in the leadership model (Personal/Self, Interpersonal/Team, Organization, and Community/Society) and serve as a guide to resources for each competency highlighting books, journal articles, TEDtalks, podcasts, and other online resources.

During the 2017–2018 academic year, the ILC created the Illinois Leadership Inventory (ILI), an online leadership self-assessment tool. Designed to expand the ILC's outreach to students who may not engage in a formal leadership training and to encourage students to explore the wide range of leadership resources available, the ILI provides a synopsis of the user's aptitude on each competency coupled with a series of recommendations to promote continued leadership learning. The ILC staff curated a list of approximately 1,000 on-campus activities, academic classes, and online/print resources that are included as recommendations for users. Recommendations are provided to users based on their skill level (beginner, developing, and expert) and the college in which they are enrolled at the university. Thus, a student from the College of Business who scores in the beginner range will receive different recommendations on each competency than a student from the College of Liberal Arts and Sciences that scored in the developing range.

Providing Formal Instruction

The ILC provides formal curricular and co-curricular leadership programs that enhance students' leadership capacities and their ability to solve complex problems. The suite of ILC programs vary in scope and length to accommodate the diverse needs of the student body and includes workshops, leadership seminars, a multi-semester leadership certificate program, and a curricular leadership minor.

A series of day-long leadership seminars, called i-programs, are designed to focus on a specific aspect of leadership practice, such as group/team development, ethical decision-making, innovation, and inclusive leadership. These programs combine

introductions to theoretical concepts with small-group discussion, personal reflection, and application activities. In each i-program, participants are provided with information about leadership as defined by experts and encouraged to analyze the material and draw connections to their own lived experiences. Case studies are used to encourage information-based problem-solving around leadership challenges. As an example, in the Integrity i-program, participants are taught common cognitive biases that can impair ethical decision-making, drawing on cases from McCombs School of Business (2018). Participants engage in critical self-reflection on these biases and are then tasked to evaluate a series of scenarios, apply multiple ethical decision-making approaches, and decide a course of action.

Fostering Self-Directed Learning

Leadership development and information literacy are skills that require ongoing learning and critical self-examination. The Illinois Leadership Philosophy emphasizes the need for leaders to engage in lifelong learning and reflection. To foster self-discovery and leadership learning in a reflective, extended format, the ILC offers a self-directed leadership certificate program. The multi-semester co-curricular certificate program prompts students to integrate leadership education, practice, and reflection. Participants take courses on leadership theory, attend formal leadership training, engage in team-based experiences, and are mentored by a leadership coach. Additionally, students are asked to complete regular reflections about leadership learning and are encouraged to make connections between the experiences and the literature on leadership and leadership development.

The program is designed to push students to explore essential questions. Students pursuing a leadership certificate are asked to create their own philosophy of leadership and revise it based on the knowledge gained throughout the program. At the beginning of the program, students also create a Personal Development Plan (PDP) that will act as their individualized guide through the experience. Participants identify six competencies from the Illinois Leadership Competencies that they want to learn more about and determine strategies for learning and practicing each competency. These strategies draw heavily on the information resources provided by the ILC and in the University Library. At the conclusion of the program, participants create an electronic portfolio to showcase what they have learned over the course of the certificate program in an information-rich environment and provides students with the tools to continue their leadership learning post-graduation.

The ILC also promotes self-directed learning through intentional activities that promote career readiness. The National Association for Colleges and Employers (2017) defined career readiness as "the attainment and demonstration of requisite competencies that broadly prepare college graduates for a successful transition into the workplace" (p. 1). Students attending i-programs are encouraged to apply leadership concepts to their future employment and explore how continued learning could enhance their career readiness. Finally, the ILC provides practicum experiences for students studying library science and information management. Practicum students shape their experience to apply classroom concepts to an authentic work environment in areas such as data analytics, library management, and collection development.

Conclusion

By positioning information literacy as an enabling literacy and information-based problem-solving as an important leadership ability, the ILC has developed a range of approaches that further information literacy learning goals in the context of leadership education and development. As demonstrated in the case study presented here, the possibilities inherent in conceptualizing the intersections of leadership, learning, and information literacy are generative and robust. Through these programs, Illinois students are prepared for lives of civic and community engagement and lifelong learning, through which they will continue to confront the ambiguous and essential question of "what is leadership?" and how they engage their own personal response to that question. Ultimately, leadership development and information literacy are both seeking to produce informed and engaged members of our communities.

Though the ILC information literacy programs exemplify how leadership education and information literacy can be intertwined and mutually reinforcing, the specifics of these programs emerged from deep campus engagement that developed the Illinois Leadership Philosophy and Competencies. This is the kind of engagement that *The Framework for Information Literacy in Higher Education* recommends; that is, this chapter should serve as inspiration for other campus processes but not a blueprint for programmatic implementation. Specific competencies and leadership programs should be designed based on the context of an institution (Andenoro, et al., 2013), rooted in its mission and vision.

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Chapter Two

Issues 360™:

A Co-Curricular Approach to Information Literacy, Critical Thinking, and Civil Discourse in the Sciences

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Introduction

Issues 360™ is one of nine programs designed as part of the College of Agriculture Transformational Experiences (CATE) initiative at Purdue University's College of Agriculture (COA). It is a year-long, co-curricular experiential issues engagement program for sophomore- and junior-level students. The many diverse fields in agriculture are crucial to the major challenges faced by the global community, such as feeding a growing population, providing clean water, and protecting natural resources. As today's students become the future faces of agriculture, it is urgent that they understand how to responsibly engage in controversial issues in an increasing politicized social climate. Scientific knowledge and practice are becoming increasingly challenging in the public sphere, creating a gap which points to a breakdown in effective communication practices. To address this, Issues 360™ has five guiding principles: respect for a democratic society, respect for others, respect for science-based knowledge, respect for critical thinking, and respect for ourselves. The program is designed to educate students in how to engage broadly (on all sides of an issue), rather than just advocating for a particular position. The development of this way of interacting is a necessary skill for students to begin open and civil dialogue around polarizing issues facing society.

Literature Review

Often, Information Literacy (IL) targets freshmen as first-year students or as seniors nearing the end of the academic undergraduate careers in capstone papers or projects. There are, however, advantages to targeting students in-between (Black, 2014). Students are able to work with more advanced IL concepts and allow for scaffolding of instruction to build upon what was learned as freshmen and to strengthen the foundation for senior projects or even graduate work. Additionally, many social theorists see sophomores at an advantageous stage for more advanced education because they are of the optimal stage of psychosocial and intellectual development. Schaller (2005) notes that sophomores are at a particularly crucial developmental stage, moving from the "random exploration" of a freshman to the next phase of "focused exploration." After their first year, students begin to develop a greater sense of self-awareness as they actively seek to incorporate education, self, and relationships (Schaller, 2005). Schreiner (2009) writes that students "need to see the connections between what they are learning in class and what they will need in order to be successful in the future" (p. 132). Chickering and Reisser's (1993) pioneering work identifies seven dimensions of development: developing competence, managing emotions, moving through autonomy toward interdependence, developing mature interpersonal relationships, establishing identity, developing purpose, and developing integrity. During these key developmental times, students especially benefit from experiences outside of the classroom. Co-curricular experiences positively impact interpersonal relationships as well as encouraging academic persistence, expanding racial and ethnic tolerance, enhancing general cognitive development, and the development of critical thinking (Mayhew et al., 2016, p. 599).

Background: Issues 360™

Purdue is a large, public, land-grant institution with a strong commitment to education, especially in The College of Agriculture (COA), where there are eleven diverse departments, covering sciences, engineering, and social sciences. It enrolls 2,800 undergraduate students on a campus of 31,000 undergraduates. The COA is committed to providing transformational experiences outside of the classroom to improve graduation and retention rates, engage students in more personalized ways despite being on a large campus, and provide students with skills and opportunities that will serve them in both the job market and as well-rounded individuals. For example, Issues 360™ is just one opportunity alongside other co-curricular initiatives, such as a Leadership Development Certificate Program, summer and semester-long research opportunities, study-abroad, and a Washington DC public policy internship. These are all supported within the COA, creating a culture where students are well acquainted with the existence of these programs and the personal and professional benefits of making the effort to participate.

The conceptual design of the program is foundational in providing an immersive learning experience for the students. Students are intentionally recruited from a diverse range of majors. This leverages the opportunity to first challenge peers in a safe and supported environment. The guiding twelve core principles include trustworthiness and integrity, empathy, openness, listening, effective communication, assessment and

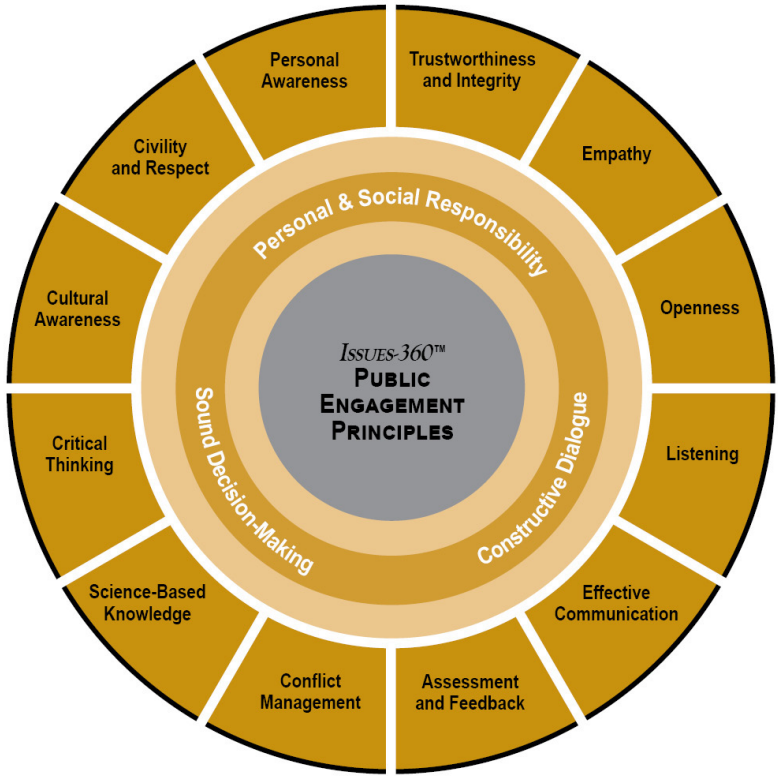

FIGURE 2.1.
Issues 360™ Public Engagement Principles

feedback, conflict management, science-based knowledge, critical thinking, cultural awareness, civility and respect, and personal awareness.

By cohort five, these twelve principles were organized under three main curricular themes: critical thinking, active listening, and personal emotional regulation. To accomplish its goals, this program involves a faculty-to-student ratio of 4 to 1. This is not scalable but valuable, nonetheless. Active learning is a key component in structuring course activities and allows students ownership of the learning that occurs throughout. Information literacy has been woven throughout the program design.

Issues 360™ was designed as a co-curricular program because many of the elements would not work in a traditional classroom setting. The low faculty-to-student ratio allows for substantive interaction that helps faculty take a wide variety of concepts that students learn in traditional class settings and connect them to issues and practices in the world at large and in the disciplines and industries they will be employed in after graduation. No course credit or other incentive is offered. (The leadership group is working toward a certificate designation that would appear on the student's official transcript to acknowledge successful completion.) Fellows who have listed Issues 360™ on their résumés report high interest from employers in this program. Students must be highly motivated to

make a commitment to Issues 360™. They must apply and be accepted and commit to attending all events, except in extraordinary circumstances. There are eight, two-and-a-half-hour evening meetings once per month during the academic year as well as a 2-day weekend retreat, held off-campus.

Started in 2013, there have been six cohorts of fellows. Cohorts began with just 11 students but have steadily increased over each year to reach 28 students in the 2018–2019 school year. The goal is to enroll at least 30 students per cohort. The leadership team alternates leading the monthly sessions depending on each person's area of expertise. Each session is 2.5 hours long and includes a meal and time for socializing. A strong bond is formed, necessary to build trust and a safe space for exploring or sharing ideas that might be controversial or underdeveloped. To enhance this feeling of safety, the students together develop "rules for engagement" that always include mutual respect and listening. The program has been so engaging that students have built informal networks outside of the planned activities.

A final project was introduced with the third cohort and has been done as both an individual and as a group project. This is a tricky aspect of the program, as students are given neither a grade nor incentive to do this outside of their already busy academic and social lives. The leadership team urges students to be creative about the project as a way for them to explore areas of interest outside of traditional class boundaries. Typically, the student's proposed project is overly ambitious, and early involvement of the faculty team is critical to meaningfully narrow and delimit their projects. To develop their projects, the leadership team meets with the students multiple times over the year. To recognize the students' accomplishments on the final project, the dean of the COA attends the final presentations of their projects.

Past projects have been very creative and have included such topics as social media attempts to dialogue between meat-eaters and vegetarians, a student survey designed to gauge consumer perception on antibiotic use in food animals, a website of consumer information on organic foods targeted to parents, learning modules for 4H, a Chinese website explaining genetically modified foods, and many other creative endeavors. Each group is given feedback after their presentations. Students report that they learn as much from a failed attempt at a project—and failure is an expected option in the co-curricular setting.

Information Literacy

This program has a number of implicit and explicit goals, and Information Literacy (IL) is woven throughout the activities and outcomes. There was not a librarian in the initial planning group, but strong ties between the Agricultural Sciences librarian and the COA allowed for an opening to work with the third cohort. As the program continued to develop and mature, the librarian was able to integrate more explicit IL goals and assessments into the curriculum. The underlying ideas found in the program can be tied to four of the six frames described by Association of College and Research Libraries (ACRL): Authority is Constructed and Contextual, Information Has Value, Scholarship as a Conversation, and Research as Inquiry (Association of College and Research Libraries, 2015).

Monthly Learning Modules

A summary of the monthly activities is useful to understand the full scope of the program. Not every aspect includes information literacy but illustrates how it can be included with many other outcomes. The following list describes a sample of the curriculum. The modules are constantly reevaluated by the leadership team based on student feedback and to capitalize on emerging controversial issues in agriculture and natural resources.

September – Cultural and Personal Awareness

October – Retreat (includes 6 modules: Personal Awareness (MBTI), Science & Society, Information Literacy, Active Listening, and Critical Thinking; a second session in October included a Scientist Panel)

November – Ethics vs. Morality

December – Discussion of a trending controversial issue (GMOs, Dicamba, Deforestation)

January – Media Literacy and Controversial Issues

February – Point-Counterpoint from a S*takeholder* P*erspective*

March and April – Student Engagement Projects

As not all activities have an information literacy focus, the authors will describe three activities that do have that focus in detail below. These are the Information Literacy (Activity #1) and Active Listening (Activity #2) modules from the October retreat and the Media Literacy and Controversial Issues (Activity #3) module from January.

Evaluating Information Activity #1: Evaluating and Selecting Trustworthy Information

Learning objectives:

1. To evaluate information based on credibility and appropriateness to information need
2. To articulate and make personal decisions to determine credibility (IL acknowledge they are developing their own authoritative voices in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability, respecting intellectual property, and participating in communities of practice)
3. To recognize that searching is often non-linear, iterative, and may still leave you with unanswered questions

(IL Framework: Searching as Strategic Exploration)

The instructor selected a variety of trustworthy and questionable websites discussing the Zika virus before the retreat (where there was no internet availability). The students were divided into two groups: information providers and information seekers. The

information provider groups were each given one of the websites to replicate on sheets from a flip chart. They had to make decisions about what to include, such as web address, pictures, advertisements, author credentials, and content to highlight or hide the quality of the website. The information seekers were then brought in to "browse" these websites with the following scenario: they were college students planning on studying abroad in a country where the Zika virus was a concern. They were gathering information on if they could travel abroad safely and how they could be best prepared. Students viewed each of the seven or eight websites and decided which provided trustworthy information, which was questionable, and identified any that had incomplete or unclear information. After the exercise, all the students came together to discuss how both the information providers and seekers made their decisions on what criteria they used to evaluate the sources, such as knowing and trusting the author (the Center for Disease Control) or changing their mind about the quality of information after reading outlandish claims in an author biography, which did not appear until the very end of the page. Students also noted that this evaluation does not always take place in their own research. While they identified many visual and contextual clues to follow (e.g., .edu may be preferable to a .com, or finding an author's credentials is important), they admitted it was not always clear in practice.

Evaluating Information Activity #2: Active Listening

Learning objectives:

1. Students will be able to define and utilize the three levels of active listening (mirroring, validating, and empathizing with the speaker).
2. Students will utilize a real-world controversial issue (for example, genetically modified foods, forest management practices, pesticide use, etc.) to practice listening skills and identification of "common ground," with the goal of finding mutually beneficial solutions.
3. Students will develop an awareness of the role of emotional regulation as a foundational skill in resolving conflict.

(IL Framework: Research as Inquiry)

Students will recognize critical thinking as a foundational approach for issue resolution. Agriculture as a field is home to some of the most controversial issues of our day, including such topics as genetically modified foods, large confined animal feed operations (CAFOs), animal rights, and climate change, to name a few. Active listening is a central skill the students need to develop in order to deescalate conflict when working in their future careers. Like critical thinking, active listening is introduced early in the program in order to allow time to practice, repeat, and internalize this skill.

This year, the students were given a 5-minute overview of active listening along with a handout reinforcing the three levels of active listening: mirroring, validating, and empathizing. Mirroring is simply the act of rephrasing and repeating back what the speaker just stated to ensure understanding. Validating goes one step further and lets the speaker know that you understand his/her position on the issue. Empathizing involves listening carefully to what the speaker is saying and identifying the underlying

sentiment of the speaker in order to mirror back this sentiment and achieve a deeper level of understanding.

To practice active listening, the students each were randomly assigned one of ten perspectives on animal rights issues. Once the students understood the role they were representing, they were challenged in pairs to listen to a different perspective and model active listening for 20 minutes. During that 20 minutes of listening, they were challenged to only reflect back what the person was saying utilizing progressively higher levels of active listening. Following that exercise, they then had to explain to the group the perspective of the person they listened to. The roles were then reversed, and the "listener" became the person who was explaining their position on animal rights. Afterward, this experience was debriefed with the students, and they overwhelmingly reported how positive it was that someone took the time to really understand their positions. They were learning to listen to what the person was expressing, not just waiting for the person to stop speaking so that they could insert their views. Thereafter, the students were reminded to utilize active listening in each session, and the leadership team was encouraged to model the skills throughout the program.

Evaluating Information Activity #3: Media Literacy

Learning objectives:

1. To help students better understand the media as a platform for delivery of agriculture and science information and how to critically evaluate science information in the media
2. To outline the limitations of the media and reporters in the construction of controversial science issues
3. To better understand how engagement with an issue may be impacted by mediated communication

(IL Framework: Information creation as a process; Authority is constructed and contextual)

This activity focused on understanding how media structure and construct science information to help the students critically evaluate types of journalism, source validity, completeness and the use of evidence within the story as tools to evaluate the veracity of news stories concerning controversial agricultural issues. Eighty-eight percent of the American public obtains their news through the media, making media literacy a key concern for students working in science majors (American Press Institute, 2014, para. 12). The instructor gave a brief overview of elements of a good (verifiable) news story as well as explaining the journalistic constraints that affect science journalists, including time and space limitations and the use of emotion and conflict as techniques to attract audience attention. Students were also introduced to the idea of framing, the idea that language is used to "frame" or assign interpretive language to an issue. Examples included the issue of stem cell research, which could be alternatively framed as (1) innovative life-saving research (a health frame), (2) a technology to improve competitive advantage for business (economic frame), or (3) researchers are "playing God" and destroying human life (a moral frame). Similarly, the beef used in fast food could be alternatively framed as "finely textured ground beef" or "pink slime."

To integrate the material they are learning, the students read a comprehensive scientific study conducted by scientists at *Consumer Reports*, which focused on the safety of samples of ground beef from conventionally raised cattle versus ground beef taken from grass-fed cattle. During the meeting, the students were separated into groups to read media accounts of that same report from three different media outlets: agricultural trade journals, credible mainstream print outlets, and a CBS video summarizing the report.

After reviewing the news articles, students discussed the frames they had identified in the news stories, the use of framing, how the science information was presented (or excluded), and how to determine if the science itself was reliable. Students discussed the difficulty of identifying credible sources, funding agencies, information that may be included or excluded, and the value of reading a wide variety of information, looking to peer-reviewed sources when available, looking to findings that have the most support from the scientific community (weight of evidence), and science that has been replicated.

Assessment

During the first three years of the program, graduate students who participated in the leadership team led focus groups with representative members of each cohort both at midterm and after the completion of the program. In year 5, a faculty member from agricultural education was enlisted to work with the leadership team to develop an evaluation tool to measure transformational learning as part of the College of Agriculture's Transformational Experience initiative (CATE). The evaluation is theoretically grounded in the literature from three disciplines: transformational learning (Mezirow, 2009; Malkki, 2010; Dix, 2016); critical thinking (Kurfiss, 1988), and a combination of active listening and emotional regulation (Gross, 2002). In essence, transformational learning maps the progression of student conceptualizations of both process and content through four levels: the first level is learning to identify and differentiate prior meaning schemes; then, learning new frames of reference and extending the scope of prior understanding; the third phase includes a budding awareness of the limitations of students established ways of conceptualizing an issue; and finally, becoming aware through reflection of incomplete or inadequate meaning schemes and transforming them to become more inclusive (Whitelaw et al. 2004).

To assess student change, the students were first asked to write an essay explaining their view of a "controversial science issue" and their rationale for their views. The students were also administered a pretest to determine their initial level of learning (Mezirow), their level of critical thinking, and their own assessment for how effectively they regulate emotion. Reflections were gathered for units throughout the year and a midterm qualitative evaluation was conducted. Both the reflections and the midterm evaluation were utilized to measure changes in how the students approached the material, incorporated a range of viewpoints, recognized limitations to their own thinking, and had begun to approach issues more critically. A post-test will be administered to measure change on levels of transformational learning, critical thinking, and the combined measure of active listening and emotional regulation. Finally, the students' projects will be utilized as a qualitative measure of how completely they have internalized the concept of critically

approaching information and of incorporating a range of perspectives into their understanding of their topics.

At this writing, only the pre-test and midterm evaluation have been completed, but to date, a majority of students have self-identified that they are taking a broader range of views into account, recognizing that others have different views for a range of cultural and experiential reasons, acknowledging the need to be more understanding of others views and reporting using active listening now in their day-to-day interactions.

Conclusion

A number of conditions have to be in place for this program to be successful. First, there is deep and mature support within the COA for transformational experiences, whether those consist of research programs, travel abroad, self-paced leadership development, or any of the many other programs that administration, faculty, and students recognize as being beneficial to a well-rounded graduate and employee. Additionally, the COA has faculty willing to participate in such a time-intensive program, not only because it benefits students but also because of the personal satisfaction they receive from being involved. There has to be a culture that allows new programs to develop outside of traditional offerings, even if they fail, flounder, or don't initially serve a large portion of students. Finally, students have to be open to new experiences that may not benefit them immediately in terms of grades or financially but that can be parlayed down the road into valuable, career-building, human-developing experiences. This is an example of educating the whole person.

The program will continue and growth in enrollment is still debated. On one hand, the COA would like to reach as many students as possible while maintaining the seminar feel of the program, unusual in a large public university. Additionally, the literature suggests, and previous students argue for maintaining a smaller group to continue active participation and safe community building that only happens in a smaller setting. The leadership group is also pursuing a certificate designation that would appear upon the student's transcript after successful completion of the program. The program has been trademarked, and the leadership group would be highly supportive of the adoption of the model by other colleges of agriculture or even other schools within the university to fit their student body. Employers, in particular, have been impressed that the students are given training in the essential skills of critical thinking, active listening, and the ability to regulate one's emotion when discussing controversial issues. Student feedback from post-completion surveys and focus groups has been overwhelmingly positive, and the instructors continue to make the assessment more robust.

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Chapter Three

Taking Flight as a Campus Partner:

Library Programs Support a Residential Curriculum

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Introduction

If you build it, will they come? This is often the question asked by librarians at University of Dayton (UD) when considering co-curricular workshops. In the past four years, that question is answered with a resounding "yes," due to the library's participation in a co-curricular programming model, AVIATE, designed by UD's Housing and Residence Life. By taking part in approved events that align with Housing and Residence Life's vision for residential learning, students accumulate "points" that incentivize their engagement in co-curricular learning and provide them with more agency within the housing assignments process. Before flying into the AVIATE model, background about the library's previous workshop initiatives will help provide context.

It's common among teaching librarians to plan and host topic-based workshops outside of the classroom. In the past, the UD library instruction team brainstormed ideas and often collaborated with each other on workshops. For example, the "Take it With You" series, offered in the spring of 2012, promoted post-graduation research without the help of subscription databases. This workshop series offering included topics such as advanced Google searching, finding demographic and economic data online, and searching the deep web for competitive business intelligence. Attendance at these events varied but was considerably low, despite the offer of free snacks and partners in publicity, such as the university honors program, career services, and discipline-specific faculty members. Librarians felt frustrated that they developed an interactive workshop, and then there was no one to interact with.

It was understood that students were overtaxed with other commitments, so co-curricular efforts were suspended for an academic year—until teaching librarians became aware in 2014 of the AVIATE program and, specifically, the component known as PATH, which stands for Points Accumulated Toward Housing. To become PATH-eligible, events

had to align with one of three AVIATE learning goals. The result was that students were encouraged to participate in co-curricular learning for housing points, and the workshops, like what the instruction team had offered previously, now had reasonable expectations for attendance.

In this chapter, the authors discuss the process of taking part in this co-curricular residential learning program that effectively tripled attendance at workshops and continues to challenge and inspire librarians to try new topics and partnerships. By connecting the programs to campus learning goals, the number of library events grew 50% over one year, with individuals from multiple library departments hosting or supporting the events. The authors also include descriptions of efforts related to planning, marketing, and assessment of these programs and offer some benefits and challenges to UD's program model. As the demand for campus programs continues to rise, growth management and coordination as well as considerations for the future are also discussed. The goal of this chapter is to provide helpful case studies, program models, and a feasible structure for all types of libraries. Even without a library-based incentive program, libraries can use these tools, techniques, and the program management model to reach their student population and create quality programs to help them reach their destination.

Literature Review

A common challenge for libraries is connecting co-curricular events to where people are in their lives. Perhaps one of the reasons the UD library saw low attendance at previous events is that it is difficult to identify what students wanted or needed at the time. In the library literature, other institutions have described the timing and purpose of their co-curricular workshops in a variety of settings. Many librarians have focused their programming efforts on meeting the needs of graduate students. Fong et al. (2016) used an online survey for graduate students to examine what types of education-related and career-related topics would be popular workshop topics; results ranked research, career, and grant support the highest. Peacemaker and Roseberry (2017) presented a case study on planning and promoting their successful "Advance Your Research" workshop and webinar series for graduate students with a collaborative approach among librarians. A smaller section of the literature focuses on programming for undergraduates, which this chapter hopes to build upon.

Since university-level learning outcomes create the framework for the PATH program, librarians have the opportunity to design meaningful co-curricular programming. Insights related to learning outcomes in their co-curricular designs include library programming that is not all that different from developing learning outcomes in the classroom except that oftentimes the idea or structure of the program is developed first (Jackson, 2016). A consistent approach to planning workshops will benefit facilitators and students alike. Philips, Miller, and Bruner (2017) design their workshops, "SkillShops," using the same lesson-planning grid that was designed to empower students to set their own learning goals and to be engaged learners.

The library literature includes many successful co-curricular programming examples. Some of the projects are aimed at reducing library anxiety, where such events can

include library orientations, an overnight library event, and scavenger hunts (Collins & Dodsworth, 2011; Otto, Meade, Stafford, & Wahler, 2016; Renner, Cahoon, & Allegri, 2016). Other co-curricular programming may be developed to facilitate essential library missions, such as literacy, reading, and connecting ideas. Librarians at California State University, Channel Islands, host an informal salon, "Salon de Literatea," (Hoffman & Wallace, 2013); this event, with no set agenda, was intended to bring faculty and students together over tea to discuss research and topics of interest. St. Catherine University librarian Anika Fajardo shared her experiences with organizing and hosting a book club (2010). As she notes, "Running a book club takes a little extra work, but it can be a successful and enjoyable way to promote both the library and lifelong learning and reading" (p. 69). Trott and Goldberg (2012) have also offered insights about hosting campus book clubs, including advice about book selection, facilitating a reading group, marketing efforts, and managing a book club program.

The library literature is likewise rich in describing successful outreach, which often results in co-curricular programming, to other campus units. Lampert, Dabbour, & Solis (2005) describe library outreach to Greek student organizations, while Nicholas et al. describe a partnership between the library and residence halls. Dugan, Bergstrom, and Doan (2009) note that opportunities exist with career services, and Love (2007) offers observations about building collaborative relationships with minority student services departments. In addition, Love & Edwards' (2009) review of library collaborations with academic, multicultural, and student services includes even more examples of outreach opportunities, and Hoag's 2016 dissertation provides a recent update of the literature. There are many possibilities for co-curricular programming, either as a library event or in collaboration with another campus unit.

Co-curricular programs can be considered as common intellectual experiences and are known as high-impact learning practices, which studies show benefit students from all backgrounds. The library's participation in the program contributes to the university's effort to connect student involvement with retention and student success.

Background: AVIATE Program

University of Dayton is a Catholic-Marianist private university with 7,800 full-time undergraduates and 2,400 graduate students. Situated on the banks of the Great Miami River in southwest Ohio, less than two miles from downtown Dayton, UD is a 90% residential campus and its students are among the happiest in the nation, according to *The Princeton Review* (*The Princeton Review*, 2018). In 2014, the University of Dayton's Department of Housing and Residence Life began implementation of AVIATE, a nod to Dayton's aviation history and connection to a student's journey toward their destination. AVIATE stands for A Vision for Integrated, Applied, and Transformative Education, a vision and mission-centric program that provides students with a series of learning goals to work toward as they prepare to graduate; the goals include authorship, interculturalism, and community living. In its fourth year, at the writing of this chapter, AVIATE is a fully developed co-curricular program managed by the Department of Housing and Residence Life.

AVIATE Learning Goals

University of Dayton Housing and Residence Life

AUTHORSHIP

Students will engage others to identify personal values and spiritual identity, demonstrate respect and appreciation of others' perspectives, recognize how their behavior impacts others and provide leadership that enhances the dignity and respect of individuals.

Residents will...

- Clarify personal values and beliefs.
- Demonstrate respect and appreciation of others' values and beliefs.
- Act with integrity in accordance with one's values and beliefs.

INTERCULTURALISM

Students will develop and demonstrate an understanding of their own identity and will value other cultures through learning about their history, beliefs, faith, languages and/or practices to formulate mutual understanding within their living environment.

Residents will...

- Articulate how one's personal culture interacts with the cultural identity of others.
- Demonstrate respect and appreciation of the cultural perspective of others.
- Utilize skills to build and support inclusive community.

COMMUNITY LIVING

Students will develop the ability to live in a community that prioritizes the common good over individual wants or desires. Students will demonstrate healthful living and responsibility through active participation in the planning of and adherence to community standards, promotion of the safety and security of the community, demonstration of pride in their living environment and respectful confrontation of behaviors that threaten the community's well-being.

Residents will...

- Articulate the characteristics of a healthy community.
- Actively engage in developing a strong community.
- Hold others accountable in a manner that benefits all members of the community.

Figure 3.1.
University of Dayton's AVIATE Learning Goals.

UD's residential curriculum, campus partner events and the housing assignments process interface through a subprogram called PATH, which stands for Points Accumulated Toward Housing. PATH-eligible events go through an approval process and must fit criteria set by the Department of Housing and Residence Life. Students swipe their student IDs at events to get credit, accruing one point per event. The number of points determines a person's or group's priority in the housing assignment process for the following academic year. During the 2016–2017 year, the average PATH credits earned was about 20 per rising sophomore, junior, and senior student. In general, Housing and Residence Life recommend that students earn two points per month.

The PATH-eligible event schedule and attendance system reside on a third-party subscription software and website, OrgSync. OrgSync is the online portal used by the Center for Student Involvement to manage student organizations and events. This helps build student familiarity with the website and its functions. OrgSync is also the platform

and automatic generator of a student's Co-Curricular Transcript (CCT). The CCT is intended to provide each student with an official record of their honors, awards and recognitions, leadership activities and organizational experiences, professional development and educational training, as well as community service and engagement (University of Dayton Student Development, 2017). The PATH-eligible events attended by a student will also be on their CCT. Students are encouraged to use the CCT as a way to self-document developmental activities outside of the classroom. This type of reporting will come in handy for graduate school or award applications in addition to job applications and interviews.

OrgSync also hosts the PATH-eligible event calendar, which students use to browse and search for events. Additionally, Housing and Residence Life sends out a weekly "This Week in AVIATE" email that lists the upcoming PATH-eligible events. Since students refer to the calendar in OrgSync and receive a weekly email, the marketing needs for specific library PATH-eligible events are minimal. Some library organizers request paper flyers, write a blog post promoting the event, or get mentions on the library's social media. This allows the library to focus on planning and assessment of these programs, as the marketing is built-in with Housing and Residence Life's workflow and management of their residential curriculum.

The University of Dayton Libraries identified the PATH component as an opportunity to participate as an AVIATE campus program partner. The learning goals of authorship, interculturalism, and community living are perfect complements to the library's mission—and information literacy. Notably, one of the libraries' strategic directions for 2017–2020 is advancing student learning. This University of Dayton Libraries (2017) goal states:

> The Libraries take an active role in student learning through curricular, co-curricular, and extracurricular learning experiences. We will expand our collaborations with campus and community partners to provide students with opportunities to extend their classroom experiences, spark their creativity, build their leadership skills, experience a diversity of thought, and achieve success (para. 8).

Although instruction librarians had previously initiated co-curricular programming in the form of workshops and seminars, the opportunity that PATH presented was of interest to library staff across multiple departments and teams. In terms of developing an initial idea, there is seemingly a different path for each event, whether it existed before AVIATE or was developed to support it. In their training and certification to be a campus partner, Housing and Residence Life also provides helpful guidelines to ensure events are inclusive, such as showing films with captions and hosting in accessible spaces. This next section describes three examples, each with a different learning goal defined: interculturalism, community living, or authorship.

Interculturalism: Hispanic Heritage Month Series

One of the first PATH-eligible programs hosted by the library was a film series developed for a nine-month National Endowment for the Humanities grant-funded program,

Latino Americans: 500 Years of History. The film series was co-coordinated with Welcome Dayton, a city initiative to foster a more immigrant-friendly community. This partnership allowed the library to split the cost of the films' screenings with the appropriate public performance rights (typically, $200–$400 for each film). Welcome Dayton's coordinator and the librarian project manager for Latino Americans chose the three films and invited local community leaders to serve as facilitators for each film.

The film series addressed the learning goal of interculturalism by showcasing the Latino American experience in the United States through documentaries and discussion. With historical knowledge and cultural context, attendees would demonstrate respect for and appreciation of the cultural experiences and perspectives of others, particularly Latino Americans. The most well-attended films were *From Mambo to Hip-Hop*, hosted by a local spoken-word artist, and *American DREAMers*, led by the city's mayor. The series was also open to the public and an average of five members of the community attended each event.

Each film event lasted about two hours, with time for the film and a brief discussion afterward. Attendees also completed forms for feedback purposes and to measure the event's stated goals. The Hispanic Heritage Month film series has continued after the grant program ended, with the libraries continuing its partnership with Welcome Dayton. The libraries' diversity and inclusion team assumed programming responsibility for this and other PATH-eligible film series, addressing topics such as body positivity, human sexuality expression, and others. This program model structures learning around a film and discussion while highlighting library resources such as the DVD collection and streaming movie databases such as Kanopy and DocuSeek2.

Community Living: Financial Literacy Workshop Series

The "Becoming an Adult on a Shoestring Budget" series was co-developed by a librarian and a local credit union with a branch on campus, with an aim to present best strategies for budgeting (Plungis, 2017). These workshops are some of the most well-attended and popular PATH-eligible events organized by the library. ALA's initiatives, such as Money Smart Week, held each April in partnership with the Federal Reserve Bank of Chicago and the RUSA Financial Literacy Interest Group, inspired the planning for these workshops. This partnership built upon the local credit union's already-established outreach efforts, such as speaking engagements at residence halls and UD-sponsored club meetings.

Each workshop covers important financial literacy topics, including basic budgeting, financial goal-setting, and how to build and manage credit. Presenters used slides, built-in questions, and hands-on activities for budgeting and setting financial goals. The first workshop was held in February 2017 right before the deadline for points. In a space with a capacity of 36, students began arriving an hour before the event started, and all seats were taken within a half hour before the start time. One year later, in January of 2018, an auditorium for 120 people was filled a half-hour before the event was slated to begin.

Demand for this type of programming is high. While planning for PATH-eligible programming, organizers have the ability to limit attendance at the outset (minimum is 25) while being mindful of space constraints. This allows for flexibility in content

planning. Managing a large audience can be difficult, but with a well-designed workshop, it can be done.

Authorship: Porch Reads Book Club

Porch Reads is a book club for undergraduate students established at University of Dayton in 2005 to encourage recreational reading (Gauder, Giglierano, & Schramm, 2007). Named "Porch Reads," to invoke the tradition of porches as popular gathering places for informal discussions, the program was one of the early partnerships between the library and Housing and Residence Life. Although it originally was limited to sophomore students, Porch Reads was opened up to all students in 2012, and many of the book discussions are now PATH-eligible and correlate with the authorship learning goal.

To support the AVIATE curriculum, Porch Reads books are chosen to match the outcomes listed within the authorship goal and up to two books are chosen each semester. Books are selected by reviewing popular reading lists and looking ahead for books being made into movies. Students pick one of the books, get a free copy, and discuss it over free dinner (pizza, subs) and lively discussions led by faculty in the library classroom. Before PATH-eligibility, Porch Reads events would host an average of six to eight participants. Now, Porch Reads sign-ups for each book discussion is limited to 25 participants and fills quickly. The most popular books selected for this program included *The Girl on the Train* by Paula Hawkins and *When Breath Becomes Air* by Paul Kalanithi.

Donors fund the Porch Reads book club, so the books, food for the discussion, and a discussion leader honorarium are all covered by an endowment. A typical Porch Reads event costs roughly $500–$600, largely due to the book purchases. As a co-curricular event, the book talks carry a larger workload (or at least the expectation that students will read the books before attending the book talk) than many other events, so the participation numbers for a successful book talk are much smaller than other events. Offering free books and free food helps us to provide additional incentives to encourage even more reading.

Connection to Library Mission and Information Literacy

How do these connect to the library's goals overall and to its information literacy efforts? The library remains committed to these example programs and similar co-curricular opportunities because of their connection to the mission and strategic plan. The mission statement guides the library to enrich the intellectual and cultural life at and beyond the university, contribute to the educational mission, and "participate in the campus community and the wider communities, reflecting the University's Catholic and Marianist traditions" (University of Dayton Libraries, 2017, para. 2). Welcome Dayton's partnership with the library on the film series establishes space and time to explore complex issues as a community, striving to create a more informed citizenry. Partnering with the campus credit union allows the library to do its part in developing a financially literate student body. Porch Reads exemplifies the library's role in developing a strong culture of reading for pleasure while highlighting our leisure reading collection.

As mentioned previously, the strategic plan highlights co-curricular and extracurricular learning experiences as opportunities to advance student learning. All of these have enabled the library to expand collaborations with campus partners (faculty members,

credit union staff) and community partners (Welcome Dayton) to provide students with opportunities to extend their classroom experiences, spark their creativity, build their leadership skills, experience a diversity of thought, and achieve success.

Additionally, each of these events correlates with information literacy. The film series promotes the availability of films as sources of information (and inspiration). Guided discussions provide participants an opportunity to evaluate and understand the film and its themes. As a reading program, Porch Reads develops literacy through fiction and non-fiction offerings, which are carefully selected each academic year. Like the film series, guided discussions are a highlight of the program. In this respect, much of the information literacy gains for both programs center around the Scholarship as Conversation frame found in the Association of College and Research Libraries *Framework for Information Literacy for Higher Education* (2016). By engaging in these discussions, students are likely to demonstrate dispositions rather than actual skill acquisition; for example, these programs help students "recognize that scholarly conversations take place in various venues" (p. 21) among other dispositions. Additionally, participants develop their abilities to contribute to a scholarly conversation in each program's guided discussion.

Students participating in the financial literacy workshops develop money management skills and learn personal finance concepts. Here, too, the Scholarship as Conversation frame is an information literacy focus. By learning new vocabulary and concepts, students may also recognize that "not having a fluency in the language and process of a discipline disempowers their ability to participate and engage" (p. 21), another disposition associated with this frame. Given the attendance numbers at these financial literacy workshops, it seems that students are very eager to engage with this frame, although they likely would not articulate their learning goals as such.

This section highlighted the ways in which the library addresses AVIATE's learning goals of interculturalism, community living, and authorship. By participating in this program, the library supports not only its own mission and educational goals but also the university's educational mission.

Program and Steering Committee Discussion

By year two of AVIATE, several groups and individuals across the University Libraries had successfully sponsored PATH-approved co-curricular events. Library staff immediately recognized the value of such events but raised additional questions about how to streamline efforts and empower more library staff to sponsor programs and workshops. The current programming approach lacked any internal structure to coordinate the process, encourage new programming, and assess PATH-approved events. The AVIATE steering committee, then, was formed to help facilitate the already successful programming and to ensure that the University Libraries were tracking events that were developed and hosted by groups and individuals across multiple library units. The establishment of this steering committee came at a time when the Libraries were developing a strategic plan. One of the strategic directions, Advancing Student Learning, describes how the

libraries will "take an active role in student learning through curricular, co-curricular, and extracurricular learning experiences."

The AVIATE steering group is currently comprised of four members. The two co-chairs have staggered terms so that there is continuity from one year to the next. The only membership requirements are an enthusiasm for co-curricular learning and certification as AVIATE Campus Partner; Residential Life requires individuals to undergo training and passing a test with questions about the program's policies before becoming a campus partner. Although the workload is not overly burdensome, there is a time-based component to the committee activities, due to the September to late February time period that PATH-approved events are hosted. The steering group itself meets only twice a year: once in the summer to bring new and returning members together and begin planning for the fall semester and again in January to review fall semester activities and plan for spring. Summer committee activities also include: communication about AVIATE Campus Partner Certification Training opportunities; facilitating a brainstorming session open to all University Libraries staff to develop PATH-approved events, along with ideas for marketing and assessment; and serving as a resource for event-related questions. The group also shares a summary of event information with the University Libraries at the end of the fall semester and at the end of the academic year. This work is managed with a perpetual calendar that lists activities and deadlines for each month.

This steering group is relatively new and is continuing to develop its role within the library organization. In order to provide support for University Libraries staff who want to try a PATH-approved event, the committee has identified opportunities to help with logistical considerations, including a task checklist (Appendix A) associated with hosting a program, a calendar of library AVIATE events, and recommendations for programming spaces. Additionally, the committee is also looking at conducting an "Even Better If" wrap-up meeting for all program leaders to ensure issues may be addressed and ideas for continuous improvement are fostered. "Even Better If" is a strategy to facilitate discussion and collect feedback around a phrase such as "our event/meeting/program would be even better if…" Program planners are asked to complete the sentence with aspects that could be improved on. This is an effective strategy to ensure that the event wrap-up and discussion is open and positive while prompting participants to imagine additional possibilities.

As the library PATH-eligible programming grows, so too will the steering committee look at how to best help turn ideas into action. In particular, this group's efforts may help strengthen the library programs' connections to information literacy, special collections, and diversity in concert with the strategic plan. The steering committee could help brainstorm capabilities of hands-on workshop formats, interactive activities, and other creative opportunities where information literacy could be explored.

Assessment

Assessment is another area supported by the program steering committee. The committee coordinates the internal tracking and reporting of PATH-eligible events hosted or co-sponsored by the library. In general, library PATH-eligible programs are tracked and assessed in two ways. First, the event spreadsheet report is downloaded from OrgSync,

which provides the basic event information, such as number of participants and date, time, and title of the event. Participant data is not always consistent or accurate but typically includes name, major, and class year. Second, many of the library hosts have chosen to do an extra assessment, such as feedback forms and worksheets, which are described later in this section.

Like the high level of marketing support, Housing and Residence Life also provides helpful assessment statistics year to year to help us plan effectively. In the 2017–2018 campus partner resource packet, they listed the most popular days of the week for PATH-eligible events as Wednesdays, followed by Thursdays then Tuesday. The most popular times being 6:00 p.m.–8:00 p.m., followed by 4:00 p.m.–6:00 p.m. and then 2:00 p.m.–4:00 p.m. Additionally, participation trends show that students are more likely to attend an event that is listed as 60 minutes as opposed to events listed as 90 minutes.

The library steering committee's assessment of library PATH-eligible programs aligned with these overall trends and show a significant growth of participation over time. Since academic year 2014–2015, the total number of library-sponsored or co-sponsored events is up by 50% and make up 10% of campus partner events overall. The total number of attendees at library events is up by 41%. The average number of attendees per event is 30.

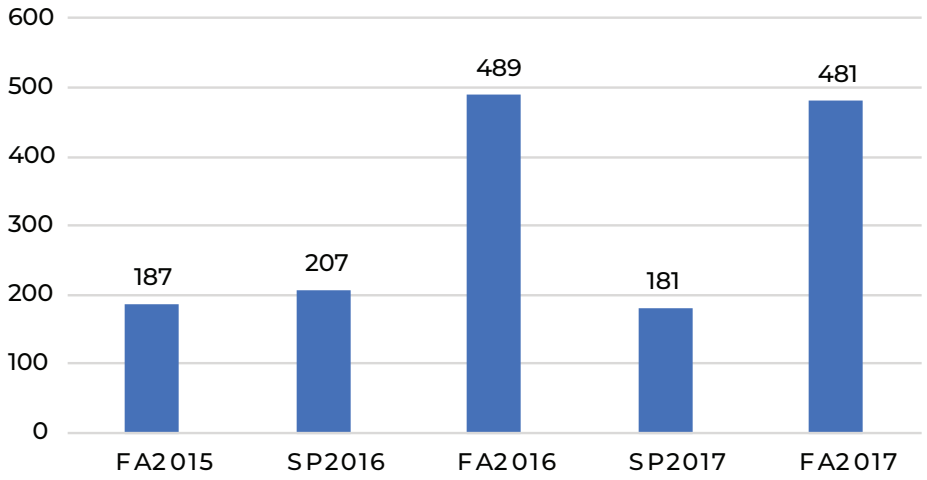


Figure 3.2.
Attendance at library-sponsored AVIATE events, 2015-2017

Since numbers may not tell the whole story, some library planners have included feedback forms and worksheets to gather additional information for assessment and planning purposes. A popular format used by multiple planners is the "I liked, I learned, I suggest" feedback. These responses provide qualitative feedback that can gauge student learning and engagement as well as suggestions for future topics.

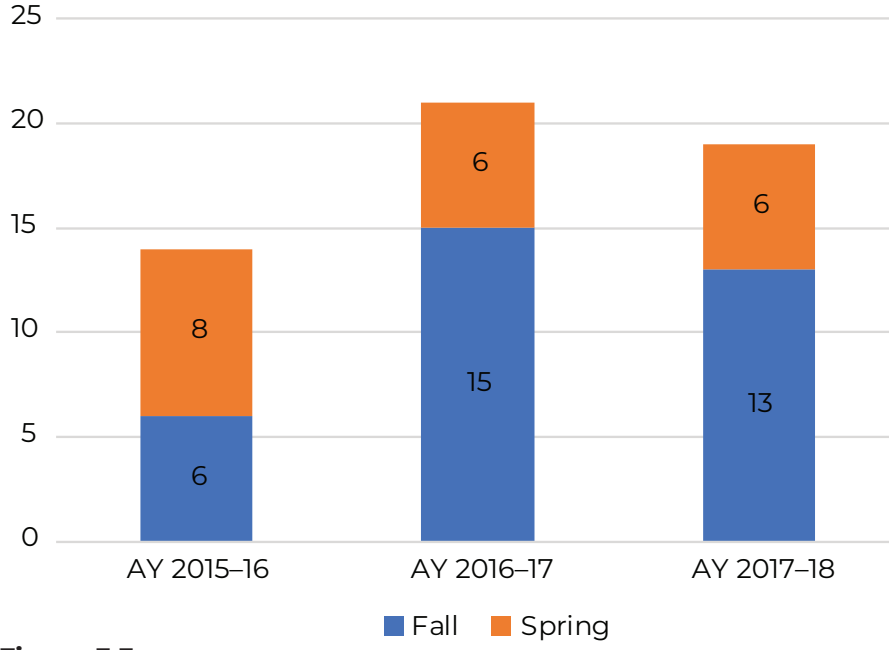


Figure 3.3.
Number of library-sponsored AVIATE events, 2015-2017

Although this format does not yield true assessment results, they begin to help construct a picture that learning is happening. For example, at the House & Home History workshop, students indicated that they learned "A lot about the history of the student neighborhood," "That many of the street names changed through the years," "That there are databases we can access to learn about historical people from around here in the Udayton.edu site," and "That looking up and finding out history is both easy and fun." Students clearly engaged with the workshop materials, as indicated by the fact that they can point out historical changes to the street names, that they are aware of library resources, and that they think this research is fun! Feedback in the "I suggest" category indicate that many of them want to learn more about the history of the student neighborhoods and houses they will be living in, as well as the university's history and their own personal backgrounds.

Benefits of PATH-eligible Programming

One of the most obvious benefits of the PATH programming is that the library has been able to realize an unprecedented number of student attendance at its co-curricular offerings. At a recent financial literacy workshop, for example, more than 100 students showed up. Knowing that these events are likely going to draw an audience, library staff can create and offer programs with confidence, where such would not have been the case

before. Librarians have been able to conduct programming around a number of themes, including diversity and inclusion, but also—and more specifically—workshops that explore information literacy in the contexts of academic research and lifelong learning.

Another benefit of the PATH programming has been the opportunity for any library staff to develop and host an event. As long as the host is certified and can articulate how the event addresses one particular learning goal, any staff person can sponsor an event. This programming is not just the sole responsibility of library units traditionally engaged in instruction and outreach. Within this library, for example, the Diversity & Inclusion Committee, the University Archives, and members of the instruction team have sponsored events. The library's own AVIATE steering committee seeks to help any library staff member host an event in the hopes of encouraging more staff to explore programming opportunities.

In addition to library groups and individuals sponsoring events, PATH programming has facilitated outreach with organizations and departments across the university. The library has partnered or co-sponsored events with the campus credit union, the Women's Center, Student Government Association, the Human Rights Center, the student Amnesty International chapter, as well as with community groups like the Dayton Human Relations Council and Welcome Dayton. These co-curricular programming opportunities play upon a role that comes easily to many libraries, that of a community connector. This programming has facilitated connections and partnerships that have enhanced existing relationships or developed new ones.

The connections and partnerships have worked well, largely due to the fact that the multiple library teams and staff manage the relationships. There is no single library group responsible for managing the campus and community groups, and the teams and staff work independently with the relevant group to plan and host PATH-approved events. For example, the business librarian works directly with the credit union to plan the financial literacy workshops, and the library diversity team partners with Welcome Dayton to host the film series. Additionally, a shared calendar allows library staff to see upcoming PATH-approved events, which minimizes the likelihood (although not always) of competing library-sponsored events on the same day.

Just as the library has been able to enjoy stronger community connections, other stakeholders enjoy benefits from this programming as well. Welcome Dayton, for example, uses the film series as an opportunity to educate and inform students about the growing immigrant communities in the area. New student audiences get information about the types of connections immigrants seek when they arrive in Dayton. It helps with awareness about immigration issues and policies. More indirectly, when information about a PATH-approved genealogy workshop was shared with the history department, several faculty offered extra credit for students to participate in the session. In the case of the student Amnesty International chapter, they were able to host a PATH-approved event because the library, a certified AVIATE partner, was co-sponsoring the event.

This co-curricular programming opportunity has also been a tremendous benefit to one of the libraries' central roles of teaching information literacy skills. The library's PATH-approved programming events take many forms—film showings and discussions, book talks, workshops, and more—but in particular, the workshops provide a means to engage students with resources and issues central to information literacy. In moving

beyond the classroom, these workshops still support academic learning, but they also allow the libraries to focus on developing lifelong information literacy skills. The AVIATE program learning goals of authorship, community living, and interculturalism can easily mesh with information literacy learning outcomes.

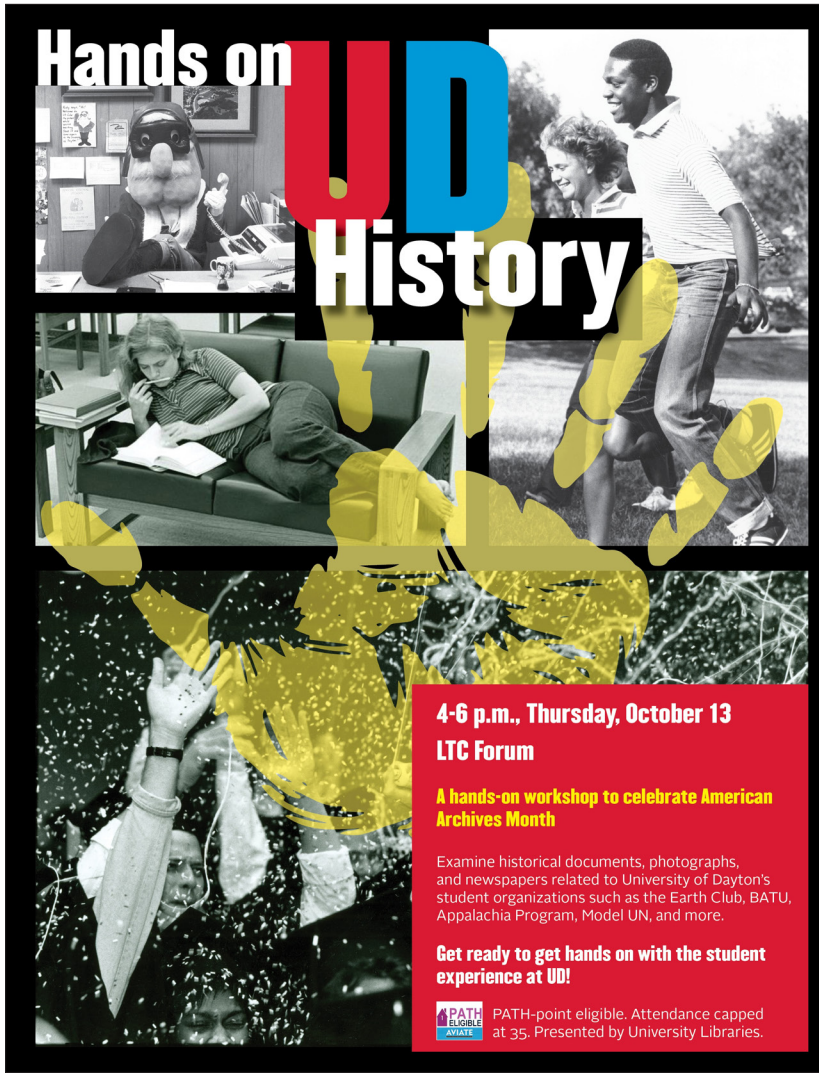


Figure 3.4.
CC-BY. Promotional flyer for a hands-on UD History workshop, designed by Ann Zlotnik. Rudy Flyer photo by Julia Laufersweiler, 1985; student on sofa photo by John Moreau, no date; graduation celebration photo by Larry Burgess, 1995; three-legged race by UD Information Services, no date

For example, a "House and Home Histories" workshop used authorship as a learning goal. This workshop taught them how to explore the residential neighborhoods that surround campus using Ancestry Library and Sanborn Fire Maps; the exercise is particularly meaningful, as many students live in the neighborhoods and in the very houses they are exploring. Using a guided worksheet activity (Appendices B and C), students learned about who lived in these houses and gained context by using cost-of-living calculators and exploring the songs and music from that time. In researching the neighborhoods in which they live, students also worked toward the authorship learning goal by engaging with the history of the university's surrounding area, which was once a working-class neighborhood. Additionally, researching their own background may help them recognize their own identities and values.

These co-curricular activities also allow for a different level of engagement, as students are choosing to be there. Their primary motivation may be housing points, but at some level, there is also likely a personal interest in the program offerings because there is typically a wide selection of opportunities on any given day. Moreover, because library planners are not responding to a course-based need, the presenters set the parameters for the session; they can explore topics of personal interest and go as in-depth as they choose. In particular, the hands-on workshops have allowed students to explore information literacy topics that tie more directly to their personal lives.

As sponsors of PATH-approved programs, the University Libraries are contributing to an even more meaningful and deliberate experience for University of Dayton students. This programming allows the university to differentiate itself from other campuses, as students have so many more opportunities to learn outside of the classroom than at other universities. The programs sponsored by the libraries not only support the three learning goals of the AVIATE program but a number of the programs also speak to the University Libraries' overall mission and information literacy goals.

Challenges of PATH Programming

The growth of PATH-eligible programming presents some challenges to the steering committee, hosting librarians, and attendees. The first step of taking part in this program is certification as a PATH campus partner. First-timers attend an in-person workshop for certification while recertification requires passing an online test that covers material presented in the campus partner resource packet, which is updated every year (and the test covers many details that are easy to overlook). Certification, therefore, is not immediate and has to be renewed every school year. This ensures campus partners are in step with the policies, procedures, and goals of Housing and Residence Life.

Once a person is certified, other difficulties involving logistics arise. Space constraints are an ongoing issue for campus events in general but for PATH programming especially. The UD campus only has a handful of auditoriums, many of which are reserved for music and theater performance or classes. The library has a flexible classroom, the Collab, which seats 35 people in rounds or a maximum of 50 in rows. Even with the Collab at maximum capacity, events hosted here have gone slightly over, students have been turned away, and the events begin early once all the seats are filled. The auditorium events have also been full, which presents a classroom management challenge. It's

helpful to set expectations (no laptops, phones) and announce when and how students will swipe their ID for credit. (It's recommended that facilitators have one swiper and laptop per 50 attendees.)

Although in the past librarians would never imagine double-booking for events, with PATH programming, library planners frequently host multiple events in one night that may overlap with other events going on, even other library-sponsored PATH programs. Multiple events help spread out attendance numbers, but that can be a good thing. Timing and scheduling are issues in the sense that the calendar for PATH programming ends about two months into spring semester so points may be tallied and the housing assignment process may begin. This creates a crush of scheduling pressure within those two months, whereas in fall semester the demand for programs is spread out.

PATH-eligibility usually guarantees a good turnout, but some library programs are not submitted through the process for many reasons. Sometimes organizers would rather foster a small, engaged group of people on a topic, rather than a large group that can present challenges. For example, in the winter of 2017, the library partnered on a bystander intervention workshop in conjunction with an exhibit, *Ferguson Voices: Disrupting the Frame*, which had its inaugural show in the library gallery space. Although the bystander intervention program met the learning goal of community living, the event organizers made a conscious decision to promote the event through other avenues like print advertising and faculty members. Recently, a PATH-eligible film screening of *I Am Not Your Negro* hosted 16 students, a comparatively low number to the rest of the semester's films. However, the library planner reported that the facilitated discussion, led by a graduate student leader in the Office of Multicultural Affairs, was of higher quality and substance than the screenings with larger groups (50 students). PATH point eligibility ensures attendance but not always engagement. These instances show that it takes a nice balance between larger events that accommodate many people (e.g., lectures, panel discussions) to smaller, more intimate events (e.g., book talks, film screenings, discussions). Accomplishing information literacy goals with activity-based learning and engagement can be difficult in the midst of a crowded room. Unpredictable crowd numbers place a high level of importance on planning. It's better to have questions prepared for a facilitated discussion instead of an open question-and-answer time period.

Library planners have felt these challenges of success even as University of Dayton students adjust to this "new" requirement for gaining placement in the housing assignment process. Some students may not choose to be engaged or attentive at an event, just because the process of getting PATH points may feel frustrating and time-consuming. However, as the final classes of students that knew UD "pre-AVIATE" graduate, the students that come in will only know campus culture with AVIATE in its current form.

Going Forward

Librarian participation in planning PATH-eligible programs has increased significantly, which supports the libraries' focus on student learning as one of its strategic priorities. The purpose of the steering committee was to develop a sense of inclusivity and support for people in the library interested in program planning. Additionally, the steering committee saw a cultural shift of instruction outside of the classroom even before

AVIATE was initiated. This is starting to change the perception of the role of library staff, even beyond the instruction team.

The changing role of librarians is a topic that will always progress alongside evolving campus and community needs. University of Dayton expects continued growth of first-year student class sizes while it differentiates itself from other schools by offering its campus housing and residential curriculum. A demand for PATH-eligible programs will continue, but there are no known plans to adjust the workload for librarians to focus on planning co-curricular opportunities. Presently, planning PATH-eligible events is voluntary. Encouragement comes from the steering committee and not supervisors directly. The positive outcomes from events will hopefully sustain the enthusiasm for planning.

Other outcome measurement is an area of potential growth for program planners. Although Housing and Residence Life offers their own learning goals through AVIATE, the university has institutional learning goals (ILGs) and looks to the library and other academic departments to provide evidence of student learning. Individual planners could look at addressing the university's ILGs in their programs, with assistance from the steering committee. To support the library's strategic priority of advancing student learning, some planners are also looking at information literacy outcomes, such as those offered by the *Framework for Information Literacy*. Planners may look closely at those while considering the content and format of their programs while addressing the learning goals of interculturalism, community living, and authorship.

Space is, fortunately, a challenge that the library is seeking to address in its upcoming renovation. Design and planning for the renovation include a new classroom with increased capacity, a Scholars Lounge enclosed space, and an open, flexible area with audiovisual technology that can accommodate up to 250 people. These new spaces should help ease the pressure for programming space in the library and on campus in general. The AVIATE curriculum is expected to continue the growth of campus programming for students.

Takeaways for Other Libraries

Even for libraries without a campus setting like the University of Dayton's, this chapter offers several considerations for co-curricular learning opportunities. One of the key aspects of success is that the sponsorship of co-curricular events moved beyond the instruction team. Although instruction team members sponsored some PATH-approved events, other events are hosted by library archivists, members of the libraries' Diversity & Inclusion committee, and other staff who are program certified. With a more diffuse approach to co-curricular programming, the library is able to promote information literacy, along with library services and collections, in new ways to new audiences. This provides an opportunity to examine institutional culture and workload as well. If co-curricular programming is valued and desired, how can the library consider broadly what units, teams, or individuals might offer an event? Can anyone and everyone take on a role?

The co-curricular programming also reflects UD's library values and mission. Part of the mission is to "respond to diverse and changing user needs," so that the library can "empower learning, scholarship, and creative expression." Thus, the library is able to serve as a welcoming place for all, as a place for the exchange of ideas, with programming that focuses on topics that are relevant to students' lives. Other libraries could look to their

own mission statements as a basis for articulating the need and value in co-curricular programming. Libraries can likewise examine their collections and services for topics that showcase the library in support of campus learning. For example, special collections and archives contain unique items with interesting stories: How might a co-curricular event be developed with these objects in mind? If a library does not have a special collection, what resources are already present and how might libraries connect with other campus constituents? UD library's subscription services to DocuSeek2 and Kanopy streaming video means that co-curricular programming becomes less about securing resources and more about connecting with relevant campus groups to co-sponsor relevant films and promote meaningful dialogue afterward.

By looking at the strengths of a library and its collections, librarians have an opportunity to enhance learning outside the classroom. Doing so also provides a chance for outreach and collaboration. Library liaisons could reach out to academic departments and work together to identify topics that could supplement classroom learning; if a workshop was developed, then the outreach could also help draw in audiences with extra-credit opportunities. Libraries would do well to seek outreach possibilities with not just academic units but also consider working with academic support departments like a writing center, with other student support areas, such as a multicultural affairs office or a women's center, or even student groups, like student government. In creating events with other campus groups, there is an opportunity to share the workload, increase communication and marketing efforts, and avoid disappointing attendance numbers.

Outreach and collaboration have been strong components of UD's co-curricular programming across campus and within the library. For libraries on highly residential campuses, the campus housing or residential life units offer the potential to be strong allies in co-curricular learning. Even without a similar AVIATE program, many residential life offices conduct programming within the residence halls. Within the library, an all-staff brainstorming event could bring different units together and inspire one another.

Conclusion

As UD librarians consider co-curricular programming, it becomes clear that strengths include collaboration and creativity. With the AVIATE model, those strengths are fostered and built on by designing programs with partners that address campus learning goals. Library planners come together and serve as resources for inspiration and guidance. They share victories together, such as full events and heartwarming discussions or feedback. Open communication encourages sharing ideas for what could be better next time. The steering committee provides a structure for planning successful events and reporting results effectively.

This chapter details one library's work within a campus-wide program. UD's Department Housing and Residence Life deserves praise (and resources!) for building AVIATE and thoughtfully inviting campus partners to create PATH-eligible events to support it. Perhaps their learning goals and structure will inspire other libraries or universities to think about enriching a student's living and learning experiences on campus. UD library's approach does not limit co-curricular programming to the instruction department or team; rather, multiple library teams and departments are able to facilitate information literacy learning across many programming possibilities.

Appendix 3A: Checklist for Hosting a PATH-eligible Program

Checklist for hosting a PATH-eligible program

This list is intended to help library staff with hosting a PATH-eligible program. Please also refer to the ***Campus Partner Resource pack*** on OrgSync to verify that you are meeting the PATH-eligible program guidelines.

Planning for a PATH-eligible program

☐ Make sure you are certified as an AVIATE campus partner.

☐ Determine, at minimum, the date, location, and event learning outcome (Authorship, Interculturalism, or Community Living). Verify the date and location against the AVIATE calendar in OrgSync; try not to schedule multiple library events for the same day.

☐ Submit an Event Request form at least 15 business days before the event. You will receive an email regarding approval of your event.

☐ If you wish to host the event in a library space, book the space with the appropriate room manager. (It's easier to cancel an existing booking than it is to add a booking at the last minute.)

Communicating your PATH-eligible program

☐ Event approved. Congratulations—you are on your way to hosting an event!

☐ Review and approve the event posting in OrgSync to verify the information is correct.

☐ Students will see your event posted in OrgSync. If you want the library to announce your event, work with Katy Kelly to create messaging for social media, a blog post, or a flyer.

Preparing for the event

☐ Do you want to conduct any assessment? See the AVIATE steering committee for ideas.

☐ The library has swipe card equipment. Be sure you know how to use prior to the actual event.

☐ If the event is to be hosted in a library space, let the Building Services staff know how you want the space to be set up at least 24 hours in advance.

☐ An AVIATE campus certified partner must be present for the event. If you are unable to attend, make arrangements for another partner to be at the event.

☐ If there are any changes to the event date, time, or location, notify the AVIATE staff (aviate@udayton.edu) as soon as possible so that they can make changes to the OrgSync posting.

☐ The AVIATE Co-Curricular Educators (ACEs) often conduct the participation swipes for the library events. The event host is responsible for the swipe equipment, not the ACEs, so bring the equipment to the event.

Appendix 3B: House & Home Worksheet

House & Home Workshop

* Required

1. **Email address** *

2. **House address** *

3. **Use Ancestry Library to search for that address. Who did you locate at that address?** *

4. **Where was this person's name listed?** *

   Mark only one oval.

   - City Directory
   - Census sheets
   - Other: _____

5. **If you did not use the Census, see if you can locate him or her on the Census. What year are you looking at?**

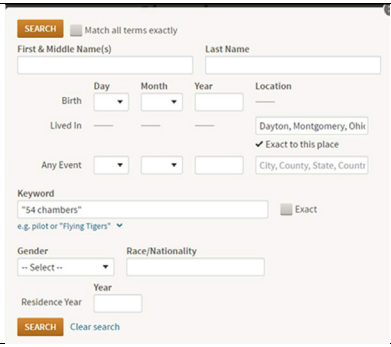
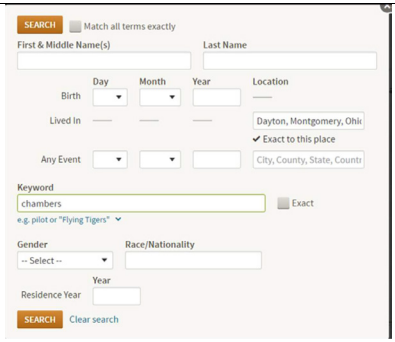
6. **Name one interesting fact you learned about this person/family from the Census** *

7. **Less than 2 miles away, Orville Wright built a house in Oakwood. Locate Orville in the 1930 or 1940 Census. Name one interesting fact you learned about Orville from the Census.** *

8. **Use one of the websites from the Research Hints worksheet and search for information that gives you additional understanding of life back then. You can search for movies or music or the Sears catalog; you can also see what the dollar values mean in today's terms. Name one interesting fact you learned from one of these websites.** *

Appendix 3C: Research Hints

Searching Ancestry Library — Hints

Try this search first:	No luck? Move to Plan B, then
a. Limit to "Dayton, Montgomery, Ohio, USA" for location b. Check for Exact to this place c. Under keyword, search for address. Use quotes around address. Example: "54 chambers"	a. Search for location the same way: Dayton, Montgomery, Ohio, USA b. Check for Exact to this place c. Under keyword, drop the address number and quotes. Simply use street name. Example: Chambers
	

MORE ANCESTRY LIBRARY HINTS
You might not be able to find the house that you are researching, but nearby is also good. Use Google maps (maps.google.com) if you want to see what the house currently looks like. The 1930 enumerator for areas around UD had better handwriting than the 1940 enumerator. The neighbhorhoods around the University of Dayton are in Ward 9 In 1918, Stonemill Street was called Hughes. Alberta extended all the way to Irving (is now known as Frericks Way) Orville Wright was born in Ohio and his father's name is Milton. In 1930, he lived on Harman Ave.

WHAT WAS LIFE LIKE BACK THEN?
Playback.fm: Lists the #1 movie from a particular day in history: http://playback.fm/birthday-movie You can also search for the top radio song for a particular day: http://playback.fm/birthday-song Measuring Worth: this website translates income, house value, and consumer products into today's values (1774-present): https://www.measuringworth.com/ View a Sears catalog, 1896-1993: http://search.ancestrylibrary.com/search/db.aspx?dbid=1670 See Orville Wright's house: https://www.daytonhistory.org/visit/dayton-history-sites/hawthorn-hill/

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Chapter Four

Cycles, Conversations, and Creation:

Introducing Research Culture through Research Posters

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Information Literacy and Undergraduate Research Culture

While research opportunities programs exist for undergraduate students, they may not have the chance to fully experience research culture at this early academic stage. With the shift from the Association of College and Research Libraries' (ACRL) information literacy standards to the *Framework for Information Literacy for Higher Education* based on threshold concepts, new roles for librarians are being defined:

> The *Framework* will help librarians contextualize and integrate information literacy for their institutions and will encourage a deeper understanding of what knowledge practices and dispositions an information literate student should develop. The *Framework* redefines the boundaries of what librarians teach and how they conceptualize the study of information within curricula of higher education institutions (ACRL, 2015).

In these new, evolving roles, librarians can consider collaborating more closely with faculty to engage undergraduate students in research culture. Given the emergence of

such threshold concepts as Research as Inquiry, Scholarship as a Conversation, Information Has Value, etc., a research poster session provides the ideal setting to engage undergraduate students in research culture while introducing them to these information literacy concepts as well. In addition, librarians' involvement in poster sessions and conferences provides another learning opportunity for students outside of the classroom. The aim of the study was to review and discuss the pedagogical value of teaching information literacy through research-related events such as poster sessions as well as discuss structuring the workshops or poster sessions to better engage undergraduate students.

Literature Review

Social Interaction

Poster sessions can facilitate learning through social interactions. Jarvis writes:

> The active construction of understanding takes place during interaction with more knowledgeable or experienced tutors or co-learners, hence effective education depends principally on the quality of interaction that characterises learning activities (2005, p. 173).

Baird (1991), Sisak (1997), Bracher et al. (1998), Orsmond et al. (2006), Johnson and Green (2007), and Stewart (2008) indicated in their studies and observations that students identified the social interactions and networking as an important part of the poster session experience. In a study with class-based poster sessions with pre-service teachers, Stewart found that "students enjoyed sharing and hearing about their classmates' experiences…. [F]rom this interaction, students 'learned a lot from listening to others' service learning experiences'" (2008, p. 87). The interaction with faculty, staff, and other students can encourage discussions about the students' research. Often, students can obtain feedback through the poster session format, which is a less intimidating context, versus more formally presenting to a large class as an individual.

Class-based Learning Tool

Some of the literature also discussed how posters can be used as a learning tool to present content. Baird (1991), Akister (2000), Mills et al. (2000), Kinikin and Hench (2012), and Altintas et al. (2014) found that the medium was an effective format for learning content in a class setting. Baird (1991) found that most students who participated in a poster session course assignment learned content relevant to the course or topic. Waters (2015) also found that the class-based poster assignment was an ideal vehicle for students to apply both their writing and information literacy skills within the context of their field of study and to "exemplify how the skills students were building could be used to their immediate and future benefit" (Waters, 2015, para. 10). In Baird's study, 73% of the students indicated favourably to the statement: "by viewing other students' work, do you feel you were able to gain more information about other topics that interested you?" (1991, p. 29). In the context of a managerial accounting course, Altintas et al. discussed how posters can allow students to "improve critical thinking, foster independent learning, and aid them in appreciating the role a

particular methodology plays in understanding managerial accounting topics" (2014, p. 200). Using poster presentations as an assignment in a classroom environment can help encourage students to present their research in a different format as well as begin a discussion on research culture.

Research Culture

The social aspect of poster sessions introduces students to the culture of dissemination in a conference-like environment. Students who engage in discussion with other students regarding their research are learning to share their results with their peers and are engaging in research culture. Tan (2007) and Hensley (2013) discuss how undergraduate students can participate in various research culture practices and gain skills relevant to the development of their academic career. Tan (2007) found that students who present the findings of their research projects in a paper or conference, developed "confidence, research skills, and their teamwork, communication, problem-solving and higher thinking skills" (p. 211). Hensley (2013), on the other hand, identifies an opportunity for librarians to introduce undergraduate students to scholarly communication. Hensley (2013) writes:

> [P]ublishing original student research in the institutional repository also initiates an opportunity for creators of knowledge to curate their own collection. Students are brought into the world of information organization by participating in the process of choosing what to preserve, considering issues related to intellectual property, and generating the meta data attached to their materials (p. 127).

For undergraduate students who want to pursue a graduate degree, poster sessions can give these students a glimpse into academic research and conference culture.

Background: St. Michael's College Undergraduate Research Forum

In 2014, the John M. Kelly Library collaborated with the St. Michael's College Principal's Office on the inaugural Undergraduate Research Forum initiative. The purpose of the event was to promote research culture with undergraduate students. The forum participants created their poster based on research papers and projects they had already completed and presented their work at the forum hosted in the library. Students were also competing for a $500 award, and winners were selected based on judges' evaluations of their treatment of the subject. Any feedback written by judges were sent to participants after the event. In 2015, in response to a significant shift in participant subject areas toward the sciences, the award categories were changed to best poster design, best poster presentation, and most innovative research project.

To introduce scholarly communication concepts to undergraduate students, the Collaborative Learning Librarian also offered a series of workshops in 2014 and 2015 to the forum participants. To provide stronger discipline-specific support, the collaborative

learning librarian collaborated with the liaison and instruction librarian at the Gerstein Science Information Centre to design and deliver the workshops. In 2014, since the 35 participants' disciplines spanned across the humanities, social sciences or sciences, the workshop content was altered depending on the discipline. However, after feedback from the previous year's workshops, the librarians reviewed and re-designed the 2015 workshops for the poster sessions. In 2015, a total of 13 participants applied and presented their research as a poster.

Poster Session Workshop 2014 vs. 2015—Content and Structure

The initial instructional design of the workshop was developed to provide support to undergraduate students with no experience in creating and presenting a research poster. However, after the inaugural Research Forum, the librarians examined the feedback as well as consulted the new ACRL *Framework for Information Literacy for Higher Education* to develop a workshop that engaged undergraduate students more in the information literacy aspect of disseminating their research.

Poster Session Workshop 2014

In 2014, the workshops began with a lecture explaining the publication life cycle with six stages:

- developing an idea;
- presenting preliminary findings at conferences;
- reporting through technical reports or theses;
- publishing in scholarly journals;
- disseminating research via popular sources; and
- generalizing through publications such as reviews and textbooks (Green, n.d.).

This was followed by content on conference culture, the purpose of poster sessions, and presentation and poster design tips. Two exercises were given: (1) students were asked to evaluate the strengths and weaknesses of sample research posters from their subject area, and (2) a hands-on poster design tutorial using PowerPoint.

The "good versus bad poster" exercise was aimed at encouraging students to utilize their analytical skills. The exercise included showing them examples of research posters of varying design quality, and asking them to discuss as a group what features were appealing and what features detracted from the content. Students were shown several online poster collections, including Pimp My Poster, a research poster Flickr group (Purrington, 2008) aimed at sharing posters among the research community and getting feedback from their peers. In addition, students were introduced to numerous Creative Commons image resources, such as CompFight and Flickr, as well as to responsible citation and use of images. This led to the hands-on PowerPoint lab activity which was focused on introducing undergraduates to tools and resources for creating their posters. Students were also provided with helpful resources and tips on poster printing as well as the logistics of the events.

Poster Session Workshop 2015

The goal of the 2014 workshop was to better prepare students for the conference experience by helping students develop their oral and visual communication skills. Following this workshop, there were several skills that students felt that they learned, including learning to translate research into a different medium and for a different audience as well as increased confidence. However, the strongest takeaway skills or experience mentioned by participants were less related to information literacy and more rooted in technical and communication skills, such as poster and presentation design.

Zepke (2013) stresses that "engaging learners with threshold concepts means that teachers …are keen to have students construct meanings for themselves by reflecting, questioning, conjecturing, evaluating, and making connections with threshold concepts." As a result of the 2014 workshop feedback and to focus on strengthening students' understanding of the conference experience and purpose of the research poster in the research process, the following year's workshops were redesigned and incorporated learning outcomes guided by the following threshold concepts: Scholarship as a Conversation, Research as Inquiry, and Information Has Value (see table 4.1).

Table 4.1.
Comparison and Changes to the Workshop

	2014	2015 [Note: Content changes are bolded]
Duration	1.5 Hours	**1 hour**
Instructors	2 librarians	2 librarians Previous year's poster winner
Activities	• Activity 1: Good vs. bad poster comparison exercise • Activity 2: Hands-on PowerPoint Lab	• **Activity 1: Interactive Information Life Cycle Activity** • **Activity 2: Critique of past forum winner posters**
Content	• Information Life Cycle • Conference Culture • Presentation Skills • Poster Pros and Cons • Poster Forum Logistics	• Information Life Cycle • Conference Culture • Presentation Skills • Poster Pros and Cons • Poster Forum Logistics

The first activity in the redesigned 2015 workshop adopted a guided inquiry-based learning approach. To help students better contextualize how the research poster fits into the larger research landscape, students participated in a two-part icebreaker activity that asked students to work together to identify and reorganize "products" of research output (e.g., book, journal article, review article, grant, thesis, news report, etc.) into a meaningful information cycle (see figure 4.1). This was a departure from the previous year's more passive lecture approach that had the librarian merely explain the information cycle to students via a PowerPoint diagram.

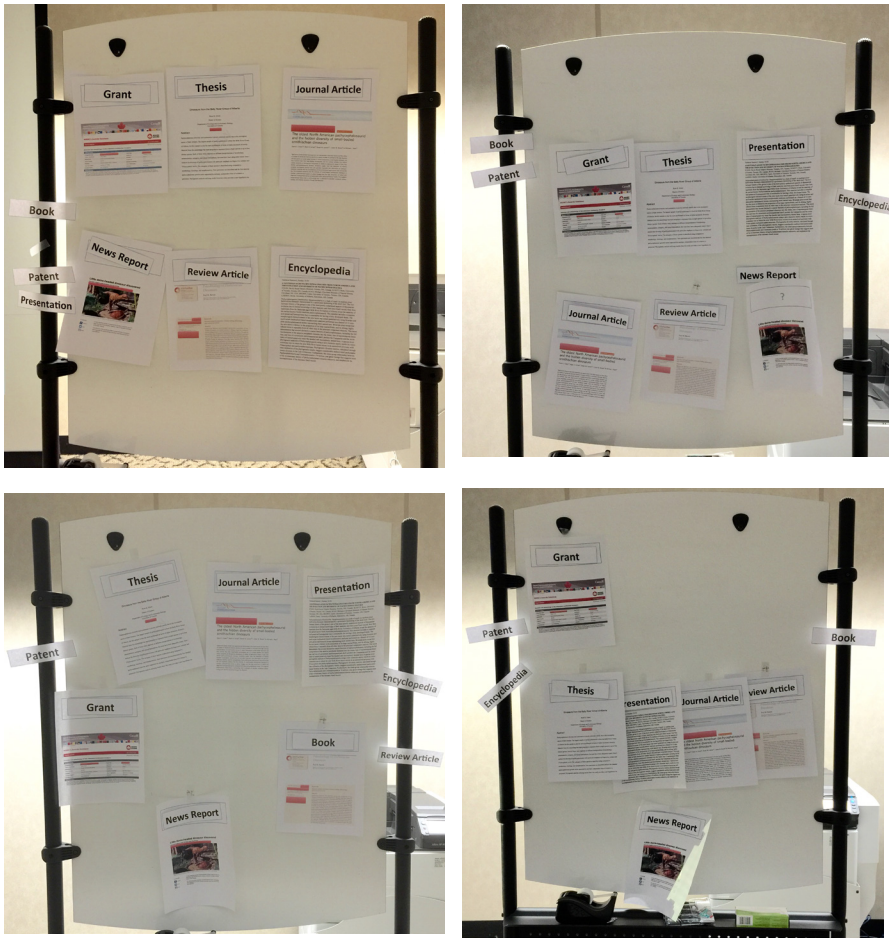

Figure 4.1.
Examples of the Information Cycle Activity

The information life cycle activity was adapted from the work of two colleagues from the University of Toronto Mississauga and McGill University. The original 2014 activity presented library workshop attendees with the information cycle based on concrete examples drawn from the research of a professor from their institution. In the alternate 2015 version, the information cycle activity was adapted into a hybrid whiteboard activity tailored for a smaller classroom or individuals. One key goal of this activity was to draw out the ACRL information literacy threshold concept of Information Creation as Process, where students had to first correctly identify the publication format of six printed copies of different "research outputs" by matching it up with one of the following nine paper labels provided:

- Book
- Encyclopedia
- Grant
- Journal article
- News report
- Patent
- Presentation
- Review article
- Thesis

The latter part of this exercise, which asked students to then arrange these "products" of research output into a timeline, was aimed at conveying the threshold concept, Scholarship as Conversation. Extra distractors were purposely included to make the activity less straightforward and to prompt deeper analysis, and students were asked to discuss the answers in smaller teams. Once the teams finalized their answers on the whiteboard, the librarian reviewed the correct choices, provided an explanation for the errors in some of the format identification and chronology and presented a diagram of the information cycle to reinforce these points. This led to content on conference culture and its role in the information cycle.

Additionally, the second activity, previously a poster comparison exercise, was changed in the 2015 workshop to a poster self-critique and discussion led by the 2014 forum winner. The previous year's winner also provided practical tips and tricks for presenting to faculty and served as a mentor for the participants. These two new exercises aimed to help students develop a greater understanding of how research posters contribute to an ongoing scholarly conversation and connect this to their own experience. Through identifying the relationship between posters and other forms of research output, students learned how posters are often considered a nascent stage of research dissemination and more exploratory in nature than the journal article or book. Discussion on access issues associated with grey literature, like conference posters as well as on citation, plagiarism, and use of copyrighted versus Creative Commons-licensed images was included to help students acknowledge and value these types of information. Other topics covered remained the same, including conference culture, presentation skills, poster design, an overview of image resources, and day-of logistics.

Methodology

After the 2014 poster session event, the 35 participants were sent a link to a survey about the event and workshops. The survey asked a series of questions, including the three things students learned from the workshops and then a question about the Research Forum. In 2015, while students evaluated and discussed during information cycle group activity, observational notes were taken by one of the librarians. At the end of the workshop, a paper feedback form with a "Stop, Start, Continue" format was also distributed to attendees.

In 2014, the survey was distributed online after the forum, which allowed students to reflect on the entire experience and was convenient for the undergraduate students. In 2015, the students were asked to complete a reflection activity in relation to the workshop alone, as the results from the previous year indicated that certain aspects of the workshops could have been improved. The activity was distributed in person at the end of the workshop to increase the previous year's low response rates. The students were asked to sign a consent form, and all data collected from the survey were anonymized

to protect the identity of the participants. The librarians reviewed the results and coded data collected from the survey and the activity. Research ethics from the University of Toronto was approved to evaluate these activities.

Results

Participants

In 2014, 66% of Research Forum participants responded to the online survey. A majority of the study participants were in their third or fourth year of study and were interested in pursuing graduate studies. There were more participants in a program of study in the area of the social sciences and the humanities. Overall, close to half of the study participants had poster experience, although most science participants had prior experience with presenting or creating posters. By comparison, in 2015, there were fewer Research Forum participants, with 13 students. However, the majority of the students responded (77%). There was a mix of students in the first to fourth year of study and all students were interested in pursuing a graduate degree. Interestingly, there was a distinct shift in the participants' subject areas, with only one student in the humanities and the rest of the study participants enrolled in a program of study in the area of the sciences. Forty percent of respondents indicated that they had no poster experience. Also, a majority of the participants from both years were planning on applying to graduate school or had already been accepted to a graduate program.

Workshop Feedback

In the 2014 workshop feedback, there were several skills that students felt that they learned, including learning to translate research into a different medium and for a different audience; they also had increased confidence. However, the strongest takeaway skills or experience for participants were less related to information literacy and more rooted in technical and communication skills, with nearly half of respondents mentioning poster and presentation design in response to the question, "What skills or experience did you take away from the Research Forum?" There were no comments or indications of the concept of the research life cycle that was introduced at the beginning of the workshop. It is important to note that some students identified more than one skill or experience in their responses.

By comparison, the information cycle activity from the 2015 workshop was not only mentioned but was positively received: four out of ten students specifically called the research cycle exercise "effective" or "helpful" as compared to only two out of 35 participants in the previous year where this concept was only explained via PowerPoint lecture. One student noted that the content about research in the information cycle was "otherwise not normally mentioned."

Discussion

Study Limitations

Feedback from 2014 and 2015 about the workshops and Research Forum was administered in different ways, so a direct comparison could not be made for certain aspects. In

2014, an online survey was distributed to participants after the workshops and Research Forum and included several questions that asked students to reflect on the overall workshop and forum experience. In 2015, the survey was distributed on paper immediately after the workshops and was changed to a "Stop, Start, Continue" format—only three simple questions asking students to tell instructors what to start doing in these workshops, to stop doing, and to continue doing. The reasons why the survey changed the following year was because not enough specific feedback was given about the workshops in the longer survey, and the shorter questions were intended to serve more as direct prompts for reflection about the workshop content. As a result, the feedback about the workshop content and structure was more constructive and concise because of the shorter format.

Another limitation is the difference in the sample size (in 2014, there were 23 respondents out of 35 participants compared to 2015, which had 10 respondents out of 13 participants). However, demographic proportions were similar in terms of a higher number of upper-year students in both years.

Skills to Concepts

In the initial 2014 feedback, students identified skills-based learning outcomes rather than a conceptual understanding of the publishing process in academia. Based on this feedback, the librarians re-examined the content and structure of the 2015 workshops, starting by teaching the concept of the information cycle with a guided inquiry-based learning approach. This teaching strategy is described as "where teachers provide questions to stimulate inquiry but students are self-directed in terms of exploring these questions" (Spronken-Smith & Walker, 2010, p. 727). During the information cycle exercise, the student discussion that ensued proved to be a much richer experience than the previous year's more passive approach of a librarian explaining this concept to students. Students were provided with props (photocopies of different items forming the information cycle, such as traditional publications like books or journal articles, or grey literature items, such as patents or grants), and asked to match format type names to the appropriate item and then arrange them on a whiteboard into chronological order. The activity elicited major debates and discussion among the students who were drawing from prior knowledge and personal experiences.

There was much debate about which stage of research and method of dissemination followed another. For example, one point of debate that arose was whether research grants came before or after a thesis. Promisingly, one group also placed the items into a non-linear order and actually defined it as a cycle with no starting point. All groups also engaged in lively discussion about the various publication types, with each group making minor format identification mistakes; for example, one group labeled a review article as a book while another labeled it as a presentation. Upper-year students tended to be more accurate in their identification of different formats and acted as guides when explaining their reasoning to their younger peers. This discussion allowed students to reflect among themselves and question their preconceptions of how research is conducted and disseminated.

Going forward, future workshops will likely be lengthened so that more student interaction can be incorporated; students also commented that they wanted to have more

such opportunities to explore open-ended questions and also requested more time in order to practice their "elevator speech" with each other.

From Concepts to Practice—Poster Sessions as a Learning Environment

While the practice of research posters is now commonplace for many science undergraduates, this type of research presentation is still quite novel to those from the arts and social sciences. This distinction is supported by the participant demographics: in 2015, 62% of forum participants had prior research poster experience, which was not surprising given that the majority of them were science students. This was an increase from the previous year, where the majority of students were from the social sciences and humanities and only 48% had prior poster experience.

Moreover, at the undergraduate level, students often see themselves as consumers of research, rather than as creators. While the workshops introduced the notion of the research cycle and the role that the poster plays in this, the creation and presentation of the posters to their peers and faculty provide an authentic setting that allows students to realize their role as information creators and (literally) engage in the scholarly conversation with their peers and faculty.

Conclusion

While poster sessions are events that are typically run by academic departments, the library-driven research poster forum can open up new roles for the academic librarian and present new opportunities for teaching information literacy in a more engaging way. In helping to situate students in this realistic setting, the experience of research poster creation and presentation allows students to shed the role of student learner and explore the role of academic researcher. The supporting workshops were designed to scaffold the scholarly communication experience for the undergraduate students. However, in order for the workshops and poster sessions to have an impact on the students' learning, it is vital that the librarian structure and plan both events around inquiry-based learning theory to help students develop knowledge and skills around scholarly communication concepts. Inquiry-based learning offers students an opportunity to "construct knowledge, learn by doing, and take responsibility for their learning" (Spronken-Smith & Walker, 2010, p. 726). This approach is especially useful for upper-year students in the sciences, for whom their prior knowledge and experience allow them more independence and freedom to explore high-level problems and tasks. In turn, the presence of upper-year students helps to guide first- and second-year students. Pedagogically, the involvement of a librarian in scholarly communication-related activities such as poster sessions can provide students with a greater understanding of scholarly communications concepts and issues. More importantly, these types of partnerships between librarians and academic departments can help to shift faculty and current student (and future researcher) perceptions of the academic librarian and deepen their understanding of the valuable role that librarians serve in conducting and supporting research.

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SECTION II

Employment Experience

Chapter Five

Library Student Employment and Educational Value Beyond the Paycheck

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Introduction

Student workers are essential to the operations of academic libraries. In 2017, according to library staffing data from the Association of College and Research Libraries (2018), the average percent of student assistants to the overall FTE of a library's workforce was 25% at doctoral-granting institutions, 9% at masters colleges and institutions, 7% at baccalaureate colleges, and 3% at associates colleges.

Looking more broadly, many undergraduate students seek employment at a variety of employers while pursuing their studies. "In 2015, 43 percent of full-time students and 78 percent of part-time students were employed" (US Dept. of Education, 2017, "College Student Employment," para. 1). The reasons are varied, from simply having the opportunity to do so and the desire to maintain a certain lifestyle to needing to work in order to pay for basic living expenses and school costs (Mounsey, Vandehey, & Diekhoff, 2013). No matter the initial reasons, as students grow and develop through their higher-education years, those reasons are likely to evolve. The best jobs will be those that support and help students in their development and growth.

The work student employees are doing in libraries, while valuable, has generally been the lower-level repetitive work of processing circulation transactions, shelving materials, and similar tasks. In recent years, several authors have argued that both libraries and students have much to gain by elevating the work of library student employees (Mestre

& Lacrone, 2015; Charles, Lotts, & Todorinova, 2017; Campbell-Meier & Hussey, 2016; Markgraf, 2015; Melilli, Mitola, & Hunsaker, 2016; Maxey-Harris, Cross, & McFarland, 2010; Bussell & Hagman, 2016). This chapter describes strategies for making student employment in the library more educationally purposeful by applying best practices from both library and higher-education literature.

Transformative Educational Experiences

Librarians generally focus their teaching on information literacy. This holds true in teaching through the student employment experience as well. Efforts in libraries easily begin with teaching information literacy to student employees, such as the nine-year-old program at Ohio State University Libraries called iSkills. This program, developed by the Teaching and Learning department, teaches information skills through online modules. Students get the entire semester to complete these online lessons during work time. The staff in Teaching and Learning, not the supervisor, grades the work and provides detailed feedback.

A few years later, the program expanded to include a workplace communication module with the intention of preparing student employees in direct customer service roles. While at the surface this might appear to be a diversion from information literacy, upon closer examination, it is not; communication is embedded in information literacy. The *Framework for Information Literacy in Higher Education* (American Library Association, 2015) articulates well the many dispositions and knowledge practices required for information literacy; in terms of communication, the frames Information has Value and Scholarship as Conversation directly discuss giving credit, communicating messages, and sharing knowledge.

Much of information literacy, in particular those aspects tied to metaliteracy and metacognition, can be taught through a longer-term employment experience. Furthermore, long-term employment experiences in the library can connect to the transformative educational experiences sought for students in higher education. A starting point are recent key findings and best practices in higher education.

Gallup-Purdue Index

In 2014, Gallup and Purdue University, with support from the Lumina Foundation, published the Gallup-Purdue Index Report. They had interviewed more than 30,000 US college graduates to identify the factors of a college education that contribute to getting a good job and having a better life. They discovered that feeling supported and having deep learning experiences mattered most (Gallup, 2014). Furthermore, surprisingly, the institution from which a student graduated, public or private, large or small, very selective or not selective, hardly mattered in the current well-being of college graduates in comparison to their experiences in college (Gallup, 2014, p 6). Specifically, the six factors that matter most are:

- A professor who made them excited about learning
- Professors who cared about them as a person

- A mentor who encouraged them to pursue their goals and dreams
- Worked on a long-term project
- Had a job or internship where they applied what they were learning
- Were extremely involved in extra-curricular activities (Gallup, 2014, p. 10)

Library employment has the potential to provide three of those six factors: a mentor, a long-term project, and a job where students apply what they are learning. What would it take to do so?

Continuing this project, Gallup (2016) found that while the most frequent mentor was a professor, it was not necessary that the mentor be a professor; the positive outcome was the same as long as students had a mentor at all. This person could also be a staff member at the university, including a supervisor of a student position. Gallup (2016) further reported that students were likely to seek their internships and job experiences through on-campus sources, thus making the on-campus job an important potential educationally purposeful experience.

High-Impact Practices

High-impact practices (HIPs) are a set of educational activities identified through extensive research to be beneficial for college students from many backgrounds (Kuh, 2008). These practices are more likely to engage students in deep learning and, therefore, more likely to lead to greater gains in desired learning and personal development outcomes (Kuh, 2008). Many institutions are heavily invested in supporting these ten practices: first-year seminars and experiences, common intellectual experiences, learning communities, writing-intensive courses, collaborative assignments and projects, undergraduate research, diversity/global learning, service learning, internships, and capstone courses and projects.

Student employment is not one of the ten items on the high-impact practices list. However, in exploring the value of student employment, it is instructive to review the factors that make the identified high-impact practices effective (Kuh, 2008). High-impact practices all share these six factors:

- Typically demand that students devote considerable time and effort to purposeful tasks
- Put students in circumstances that demand they interact with faculty and peers about substantive matters, typically over extended periods of time
- Increase the likelihood that students will experience diversity through contact with people who are different from themselves
- Get frequent feedback about their performance in some form
- Provide opportunities to see how what they are learning works in different settings, on and off campus
- Deepen learning and bring one's values and beliefs into awareness, enabling students to better understand themselves in relation to others and the larger world (Kuh, 2008, p. 14-17)

Student employment in the library offers the opportunity to do all of these things.

Jill Markgraf (2015), a librarian at University of Wisconsin-Eau Claire, reported on work she led on her campus directly connecting student employment to the elements identified in the high-impact practice literature. Instead of focusing solely on information

literacy, Markgraf (2015) led a collaborative effort with key campus partners to articulate how student employment in many campus units, including the library, connected to their campus' recently adopted Liberal Education Framework. Two goals noted were developing a host of intellectual and practical skills, including information literacy and integrating learning from across courses and between campus and community life (Markgraf, 2015).

Incorporating Educational Value in Student On-Campus Employment

Student employment situations within student affairs units demonstrate that incorporating learning outcomes in the student employment experience is effective. A survey of 4,000 undergraduate and graduate student employees of the student affairs division at a large Midwestern research university sought to understand how the work environment created by the professional staff in their units influenced transferable skill-related student outcomes. They found that students regularly reported that their experiences as student employees had improved their transferable skills and abilities in many areas, including interpersonal skills, personal wellness, lifestyle wellness, self-regulation, career skills, career exploration, motivation and goal orientation, and leadership and problem-solving (Athas, Oaks, & Kennedy-Phillips, 2013). The data also showed that students who were employed in a student affairs unit for three or more quarters reported higher, more positive scores on each skill (Athas, Oaks, & Kennedy-Phillips, 2013).

The University Of Iowa Office of Student Life created the Iowa GROW® (Guided Reflection on Work) program in 2009 and have since implemented it across their entire student affairs division and licensed the program to more than 100 colleges and universities in the United States (University of Iowa, Division of Student Life, 2018). The intention of the program was to apply high-impact practice principles to the student employment experience. The program centers around brief, structured conversations between student employees and their supervisors focused on building connections between the learning students are doing in their classes and their work. These conversations repeat twice a semester to scaffold student learning. While in practice it looks quite simple, there are several steps required to implement the program, including training of the supervisors to encourage a learning and growth frame of mind to the student employment experience.

Ohio State University, the author's institution, is one of those that has licensed the GROW® program from the University of Iowa as one part of the Office of Student Life's Student Employment Experience (SEE) program. SEE consists of three parts: student employment roles that provide real-world learning opportunities, OSU GROW, and professional development training workshops (Ohio State University, Office of Student Life, 2018c). The GROW model of reflective conversations between supervisors and student employees, which take place each semester, are essential in leading student employees to reflect on what they are learning through their employment role, in guiding students to connect that learning from work to class and future careers, and in supporting supervisors to incorporate learning into all aspects of a student's employment experience.

After two years of using the four Iowa GROW® questions verbatim, feedback from supervisors of student employees led Ohio State, with permission from University of Iowa, to modify the reflective interview questions. Modifications included incorporating the recently adopted co-curricular learning competencies and giving supervisors more choice in exact language (C. Craft, personal communication, May 30, 2018) (See the appendix for information about the co-curricular competencies). The OSU GROW reflection conversation with each student employee each semester used the following model for the four reflective questions:

1. Learning transfer between class and work. A suggested question is, "Where do you see overlap between what you are learning here and what you are learning in your classes?"
2. Connections between on-the-job learning and future career goals. A suggested question is, "What are some things you're learning here that would be useful to you in a future career?"
3. and 4. Relate to two of the seven co-curricular learning competencies for student employment. Questions asked rotate each semester. In the spring 2018 semester, they asked about global citizenship and civic engagement and critical thinking and problem-solving. At the time of this writing, the plan for fall 2018 semester was to ask about information literacy and interpersonal engagement.

(Ohio State University, Office of Student Life Human Resources, 2018a, OSU GROW Questions section).

Assessments of the entire SEE program at Ohio State suggest that students who participate are more likely to make connections between what they are learning at work and what they are learning in their courses. They are also more likely to think about how their student employment can benefit other areas of their lives than students who are not participating in SEE (Ohio State University, Office of Student Life Human Resources, 2018c). (See appendix for additional assessment information.)

There are several articles in the library literature looking at student employment as more than a paycheck. Some have explored learning that is present in the existing student employment experience. Folk (2014) wondered if student assistants in libraries, especially those working at service points, would have better information literacy skills than their peers who did not work in the library. To answer this research question, she did a pretest/posttest information literacy assessment of freshmen in a course that included an information literacy instructional component and with the freshmen who were hired to work in the library. She found that for the population of students in her study, student assistants' information literacy skills were better than the general population students; however, it did not appear to be from their work in the library because their scores were better from the point of the pretest. Furthermore, the increase of information literacy scores for the library student assistants from the pretest to the posttest was not statistically significant. Folk suggests that these higher scores could be attributed to the self-selection of library student assistants to work in a library environment.

The library environment as a good place to work was also noted in a study by a team of librarians at Rutgers. They found that while the students liked their jobs and thought the library was a great place to work, they didn't see benefits of that employment that would transfer to their future careers (Charles, Lotts, & Todorinova, 2017). Furthermore,

student respondents noted that they had technical and language skills that were not being used in their jobs even though they might be valuable to the library. The Rutgers librarians concluded that "libraries need to find ways to more intentionally integrate the student-worker role into that of the organization" (Charles, Lotts, & Todorinova, 2017, p.14).

Suggestions for Educationally Enhancing Student Employment Experiences in Libraries

Treat Student Employees as Real Employees

Supervisors of student employees should be well trained in basic supervision. Manley and Holley (2014) reported that applying the basic human resource best practices of creating position descriptions, hiring to those position descriptions, and creating standardized student employee training improved the situation for both student employees and permanent library staff members. The student employees performed better, taking ownership of their own learning of the position through the training material that encouraged them to review on their own areas they had yet to master. For the first time in several years, they noted that student employees were asked to return the following year.

In many organizations, student employees do not participate in the performance appraisal process because these processes can be burdensome for employees who will be with the organization only part-time and for a limited duration. Yet, a key element of high-impact practices is frequent feedback. Therefore, a truncated or more informal performance appraisal system could be devised to provide student employees with quality, timely feedback on their performance.

At Ohio State University, Student Life is the largest employer with approximately 5,000 student employees. As part of their Student Employment Experience (SEE) model, they strongly encourage supervisors to interview candidates and to provide performance evaluations (Ohio State University, Office of Student Life Human Resources, 2018c). To support supervisors in doing so, they provide tools for interviewing and evaluating student employees (Ohio State University, Office of Student Life Human Resources, 2018b). In order to encourage supervisors to use these tools, supervisors must submit a completed evaluation before they are permitted to give students a pay raise (C. Craft, personal communication, May 30, 2018).

Design Positions with Student Learning in Mind

Simply writing full position descriptions that include learning goals and hiring for those positions can have a big impact. Chickering, Frank, and Robinson (1996) applied student development theories to common student employment situations. Their work suggests that early in a student's college career, the best matches for students are likely positions that are task-based and include direct supervision, essentially like the traditional library student employee position. A student's personal growth and development are enhanced by employment opportunities that provide room for that growth; for example, students

further along the ego development continuum do better with a supervisor who encourages the student to use co-workers as resources in solving challenges and to see oneself as a significant contributor to the organization. Creating space for students to grow and develop may happen in the same position or through movement between positions. A well-written job description can help both potential student employees and supervisors of those positions better match the student to an appropriate role.

Building in room for growth and leadership development was a big part of an integrated development program for student employees at the Undergraduate Library of the University of Illinois at Urbana-Champaign, where intentional changes enhanced the student employment experience. Mestre and Lecrone (2015) tested three hypotheses over a three-year period:

> If given leadership opportunities at the Undergraduate Library, student workers will take more interest and ownership in providing excellent customer service; student workers who have more meaningful responsibilities will be more engaged and productive; student workers are able to handle almost all responsibilities at the circulation desk and can function effectively without a supervisor's presence most of the time (p. 2).

They combined rounds of feedback from students via surveys, roundtable discussions, and conversations with student supervisors before and after extending duties, responsibilities, and leadership roles for student assistants. They found all three hypotheses to be true. They noticed significant improvement in the provision of customer service, engagement with their work, and overall productivity. Furthermore, they freed staff from the front desk as the leaders among the student assistants were very capable of handling the responsibilities. An exemplary element of this case study is their intentionality in getting student employee feedback throughout the process to test the changes to ensure they were indeed achieving the desired outcomes.

Adding learning goals and outcomes to the positions, especially with a focus on transferable skills as in the student affairs example cited earlier, will further create learning opportunities as long as the supervisors address these learning goals in their interactions with the employees. Two student employee supervisors at Ohio University used an experiential learning instructional design approach to frame two student employee positions as learning experiences instead of just jobs (Bussell & Hagman, 2016). The positions, social media content developer and multimedia production specialist, were funded through a university-sponsored program that encourages significant work experience and career exploration for students. To meet the career development expectations, the librarians used an experiential instructional design framework in designing the employment experience. The three universal principles of this framework, which included employment as a potential learning experience, are implemented chronologically: (1) framing the experience, (2) activating the experience, and (3) reflecting on the experience (Lindsey & Berger, 2009). From the beginning, learning was a primary focus of the positions. When providing student employees with projects and tasks, Bussell and Hagman (2016) provided problems to be solved and scenarios or issues to be analyzed and resolved instead of specific task-driven directions. The didactic training that was

required was within the context of achieving the shared learning goals. Regular discussions between student employee and supervisor provided opportunities for authentic feedback and reflection.

Another element required of experiential learning is the learner seeing the teacher as someone who can be challenged, which can be particularly difficult in a supervisor/direct report context. Therefore, early effort was given to developing the relationship with the student employee so that they felt comfortable in voicing what might be seen as challenges to the supervisor or existing practices of the organization (Bussell and Hagman, 2016).

Train Supervisors of Student Employees

It is essential that libraries train supervisors in the characteristics of high-impact learning and good supervision practices. Several of the programs and papers discussed note the importance of the supervisor-employee relationship. Focusing on the educational context, the Iowa GROW® (University of Iowa, Division of Student Life, 2018), OSU GROW (Ohio State University, Office of Student Life, 2018a), and the program developed at University of Wisconsin-Eau Claire (Markgraf, 2015) emphasize supervisors seeing themselves as educators. Prior to learning the structured reflective interview method, it is essential that supervisors agree with the educational value in doing them.

At Ohio State University Libraries, the coordinator of iSkills, the information literacy education program for student employees, begins conversations with reluctant supervisors by acknowledging the time pressures they are under to use student work time well. She reminds colleagues of the educational mission of the university, the value of information literacy in day-to-day life, and the role of the library as a key teacher of information literacy. Often, the immediate supervisor of library student employees is not a librarian. Training of the supervisors could also have the added benefit of supporting the learning of the supervisors themselves of the broader work of the library and librarians.

Preparing supervisors also increases the likelihood that a supportive mentoring relationship can form between student employee and supervisor. Campbell-Meier and Hussey (2016) explored prior mentoring experiences in the decision of MLIS students to pursue a MLIS. They found that while the majority of MLIS graduates surveyed had worked in a library prior to pursuing the degree, only 40% of that group reported having a mentor. Instead of attempting a formal mentoring program, which has mixed results, they recommend incorporating LIS learning outcomes in all student employment experiences in order to support student constructivist learning of the "big picture" behind the small tasks they are performing. This simultaneously informs student employees about the library profession and encourages a more mentoring-type relationship between student and supervisor.

Coordinate Centrally and Mentor Locally with a Focus on Transferable Skills

Make it someone in the library's responsibility to encourage and coordinate overall efforts or key parts of educationally purposeful elements. For example, at Ohio State University Libraries, one staff person coordinates the online training modules in information

literacy and workplace communication skills offered to all student employees. This ensures that the content is well-designed and consistent across the many units with student employees.

Providing student employees opportunities to participate in centrally offered educational opportunities is another way to expand learning and to focus on transferable skills. University of Nevada Las Vegas offered an expansive workshop series to their student employees in five different categories: academic skills, professional, technology, library, and life skills/electives (Melilli, Mitola, & Hunsaker, 2016). While the program was entirely voluntary, these sessions were encouraged for all of the 100-plus part-time student employees across all library departments. Students were paid their hourly rate while attending. Those who attended at least one workshop in each category were eligible for a certificate of program completion that further required a 250-word reflective essay. The addition of reflection assisted students in making the connections between their learning experiences with the hope that they would transfer skills between contexts. Workshop series such as UNLV don't need to be for student employees alone. Why not invite student employees to workshops offered to other large audiences, such as the first- and/or second-year programs on campus?

Local mentoring is essential for showing the students that someone cares about their development through regular conversations and quality feedback. The best opportunities to connect work experiences with learning in the classroom and training happen at the local work site level, ideally between the student and supervisor. Mentorship consistently ranks high in the Gallup-Purdue Index reports of the factors supporting college graduates' long-term workplace engagement and overall well-being (Gallup, 2014, 2016). The Iowa GROW® model powerfully demonstrates how this can be achieved even at scale through structured, yet brief, reflective conversations (University of Iowa, Division of Student Life, 2018).

A small survey of student workers by Jacobson and Shuyler (2013) suggests that no matter their career aspirations, most students reported that working in the library improved their communication and customer-service skills. This suggests that programs such as the one at Ohio State University Libraries to explicitly teach workplace communication and connect this learning to careers beyond school and the library could greatly enhance the value of the library student employee experience.

Find Partners on Campus

The University of Iowa Office of Student Life's Iowa GROW® (Guided Reflection on Work) program is currently licensed for use at more than 100 campuses (University of Iowa, Division of Student Life, 2018). Yet on many campuses, including University of Iowa and Ohio State, the author's home institution, the program is used exclusively by the student affairs divisions. This proven program is designed to integrate high-impact practice-like qualities to increase engagement and learning at scale. It includes many of the elements listed above, including the critical training of the supervisors. What would it take for the library to join in?

Another path is that modeled by Jill Markgraf (2015), a librarian at University of Wisconsin-Eau Claire, who led the collaborative effort with several units on campus to integrate high-impact practices into the student campus work experience.

Conclusion

Students often seek employment in the library initially as an employer of convenience, but academic libraries, as members of the higher education community, can do so much more than provide an easy job and a paycheck. Student employment in the library has the potential to provide transferable skills, collaborative work, opportunities for authentic feedback, mentors, and more from the research-proven means to better outcomes for college graduates. To do so requires intentionality on the part of the organization and the supervisor, yet the benefits are immense to both the student and the library.

Appendix 5A

Additional program information.

University of Iowa GROW® program information is detailed at their website, https://vp.studentlife.uiowa.edu/priorities/grow/.

The OSU GROW program is assessed each year through local data collection and the use of campus-wide larger assessment data sets on a three-year assessment cycle. Highlights from these assessments include

- students who participate in the program are more likely to report that they see connections between their employment and other areas of their lives;
- students in the program are more likely to agree or strongly agree that their supervisor helps them to consider how their student employment is preparing them for full-time employment; and
- students report higher levels of self-efficacy on the targeted competencies.

Ohio State University, Center for the Study of Student Life. (2016). Student Employment Experience. Retrieved from https://u.osu.edu/studentemployment/files/2014/10/SEE_Survey_2016-29ufp8x.pdf

See http://u.osu.edu/studentemployment/assessment/ for additional information about the annual assessment of OSU GROW and the overall Student Employment Experience (SEE) program.

The Student Employment Experience Learning Competencies. Descriptions of learning competencies are quotes from the Ohio State University, Office of Student Life Human Resources Student Employment Experience Learning Competencies document. See Appendix 5B.

Communication

Students will effectively communicate, both verbally and non-verbally, in a manner that is clear, concise, and authentic. Students will be aware that the manner in which they express their ideas can affect the way in which the message is received.

Critical Thinking and Problem-Solving

Students will have the ability to evaluate problems in multiple contexts, use inductive and deductive reasoning, and create a sound analysis that leads to a logical conclusion. Students will learn to be innovative thinkers, ask insightful questions, and offer creative solutions.

Interpersonal Engagement

Students will be able to work cooperatively and productively with others in a variety of settings. Students will have the ability to develop meaningful relationships within multiple contexts.

Information Literacy

Students will be self-directed learners who identify gaps in their own knowledge, utilize critical thinking and analysis skills, seek appropriate information and resources to fill those gaps through a variety of means, and effectively assess the knowledge acquired. They will contribute to the information ecosystem through ethical use of information and technological resources.

Global Citizenship and Civic Engagement

Students will have an appreciation for the diversity in people and ideas, recognize the role of social diversity in shaping their own attitudes and values regarding appreciation and equity of others, and have an understanding of the pluralistic nature of institutions, society, and culture in the United States and across the world.

Ethical and Moral Reasoning

Students will have the ability to formulate and make considered and reasoned ethical and moral judgments. They should be able to use the norms which guide human behavior in order to act with integrity and personal accountability in their daily lives.

Self-Efficacy and Self-Awareness

Students will be able to understand their own capabilities, including the areas of wellness, coping with change, making difficult decisions, recovering from disappointment or setbacks, and assessing their own ability to complete tasks, reach goals, and succeed within multiple situations. Students will have a strong sense of self and will take personal responsibility for the direction and balance of their own life.

Appendix 5B

THE OHIO STATE UNIVERSITY

OFFICE OF STUDENT LIFE
HUMAN RESOURCES

STUDENT EMPLOYMENT EXPERIENCE LEARNING COMPETENCIES

The Office of Student Life views student employment as an opportunity for co-curricular learning and engagement. As such, we have applied university co-curricular learning competencies directly to our own program. These seven competencies were adapted from university documents and national resources, such as CAS standards and Learning Reconsidered 2.

Within the Office of Student Life, we apply these competencies to the Student Employment Experience with a goal of helping students develop knowledge and skills in their employment role, make connections between work and academics, and progress in their career development.

Each competency definition is listed, as well as possible learning outcomes for different student positions. If you would like consultation on creating learning outcomes for your student employment positions, reach out to craft.245@osu.edu.

COMMUNICATION

Students will effectively communicate, both verbally and non-verbally, in a manner that is clear, concise and authentic. Students will be aware that the manner in which they express their ideas can affect the way in which the message is received.

Possible Learning Outcomes:

- Communicate effectively, verbally and in writing, through regular in-office communication and email
- Apply active listening skills with customers through open body language, asking questions and paraphrasing responses
- Choose appropriate communication style when speaking with different types of clients (student, faculty, parent, etc.)

CRITICAL THINKING AND PROBLEM SOLVING

Students will have the ability to evaluate problems in multiple contexts, use inductive and deductive reasoning, and create a sound analysis that leads to a logical conclusion. Students will learn to be innovative thinkers, ask insightful questions and offer creative solutions.

Possible Learning Outcomes:

- Troubleshoot technical errors through gathering information from customer, analyzing system data, and testing possible solutions
- Adapt to changing operational conditions (understaffing, broken equipment, etc.) through considering creative approaches to work with existing resources

For more information, contact Caleb Craft.245@osu.edu
Last updated July, 2017

THE OHIO STATE UNIVERSITY

OFFICE OF STUDENT LIFE
HUMAN RESOURCES

INTERPERSONAL ENGAGEMENT

Students will be able to work cooperatively and productively with others in a variety of settings. Students will have the ability to develop meaningful relationships within multiple contexts.

Possible Learning Outcomes:

- Establish healthy and mutually beneficial relationships with coworkers by treating each team member with respect
- Demonstrate empathy and understanding toward each resident who interacts with the front desk
- Seek the assistance and involvement of student and full-time staff in planning off campus events

INFORMATION LITERACY

Students will be self-directed learners who identify gaps in their own knowledge, utilize critical thinking and analysis skills, seek appropriate information and resources to fill those gaps through a variety of means, and effectively assess the knowledge acquired. They will contribute to the information ecosystem through ethical use of information and technological resources.

Possible Learning Outcomes:

- When possible, use resource manual and online information to correctly answer guests' questions, even if not directly related to our specific office
- Seek appropriate and accurate information to aid in writing student help guides

GLOBAL CITIZENSHIP AND CIVIC ENGAGEMENT

Students will have an appreciation for the diversity in people and ideas, recognize the role of social diversity in shaping their own attitudes and values regarding appreciation and equity of others, and have an understanding of the pluralistic nature of institutions, society, and culture in the United States and across the world.

Possible Learning Outcomes:

- Demonstrate awareness and appreciation of human differences by seeking the perspective of multiple team members when designing passive programming
- Understand how their campus job contributes to and benefits the university community the larger society
- Show respect and dignity to the social identities of each person in the office (student, staff, or visitor), in order to build a healthy, inclusive team community.

For more information, contact Caleb Craft.245@osu.edu
Last updated July, 2017

Ethical and Moral Reasoning

Students will have the ability to formulate and make considered and reasoned ethical and moral judgments. They should be able to use the norms which guide human behavior in order to act with integrity and personal accountability in their daily lives.

Possible Learning Outcomes:

- Demonstrate personal integrity through accurately recording project time after each shift.
- Consider workplace policies, customer needs, and personal ethical judgement to resolve customer complaints at the register.

Self-Efficacy and Self-Awareness

Students will be able to understand their own capabilities, including the areas of wellness, coping with change, making difficult decisions, recovering from disappointment or setbacks, and assessing their own ability to complete tasks, reach goals, and succeed within multiple situations. Students will have a strong sense of self and will take personal responsibility for the direction and balance of their own life.

Possible Learning Outcomes:

- Determine and communicate ideal working schedule to ensure student can manage academic and personal commitments, along with work
- Demonstrate self-awareness and personal accountability through completing a self-evaluation at the end of each year
- Engage in OSU GROW conversation to reflect on personal growth and development each semester

For more information, contact Caleb Craft.245@osu.edu
Last updated July, 2017

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Chapter Six

On-the-Job Information Literacy:

A Case Study of Student Employees at Purdue University Archives and Special Collections

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Introduction

Information literacy as a set of skills, developed over time, is ideally integrated into a variety of aspects of a student's academic experience. The Association of College and Research Libraries (ACRL) *Framework for Information Literacy for Higher Education* "envisions information literacy as extending the arc of learning throughout students' academic careers and as converging with other academic and social learning goals" (ACRL, 2015, p. 3). With an eye to the development of integrated abilities, a perhaps overlooked yet promising avenue for librarians, library staff, and academic archivists to contribute to the development of student information literacy exists outside the classroom and inside of our libraries and archives or special collections units. Nearly all academic libraries employ student workers each year. This chapter examines Purdue University Archives and Special Collections as a case study in which information literacy outcomes emerge parallel to classroom learning through student worker on-the-job experiential learning in the archives. The analysis outlines the relationship of the *Framework* and student employment in academic archives as well as potential benefits of a conscientious approach to student employee training and mentoring.

Student library employment is an outside-the-classroom opportunity for students to gain footholds in the *Framework* concepts such as Authority Is Constructed and Contextual, Information Creation as a Process, Information Has Value, and Research as Inquiry. Student employment in an academic library, archives, and special collections immerses students in the operations of a library or primary source repository, where they typically assist with the everyday processes of scholarly communication, facilitating new scholarship creation, conducting source analysis and evaluation, and responding to inquiry. At its core, student employment may be conceptualized as a co-curricular activity, a unique opportunity for career preparedness, and an extension of academic experience designed to provide experiential learning in information literacy.

Background

Purdue University Archives and Special Collections (ASC) is a unit of Purdue University Libraries on a campus of more than 40,000 students in West Lafayette, Indiana. The mission of Archives and Special Collections is "to support the discovery, learning, and engagement goals of Purdue University by identifying, collecting, preserving, and making available for research records and papers of enduring value created or received by the University and its employees." In addition to the director, ASC employs eight full-time professional archivists, including four subject-specific archivists (flight and space exploration, psychoactive substances, university history, and women's studies) and two other professional staff as well as several graduate and undergraduate student workers. In addition to collection development and preservation activities, ASC archivists curate multiple exhibitions annually, manage and staff the reading room, co-instruct with university faculty, create digital preservation strategies and policy, and teach archival literacy course units and sessions in a specialized classroom.

Literature Review

It is not uncommon for full-time students to be employed on campus during part or all of their academic careers. Data collected by the National Center for Education Statistics on college student employment cites 43% of full-time undergraduate students in 2015 as being employed (National Center for Education Statistics, May 2017). Academic libraries and archives have a history of supplementing staffing needs with student workers. The library literature reflects this history with earlier studies and articles on managing and retaining student workers, such as Maria Bagshaw's "Keep your Student Workers" (Bagshaw, 2006). To reduce costly turnover rates while working within restrained library budgets, Bagshaw shared essential managerial steps to retain good student workers. Bagshaw found that taking the time and effort to train students as integral members of the staff, assigning them tasks they can master and repeat combined with sometimes challenging assignments, and showing appreciation are necessary to keep student workers happy and engaged. More recent articles suggest academic libraries have a responsibility to go beyond steps to improve retention by intentionally providing pre-professional skills development to student employees and that campus employment be considered less as merely time students are drawn away from their academic work and more as opportunities for enhanced learning as high-impact practices.

Several authors view student employment as a factor that can contribute to student success (Markgraf, 2015; Kuh, 2010; Melilli, Mitola, & Hunsaker, 2016). Kuh (2010) calls for undergraduate employers at academic institutions to make work more relevant to coursework and at the same time for faculty to make coursework more connected to students' work.

Melilli, Mitola, and Hunsaker (2016) point to the University of Nevada Las Vegas' University Libraries Student Assistant Professional Development Workshop Program as an example of a program that provides professional development for student employees to improve their career readiness. Markgraf (2015) makes a strong case for student library jobs as high-impact practices alongside other practices such as learning communities, undergraduate research, internships, and field placements. Pointing to the University of Iowa's Guided Reflection on Work (IOWA GROW) program as a model for bridging student academic work and campus jobs, Markgraf (2015) argues that librarians are uniquely positioned "in the middle" to help students build connections between in-class work and their library employment. She notes that librarians already often hold instructor roles and collaborate with teaching faculty to support student success, positioning librarians as potential mediators amid coursework and experiential learning in a workplace where they may supervise library student workers. Markgraf (2015) aptly notes, "The relationship that student employees have with their supervisors and colleagues may be among the most sustained interactions they have with the institution during their college careers" (p. 771). The same is true for academic archivists and special collections librarians who supervise student workers. Archivists and special collections librarians also often hold "in the middle" positions as instructors of information and archival literacy between teaching faculty, students, and information; in the case of archivists, the aforementioned information is based within primary source collections.

The relationship of information literacy guidelines specific to the instruction that takes place in an academic archives bears brief overview. The *Framework* defines information literacy broadly as "the set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (ACRL, 2015, p. 3). Primary source literacy and archival literacy, along with other specific literacies such as data literacy and visual literacy, can be thought of as specialized literacies within information literacy. A joint task force of the Association of College and Research Libraries (ACRL) and the Society of American Archivists (SAA) recently published "Guidelines for Primary Source Literacy," which articulates core ideas and learning objectives for primary source literacy. The guidelines identify primary source literacy as "the combination of knowledge, skills, and abilities necessary to effectively find, interpret, evaluate, and ethically use primary sources within specific disciplinary contexts, in order to create new knowledge or to revise existing understandings" (ACRL/SAA, January 2018 revision, p. 2). Archival literacy, while related to primary source literacy, is broader in scope. Archival literacy is a set of abilities that includes primary source literacy as well as more advanced understandings, such as where and how archival collections derive and exist and the complex relationships necessary to understand and evaluate their value and relevance as information critical to original research and new scholarship (see Yakel & Malkmus in Prom & Hinchliffe, 2016, p. 9–12). Yakel and Malkmus place primary and archival literacy solidly among the library profession's information

literacy guidelines and point to a number of intersections. They tie the 2015 *Framework*'s Information Creation as a Process concept to archival provenance and the importance of understanding the context of record creation, and the Information Has Value threshold concept to the importance of students understanding the process of archival selection and appraisal as an important consideration when evaluating for bias and gaps in the historical record. Students assist with the intake of archival collections, description, analysis, and providing access to those collections. As a result, archives' student workers directly encounter and act upon these literacies in many day-to-day tasks.

When student employment relates to students' field of study, our experience shows students have a high acceptance rate for competitive internships, graduate school admissions, and post-graduate employment. Indeed, Geel and Backes-Gellner (2012) examined how full-time student employment affects short-term and long-term professional employment and found that employment can complement rather than negatively impact student success. Students who worked in field-related jobs while in school full time incurred higher labor market outcomes after graduation. Their study found those higher outcomes included "lower unemployment risks, shorter job-search duration, higher wage effects, and greater job responsibility" (p. 325).

However, only one study could be located that examined student library employment and information literacy (Folk, 2014), and no studies could be found on the relationship between information or archival literacy and student employment in academic archives. One article found in the archival literature relates to student employment in archives, but its focus was on how archives were utilizing student workers, recruitment, and personnel management of undergraduate employees and how to train undergraduates so they are effective in their tasks (Floyd & Oram, 1992). Regardless, student employment in an academic archives shares many characteristics of other high-impact practices and possesses great potential for improving students' information and archival literacy skills.

Case Study

Purdue University Archives and Special Collections employs students each fiscal year (July 1–June 30); the number of student employees and total student work hours varies, depending upon funding and needs. These student assistants hold majors or minor courses of study in areas such as computer science, linguistics, history, engineering, speech pathology, philosophy, and agriculture.

Table 6.1.
Number of students for the past four fiscal years, 2014–15 to 2017–18.

Year	Total Student Employees	Undergraduate Student Employees	Graduate Student Employees
2014–2015	13	5	8
2015–2016	19	9	10
2016–2017	18	12	6
2017–2018	24	19	5

Archivists at Purdue University Archives and Special Collections approach hiring students with the belief that the work a student assistant conducts for the institution is equally as important as the pre-professional experience; it must help these students prepare for their chosen field or any other interests with confidence and thoughtful approaches. Student assistants are prompted to engage in most facets of working in a library or cultural heritage institution. All assistants are expected to interact with the public, conduct themselves in a professional manner, maintain a strong work ethic, be analytical, and communicate well both verbally and in writing. A successful student work experience begins by fostering a sense of community and mutual respect. Students are paid for their contributions and acknowledged for their achievements, such as named inclusion as the author of a collection description or an invitation to join an archivist to meet with a collection donor. Student assistants are colleagues, and all are recognized for their labor.

Each student assistant receives training in their first week of employment and regular guidance thereafter. During initial training, a combination of scholarly literature and archival blog post readings and in-person demonstrations takes place, with the student supervisor and student engaging in one-on-one discussions about the mission, functions, and goals of the institution. This training time is not formalized through a written or verbal examination; it is up to the supervisor to ascertain the readiness of the student to begin their work. The underlying goals behind this introductory period is scaffolded threefold: first, to provide familiarity with the terminology, concepts, and professional rigor; second, to allow a time for the student to become comfortable with fellow employees and the environment; and finally, to allow the supervisor and student assistant a pressure-free period to know one another.

Student employees take part in a wide range of projects. Beginning assistants are often given specific tasks, such as inventorying a new donation to the archives, photocopying requests, or placing collection materials into acid-free folders and boxes. While these activities seem rudimentary, the assignments impress upon the student the need for attention to detail, disambiguation of source materials, customer service, and appropriate management of rare and unique primary source materials. As students gain experience, more in-depth activities are assigned; for example, a project may entail researching the number of collections in the repository that relates to an academic department's history and concurrently composing a historical statement for long-term use by internal and external stakeholders. Another project may include an analysis of oral history transcripts to determine the inclusive dates, subjects discussed, sensitivity of material, and readiness for dissemination. In these two examples, the student is expected to discover the depth of the source materials, analyze the information at hand, make evidence-based decisions, formulate a plan, and compose a result. At the outset of these projects, archivists instruct the students in information and archival literacy and information management. In time, as students gain proficiency, the archivist assumes a less direct role, allowing the student the opportunity to put into practice the critical-thinking skills learned. This is not a "hands-off" approach but rather a guided approach, wherein the student is expected to create a project plan, discuss with their supervisor, and then execute their plan. Advanced student assistants are given leadership roles and are expected to help less-experienced colleagues with basic to intermediate-level projects. These advanced students have demonstrated a repeated understanding of archival principles, information

literacy, communication skills, and problem-solving techniques. The designation as a student leader provides opportunities to reinforce information literacy knowledge and gain experience using their own knowledge to teach others.

Figure 6.1.
ASC Stacks

Table 6.2.
Undergraduate student worker activities and correspondence to *Framework* concepts and knowledge practices.

Undergraduate Student Worker Tasks, Knowledge, Skills, and the *Framework*		
Undergraduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Reception Desk	• Determine patron general informational needs before referral to archivist. • Communicate special rules of collections use for unique primary sources.	• Searching as Strategic Exploration o Determine the initial scope of the task required to meet information needs. • Information Creation as a Process o Articulate the capabilities and constraints of information developed through various creation processes.

Undergraduate Student Worker Tasks, Knowledge, Skills, and the *Framework*		
Undergraduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Creating preliminary inventories when collections arrive	• Identification of content and media types • Description of information sources	• Authority is Constructed and Contextual o Recognize that authoritative content may be packaged formally or informally and may include sources of all media types.
Reproducing materials for patrons	• Understanding of basic copyright law	• Information Has Value o Articulate the purpose and distinguishing characteristics of copyright, fair use, open access, and the public domain.
Paging collections for patrons	• Understanding and use of collections content management systems	• Searching as Strategic Exploration o Understand how information systems are organized in order to access relevant information.
Oral history transcriptions	• Composition of interpersonal interview into a written format • Selection of controlled vocabulary, keywords, and inclusive dates	• Information Creation as a Process o Recognize that information may be perceived differently based on the format in which it is packaged. • Searching as Strategic Exploration o Use different types of searching language appropriately—controlled vocabulary, keywords, and dates. • Authority is Constructed and Contextual o Define different types of authority, such as subject expertise, societal position, or special experience.
Digital collections metadata creation and entry	• Analysis of primary source material to form basic description • Selection of controlled vocabulary, keywords, and inclusive dates	• Research as Inquiry o Organize information in meaningful ways. o Draw reasonable conclusions based on the analysis and interpretation of information. • Searching as Strategic Exploration o Use different types of searching language appropriately—controlled vocabulary, keywords, and dates.

Undergraduate Student Worker Tasks, Knowledge, Skills, and the *Framework*		
Undergraduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Assist with exhibition preparations	• Ability to select and describe primary source materials • Ability to cite creators and primary source materials	• Information Creation as a Process o Develop, in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys. • Research as Inquiry o Organize information in meaningful ways. • Information Has Value o Give credit to the original ideas of others through proper attribution and citation.
Assist with outreach events (Aviation Day, Purdue Space Day, exhibition open houses)	• Understand importance of contextualization of primary source materials to various audiences	• Authority is Constructed and Contextual o Define different types of authority, such as subject expertise (e.g., scholarship), societal position (e.g., public office or title), or special experience (e.g., participating in a historic event).
Design marketing materials	• Develop ability to convey activities of the institution creatively	• Information Creation as a Process o Develop, in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys.
Donor interactions during special tours or events	• Understand the importance of contextualization of primary source materials to various audiences • Understand historical empathy and information creator point of view	• Authority is Constructed and Contextual o Define different types of authority, such as subject expertise, societal position, or special experience. • Information Creation as a Process o Articulate the capabilities and constraints of information developed through various creation processes.

Undergraduate Student Worker Tasks, Knowledge, Skills, and the *Framework*		
Undergraduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Assist with social media content	• Research and compose content for online interactions by institution	• Authority Is Constructed and Contextual o Understand the increasingly social nature of the information ecosystem where authorities actively connect with one another and sources develop over time.
Reference questions	• Ability to search databases as well as use finding aids • Provide appropriate referrals	• Research as Inquiry o Determine an appropriate scope of investigation. • Searching as Strategic Exploration o Manage searching processes and results effectively.

Graduate assistants are expected to enact more advanced information literacy and pre-professional knowledge. The work of these students incorporates the experiential learning of their undergraduate counterparts while also weighing potential ethical concerns, processing of archival collection materials, creation of new scholarship, and more in-depth research interactions.

Table 6.3.
Graduate student worker activities and correspondence to Framework concepts and knowledge practices.

Graduate Student Worker Tasks, Knowledge, Skills, and the Framework		
Graduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Process archival collections	• Arrange primary source material. • Synthesize new descriptive information. • Recognize uniqueness (or lack thereof) of content as a primary source.	• Authority Is Constructed and Contextual o Use research tools and indicators of authority to determine the credibility of sources, understanding the elements that might temper this credibility. o Acknowledge they are developing their own authoritative voices in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability, respecting intellectual property, and participating in communities of practice.

Graduate Student Worker Tasks, Knowledge, Skills, and the Framework		
Graduate Task	**Knowledge and Skills**	**ACRL Framework and Knowledge Practice**
Advanced Reference questions	• Effective utilization of multiple primary and secondary sources • Understand that gaps exist within the historic record and associated impact.	• Research as Inquiry o Synthesize ideas gathered from multiple sources. o Draw reasonable conclusions based on the analysis and interpretation of information. • Searching as Strategic Exploration o Utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching. • Information Has Value o Understand how and why some individuals or groups of individuals may be underrepresented or systematically marginalized within the systems that produce and disseminate information.
Monitor reading room and provide reference service	• Assist visiting researchers. • Understand security procedures. • Answer reference questions.	• Searching as Strategic Exploration o Utilize divergent (e.g., brainstorming) and convergent (e.g., selecting the best source) thinking when searching.
Research and writing of new scholarship	• Create new literature in traditional and non-traditional (digital scholarship) forms.	o Scholarship as Conversation o Identify the contribution that particular articles, books, and other scholarly pieces make to disciplinary knowledge o Research as Inquiry o Synthesize ideas gathered from multiple sources. o Draw reasonable conclusions based on the analysis and interpretation of information.

In addition, experienced student employees with interest in archival or cultural heritage careers are offered advanced opportunities such as assisting with exhibit design, traveling with the archivist to set up and conduct outreach displays, and serving as chaperones of archival artifacts during crowded donor special events. In the last three years, students joined the flight archivist in a special display in collaboration with the Indianapolis Symphony Orchestra and several activities for Purdue's Girls in Aviation

event and the annual Purdue Aviation Day at the Purdue Airport. By participating as assistants in these outreach events, student employees see outreach activities modeled, participate in their design, and practice interpretive and public history skills. Not only are these activities applying information skills in the real world, but they also serve as pre-professional training.

Reflection

Specialized literacies, such as primary source and archival literacy, within the work environment of archives and special collections connect the concepts learned in the classroom to those in the surrounding landscape. At Purdue, brief in-class surveys have found most students have their first experience visiting an archives or special collections library as part of a class. Indeed, many of the student employees of Purdue University Archives and Special Collections name a class as their introduction to the very existence of primary source repositories. This serves as a reminder that each interaction by an archivist or information professional, whether in the classroom or the repository, is a new opportunity to engage students in information literacy applications.

Use of information analysis, creation, and dissemination meets the *Framework* by embedding the student—when in the role of employee—in discovery, contextualization, learning processes, and research. As a series of co-curricular activities, the work conducted by the student in conjunction with the special collections librarian or archivist builds increasing competencies in information literacy. The workplace gives the student a laboratory to act upon and think reflectively about their knowledge while expanding skills learned in the classroom and in their work; concurrently, the experiential learning is taken from the workplace and put into use in the classroom. Student skills translate into long-term competencies and conceptual learning abilities.

Not all student assistants arrive in ASC with the goal of becoming an information professional, and, in fact, most graduate and pursue careers in their undergraduate field of study. However, by the end of 2017, six former student employees had attended a graduate program in library or information science following their undergraduate studies in humanities at Purdue University—these students included five history majors and one medieval studies major. All six now have found permanent employment in libraries, archives, special collections, or museums. One former student worker, Hannah Vaughn, stated in an interview:

> I was able to experience the ASC through the lens of a researcher, and watching my fellow classmates work there, too, made me realize just how important my employment was. I was not only doing my job to preserve materials, but also to make collection materials accessible and understandable to anyone wishing to learn more about a certain topic. Whether it be from a researcher who expressed to me how much he or she enjoyed a collection or when a donor, such as Purdue alumnus and astronaut Captain Eugene Cernan, told me to keep up the good work, it truly was the people who helped foster my passion about ASC and compelled me to choose it as a career (Purdue University Libraries, 2017, p. 21).

A majority of these early career information professionals undertook internships to supplement their work experience, including four total internships at the Library of Congress and Smithsonian Institution. Each cited their experiences in the Archives and Special Collections as a motivating factor to apply. The ability to actively experience and learn in a functioning archives and special collections cements concepts learned in the classroom and at work; those experiences lead to a strong and successful internship, study abroad, and graduate school applications; in turn, early career professional position applications are strengthened by the foundations laid in their undergraduate endeavors. In each case and at all levels, the individual demonstrates their capacity to understand, analyze, and actualize information literacy concepts which they have practiced and, in some cases, become experts over the course of their student employment.

Figure 6.2.
Students at Smithsonian Internship

Conclusion

The ACRL *Framework* defines information literacy as the "set of integrated abilities encompassing the reflective discovery of information, the understanding of how information is produced and valued, and the use of information in creating new knowledge and participating ethically in communities of learning" (ACRL, 2015, p. 3). The work of an archive or special collections is inherently the work of information literacy. Every day, archives' patrons engage in the reflective discovery information in our reading rooms or within our online interfaces. Student workers observe and participate in the acquiring of records and manuscripts and work alongside archivists to make those discoveries possible, experiencing both the process and the discovery. Thus, they actively experience in their workday how information is produced and valued. Student workers conduct

research and assist patrons in their use and citation of information, activities which are at the core of original research and the scholarly creation of new knowledge. Each student enrolled in postsecondary education is expected to study, learn, and expand their understanding of the world. As educators and information specialists, archivists and special collections librarians are uniquely qualified to establish active learning workplaces designed to complement curricular activities. By creating an environment built to impart educational growth, critical-thinking, and problem-solving skills, information professionals offer unique opportunities for student learning outside of the classroom. Ideally, student employment acts not only as a rewarding, pre-professional work experience but a functioning information literacy laboratory. From the workplace to the world at large, these students are more prepared to evaluate information—its creation, analysis, and scholarly import and accuracy. Student work has inherent value—to the archivist, to the institution, and most importantly, to the student.

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Chapter Seven

The Student Friends of the John M. Kelly Library:

Workplace Information Literacy through Philanthropic Activities

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Introduction

In the summer of 2015, the University of St. Michael's College John M. Kelly Library's fundraising group, The Friends of the John M. Kelly Library committee (FOTL) funded a student position to recruit student volunteers to assist with the annual book sale. The student was to be the link between the student population and the FOTL, which is mainly comprised of college alumni. For the student to be successful, they needed to effectively communicate the important role students play within the committee's work. Today, the role has evolved into The Student Friends of the John M. Kelly Library (Student Friends), with two students who plan, organize, and manage all of the student activities for the FOTL. The Student Friends are an essential part of the annual book sale operation but are also responsible for initiating student engagement activities within the library. The activities the Student Friends oversee expose them to a new set of knowledge, skills, and abilities that supplement their education and enhance their university experience. This includes, but is not limited to, leadership development, community-mindedness, evidence-based decision-making, and critically using non-scholarly information sources. This experience provides students with the opportunity to practice the transferability

of their acquired academic knowledge to the needs of a workplace environment. The development of workplace information literacy (IL) skills through philanthropic activities engages the Student Friends with The Association of College & Research Libraries' *Framework for Information Literacy for Higher Education* concepts (*Framework*). The activities of donation sorting, student volunteer coordinators, and fundraising have the Student Friends researching and evaluating non-academic resources, producing new information within a needed context, and collaborating with peers and other stakeholders to gain and share knowledge to complete assigned tasks.

Related Literature

Higher Education Fundraising and Student Experiences

When it comes to fundraising in academic libraries, the literature focuses on three aspects: the rise of librarians in development activities (Ercolano, 2007; Lorenzen, 2010; Doan & Morris, 2012), the importance of the library to create a culture of philanthropy (Huang, 2006; Whitchurch & Comer, 2016; Crumpton, 2016), and to take advantage of associated groups, such as a Friends of the Library committee (D'Andraia, Fitzpatrick, & Oliver, 2011; Holt, 2005; Watson, 2013; Dilworth & Henzl, 2017). However, there is a gap in the library literature with regard to the role students play in these initiatives. Yet, they are a critical part of an institution's fundraising activities. Students are commonly hired to work the telephone call centres to solicit alumni for financial donations or thank them for past donations, they volunteer at alumni events, and some institutions even recruit students to enroll in pre-alumni or student philanthropy councils (Drezner & Huehls, 2015; Hurvitz, 2013). The inclusion of students in these activities cultivates them to be future donors. The research within this area establishes that students' experiences during their post-secondary careers have a direct impact on their future as alumni donors (Clotfelter, 2003; Gaier, 2005; Drezner, 2010). This positive experience is influenced by both course base and extracurricular learning (Gaier 2005; Pumerantz, 2005). The library as a learning hub has the ability to connect with students on both of these levels by creating meaningful, authentic experiences that build stronger connections with the students, which will leave them with a lasting impression of the library after graduation.

Academic Libraries as a Workplace IL Learning Environment

The academic library as an employer is an environment where students can develop workplace IL skills (Stanfield & Palmer, 2011; Decker & Townes, 2017). Marc Forster (2017) defines information literacy in the workplace as "learning, experienced as task-focused information need and its fulfillment through effective information engagement as knowledge development, ontologically grounded in a discourse community and its domain" (p. 15). In other words, the ability to turn information into knowledge is through the application of the information for a task's completion within the context of its environment and its knowledgeable members. This can be seen within traditional student library employee duties, such as circulation desk assistance. Within this role, students are provided formal training to assist with common tasks and/or questions they will encounter. However, when they are exposed to uncommon requests, they need to search for the answer in order to assist the patron. Authoritative resources include

experienced student assistants, a supervisor, the library's website, and/or a printed or electronic training manual. Through this experience, students develop their working knowledge of the service point and which authoritative source to consult for specific inquiries. Much like a real workplace experience, students need to encounter problem-solving opportunities that encourage them to reflect and adapt the skills they already have in order to complete a task (Forster, 2017, p. 13). Unlike a classroom environment, workplaces are less structured when it comes to determining which information sources are available and where to search for information (Malafi, Liu, & Goldstein, 2017, p. 83). Thus, being exposed to uncommon queries enables students to practice the IL skills they have developed through their academic work and apply it to their workplace need. Over time, they become an authoritative source for newer employees within the service point, which creates a collaborative work environment for knowledge-sharing. Yet, libraries only require a set number of students for traditional student employee roles. Thus, there is a need for the library to expand beyond these roles and create new student employment and volunteer experiences that provide them the opportunity to develop workplace IL competencies.

Campus employment opportunities provide students with a non-intimidating experience of workplace environments. The *Framework* expands on the "traditional information skills (determine, access, locate, understand, produce, and use information) to include the collaborative production and sharing of information in participatory digital environments (collaborate, participate, produce, and share)" (Mackey & Jacobsen, 2014, p. 1). However, participatory environments are not solely digital in nature. The workplace is a participatory environment where employees work together toward a common goal. They collaborate as a unit, sharing knowledge both formally and informally through their daily interactions in order to be successful. Lloyd (2011) states, "In the actual setting of work, there is an emphasis on information that is circulated internally, often in informal circumstances, via informal conversation, through storytelling or contingently at the moment of practice…. Through them people are connected with the information landscape" (p. 291). Students are engaging in this information landscape when they encounter participatory activities that require them to share their knowledge with other students. Monge and Frisicaro-Pawlowski (2014) examined the need for libraries to create new opportunities for collaboration to support non-formal and informal workplace learning practices. They concluded by stating,

> By opening up new conduits, forums, and models for learning, we foster new venues in which information can take shape. By reconsidering the varieties of learning we enable—those forged both formally and informally, individually and collaboratively—through the deliberate and thoughtful scaffolding of information literacy instruction, we can help students develop both the agency and the agility required of all workers in the information age (Monge & Frisicaro-Pawlowski, 2014, p. 71).

Creating participatory opportunities engages students to share their knowledge skills with each other and will demonstrate their IL abilities to seek, evaluate, and utilize information sources in order to fill a collective knowledge gap. These are workplace IL skills

sought after by employers because the ability to effectively share knowledge with a group contributes to the success of the work environment (Monge & Frisicaro-Pawlowski, 2014, p. 71). Thus, it is through workplace IL activities that an academic library can create an authentic and meaningful experience within its space that engages students with the *Framework*'s concepts and provides them with the skills valued by employers for their post-higher-education careers.

Student Friends Background

The Student Leader and the Student Promotion and Event Planner are known together as The Student Friends, and the students they recruit are the student volunteers. Each Student Friend is the lead for their titled responsibility, but they are also cross-trained in order to provide a complete picture of the Student Friends activities and their role within the FOTL mission. The Student Friends participate in the FOTL's commitment of "ensuring that the library continues its vital mission of supporting the personal and intellectual endeavours of all those who come to the University of St. Michael's College now and in the future" (Friends of the John M. Kelly Library, Constitution, May 9, 2015). The Student Friends focus on engaging students with an authentic experience in order to strengthen the link between the students and the library and, in turn, exemplify the importance of a student philanthropic presence within a post-secondary environment. They are also members of other student groups on campus. Their participation in other clubs and associations provides an opportunity for the Student Friends to co-organize and cross-promote their activities and events, which leads to an increased student turn-out for both groups. This provides an already-established active student base for the Students Friends when promoting their activities or recruiting for volunteers. A majority of the Student Friends and student volunteers come from the partnership with the Book and Media Studies Student Association. This academic program focuses on the role and influence of print and media in historical and current culture. The activities of the Student Friends provide hands-on experience with book history, print and readership culture, social networks and participatory culture, advertising, and communication, which enhances and supplements the formal education for the students enrolled within this program.

Since 2015, the Student Friends have organized eight student engagement events, six library collection tours, three annual book sales, two fundraising events, contributed to conducting two student surveys, and have hosted one workshop. Outside of these activities, they are fulfilling their original purpose of increasing student volunteers for the annual book sale. Their first recruitment drive resulted in 17 participants and by 2018 had a total of 59 student volunteers. They have contributed to supporting the personal and intellectual endeavours of the student volunteers through their organized activities, such as learning how to identify the parts of an antiquated book through hands-on experience or developing English conversational skills of international students through the creative activity of making book art. The Student Friends themselves have expressed their overall satisfaction with this multifaceted learning experience that has engaged them both academically and practically.

Student Friends Activities and IL Development

This section takes an in-depth look at some of the Student Friends activities that engage them with some of the *Framework*'s concepts, the knowledge practices they are connecting with, and the dispositions they are developing. As previously mentioned, the Student Friends are involved with a number of different priorities, which sees them build their knowledge in social media communities, graphic design, event planning, student leadership, money management, and data analysis. The activities of Book Donation Sorting, Student Volunteer Coordinators, and Fundraising will be examined.

Book Donation Sorting

Donations for the annual book sale keep both the FOTL and Student Friends active throughout the year. The FOTL accepts all manners of media and, as a result, the book sale contains not only printed material but also sheet music, audiotapes, vinyl records, CDs, DVDs, VHS cassettes, video game cartridges, comics, and, most recently, artistic prints. The donation boxes are placed within a communal area and are sorted into predetermined categories. Volunteers sort through the donations and evaluate the material to determine which book sale category it belongs to or if it is a candidate for the recycle bin. Further research is needed for material that is judged to be of significant value. The information sources consulted include but are not limited to online book marketplaces, auction websites, and expert opinions from FOTL and/or the library's staff members.

The Student Friends involvement

The Student Friends participate in sorting through donations in the same fashion as the FOTL volunteers. The Student Friends are initially instructed by a member of the FOTL on how to evaluate donations for its format, subject matter, physical condition, and value. They work with the FOTL sorters until they are confident they can teach and supervise a group of student volunteers in this activity. Once the Student Friends obtain a group of student volunteers, they instruct them on sorting the donation materials, which has them sharing their acquired knowledge for the task.† They teach the student volunteers how to determine a book's subject matter, point out unique characteristics of the binding, how to spot rare editions, and how to determine its value for the book sale. Yet, not all donated material is simple to sort. When challenges arise, the Student Friends and the student volunteers must search for sources that will provide them the information needed to make a decision on which category to place the item. The information sources they consult are often online, but they also seek out a member of the FOTL for assistance or evaluate the material which has already been sorted into a subject box. This activity has students adapting the information they have learned into working knowledge and encourages them to locate new sources of information to aid in the completion of the assigned task.

† The task of seeking student volunteers for this activity is similar in nature to recruiting students to volunteer for the annual book sale; thus, it will be discussed within that activity.

IL development through book donation sorting

The Student Friends activity of leading the book donation sorting engages them with three of the *Framework*'s IL concepts: Authority is Constructed and Contextual, Research as Inquiry, and Searching as Strategic Exploration. The concept of Authority is Constructed and Contextual is present within this activity, as the Student Friends seek information from a variety of sources to determine an item's value or interrupt its distinguishing characteristics. Within an academic environment, this frame engages students to critically evaluate information based on the author's expertise and the sources they cite. However, for non-academic sources, students need to evaluate the context of the source in order to determine the validity of the information being presented. Online book prices are heavily influenced by hidden factors, such as selling fees, shipping costs, rarity, and condition. These factors influence the credibility of booksellers and the online marketplaces and develop the Student Friends disposition towards an "awareness of the importance of assessing content with a skeptical stance" (*Framework*, 2015, p. 13). Over time, the students' expertise grows with the practice of evaluating non-academic sources for accuracy. Thus, they become an authoritative source for the student volunteers when participating in this activity, which connects them with the *Framework*'s knowledge practice of "acknowledging they are developing their own authoritative voice in a particular area and recognize the responsibilities this entails, including seeking accuracy and reliability" (p. 13).

Research as Inquiry and Searching as Strategic Exploration are also present in this activity. Within an academic context, these frames relate to developing the research question and expanding keyword terms to locate information sources. The Student Friends engage with these frames by asking themselves questions about the item in their hand, which leads them to proper classification and value. This includes but is not limited to what type of binding is present, when was it published, who the intended audience is, whether it has any distinguishing markings by the author or previous owner, if it's a legitimate copy, and the extent of its condition. This has the Student Friends connect with the *Framework*'s knowledge practice of "deal with complex research by breaking complex questions into simple ones" (p. 18). Further research is required if answers are not obvious from the source itself. This activity complements the Book and Media Studies course on book history but requires them to build on the knowledge they have learned in class by seeking out related sources. Donations can be any media item from any time period; thus, a thorough analysis of older material is required in order to determine the context of the book and its potential value. They are aware that their decisions have a direct impact on the book sale income, so at first, they lean on information sources to provide the answers but eventually trust their acquired knowledge through continual practice. Forster (2017) states that application of information is vital within its context: "Knowing how to search databases and critique findings is not enough; the information-literate person must be able to exhibit an ability to reflect and so adapt information practices" (p. 13). In order for the Student Friends to build on their knowledge, they teach book sorting to the student volunteers. This sharing of knowledge provides them the opportunity for personal development through a mentorship role and exposes them to situations where they must demonstrate their authority with the task. Teaching the student volunteers how to search for and use non-academic information sources involved

in sorting donations has them working with resources which are dynamic in nature and requires them to adapt their knowledge in order to offset the limitations of the available information. Through this activity, they create a participatory environment founded on sharing workplace IL skills and develop their disposition of "realiz[ing] that information sources vary greatly in content and format and have varying relevance and value," and that they will need to "persist in the face of search challenges, and know when they have enough information to complete the information task" (*Framework*, 2015, p. 23).

Student Volunteer Coordinators

Volunteers are the backbone of the annual book sale. The success of the book sale as an operation is dependent on a high number of student volunteers. They are crucial during the setup days by moving hundreds of sorted donation boxes to the book sale venue and then unpacking them onto designated tables. During the sale, they manage the bag check area, where visitors drop off their personal belongings before entering the book sale. They also assist with restocking the book sale tables and conducting the visitor survey. After the sale, the student volunteers pack the remaining books into boxes and move them back to the library. The student volunteers' times and activities are scheduled prior to the event and tracked during the sale in order for each student to receive a book sale voucher for their contributed time.

The Student Friends involvement

It is the Student Friends' responsibility to recruit, schedule, and manage the student volunteers for the annual book sale. They develop a marketing campaign months before the book sale in order to build interest in the sale with the student population. The promotion of the sale and the volunteer opportunity is communicated through social media, poster advertising, direct solicitation to student groups and academic programs, and by attending scheduled campus events, such as Clubs Day. The Student Friends must collect and maintain a list of potential student volunteers and then schedule them for the 10 days of the book sale operation. Throughout this timeframe, the Student Friends collaborate with the FOTL book sale volunteer coordinator by sharing the information they have obtained, which is contributed to the event's master volunteer schedule. During the book sale, the Student Friends are the key contact point for the student volunteers. Their leadership activities include student direction of the assigned tasks, being a mentor to the student volunteers, checking in with them after their shift, and distributing the book sale vouchers. The Student Friends also photograph activities of the book sale for social media promotion and to build a repository of images for use in future advertising. Once the book sale is complete, the Student Friends review the student volunteers' attendance to process any further honorariums, send out thank you messages, plan a student volunteer appreciation event, and submit a final report to the FOTL committee with their reflections on the success, challenges, and recommendations of the activity, which is used in the planning of the next year's sale.

IL development through volunteer coordination

The responsibility of coordinating the book sale student volunteers has the Student Friends engaging with the *Framework*'s concepts of Information Creation as a Process

and Information Has Value. The Student Friends interaction with the concept of Information Creation as a Process occurs when they create advertising campaigns that encourage students to volunteer for the book sale. Within an academic context, this frame engages students to reflect on the processes of creating content by asking them to reflect on how the information was researched and framed for communication and how its method of dissemination impacts the message. In a non-academic context, there is also the need to reflect on past methods used to create information and to determine the most effective method to share the content. Similar to recruiting students for book sorting, the Student Friends create specific and generic messages based on the information sources they have available to them. The Student Friends spend time researching the online communities of campus student groups, student academic associations, and other forums where they recruit students through the use of social media tools or direct messaging. They analyze past Student Friends reports, social media posts, and poster advertising in order to determine which messages and methods were successful and which can be improved. In order for the callout to resonate with a student, the Student Friends must evaluate the nature of the group they are contacting in order to create an effective message to participate. The creation of the volunteer message is influenced by the method of communication. Traditional poster advertising is not as dynamic as social media posts, where a participatory activity can be included. Social media posting provides the Student Friends with the opportunity to monitor the message's effectiveness in reaching students, which can be revised when the information is proving unsuccessful. This ongoing revision of the message demonstrates their ability to evaluate and adapt the information for the intended audience in order for the message to be effective. Poster advertising is often a one-shot opportunity with no ability for modification, so the message needs to be clear, concise, and complete. This activity connects the Student Friends with the *Framework*'s knowledge practice of identifying the "implications of information formats that contain static or dynamic information" (p. 14), and develops their disposition of "understand[ing] that different methods of information dissemination with different purposes are available for their use" (p. 15).

The Student Friends' experiences and reactions are captured in the book sale student volunteer report. The use and creation of this resource engage the Student Friends with the concept of Information Has Value. Within their scholarly pursuits, this frame has students reflecting on the importance of proper citation and the need to be respectful of intellectual property by using researched information ethically. For the Student Friends, the usage of past student volunteer reports and the creation of their own report develops their appreciation of using previously obtained knowledge and gains an understanding of how their contribution will benefit the next set of Student Friends. These reports are the primary sources that convey the activity's processes and methods of coordinating the book sale student volunteers. Forster (2014) stresses that "an information-literate individual in the workplace must operate through 'information relationships' of collaboration and sharing" (p. 34). The Student Friends' participation in sharing their experiences through a reflective exercise allows them to transfer their learned knowledge from previous Student Friends to future Student Friends and to the FOTL committee. They give credit to past Student Friends' ideas, which have been used to explain how its incorporation led to the success of the present activity. The Student Friends are

encouraged to provide their own thoughts on how this activity can be improved for the next year by reviewing the processes and methods that need improvement. Thus, the student volunteer report is a valued document for both future Student Friends and the FOTL committee. This develops their disposition on "valu[ing] the skills, time, and effort needed to produce information" and to "see themselves as contributors to the information marketplace rather than only consumers of it" (*Framework*, 2015, p. 17).

Fundraising

The Student Friends are a part of a much larger philanthropic picture. As the student branch of the FOTL committee, they help develop a philanthropic culture within the student population. The FOTL contributes their time to operating the annual book sale in order to contribute financially to the library, and the Student Friends mirror this contribution with their own fundraising activity. In order to communicate that libraries are donor-driven environments, the Student Friends organize a fundraising campaign toward an object which has been requested by the student population, such as a microwave for the library's café or specific laptop or cell phone chargers. The item itself is relatively small in nature, which does not distract donors away from the institution's larger fundraising objectives.

The Student Friends involvement

The Student Friends begin by researching the needs of the students within the library. When they have chosen an item, they determine a financial goal and develop a strategy that will encourage people to donate, such as selling microwave popcorn, with proceeds going toward the purchase of a microwave. This activity requires them to plan all aspects of staging the event. This includes days and times on which the event should be scheduled, where the event should be held to maximize exposure, what permissions and resources are required for use of the location, how the event will be advertised, and what material is needed. They also need to locate financial information sources and tools that will guide them toward a detailed breakdown of the monetary aspect of operating the activity. This includes the cost of materials; the set price that will recoup the costs, provide a percentage toward the final goal, and be attractive to the student community; and the projected sales needed for the initiative to be successful. Once this information is obtained, the Student Friends write a proposal to the FOTL committee that includes the full extent of the event and a request for an initial financial investment that covers the cost of materials to begin the campaign. Once the event has concluded, the item is purchased and the initial investment is returned to the FOTL committee along with any remaining amount fundraised. The Student Friends write a final reflection report that expresses the successes and challenges of the event, which is used as an information source for future Student Friends.

IL development through fundraising

When planning the fundraising event, the Student Friends again engage with the *Framework*'s concepts of Research as Inquiry and Searching as Strategic Exploration. As mentioned previously, this frame encourages students to explore information gaps by asking new questions and locating information sources through the use of creative search

terms. The Student Friends begin the fundraising activity with the initial question, "What are students requesting to see in the library?" In order to answer this question, they must locate, collect, and analyze available information from various sources. Their research has them searching for information posted by students online and through social media. They inquire with front-line library staff on requests made by students. They poll the student volunteers through their social media channels and in-person during book-sorting sessions. The information they gather from these lines of inquiry connects them with the *Framework*'s knowledge practice of "draw[ing] reasonable conclusions based on the analysis and interpretation of information" (p. 18) and develops their disposition to "seek multiple perspectives during information gathering and assessment" (p. 19).

The exploration of searching for this information develops their ability to work with non-database information sources and interpret the information found. Head (2017) states that employers are seeking individuals who are "patient and persistent researchers. When making hires, they looked for curious and engaged graduates who may have started with Google but then retrieved additional information in a variety of formats and identified patterns from an array of sources" (p. 83). This trial-and-error experience requires the Student Friends to expand their known searching strategies, such as database keywords or free text searching, and discover other viable sources of information in order to obtain relevant information. Thus, they are connecting with the *Framework*'s knowledge practice of "identify[ing] interested parties …who might produce information about a topic and then determine how to access the information" (p. 22), which develops their disposition to "recognize the value of browsing and other serendipitous methods of information gathering" (p. 23). The collection of the gathered information is then used as evidence to support their decision on what item will be the goal of the fundraising event.

This activity also has the Student Friends exposed to the financial literacy skills of budgeting and money management through the activity of creating a return on investment statement that provides sales projection based on the net income to investment costs. This part of the activity has been the largest challenge for the Student Friends, who are predominately humanities students and, as such, they require support on how to obtain and utilize the financial information needed to complete the task of writing the proposal. This experience with financial literacy enhances their IL development by determining what financial information they require and how to use the available tools with the information they obtained. This provides the Student Friends with the opportunity to practice the transferability of their acquired IL skills. Thus, they connect with the *Framework*'s knowledge practice of "organiz[ing] information in meaningful ways" (p. 18) by communicating the financial aspects of the activity through a return on investment analysis that has them developing their disposition to "seek appropriate help when needed" (p. 19).

Conclusion

The Student Friends of the John M. Kelly Library participate in authentic, meaningful activities that exercise their information literacy skills in a workplace environment that will support their information-seeking behaviours in their post-university careers. The

activities prepare them for a working world which may not have access to clearly defined information sources and will require them to recognize when information is needed and how to critically use alternative resources. The students engage with the *Framework*'s concepts outside of the classroom setting by interacting with different types of authority sources, participating in the process of information creation, continually questioning past methodology, and seeking new resources that will allow them to successfully complete their assigned tasks. They participate in online and in-person information communities which expand their knowledge base and provide the opportunity for others to learn from their experiences. The reflection reports they produce demonstrate the methods they undertook to overcome any information challenges and passes along their experiences that lead to success, which makes them a valuable resource to future Student Friends, the FOTL committee, and the library itself. The Student Friends experience is one of such richness in responsibilities, decision-making, workplace IL learning opportunities, and participatory student engagement that it will establish a lasting connection between the students and the library beyond their graduation.

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SECTION III

Innovative Initiatives

Chapter Eight

Library Labyrinth:
Strategic Exploration in a Library Escape Room

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Introduction: The Importance of Games

Although the contemporary game industry has only been in existence since the early 1970s, game playing as both a social activity and tool for learning and motivation can be traced back to some of the earliest human history (Radoff, 2010). For example, the social power of game playing can be seen as early as 3100 BC in the Egyptian game of Senet. Although little is known about the rules, Senet was known to have also been popular in neighboring cultures as well, indicating the importance of social gaming as a tool for trade, communication, and relation-building within and across cultures (Crist, de Voogt, & Dunn-Vaturi, 2016). Similarly, wargames, or ancient tabletop strategy games that simulate real or fictional military operations, have been used prolifically throughout history for education and as a social tool for hobbyists and enthusiasts in the 19th century. In fact, the game of Kriegsspiel, which was originally invented around 1811 by Lieutenant Georg Leopold von Reiswitz to train Prussian and German armies, is partially credited for the Prussian victory over the Second French Empire in the Franco-Prussian War of 1870–1871 (Graham, 2014). Historically, even libraries as institutions aren't strangers to games and gaming. At least as early as the 19th century, "games and other forms of play [have been] used …to attract underserved patrons, to introduce patrons to other library resources and services, and to facilitate engagement between library patrons" (Nicholson, 2013, p. 341).

To cite these examples of gaming throughout history and within libraries isn't meant to suggest that using games as an educational tool isn't an exciting or innovative concept. Instead, the idea that humans have responded so positively to games throughout shared history is, if anything, a great boon to the argument for games based learning pedagogy and an indication that the use of games in the classroom and within libraries is more than just a trend, and instead has the potential to carry significant staying power. That being said, given the uniqueness of the current technological landscape in addition to

how rapidly the current game industry is expanding, gamifying library instruction and information literacy is easier said than done and can quickly become overwhelming.

Within this chapter is a discussion of how the popularity of games is currently being harnessed within academic libraries as well as how escape rooms, in particular, are an incredibly important and a powerful co-curricular tool when developed to focus on teaching information literacy concepts. This chapter also explores the value of gamifying information literacy and why this approach has immense potential for scaling, instruction/education, outreach, and faculty-student collaboration. Furthermore, it will be reviewing the tools and practices currently being used to develop library escape rooms as well as how librarians can successfully involve student clubs in the development, deployment, advertisement, and management of these games.

What Are Escape Rooms?

Escape rooms are real-life puzzle games inspired by "escape-the-room"-style video games and were first introduced in the United States in 2012. Although a very recent form of entertainment, escape rooms have become incredibly popular, with most metropolitan areas now housing permanent venues. In an escape room, a group of three or more participants, or "players," are willingly confined within a physical room or set of rooms. The room is typically decorated to fit an overarching theme (i.e., laboratory, library, etc.) that may be related to a larger storyline, resulting in a highly immersive, plot-driven experience. Within the room, the group of players must cooperatively complete tasks, find hidden clues, and solve puzzles in order to win the game, usually by escaping the room.

At their core, these games already inherently embody many of the ACRL frames for information literacy, strongest of which is the games' reinforcement of Searching as Strategic Exploration. Escape rooms actively encourage players to solve puzzles that require a great deal of mental flexibility but to also find and evaluate information in collaborative, often non-linear ways in order to win. Furthermore, escape rooms are "accessible to a wide age range of players and do not favor any gender; in fact, the most successful teams are those that are made up of players with a variety of experiences, skills, background knowledge, and physical abilities" (Nicholson, 2016, p. 1). In other words, escape rooms inherently reward each players' individual skills and problem-solving through collective knowledge. Although the games are generally commercially run and produced, because of their unique educational potential, artistic and creative flexibility, and ease of engagement, libraries and schools have quickly taken to producing their own escape rooms.

Escape Rooms in Libraries

Currently, escape rooms have already taken on a variety of forms within both public and academic libraries, from collaborative teen services projects for fun community engagement (Thoegersen & Thoegersen, 2016) to creatively challenging university students' to more closely examine information for factual inaccuracies and bias (Pun, 2017). Alternatively, while not necessarily an escape room, libraries can use those basic concepts of problem/puzzle-solving to incorporate into small gamified activity. At one

university library, the librarian provided a small packet to their students, which included a quick citation style guide and jumbled pieces of a book citation written on small index cards. If the students placed the parts of the citation in the proper order, the digits on the back of the cards would reveal a code to unlock a box (Walsh, 2016). However, for those libraries looking for a quick start, because of the demand and popularity of escape rooms, various services such as Breakout EDU (www.breakoutedu.com/) now create and provide custom kits for purchase.

If not purchasing a kit, which can often be cost prohibitive, many escape rooms, like those mentioned above, can be put together on little to no budget and can be sized to any scale, from a simple classroom activity to a dedicated hour-long session. (See the end of the chapter for a list of helpful planning tools.) This flexibility offered through basic escape room principles can be incredibly useful both as a tool for teaching and scaling information literacy but also for outreach and engagement. Librarians can also make a variety of decisions about the scope and complexity of the escape room that can significantly decrease the time and money needed for the project. For example, although commercial escape rooms are typically permanent or semi-permanent installations and span one or more rooms, escape rooms for libraries may not have the same requirements or even spatial capability. Instead, librarians can make the choice to create "mobile" escape rooms (Staff, 2017), which are small kits, generally in a locking briefcase or similar box, that contain all of the clues, props, and puzzles used in a regular escape room game but can be set up in any location. While a full escape room may require more extensive prop and set design in order to fully immerse players in the story, mobile escape rooms focus on the tools and clues needed for a successful game of task-based problem-solving.

Although this chapter is meant to serve as an overview and discussion of the importance of escape rooms as a co-curricular tool for information literacy rather than a how-to manual, many free and open resources and toolkits exist to guide librarians new to the process through the creation and set up of their first library escape room.

Partnerships for Escape Rooms

Perhaps one of the most exciting aspects commonly cited among librarians involved in creating DIY escape rooms is the potential for collaboration with students and faculty. While the experience of playing an escape room is collaborative, creating one can be equally so. Although it is possible for a single person or a handful of people to produce an escape room, creating an escape room in cooperation with a group can yield spectacular results. However, deciding whether to create an escape room alone or with a library community will depend on the need, use, and scale for the game. While it may be tempting to limit the creators of the library escape room to a handful of librarians, there are a variety of learning opportunities offered by partnering with library users in addition to those offered by actually playing the game.

Involving a library community can happen in a variety of ways. Depending on the academic institution, reaching out to career services, archives, first-year programs, or faculty across any field can yield a variety of partnerships and ideas and may be a simple place to start in order to survey potential curricular needs or skills that can be incorporated into an escape room. Additionally, different departments or student engagement

services on campus may also provide various opportunities or connections to interested partners, especially those looking for highly engaging activities. But perhaps one of the most powerful partnerships are student clubs. Student clubs are often very active and aware of events and resources on campus, have an established member base, can request funding for projects and events, and are excellent at word-of-mouth marketing. Many universities and colleges already have student groups interested in games and gaming, trivia, or even various aspects of nerd culture and would be natural partners for setting up an escape room. Regardless of each institution's unique potential for partnership, the best way to incorporate students and faculty is by being aware of the campus community and the various groups and departments that would be excited about such a project.

The first benefit of partnering with library users is that the escape room puzzles, clues, storyline, and even artistic style will improve by utilizing the diversity of skills and opinions offered by the patrons who are closest to the selected target group in terms of taste and interests. If, as mentioned previously, the most successful escape room teams are those that have a diverse set of skills, then surely those rooms designed by a diverse community will also generally improve in quality. Puzzles created through a variety of perspectives have the potential to be more challenging, unique, and cater to a variety of player strengths. Depending on the type of escape room created (stationary or mobile), collaboration can result in a deeper or more involved and interesting plot or story, which can be told through more elaborate set displays. Students can also apply the creation of escape room components into course projects, capstones, and other class assignments.

Second, involving library users in the design of an escape room is an easy way to be certain that the needs and interests of the campus community will be represented. This will ensure that the game is appealing and interesting to the students through its story, aesthetics, and puzzles offered. Such student involvement in the creation process allows for organic, built-in feedback and assessment as the project is created, instead of traditional user or beta testing. For example, if the chess club is particularly popular on campus, incorporating a chess-based puzzle or clue into an escape room would be a simple technique to personalize the experience for the students. Similarly, if the library is partnering with an engineering faculty member to develop a course-embedded escape room, being familiar with the classroom dynamics and course assignments will make the puzzles directly relevant to the students in the class. By incorporating aspects unique to the campus culture into the game itself, students may be more likely to engage and retain the information they've learned while playing because it directly speaks to their interests as opposed to seeming like another mildly gamified assignment.

Finally, by having to collaboratively design and develop puzzles and clues that teach information literacy standards, the students will, in turn, learn important information literacy skills but also have to apply them in creative ways to game puzzles for their peers. Additionally, students are not only learning through the process but also constantly evaluating and testing the puzzles and information presented throughout the game. This ensures that both the information presented and puzzles are coherent and engaging for students, which can oftentimes be difficult or lengthy to evaluate when creating instruction without the help of student input.

Although escape rooms are being discussed here as a potential co-curricular tool to teach information literacy, above all else, they are fun. By enthusiastically approaching

the creation of an escape room to teach information literacy as a game first and a tool second, student players may be far more likely to engage and enjoy themselves and, in doing so, learn and retain the skills passively taught to them.

Information Literacy in Escape Rooms

Aside from the actual creation of the escape room, the game itself offers immense potential as a co-curricular tool for teaching information literacy to students through active learning. Not only does the game naturally embody a variety of concepts within the ACRL *Framework*, but the basic game premise is flexible and can be specialized for any subject or class at nearly any scale. How the frames are applied can vary widely and largely depends on the needs of the target group and institution. The escape room can focus on teaching skills through a single concept or even incorporate multiple framework concepts by testing a variety of skills through separate but related puzzles as linked to a larger theme or story (Papaleka, 2017). Furthermore, students are more likely to retain information and knowledge through active learning and hands-on activities (Stone, 2016).

As stated earlier, many framework concepts are already naturally integrated into escape rooms, owing to their particular format, which necessitates information gathering, synthesis, and analysis. For example, the Information Has Value and Searching as Strategic Exploration concepts are already heavily utilized in escape rooms, regardless of content. Although the puzzles can be adapted to reflect specific library-related skills (i.e., database searching, evaluating information, etc.), players in any escape room must utilize flexible exploratory skills and develop strategies for finding and connecting concepts and information in order to win. Similarly, all clues within escape rooms are valuable to (potentially) both the story and a problem or puzzle needing to be solved, despite content, and the way in which the information is presented and in what context must often be thoughtfully and fully considered. How that information manifests within the escape room and what the students choose to do with the information in context is key to winning. In other words, all information within escape rooms has deep contextual meaning and must be strategically located and used. This is frequently a highly non-linear process and, as mentioned previously, actually relies on players with diverse worldviews and problem-solving skills. Often, many escape rooms also incorporate elements that require players to do research on a particular object, topic, or clue in order to solve a puzzle. Incorporating a similar element plays to the Research as Inquiry concept by asking players not only to find the clues but question their history, meaning, and importance.

Whether this is a main focus of the escape room or not, using the Authority is Constructed and Contextual concept can be realized in a variety of ways. During the game, players can be asked to define and analyze different types of authority by engaging with historically significant events or objects (such as a famous painting, historic document, archival material, etc.) and further analyze the origin, context, and suitability of the information source to solving a final question or puzzle. This can be especially powerful

when partnering with university or local historical archives and would go hand-in-hand if wanting to explore the Scholarship as Conversation concept. Engaging with archival material or information from historically marginalized identities are especially excellent ways to challenge traditional notions of authority and embed critical social justice concepts into the game. Ideally, the escape room offers a unique formula to embed critical information literacy, given its non-linear and interactive nature.

Emerging Technology and Escape Rooms

Potential for escape rooms as a co-curricular tool is only made greater when imagining the future possibility for the incorporation of current and emerging technologies within the game. Depending on the academic institution, this incorporation of emerging technology can even lead to partnerships with departments, faculty, or students involved in these areas across campus.

Many institutions are now building makerspaces or similar innovation hubs within the libraries' physical space, a trend likely to continue growing (Filar & Folkman, 2017). Collaboration with these new tools and learning hubs will only continue to allow libraries to create more interactive and innovative escape rooms. However, institutions of higher learning are rapidly expanding traditionally in-person programs to digital spaces, resulting in a large number of online or distance students who wouldn't normally have access to these tools or even a physical escape room. Despite this, emerging technologies can easily aid in the adaptation of escape rooms for an online student community; after all, escape rooms were originally designed as computer games.

Using technology such as virtual reality (VR) headsets can help future escape rooms transcend standard keyboard and mouse video games and, instead, theoretically allow online or distance students to physically engage with the same room and puzzles offered to in-person students. VR also has the potential to allow online students to physically interact with one another to solve physical escape room puzzles. While these are just a few simple examples of current and emerging technologies and tools that can be applied to escape rooms, many more exist that could provide worthwhile augmentation for collaborative co-curricular learning.

Conclusion

In conclusion, although escape rooms are currently providing librarians with exciting opportunities to teach information literacy through co-curricular activities (regardless of the future trends and implications for escape rooms themselves), what can be garnered from this current interest is that people can and do love to learn through games. Although escape rooms for information literacy are still relatively new and evolving, the best way to generate ideas for a future library escape room project is to play one yourself! Learning the culture, techniques, puzzles, and storytelling elements of an escape room first-hand is the best way to truly understand and inform library practice. Having fun will translate into a personal creation and passion to create the most engaging and

exciting escape room for students. Escape rooms and gamification should, first and foremost, be fun for students. Once they are engaged and having a good time, through active engagement, learning will follow.

Escape Room Tools & Resources

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Chapter Nine

Fostering International Students' Academic Transformation Using Information Literacy Programming

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Programming

Students from other counties are often compelled to face linguistic, educational, cultural, social, economic, political, psychological differences, and diversity in a new environment while absorbing or rejecting information spoken or written in their second language. Improving their English-speaking and writing skills are not sufficient enough. Having information literacy skills helps them analyze these differences and diversity, become creative, and possibly realize their potential by thinking outside the box.

At the Leddy Library at the University of Windsor, Canada, a unique library program was launched, called the English Conversation Group (ECG) for international students in August 2013, and has been offering this service weekly ever since. When Master level international students want to use English and develop conversation skills outside of the classroom, the ECG is there to facilitate this need. Librarians can create activities, in collaboration with other academic services divisions and departments, to help students gain information-literacy skills in a safe and fun setting. By noticing the power of information literacy skills, librarians at the Leddy Library at the University of Windsor lead the ECG program and play an integral role to help international

students gain information-literacy skills outside of academic programming in an informational gathering space. Librarians also recognize the various supporting staff and stakeholders with which to connect the students. This chapter explains the operational and designing process of the ECG program, using Mezirow's transformative learning theory (1990/1991/1996/2009) and the *Framework for Information Literacy for Higher Education* (2015) by the Association of College and Research Libraries (ACRL *Framework*). The six-year practice and progress of the ECG confirms that the program can further international students' transformative learning.

Transformative/Transformational Learning Theory and Information Literacy

The transformative theory, which Jack Mezirow (1923–2014) conceived of in 1978, has been employed and expanded by himself and other scholars as transformative or transformational theories in higher education and beyond (e.g., Mezirow, 1990/1991/1996/2009; Baumgartner, 2001; Meyer, Land, & Baillie, 2010). It has also been discussed and recommended in the area of library and information science (LIS) for our professional growth (e.g., Hooper and Scharf, 2017), as well as for student academic growth (e.g., Todd, 1999; Wyss, 2005). Todd and Wyss have already made a connection between transformational learning and information literacy in the online environment. Therefore, using transformative/transformational learning theories in relation to information literacy is not new. However, the six-year practice and progress of the ECG at the Leddy Library substantiate how effectively this program has incorporated information literacy and, hence, can accelerate transformative learning.

There are strong connections between Mezirow's transformative learning theory and the *Framework for Information Literacy for Higher Education* (2015) by the Association of College and Research Libraries. Mezirow (2009) defines transformative learning as the process that involves critically reflecting on our "frames of reference"—that is, "the structures of culture and language"—because they form and restrict our observation, cognition, and emotion by influencing our motives, objectives, beliefs, and expectations (p. 92). In the process, "frames of reference" can be transformed into "more inclusive, discriminating, permeable, critically reflective" (1996, p. 168) and "integrative perspective" (1990, p. 14) dispositions. Mezirow (2009) also underlines the educators' roles to help learners' critical reflection to improve their abilities and predispositions (p. 94).

The process of transformative learning corresponds to librarians' attempt to transform students from "novice learners" into "experts": information literacy skills allow students to be more inclusive and open to "others' worldviews, gender, sexual orientation, and cultural orientations" and more discriminating to different types of information created by different authorities (ACRL, 2015, p. 4). Although transformation in learning involves not only skills but also knowledge, "attitudes, values, emotions, beliefs and senses" (Jarvis, 2009, p. 25), developing information-literacy skills enables learners to enhance one's attitude toward information, examine its values and beliefs, sharpen our senses rationally, gain knowledge, not easily be swayed by emotions, and integrate it into the new reality.

When interpreting meaning through "frames of reference" or "the structure of culture and language" (Mezirow, 2009, p. 92), lack of cultural and lingual experience can prevent students from construing and understanding meanings in a coherent way and guiding their future actions. While transformative learning, in relation to information literacy, can be applied to anyone, the ECG program has targeted international students who are having difficulty adapting to their "new" academic reality in an unfamiliar country using their non-native language. Navigating Canadian academics is not easy for domestic students, let alone international students, particularly those who had an undergraduate degree in their home country and who want to reside and work in Canada by finishing a master's degree program. Despite their hope to study in and immigrate to Canada, it has been our observation that some students seemed to quickly face a "disorienting dilemma" and feel a sense of anxiety, frustration, guilt, or shame through self-examination (p. 94). According to Mezirow, transformation starts through these emotional stages, and the rest of the phases below are often followed (see figure 9.1).

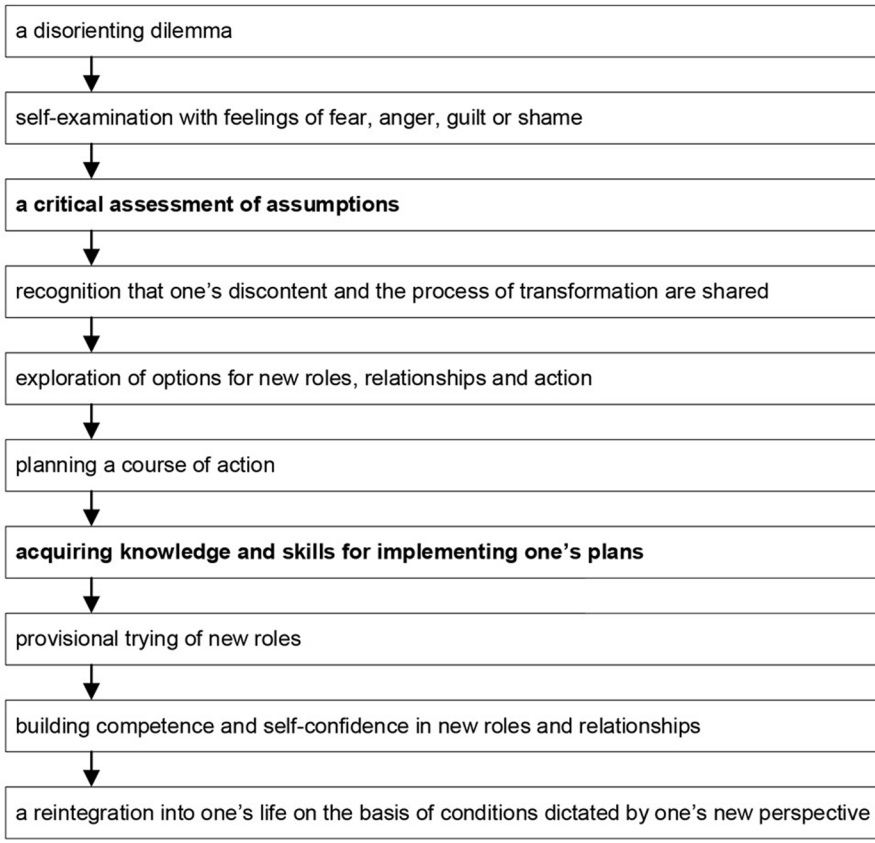

Figure 9.1.
Transformational phrases [emphasis added] listed in "An Overview on Transformative Learning" (Mezirow, 2009, p. 94).

By adopting the transformational phases, the ECG program was launched to provide activities to foster the process of transformative learning, using information literacy. Since then, it has focused on the students' critical reflection "on the source, nature and consequences of relevant assumptions" (p. 94). Before connecting the transformational phases with samples of the ECG's themes and how they feed into the ACRL *Framework*, this chapter introduces the operational process of the ECG.

Identifying a Gap that the Library Can Fill

This section contextualizes the operational process, which consists of three parts: identifying the target population and the needs of the group; utilizing the capacity, resources, and services that the library can facilitate; and making connections with the library's strategic plans.

1. Identifying the Target Population and the Needs of the Group

The library would ideally want to welcome all the students to attend all library events and activities; yet, it is vital to first identify a target population of students by analyzing the dynamics and trends in the university's enrollment numbers. The analysis includes examining challenges that the target group of students faces by conducting literature reviews and informally speaking with individual students and various academic services divisions and departments on campus.

When the English Conversation Group was launched at the Leddy Library, it was primarily targeted at international students who had an undergraduate degree in their home country and who wanted to reside and pursue a professional career in Canada by completing a master's degree program. At the University of Windsor, the number of full-time students who were master's candidates with a study permit increased from 301 to 670 between fall 2008 and fall 2012, and the majority of the students were taking a 16-month business or engineering graduate program (University of Windsor Fall Historical USIS/USER FTE 2008, p. 43; 2012, p. 45). The increase seemed to have resulted from "study and immigrate packages" promoted by recruiters (Carletti & Davison, 2012) or Ontario's Pilot International Masters Graduate Stream. Since June 14, 2010, the Ontario Immigration Nominee Program has offered an opportunity for international students to live and work permanently in Ontario without an employment offer upon the completion of a master's degree in the province (Government of Ontario, 2018). However, a master's specialized program might be too short for some international students to cope with academic and lingual challenges while absorbing and exploring differences in culture, law, and systems (e.g., health care) well enough to be ready for full-time professional work.

Understanding these circumstances have allowed the development of themes for the ECG program. The program has been envisioned as a less rigid format that would be typically experienced in a classroom and has aimed to make a connection among academics, employment, and life in Canada. In other words, the program conveys the message that academic skills are transferable in the workforce.

2. Utilizing the Library's Capacity, Resources, and Services

While librarians who are available can take turns and act as facilitators in the program, having guest facilitators outside of the library was the preferred idea. Campus partners in our programming would have ripple effects across campus and would allow the students to experience other services that they did not know existed. So far, the facilitators for each session come from a variety of backgrounds, ranging from academic to non-academic service employees on campus. Our partners in the past have been involved with the international student centre, writing centre, centre for teaching and learning, graduate student society, academic integrity office, and the research office, along with discipline-specific areas, such as History. As librarians know various divisions and departments on campus through their academic activities and committee service work, the network allows librarians to link the needs of students to various campus services. Consequently, the ECG offers students who attend regularly the added advantage of getting to know various professionals who are internal and external to the campus. Simultaneously, these students have the benefit of creating stronger relationships with librarians and recognize them as valuable resources. In addition, the collaborations across campus services can foster new relationships and strengthen the program itself.

Another way to build capacity for this type of program is to bring in co-op students from the Master of Library & Information Science program and allow them to facilitate a session. A successful approach has been to encourage these co-op students to build weekly sessions by incorporating the ACRL *Framework*. Co-op students who aspire to work in academic libraries also need to develop teaching and presentation skills. A program such as the ECG gives them an opportunity to explore various ways to integrate information literacy into themes and to forge relationships with other departments on campus.

The consistency of the location inside the library is also crucial to the program, along with how the space is considered. At the Leddy Library, a room with moveable chairs, each of which has a table, allows flexibility in the room for different activities. This is important since the session typically switches from group activities to one-on-one activities, big discussions, and student presentations. Therefore, a room that can easily transform into the proper learning space with moveable furniture is an asset.

The available room that was used is located far from the entrance of the library; yet, using the same location and promoting the ECG through social media have helped students to frequently attend. Staff were informed at the various information desks to know when and where the program was happening so that if students did not know where the room was, they could ask and get the right directions. Since the program was launched, many students have asked about the location. This has prompted adding a calendar of events to the library homepage so that front-line staff can quickly look up where programming is held and better serve students in general.

3. Making Connections with the Library's Strategic Plans

In order to obtain continuous support from the library, it is also important to connect the program to the library's strategic plan. In 2013, the Leddy Library was transitioning from a research-only space to a more collaborative and student-focused space. The ECG has fulfilled four of the five strategic directions (1, 2, 4, and 5) listed in the *Leddy Library Strategic Plan (2012-2017)*:

Direction 1: Enable an inviting and successful library experience (pp. 2–3).
Direction 2: Expand upon the library's role as a hub for research and learning activities (p. 4).
Direction 3: Take a leadership role in scholarly communication (p. 5).
Direction 4: Support a culture of lifelong learning, skills development, and customer service excellence for all library personnel (p. 6).
Direction 5: Tell our story (p. 7).

The ECG was able to successfully place itself in each direction by the nature of its role, by providing weekly learning activities (Direction 2) that enhance their library experience (Direction 1) and acting as a cultural hub for lifelong learning (Direction 4). The ECG has fostered connections between the library as learning communities and the people (the librarians and staff) who can tell our story to students (Direction 5). "Tell our story" would include sharing our services, resources, and knowledge capacity with the students so that they can widen their understanding about what occurs at the library and, more importantly, what the library can do for them.

Creating Themes for the Program

The ECG's objectives and the themes (or topics) were chosen to provide cultural and lingual experience in Canadian settings. While weekly themes are less formal, they have been designed to help students acquire knowledge and skills for implementing their plans, which correspond to one of the aforementioned transformation phases (figure 9.1).

Librarians send out surveys at the beginning of each semester to have a better understanding of what students *genuinely* want to know and to gauge what is deemed important knowledge. Students can rate the different themes, and then the librarians figure out how to deliver content with internal and external campus and community partners. The weekly theme is shared with the international students ahead of time. This allows them to come prepared with questions relating to the weekly theme. In turn, facilitators come with a presentation dealing with the theme and invite discussion from the group. Here are samples of the ECG Program themes:

- Share your experiences of living in Canada
  - Dating and relationships
  - Etiquette in social situations
  - Holiday celebrations (e.g., Easter, Halloween, and Chinese New Year)
  - Sports and games
  - Playing board games/card games
  - Practicing job interviews
  - New Canadians' Centre of Excellence visit
  - A visit and information from the public library
  - Canadian history
- Talking about our cultural backgrounds
  - Speed chatting
  - Small group conversations on various topics
  - Giving a presentation to the group on a topic of your choice

- How to do research using the Leddy library
  - Writing centre presentation
  - Plagiarism and academic integrity
  - Learning new vocabulary

The underpinning concept for the ECG program has rested on information literacy, including *knowledge practices* and *dispositions* in the ACRL *Framework*. *Knowledge practices* show examples of how "learners can increase their understanding of …information literacy concepts" and *dispositions* describe how "to address the affective, attitudinal, or valuing dimension of learning" (ACRL, 2015, p. 2). *Knowledge practices* and *dispositions* contribute to both academic and non-academic themes and engage the student to think critically, participate in discourse (while practicing English!) and reflect on their own assumptions.

To illustrate, for the theme "Dating and relationships (in Canada)," the campus nurse participated and discussed sexually transmitted diseases and sexual health in general. This gave the international students the opportunity to become more aware of the medical services offered to them on campus, connecting the *dispositions* seen in the frame Searching as Strategic Exploration to "seek guidance from experts, such as librarians, researchers, and professionals" (ACRL, 2015, p. 9). The theme also promotes the Authority is Constructed and Contextual frame as "information resources reflect their creators' expertise and credibility, and are evaluated based on the information need and the context in which the information will be used" (p. 4). As one can surmise, using the ACRL *Framework* in this way can shape how librarians relate and develop particular topics used in the sessions, even if they deal with non-academic issues. Themes like this could offer the students the space to critically reflect on their own assumptions and expectations of the services and resource persons around the campus and make room for new ideas and opportunities that may challenge their previous knowledge.

External community agencies were invited, such as individuals who work with new Canadians in order to help students obtain an Ontario driver's license. In this case, the focus was on a *knowledge practice*, specifically under the frame Searching as Strategic Exploration; it can encourage students to explore how to "identify interested parties, such as scholars, organizations, governments, and industries, which might produce information about a topic and determine how to access that information" (ACRL, 2015, p. 9). Themes like this would allow students to understand how governments and organizations move information and make it accessible in a new, understandable way.

While the activities connect the ACRL *Framework* to the theme each week, as with all of our sessions, the format is easy and relaxed so that students feel comfortable asking questions and hearing their own voice. The types of questions that students have asked librarians indicate that the ECG has provided a safe space that encourages many international students to speak openly. At the beginning of the term, students try to build relationships with and show respect to their professors but are not sure how to proceed. Therefore, when they come to the ECG, they ask questions such as, "When I meet my teacher, do I shake their hand?" and "When the teacher walks into the class, why doesn't anyone stand up?" Once students feel more comfortable in the ECG

meetings, the questions change to more private and culturally related questions such as, "In my culture, we kiss on both cheeks when we meet someone. What do we do in Canada?" and more personal questions such as, "If I take a Canadian girl out on a date, what is the custom around paying for the meal?" As the term progresses, the questions change as their experiences become more academically nuanced; for example, if the professor discusses plagiarism and the importance of citation, the students will come to the ECG and ask, "Why is copyright such a big deal in Canada?" Students come to the ECG expecting to practice their English; yet, as the term moves forward, they see this program as a place where they can ask any question. Many questions are not those that are typically discussed in class or outside of class. However, when international students are given the proper space to do so, they feel comfortable raising these issues and asking these questions.

Figuratively speaking, this space has offered regular attendants an opportunity to critically assess their assumptions through "communicative learning …by participating freely and fully in an informed continuing discourse" (Mezirow, 2009, p. 94). It has also offered an opportunity to explore "options for new roles, relationships and action" and develop "competence and self-confidence in new roles and relationships," which are listed on the aforementioned transformation phases and process (Mezirow, 2009, p. 94; see figure 9.1). Furthermore, the physical space itself has fostered the communicative learning as the students sit in groups or in a large circle and the facilitators sit with them. A whiteboard and screen with an internet connection are available so that both facilitators and students could go up to the board and write or use websites to explain a concept.

In addition, the importance of developing a trusted relationship between librarians and students cannot be undervalued. As trust builds and students feel more comfortable asking more academic questions and telling their friends about the ECG, librarians are able to make a lasting impact on the students' lives and are well positioned to assist outside of the program.

The ECG Program along with the ACRL *Framework*

When the program was first launched in August 2013, our weekly themes made reference to *Information Literacy Competency Standards for Higher Education* (2000) by the American Library Association as well as *Evaluating Information—Applying the CRAAP (Currency, Relevance, Authority, Accuracy, and Purpose) Test* (2010) by Meriam Library at California State University, Chico.

In 2015, the Association of College & Research Libraries adopted a document entitled the *Framework for Information Literacy for Higher Education* (ACRL *Framework*). This framework posits, "Students have a greater role and responsibility in creating new knowledge, in understanding the contours and the changing dynamics of the world of information, and in using information, data, and scholarship ethically" (p. 2). In turn, "librarians have a greater responsibility in identifying core ideas within their own knowledge domain that can extend learning for students, in creating a new cohesive curriculum

for information literacy, and in collaborating more extensively with faculty" (p. 2). In all, there are six frames that complete the *Framework*. They are: Authority Is Constructed and Contextual, Information Creation as a Process, Information Has Value, Research as Inquiry, Scholarship as Conversation, and Searching as Strategic Exploration" (pp. 4–9). When putting together the ECG program, the librarians asked themselves particular questions related to the *Framework*, for example:

Information Creation as a Process:

- How can students best create "new" knowledge if they do not yet know what that new knowledge could be?
- How can the ECG assist students in forming new knowledge about the Canadian academic experience so that they can have a larger context of experiences and knowledge to draw from?
- How can students best learn how the research process occurs in the Canadian context, and how can they avoid the common pitfalls (e.g., plagiarism) that have been previously associated with international students (e.g., Divan, Bowman, & Seabourne, 2015; Gunnarsson, Kulesza, & Pettersson, 2014)?

Research as Inquiry:

- How can ECG show students how to think critically about issues that matter to them and, in turn, issues that matter to the academe?
- How can students ask questions through the ECG so that they learn and transfer those skills into asking questions through the research process?
- How can asking questions and critical thinking link into an informal process to teach students to analyze issues in a deeper way?

Using the ACRL *Framework* is beneficial as a catalyst to design the critical-thinking narrative, whether teaching students about plagiarism or how to practice answering questions for a job interview. Some examples connecting the weekly theme, the ACRL *Framework*, and the learning examples/activities are shared below:

Table 9.1.
Examples of themes in relation to the ACRL Framework

Theme	ACRL Framework	Questions to ask ourselves as instructors	Learning examples
Giving a presentation to the group on a topic of your choice	Scholarship as Conversation	How can we empower students by giving them the tools to engage in their classes and realize the power of their own voice?	• Presentation around how to engage in class—asking questions • Practice using your voice—two-minute presentation to the group on a subject of your choice • Q & A on your topic

Theme	ACRL Framework	Questions to ask ourselves as instructors	Learning examples
Writing Centre presentation: Why is English so weird?	Searching as Strategic Exploration	How can the ECG contribute to expanding both conversational and research language of students so that they are able to use the proper words when researching?	• Session on keywords and how to use them • Discussion about what are the difficulties when searching/writing with new ways to overcome the challenge • Presentation by a campus partner (Writing Centre) for a session on English and its rules • Q and A on English language

The practical examples above show how the academic concepts of the ACRL *Framework* can be integrated into relaxed and friendly settings through various activities. The six-year practice at Leddy Library ascertains that it is possible to make these students' needs and librarians' aspirations connect to foster these skills through learning communities. Hence, our goals have been met: students are learning to use English, they are engaging in the Canadian academic narrative, and they are challenged to think differently about new ways of knowing and doing. Transformative learning has taken place.

Conclusion

Information literacy skills enable enhancement of one's attitude toward information, examine its values and beliefs, sharpen our senses rationally, gain knowledge, and not be emotionally reactive. Mezirow notes that through the process of transformative learning, learners can "become more critically reflective of our own assumptions and those of others, to seek validation of our transformative insights through more freely and fully participating in discourse and to follow through on our decision to act upon a transformed insight" (2009, p. 94). The ECG has been intentionally developed to make its regular participants find themselves in this way. As time continues, the ECG and other comparable programs will be able to give students research strategies and new skill sets to deal with the experiences. Positioning the library and its librarians as a supportive entity alongside the traditional academic system has always been paramount. Creating strong relationships with international students so that they can count on a solid source of information will always continue to motivate us.

Lastly, it is worth noting that developing the program has created a momentum for the facilitators and instructors to learn broader and deeper perspectives from international students and their cultures. In other words, there has also been transformative

learning among the facilitators. Co-op students, particularly, who have continued to be involved in this program have had a transformative learning experience with the support from other librarians. According to Spooner, Flowers, Lambert, and Algozzine (2008), "teaching is more than knowledge of the content area and planning and delivering instruction. It involves reteaching, providing multiple meaningful activities for diverse groups of students" (p. 268). While it takes time and practice to hone teaching skills and to ground them within the pillars of information literacy, the ECG program provides a great opportunity to do so.

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Chapter Ten

Zines as Critical Praxis

Collapsing Discourse Around Who Owns Knowledge, and What it Means to be an Author

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Sassafras Mercantile

> *While I already know there are non-monetary and alternative anti-capitalist ways in which people can create things, I didn't know there was a term for it…. Making a zine definitely broadened the ways in which I think about media. I just find it interesting that the composition of a zine can take multiple forms while its typographical portion can be aligned in any which way its creator chooses…*
>
> *—Patrick Derilus, author of the zine Black Existentialism*

Zines are author-distributed texts that circulate knowledge outside of the confines of the traditional publishing industry. They provide a framework for understanding author agency and authority from the inside out, as zine readers become zine authors with real-world knowledge of a complex information-sharing environment. As articulated in Paulo Freire's *Pedagogy of the Oppressed* (1968), a "praxis" model locates action and social change as integral and, indeed, driving forces in teaching and learning. As learners situate their knowledge in the context of existing power structures, they react, redefine, and remake the world. ACRL's *Framework for Information Literacy for Higher Education* (2015) acknowledges that "students have a greater role and responsibility in creating new

knowledge, and understanding the contours of the changing dynamics of the world of information." For Freire, liberation happens not just through the creation of new knowledge but the process of learning itself: praxis.

Coming from an academic library environment, we have seen how zine making/reading presents a clear example of praxis learning, as zine readers become authors who alter the information landscape to reflect their knowledge and critical voices. While information literacy pedagogy is moving in a direction that centers student agency in the research process, zine reading and making is a direct expression of students "creating new knowledge." As Licona (2012) has argued, especially for those who cannot find their experiences reflected in published narratives, zines are a way of both envisioning and enacting "how things might have been or even how they could be" (p. 129). This chapter explores the unique benefits of co-creating zines with readers and authors to extend scholarly and campus conversations that address students' whole selves. Programmatic case studies and an action appendix with tips and tricks for bringing zinemaking into the library provide ideas for implementing zine programs in college and university library settings.

Zines as Primary Documents

Zines are a powerful medium for (primarily) offline expression, usually produced at low-cost to their creators in the form of democratic multiples intended to be shared among regional communities or more widely through online distributors and copyleft reproduction standards. Unlike the traditional publishing market, zine economies are driven by values of sharing and exchange over profits, creating a space for authors and opinions underrepresented in commercial spheres as well as a mode for sharing personal narratives offline, where there is greater intimacy between author and reader than a blog or social media platform might allow.

Making a zine requires limited technical skills, and while they can be made using design software, they can also be handwritten or constructed from printed texts using scissors and a glue stick. Original "cut-and-paste" zines are scanned and printed or reproduced on a copy machine, and some zines carry hand-touches like screen-printed covers, sewn bindings, or intricate folded elements. Most are issued in editions ranging from 10 to 1,000 copies and can be produced alone or collectively, in series or as one-offs, using remixed or original content.

As librarians, we can encourage zine readers to ask the kinds of functional and contextual questions needed to unpack other types of primary documents: "For whom was this zine written, and why?" "What were its means of production and how can they be understood in larger discourses of power, access, and ownership?" In this way, zines create a space for the development of critical-thinking skills. They also map a very clear path from the role of "reader" to "author," as the means of production (cutting, pasting, copying, sharing) are within reach for most readers. Zines engage students with the knowledge practice of "develop[ing], in their own creation processes, an understanding that their choices impact the purposes for which the information product will be used and the message it conveys" from the frame Information Creation as a Process (ACRL, 2015, p. 5).

Figure 10.1.
A Girls Curl Handbook: What are Some All-Natural Good Products? A cut-and-paste zine by Eternity Richardson (2017). [scanned]

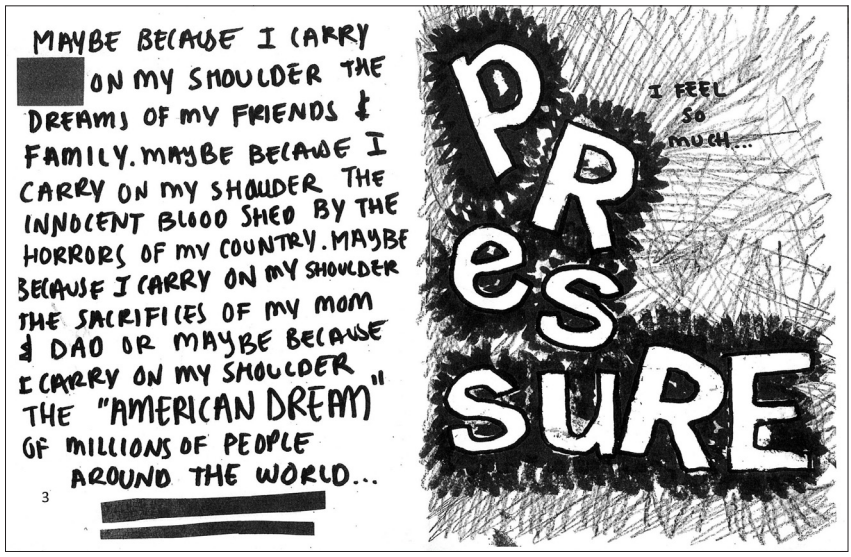

Figure 10.2.
Traveler, a cut-and-paste zine by Joan M. (2018). [scanned]

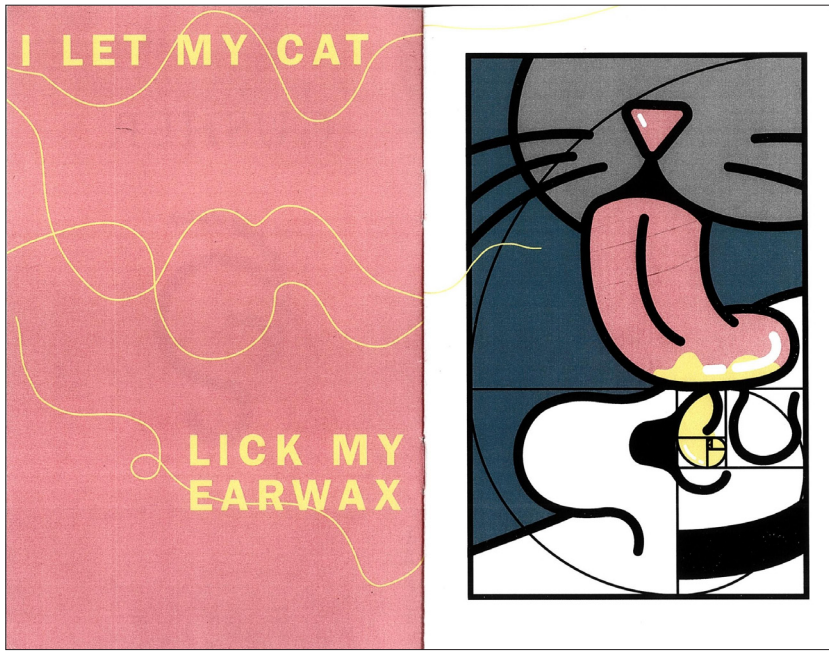

Figure 10.3.
Gusher, Issue 1, a zine designed with Adobe Suite by Frankie Dineen (March 2016). [scanned]

Zines as a Critical Voice in Critical Times

Zines function on two levels as both a *site* of critical voices and as a *medium* critical of traditional power structures. Zines as a site of critical voices are a location, a destination, and a venue for subcultural communities to claim space and create representations of lived realities. Zines challenge the systems of scholarly peer-review, for-profit publishing, and proprietary intellectual property by directly connecting readers to authors in person and online, at zine events, and via distros who do not charge inordinate distribution fees.

To read zines is to read a critical discourse omitted from traditionally published content that systemically creates and maintains barriers of access to authorship experienced by underrepresented and/or marginalized peoples. Garber and McRobbie (1991) lay out a theoretical approach to the marginalization of "girls" in a mid-20th-century subculture obsessed with the spectacle of "oppositional and creative" performances of masculinity (p. 112). It is, curiously, the marginalized status of "girls" that sustain and fuel their presence in zine subcultures as readers and authors:

> The marginality of girls in these "spectacular" male-focused subcultures might redirect our attention away from this arena towards more immediately recognisable teenage and pre-teenage female spheres like those forming around

> teenybop stars and the pop-music industry.… Girls' subcultures may have become invisible because the very term "subculture" has acquired such strong masculine overtones (p. 106).

For Garber and McRobbie, "girls' subcultures" were hidden in plain sight, resistant and reliant on the modes of cultural production that connected readers and authors at the time: magazines and teeny-bob rags. Garber and McRobbie locate mainstream culture as provisional to the infrastructure that underrepresented and marginalized ["girls"] voices use to undermine and reorganize subcultural expressions through the materiality of zines.

Osa Atoe, author of the groundbreaking zine *Shotgun Seamstress*, noted in a 2012 interview that marginalized communities must seek to reorganize cultural consumption to do the work of liberation:

> Marginalized groups in society always make the error of thinking that liberation from oppression comes through mimicking the values and activities of white, male, heterosexual, middle, and upper-class America. I disagree. I think that there needs to be a new standard based on anti-materialism and mutual aid. Those are concepts that actually liberate people (p. 265).

For Atoe, making zines is a part of her feminist, anti-capitalist, and anti-racist work and life. *Shotgun Seamstress* (2007) is a zine "meant to support Black People who exist within predominantly white subcultures, and to encourage the creation of our own." Zines are the means of finding, distributing, and sharing information and community knowledge in "anti-materialism" and for community good or "mutual aid." As Garber and McRobbie discuss, Atoe's work is a critical voice for marginalized folks, as well as a critical medium explicitly meant to "encourage the creation of our own" zines for Black punks "within a predominantly white subculture." In a context wherein zines are often created with the intention to give them away to as many people as possible, the circulation of marginalized critical voices matters.

Much of zine scholarship focuses on this physical and materialness of zines. Triggs (2006) and Piepmeier (2008) each write about this in "Scissors and Glue" and "Why Zines Matter: Materiality and the Creation of Embodied Community," respectively. Zines are handmade and often shared and exchanged with in-person intimacy, a seeming contrast to digital communities of social media on the internet. And yet, with the internet's ability to provide access to online information and connect disparate communities, zines are easily found, easily downloaded, and easily reproduced.

In a February 2017 *New York Times* article, Jenna Wortham writes that "producing zines can offer an unexpected respite from the scrutiny on the internet, which can be as oppressive as it is liberating." She (2017) interviews Shakar Mujukian, publisher of *The Hye-Phen*, "a zine by and about queer and trans Armenians," and talks about and evaluates the role of zines in an internet age:

> [Z]ines can't get replies or hateful remarks in a comments section. Publishing ideas outside the mainstream can make an author incredibly vulnerable; the web is polluted with a culture of toxicity that invites attacks. Zines, in

> Mujukian's vision, "are essentially about reclamation. You get to make your own media and define your own narrative in the way you want to and can" (Wortham, 2017, para. 5).

For students learning to assume the role of author, scholar, and researcher, the radical notion that they can "reclaim" their "own media" and "define their own narrative" is liberatory. Typical research experiences pose significant barriers to access and description that can dehumanize and exacerbate the marginalization and underrepresentation that students may experience at predominantly white colleges. Zines are important to student learning because they open up access to critical voices beyond the academy and includes past, present, and future authorial possibilities for students.

Zines Beyond the Classroom

Zines can be an exciting area of collaboration for librarians and teaching faculty and a way for students to extend the reach of their knowledge beyond the walls of the classroom—as something to be shared with the community, not simply turned in and graded by an instructor. Hands-on engagement with zine reading and a discussion of the critical role zines play in reaching audiences with unique printed content sets the stage for this kind of course-related zine-making. Reading zines and developing a sense of their role in the history of print culture inspires creativity and expression; making zines deepens understanding of their meaning in a complex information landscape and forges a bond between creator and text. Talking about the audience for zines, how to reach readers, and how zines circulate in communities and subcultures helps students to think about formulating their ideas both textually and visually outside of the standard academic tropes of an essay, research paper, or traditional fine arts assignment.

At SUNY New Paltz, it took several years of actively promoting our zine collection for us to form meaningful relationships with faculty who were interested in bringing zines into their curricula. In each case, the collaboration has taken its own unique form, building on course-specific outcomes, time constraints, class size, and level. We have found that quite often, faculty relationships built around zine-related content have become more collaborative across the board and that connections forged around zine-related curricula have often given us a foothold to pursue other projects with faculty that transcend assumed power differentials between librarians and teaching faculty. The following case studies are just a few examples of what these kinds of librarian-faculty collaborations can look like across a range of disciplines.

Thematic Drawing (an intermediate drawing course)

Instructor: Gabe Brown
Outcome: Creation of a sequence of drawings effectively expressed in the form of a single codex and reproduced as a democratic multiple
Number of sessions: Two
Materials: Session one—30 zines that are primarily visual or demonstrate unique folding or binding methods, zine-making supply cart, handouts: about the zine library, layout and printing tips, one-page zine template

Structure: The collaborating librarian visits twice during the semester. In the first session, students engage with a stack of zines brought from the library, talking about how they were made and how they create (or reject) a visual narrative in speaking to an audience. At that first class meeting, we also bring a number of zines that demonstrate unique or creative binding methods, including accordion and concertina bindings, other types of folded zines, and various types of sewing, to inspire students as they think about working within the codex structure. As a final activity, everyone learns how to fold a one-page zine, using a common template found online. In several weeks, when the assignment has been completed, we rejoin the class for their final critique. Students are required to make enough zines for everyone in the class, regarding their peers as an audience that endures beyond the traditional in-class presentation. They are also encouraged (though, importantly, not required) to submit a copy to the library. Many have, and these examples have served to inspire others to create fine art zines both in a classroom context and through community programs we have hosted.

Women: Images & Realities (an introductory course in Women's, Gender, and Sexuality Studies)

Instructors: Jessica Pabón-Colón, Meagan Devlin O'Sullivan, Heather Hewett, Robyn Sheridan, and Karl Bryant

Outcome: Students gain an understanding of zines as an element of riot grrrl culture and within a broader context of print culture and resistance.

Number of sessions: One

Readings:

Hanna, K. (1992). Bikini Kill, Riot Grrrl Manifesto. Retrieved from http://onewarart.org/riot_grrrl_manifesto.htm

Vasquez, T. (2013 Summer). Revisiting the riot: an interview with punk veteran Mimi Thi Nguyen. *Bitch,* 39–43.

Garber, J., & McRobbie, A. (1991). Girls and subcultures. In McRobbie (Ed.), *Feminism and youth culture: Youth questions*. London: Palgrave.

Materials: 10–12 bundles of 5–7 zines, handouts: about the zine library, reading questions

Structure: This is a large survey class of 70–80 students. It begins with small groups examining bundles of (primarily intersectional feminist) zines and discussing the role of zines in relation to other forms of popular media they may engage with on a regular basis. Questions include, "What makes zines different from other print works (books, magazines)? What makes zines different from a blog or Tumblr or YouTube confessional?" After an informal report out to the larger class, the librarians present on the history of print culture and resistance, with an emphasis on zines, punk, riot grrl, and problems with the framing of the dominant "story" of zines, which often centers on white punks and zinesters. Video and sound clips from punk and riot grrl music and documentaries and podcasts provide a richer sense of punk culture and the contributions of women artists, including artists of color like Alice Bags, Mimi Thi Nguyen, and Osa Atoe. After final questions, students break into their discussion sections to talk about the readings. The librarians contribute questions via a handout shared with instructors. At the end of the semester, when students are assigned to perform a "liberatory action," some will elect to make zines, expressly to extend the impact of what they have learned beyond

the confines of the course and into their daily lives. The library has received several of these zines and added them to our collections.

Composition I (a required writing course for first-year students)

Outcome: Creation of a zine intended to teach or share knowledge on a topic of the student's choice
Number of sessions: One
Materials: Zine-making supply cart, handouts: about the zine library, layout and printing tips
Structure: For this class, we combine zine reading and history with zine making in a single session aimed at supporting students as they create a zine to teach or share knowledge with their peers. The workshop begins with hands-on engagement with reading and examining zines, moves into a brief discussion of their role in the histories of subcultures, and then opens up to a zine-making lab with an emphasis on the one-page zine. In group share-outs both before and after they have created their zines, students identified themes that they feel strongly about sharing with others beyond the confines of the class structure. In one class, a student who had been in an abusive relationship created a zine to help others experiencing relationship violence to find support. Another had recently learned how to change a tire and felt that was a skill she wanted to share. These zines join a canon of DIY self-help zines that illustrate the power of zine-making to forge knowledge-sharing among peers.

The Myth of the "Digital Divide"

There is a recurrent myth circulating in teaching and libraries that college-age generation students only interact with their mobile phones and computers—that they are always online. Zine technologies level the analog playing field and shatter this digital misconception. Zines appeal as a format for students because they provide a smaller stage than the global internet. As Jenna Wortham (2017) has observed, "Zines can feel so much more intimate than a Facebook post. The deliberation and care that goes into making them are important. The internet is especially adept at compressing humanity and making it easy to forget there are people behind tweets, posts and memes" (Wortham, 2017, para. 8). We all have a right to be offline, and our right to privacy extends to IRL (in real life) time and untethering our devices. Zines can also function as clarifiers for the practice and pleasure of close reading, focusing greater retention of the text and student engagement: it's hard to skim a zine.

To better support student zine creation, in 2015, we started to circulate typewriters and zine-making kits that have analog supplies like scissors and glue sticks. Students using typewriters share intergenerational experiences with elders who have taught them how to use these writing machines, connecting the present to the past; the students then turn and teach their peers how to move a margin release or feed the paper. Typewriters also create connections among non-traditional students who already know how to use typewriters and are unfazed by the hand strength necessary to type a whole sentence.

The typography and font are manifest physically on the page, and students can collaborate and exchange ideas about how to design or contextualize their newly typed words.

Zines as a Site of Campus Discourse

While zines can be great tools for combining course content with conversations about authority, agency, and textual production, outside of the classroom they can channel larger themes in campus discourse and provide students with a platform to express themselves on their own terms. Our zine library has initiated a variety of campus zine programs—but we have also acted in collaboration with the student-led zine club and co-created with other campus clubs. Some of the projects we have taken part in outside the classroom include

- creation of compilation zines in response to events (the 2016 presidential election) or to engage a specific community (a zine by, for, and about library workers);
- a 24-hour zine-making challenge;
- zine-making workshops ("101" and workshops on specific tools like Adobe InDesign);
- zine readings;
- collaborations with the French Club, Design Society, Take Back the Night, New Paltz Pride (an LGBTQIA+ group), and One Book, One New Paltz (a community reading program); and
- participation in the NYC Feminist Zine Fest at Barnard College.

Compilation Zines

Compilation zines are made up of contributions from individual authors and are usually edited by a small group (or individual) who takes responsibility for formatting everyone's work, copying it, and sometimes circulating the final zine. This kind of zine-making practice is great for involving large groups in the creative process and can be used for the spontaneous collection of thoughts and reactions to an emerging issue or event or as a planned project with set goals.

The New Paltz Zine Library has participated in the co-creation of several compilation zines. The morning after the 2016 presidential election, the mood on campus was palpably low, and several students from the zine club expressed a strong desire to create a space for the campus community to react. We set up a table in the library lobby with signs encouraging people to stop and make a zine page, sharing their thoughts or feelings. A few students stayed for hours, creating several pages, while many more dropped in to make a page on their way to or from class. The table was such a hit that we brought it to the campus farmer's market the following day. Our zine library intern at the time, Jasper Campos, along with other members of the zine club, put the submitted pages together and printed up copies of the zine, which included more than 40 submissions. This zine has been circulated to those who created content and was shared at special events. We also have copies in our zine collection and hope to add them to our library's special collections to better preserve an important historical moment as experienced by campus community members.

Zine library intern Jasper Campos also proposed and organized a zine aimed at increasing community among the library faculty and staff (including student and non-student workers). Each person working in the library was given potential writing prompts and questions and was invited to create a page, either for themselves or by interviewing someone else. The majority of participants had never made a zine before, but many were proud of their pages and excited to see what everyone else had made. The final zine serves as a "snapshot" in print of those who labor in the library on a daily basis and created a mode of asynchronous connection across shifts and departments.

Figure 10.4.
Patrick Jonathan Derilus holds up his 24-hour zine, *Blackness is Fluid*, 2018. (Photo credit: Sanford Fels)

24-Hour Zine-Making Challenge

For the last two years, we have hosted a 24-hour zine-making event, which is open to students, faculty, staff, and community members and culminates with a zine reading, swap, and music event at a local coffee shop in downtown New Paltz. The event begins on a Friday at 5 p.m. with a workshop and an open studio period. Participants receive a mini-zine kit with a Sharpie, glue stick, various handouts, and a couple of snacks; they have access to an array of materials (books and magazines) to cut up as well as our typewriters and stamp collection until 9 p.m. that night. We ask that they return to the library the following day between 3–5 p.m. to drop off their completed zine. We then make 20 copies of each participant's zine and bring them to an evening reading the following day at Lagusta's Commissary. (They are also welcome to pick up their zines at the library if they are unable to make it to the reading.)

Our outcomes for this event center around growing the cohort of students who have created and circulated zines as well as increasing collaboration and communication between New Paltz and Hudson Valley residents. There is something powerful about

packing the entire zine-making process—from initial concept to final copies—into a single weekend. Many of the first-time zine-makers we have encountered, especially those creating zines in the context of a class, have trouble making the leap from a collaged "master" copy of their zine to a democratic multiple intended to be shared. Because this program not only supports the creative side of zine-making but also facilitates the reproduction and suggests a venue for circulation (the final reading and swap), it helps participants close that loop and see themselves in every step of the publishing or knowledge-sharing process, learning about the information ecosystem and media literacy from the inside out.

Zine Fest Participation

Figure 10.5.
Zine Club members Jasper Campos, Emma Ward, and Sam Trollo table at the NYC Feminist Zine Fest at Barnard College in New York City, 2017. (Photo credit: Madeline Veitch)

Zine fests provide an opportunity for students to share their work, meet fellow zine-makers, and learn about additional opportunities and strategies for creating and sharing zine work. At New Paltz, the Zine Club and Zine Library have collaborated to attend or send material to regional zine fests, including the NYC Feminist Zine Fest at Barnard College in Manhattan and the Northampton Print and Book Fair at the A.P.E. Gallery in Northampton, Massachusetts. Zine librarians have also brought student zines to the ALA Annual, tabling in the Zine Pavilion.

Given that zines are (primarily) print entities and tend to be sold for not much more than the cost of their production, often the best way to get them to a wider audience is this type of in-person event, which brings zine readers and authors together in one place. Last year at the NYC Feminist Zine Fest, we traded and sold zines by five New Paltz students, bought and traded zines for our own collection, and connected with dozens of zine makers to let them know that we are interested in hearing about their work and are able to purchase materials from them for our collection. The students who attended the event have expressed how validating it was to be able to share their work with others in real time. To bring the experience home, this year we hosted a collaborative zine sale and swap on campus with the New Paltz Print Club and Graphic Design Program, and in the fall we'll be organizing a community-based zine fest in Kingston, NY.

Action Appendix

Zine Supply Cart (for classes up to 30 students):

- glue sticks (15–20)
- regular scissors and funky scissors (at least 10 regular)
- Sharpies/microns of different thicknesses (10–15)
- X-ACTO knives (1–3, not essential, scissors are fine)
- mini cutting mat (1–3, only if you're handing out X-ACTOs)
- collection of letter and graphic rubber stamps
- ink pads (2–3)
- long-arm stapler
- typewriters (not essential, but fun)
- old books, magazines, and other media to be cut up
- blank paper

Zine Kits:

- glue sticks
- regular scissors and funky scissors that cut a patterned edge
- Sharpies/micron pens of different thicknesses
- X-ACTO knife (not essential, good for detailed cutwork)
- mini cutting mat (not essential, good for preventing table damage)
- letter stamps and ink pad (not essential, but fun!)
- laminated tips and tricks sheets for layout and printing
- laminated guide to printing costs at the campus print shop

Full View of Record

Choose format: Standard format MARC tags

Record 1 out of 1 — Previous Record — Next Record

Library Holdings	All items
Title	Typewriter, Royal / Royal.
Publication Info	[between 1948-1958?].
Description	1 manual typewriter : gray, red ; 28 x 30 x 15 cm.
Call Number	Reserve Collection Library Reserves
Link to Resource	How do I check out this typewriter
	Typewriter quick start guide
General Note	Title supplied by cataloger.
	"Quiet De Luxe" model, likely an
	Want to check this typewriter out from the Library? Learn how on our policy page and see the staff at the Checkout Desk with your New Paltz ID to check out equipment.
Summary	This Royal typewriter was donated in January of 2016 by Marie Ackert, Accounting Clerk for the Sojourner Truth Library from 2006 to present. Her father, Frank Angelillo, bought her this typewriter when she was 13 and just learning to type. He passed away when she was still very young, and had always encouraged her to use her talents in bookkeeping, which she has. She used this typewriter to write letters and papers throughout high school and beyond, and most recently to entertain her grandchildren who were excited to play with a relic of the pre-computer era.
Organization as Sub	Royal Typewriter Company.
Topical Subject	Typewriters -- Specimens.
Holdings	All items

Figure 10.6.
Whenever possible, we add provenance information about the typewriters we add to our collection. When taken as a group, they point toward the history of women's intellectual labor on our campus.

Starting a Circulating Typewriter Program

1. Put out a call to your community to donate manual typewriters in good working condition.
2. Create catalog records so typewriters can be checked out for in-library or take-home use; consider including some provenance information from the typewriter donor. (Did she use it to write her dissertation? Letters home when they lived abroad?)
3. Provide some guidance for the novice typewriter users. (We put this on our website, but it might be even more effective as a printed list of tips and fixes.)
4. Locate your local typewriter repairperson (or watch all the YouTube videos you can). Things will go haywire and need repair!

Community Engaged Tips and Tricks for Zine Programming

1. Reach out to your community with some events that communicate what zines are all about. (Put up an exhibit, offer a zine-making 101 workshop.)
2. Ask for donations. Are there folks who might want to donate old books and magazines to cut up?
3. Seek out your local zinesters! Would they be interested in giving a talk or workshop?
4. Get to know your custodial staff. See what you can do to help keep zine-related messes manageable. (Cut-and-paste activities tend to spread magazine confetti onto carpets.)
5. Get to know your local printer. What are their rates? How comfortable are they working with tricky layouts?
6. Find the zinefests and fairs in your region. You can apply to table and then reach out to your community to see who might want to send their zines to the event to be shared with a wider audience.
7. If you're at a school, build partnerships with teaching faculty and collaborate with them to add zines and zine-making to curricula.

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Chapter Eleven

Teaching Information Literacy with Civic Hacking Activities

Bethany McGowan
Purdue University

Civic hacking initiatives can serve as mediators between information and users and offer librarians an opportunity to use big data and open data to teach information literacy competencies. Such initiatives can be a next step for librarians already experienced in teaching data and information literacy or can serve as an introduction for librarians new to using data to teach information literacy. While civic hacking initiatives like hackathons require statistical, computing, and programming knowledge, alternatives like innovation hackathons and community mapping events offer alternative means to teach data and information literacy and often only require limited statistical and computing expertise. Because the level of technical expertise for these events is low, they have the added value of attracting audiences who might normally shy away from hackathons, particularly women, members of underrepresented minority groups, and non-STEM students.

Civic hacking activities encourage learners to work collaboratively in mixed-skilled groups to find solutions to real-world problems. Participants practice teamwork and creative thinking and are challenged to work around failure to design practical, creative solutions to real-world problems. It is project-based learning, inquiry-based learning, active learning, and STEM learning rolled into one neat activity. This chapter introduces four types of co-curricular civic hacking initiatives and the successes and challenges faced when introducing them at a large, STEM-focused land grant university:

1. The long term, guided hackathon
2. A two-day hackathon with subject experts

3. Mapathons and the Missing Maps Project
4. Innovation Hackathons

All four approaches focus on building three key information literacy skill sets:

1. Searching—developing a search plan, exploring resources, and evaluating results
2. Managing—data and information management and reference management
3. Sharing—data sharing and visual literacy considerations

This chapter uses several terms that can have various meanings. For their use in this chapter, the terms are defined as follows:

Civic hacking. "Civic hacking is a creative and often technological approach to solving civic problems…. Civic hackers can be programmers, designers, data scientists, good communicators, civic organizers, entrepreneurs, government employees and anyone willing to get his or her hands dirty solving problems" (Tauberer, 2014, para. 1).

Open science. "Open science is the practice of science in such a way that others can collaborate and contribute, where research data, lab notes and other research processes are freely available, under terms that enable reuse, redistribution and reproduction of the research and its underlying data and methods" (The Foster Consortium, 2018, para. 1). The open science movement aims to "make scientific research, data and dissemination accessible to all levels of an inquiring society" (The Foster Consortium, 2018, para. 1).

Open data. "Open Data are online, free of cost, accessible data that can be used, reused and distributed provided that the data source is attributed" (The Foster Consortium, 2018, para. 1).

Big data. "Extremely large data sets that may be analyzed computationally to reveal patterns, trends, and associations, especially relating to human behavior and interactions" (Oxford English Dictionary, 2018, para. 1).

The Long-Term, Guided Hackathon

The Purdue IronHacks model is a 21-day hackathon process that begins with a data management and information literacy training session and includes four hacking phases, with intermittent feedback from judges between each phase. These incremental evaluations allow participants to make corrections throughout the hacking process and to build confidence in the development of their final product. Faculty from Purdue University Libraries and the Research Center for Open Digital Innovation hosted Purdue Black IronHack as a joint collaboration with several open data organizations, local hackers, and local city councils, and supported by The National Science Foundation and the National Institutes of Health Big Data to Knowledge Initiative. Black IronHack encouraged students and members of the public to use open datasets from data.gov and local government datasets to design an app to track virus exposure risk for travelers. Participants used open data to develop unique and novel solutions that met performance goals in terms of market demand, technological demand, and usability. The Black IronHack schedule (see figure 11.1) illustrates the process for this three-week long civic hacking activity.

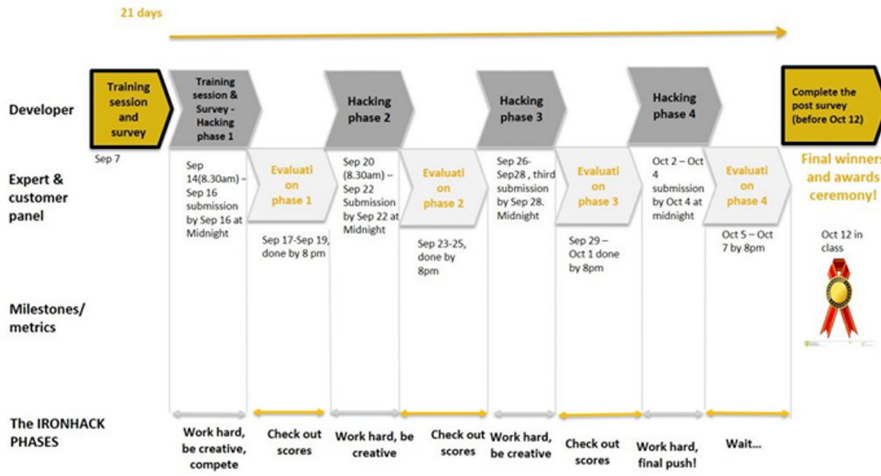

Figure 11.1
Black IronHack Schedule

Three undergraduate courses used the IronHack as a co-curricular activity to supplement course curriculum including an entrepreneurship course on Open Data Hacking, a computer graphics technology course on Interactive Data Visualization, and a computer and information technology course on Data Warehousing. Community involvement was bolstered by a co-sponsorship with the local makerspace and the local Department of Commerce.

Submissions were judged on four criteria:

1. Technology: efficiency of code, app processing time, the logic of code structure, stability and reliability
2. User requirements: How much value does it bring and how accurate is the app?
3. Usability: How long does it take to learn to use the app?
4. Novelty: seasoned experts give feedback on how the web app stands out

For the Black IronHack challenge the librarian served in an instructor role and was not a part of the judge's panel, however librarians should consider lending their expertise as hackathon judges. Judging by multiple criteria, as illustrated in the Black IronHack example, allows for contributions of judges from a range of disciplines, with different areas of expertise. and provides an opportunity for participants to contribute skills such as marketing to lead the final pitch presentation.

The two-hour pre-hackathon training session highlighted popular sources provided an introduction to basic usability and visual literacy considerations. However, both the post-training survey results and post-hackathon survey results revealed that participants still found finding and formatting data to be the greatest challenge. Participants reported feeling overwhelmed with the amount of data they encountered when attempting to select the appropriate datasets for their projects, and found that managing and formatting datasets from multiple sources were complex, time-consuming tasks. These results provide qualitative and quantitative evidence for the need for data management outreach

services, such as datathons—hackathon-style activities that focus on data management practices, more robust data management workshops prior to future civic hacking activities, and leadership of or involvement in courses that introduce data management competencies.

Successes

1. Great for beginners. The IronHack process is beginner-friendly and allows new programmers an opportunity to correct errors and build confidence in their end-product.
2. Recruitment was easy. Offering the hackathon as a co-curricular compliment to course instruction bolstered participant recruitment and helped ensure that target attendance goals were achieved.
3. Participants from the local community were included. Black IronHack served as a community engagement activity and offered students a unique opportunity to work alongside recent graduates, alumni, local business and community leaders, and members of the public. Community support was enthusiastic.
4. The librarian was part of a collaborative, cross-disciplinary team outside of the library. These experiences helped build stronger relationships with faculty and researchers, allowed the librarian to expand her professional expertise, and allowed the librarian to experience and contribute to a novel civic data hacking approach.

Challenges

1. Attrition was the greatest Black IronHack challenge. Over 30% of participants dropped out of the challenge between weeks 1 and 3.
2. Programming knowledge is still required. Black IronHack required an introductory knowledge of Java, and participants had to be proficient enough to develop a basic application.
3. Funding was a key influencer in establishing collaborations. For Black IronHack, the librarian secured an NIH Big Data to Knowledge award that helped leverage and expedite the collaboration-building process.
4. Long-term hackathons are time-consuming and resource-consuming. Because the hacking process lasts three weeks and requires judges to be engaged throughout the process, it takes longer to recruit and plan for than a one- or two-day hacking initiative and requires measures to help keep participants motivated throughout the entire process.
5. The term "hackathon" can be intimidating for new or inexperienced programmers.

A Two-Day Hackathon with a Spin

Attracting students from fields outside of computing and technology can be challenging. The aforementioned Black IronHack challenge attracted a majority of attendees from computer science and technology backgrounds, despite being marketed as an

NIH-funded activity ideal for new programmers. A second civic data hacking activity to attract participants from health sciences backgrounds was envisioned. The process for this second hack was modeled after a traditional two-day hackathon, where participants meet on day 1, form teams, decide on a project, and work within a specific programming language and with select data to design and develop an application. Participants then continue the application development process into day 2,then present and demonstrate the application at the end of day 2.

The spin for this approach was that each team was assigned an experienced healthcare professional, a physician or nurse with programming knowledge. These professionals lent their expertise and guided teams in brainstorming and designing a usable, marketable application; guided them in selecting appropriate datasets; and assisted in designing a pitch to present the application to judges and audience members. The event was advertised across the university, with targeted focus on the listservs and labs of students in health sciences majors. Many of these targeted campaigns included schools and colleges with high female representation, such as the School of Nursing. These efforts paid off as more than 60% of participants were women and first-time hackathon attendees, and over 30% were from a racial minority group. Inviting healthcare professionals to participate not only attracted a more diverse crowd, but also led to more informed prototypes and more engaged teams. Evidence of high engagement was seen through the event. Every participant who attended on day 1 returned for day 2. Several participants worked after hours on day 1 (the hackathon officially ran from 8 a.m. to 5 p.m.) to clean and format data. Groups stayed together during lunch and other breaks, engaging in casual conversation and hashing out specific, project-related issues.

Post-event surveys revealed that a majority of participants greatly valued the expertise provided by their team's healthcare professional and used their suggestions to make decisions throughout the entire design, development, and execution processes. A targeted marketing campaign, combined with a civic data hacking approach that paired healthcare professionals with hackathon teams, attracted a more diverse crowd and led to the development of more informed prototypes.

Successes

1. The recruitment approach is important. Marketing and outreach campaigns that invite participation from members of target populations and that consider and account for the needs of a specific population are crucial for meeting attendance and engagement goals.
2. Collaboration is a key selling point. Providing students from multiple health sciences disciplines with an opportunity for interdisciplinary collaboration, especially one that includes the opportunity to work alongside a practicing health professional and provides a tangible deliverable, is valued.
3. Planning is easy. Guides for planning a two-day hackathon can easily be found online.
4. Attrition is low. Once invested in the project on day 1, participants did not require much prompting to return for day 2.

Challenges

1. Data management. Unlike Black IronHack, there was no pre-hack data management training session. In post-event surveys, participants reported the most challenge in wrangling multiple data sets in a two-day span.
2. Wi-Fi capacity. Hackathons can tax Wi-Fi networks, even those intended to accommodate large institutions like universities. The organizer found it helpful to have the hackathon on a weekend when the event wouldn't compete with classes for Wi-Fi use. It was also helpful to have participants connect with available Ethernet ports.
3. Recruiting local, Java-savvy healthcare professionals was challenging. For this hackathon initiative, funding was provided to cover the travel costs for the healthcare professionals, which allowed recruitment at a regional level. Without funding, one or two healthcare professionals could rotate around to each hackathon group, offering expert advice, though the sense of comradery reported by both hackathon participants and healthcare professionals would likely be reduced.
4. Some knowledge of the habits and needs of the target participant community is required. The targeted marketing that made this campaign so successful required the librarian to recruit among lab groups, graduate student circles, and through collaborations with faculty who promoted the event. It helped to be aware that several health sciences disciplines, particularly upper-level undergraduate courses and graduate courses, focus on the importance of understanding interdisciplinary health sciences collaborations. The librarian was able to use this knowledge in marketing campaigns and in ensuring a big data-related, tangible deliverable that would bolster participant CVs.

The Missing Maps Project and Mapathons

Mapathons are coordinated mapping events that help develop tools that humanitarian organizations use to plan risk reduction and disaster response efforts. Mappers are provided background information on the mapping location, information about what kind of data is needed, and information on how to differentiate among building types. They identify high-need areas and help contribute to mapping activities. Mapathons illustrate the potential of Geographic Information System (GIS) interfaces as mediators between information and users.

The Missing Maps Project applies the principles of open source and open data sharing to support humanitarian response and economic development in developing nations. Key players include OpenStreetMap (OSM), the Humanitarian OpenStreetMap Team (HOT), and volunteers with partner agencies include the American Red Cross, the British Red Cross, and Doctors Without Borders. The project's core objectives rely on several information literacy competencies: to connect humanitarian actors and open mapping communities, to provide remote data creation during crises, to collect and organize existing data sources, to understand the ways data can be used for decision-making, to

be a distribution point for free data, to develop open knowledge and tools, to promote crowd-sourcing and simple web standards for data sharing, and to develop technical improvements to OpenStreetMap and OSGeo in response to field requirements.

Missing Maps relies on mapping parties of volunteer Mapathons to trace areas, for data editing, and to upload data after field mapping activities. These parties are often organized by volunteers, and the university community has become active in hosting Mapathons. Mapathon models are available for students, universities, and community advocates with wide-ranging project options such as accessibility, special populations, drinking water, food security, and region-specific, territory-based projects.

During Mapathons participants learn to use basic map editing software and learn how map data and information are collected. They use the OSM Task Manager to identify high-need areas and contribute to completing mapping projects. The Task Manager provides background information on mapping locations, information about what kind of data is needed—i.e., roads, schools, and places of worship, and provides instruction on how to differentiate between building types.

A Google Maps and OSM map comparison (figure 11.2) compares two types of Google Maps (a standard Google Maps and a Google Hybrid Maps) to two OSM maps (an OSM Carto map and an OSM Humanitarian map). Though OpenStreetMap relies completely on volunteers to provide mapping data, OSM maps tend to be robust, accurate, and are specifically designed to help make humanitarian relief efforts easier.

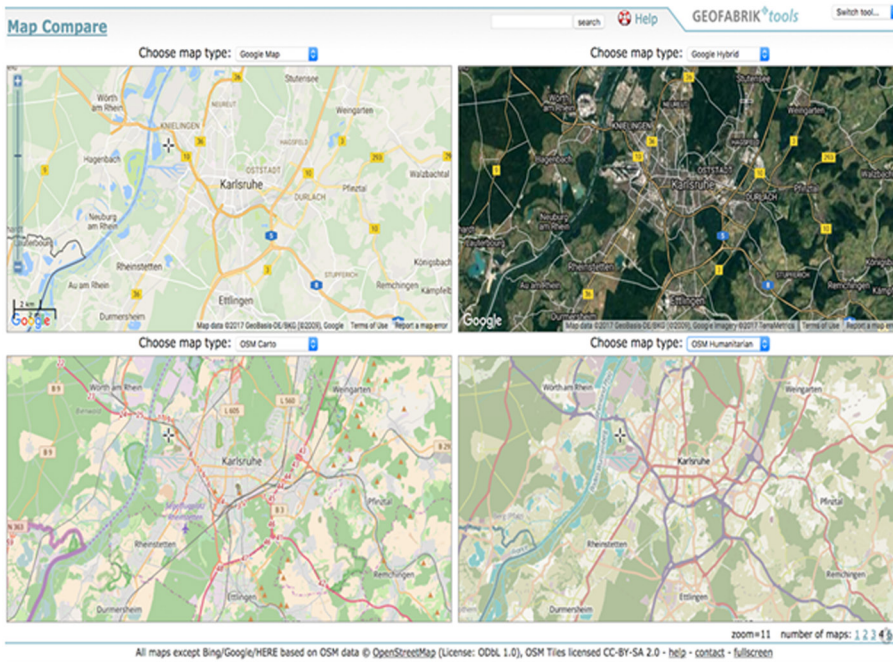

Figure 11.2.
Google Maps and OSM map comparison

As an open-sourced mapping service, OSM is also an attractive landscape source for commercial entities. An OSM map and Google Maps comparison of Pokemon Go (figure 11.3) illustrates the visual differences Pokemon Go players experienced when the game switched its interface from a Google Maps API to one based on OpenStreetMap. On the Pokemon Go Reddit, users encouraged each other to update the OSM map if they found geographical discrepancies during game play.

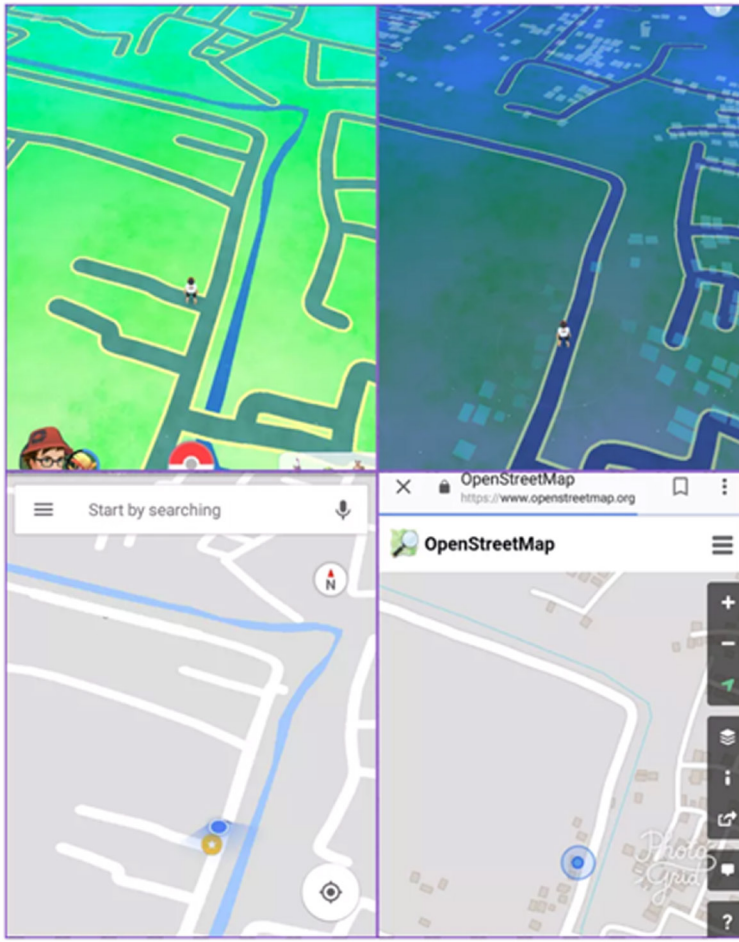

Figure 11.3.
OSM map and Google Maps comparison of Pokemon Go (ss_reddit333, 2017)

The OSM Task Manager includes project options for individual mapping. WikiProject options exist for individuals interested in volunteering for specific technical projects—for example, WikiProject Semantics for improving the terms, classifications, and ontologies used within OpenStreetMap and WikiProject Pictograms for creating and improving the

icons used on maps. Additionally, opportunities exist for designers and developers to collaborate with NGOs such as the Peace Corps, USAID, and the World Bank to build and improve applications based on OSM data.

Successes

1. Mapping is a unique data hacking approach because it requires no programming or coding knowledge. Instead, it allows participants to use satellite image data to create mapped information, and it illustrates the link between mapped information and disaster response activities.
2. The Missing Maps Project allows mappers to choose from a range of mapping projects, so Mapathons can be customized according to priority, location, or relief type.
3. The Missing Maps Project provides hosts with detailed instructions and support for planning successful Mapathons.
4. Mapping projects are available for group or individual work.
5. Mapathons are time-friendly and generally last two to three hours. This brief timeline means rates of attrition are typically low.
6. The OpenStreetMap data mapping platform runs in-browser and does not require downloads, so it's suitable for use in campus computer labs.

Challenges

1. Mapping is repetitive and can be boring, so the suggested event run time is two to three hours. Coffee and snacks can help keep participants motivated but offer an added expense.
2. Keeping participants engaged throughout the mapping event is easier when they have a clear understanding of the mapping process and its importance. This information must be quickly and efficiently conveyed at the beginning of the event.
3. Recruitment can be difficult. Having a specific Mapathon theme and collaborating with a complimentary student group can help in meeting attendance goals.

Innovation Hackathons and the Ideative Process

Robert Siegel describes the *ideative process*: "My brain holds certain information and your brain holds some of the same but also quite a bit of different info. If we network our brains via communication techniques; talking, writing, drawing, we enable much broader and much more complete thought" (Barbour, 2016, para. 15). The Ideative Process provides a specific structure for innovation hackathons, brainstorming sessions where participants generate ideas and create information to resolve a specific problem. Innovation hackathons can range from designing the structure and content of a LibGuide alongside

nursing students to working with a multidisciplinary group of healthcare professionals to solve patient transportation issues.

I – Inundate into your ideative field.

Siegel (2018) describes creativity as the process of taking in information, or learning, then assembling that learned information into unique configurations. The creative process can be performed in individual or group settings. Deliverables of the creative process include ideas for products, services, solutions to specific issues, or even new questions. The formation and creation of new ideas require prior experience or knowledge, and the *inundation process* seeks to push many bits of information from experience and knowledge to the forefront of consciousness, where it will be readily accessible for idea creation. Prior to the Ideation Workshop, encourage participants to engage in activities that stimulate inundation (Siegel, 2018).

An example of an inundation process is:

1. Acknowledge barriers and constraints. Explore barriers and constraints and either overcome them or find a workaround.
2. Seek out experts. Ask questions that require explanations and have experts explain their thinking. Offer ideas, even bizarre or unusual ideas, and challenge experts to accept or refute them.
3. Revisit the old. Be familiar with ideas tried in the past, both successful and unsuccessful. Old or failed ideas can provide material for idea creation and can reveal potential barriers.
4. Search for the new. Be an expert in your field. Read related literature, attend conferences, network, travel, surf the web, etc.
5. Routinely break routines. Regularly participate in activities that break routines and provide new experiences.

D – Deviate from routines.

Siegel (2018) suggests routine deviation as a catalyst in the ideative process and argues that deviating from routines fuels the unique thinking that leads to the creation of ideas by forcing participants to think about what could be, to consider new perspectives, and to address barriers and constraints. Activities that encourage deviation from routine include

1. travel to new places—this could be something as simple as hosting events in a campus building that students are unfamiliar with, such as a multicultural center or hosting events off-campus, such as in a local makerspace, and
2. network outside of a field or industry—invite guest speakers that will expose participants to a new field of teaching, even if that speaker is you, the librarian, or watch an interesting TedTalk or other video lecture (Siegel, 2018).

E – Enhance experience and knowledge, vividly.

"If you see, hear, touch, smell, and taste something, and have the emotion of enjoyment as you do all of this, the related information is stored in multiple areas of your brain and, and this is key; it has many more connections that can activate that memory at a

later time when it can become a component of a unique and valuable Idea" (Siegel, 2018, para. 3). During the inundating and *routine deviation* processes, participants should be encouraged to engage their emotions and all five senses.

A – Assemble ideas ideatively.

At the *assemble* phase in the Ideation Workshop, participants have already built ideas during the *inundation* process, diversified ideas through the *routine deviation* process, and given ideas vivid connections during the *enhance* process. Now is the time to explore methods and tools for gathering and presenting those ideas (Siegel, 2018).

1. Write down thoughts, as an individual or in a group discussion. Tools for collecting thoughts include
   - notes on paper—ideal for a quick, concise list of ideas;
   - mind maps—a hierarchical visualization that shows relationships between pieces of a whole; major ideas connect to a central concept with minor ideas as branches;
   - tree diagrams—a diagram that starts with a single node that branches into multiple outcomes, then each outcome branches into additional nodes that branch into other possibilities; create a map of possible outcomes for a related series of choices; and
   - flow charts—a diagram that uses shapes to define step type and connecting arrows to define sequence; popularly used to illustrate a process.
2. Share. Spaces like active learning classrooms, where participants can share ideas on a whiteboard, are ideal. Alternatives, like easel pads or poster papers, also work. At this phase, participants share their thoughts and ideas by writing them down and engaging in conversation. Storytelling and use of visuals are also encouraged. "The goal is to assemble numerous combinations of inputs into Ideas, capturing those Ideas with promise, modifying those that are close, and throwing the few Assembles pieces that did not work but that you find interesting enough to keep together into the pile for use a part of another approach" (Siegel, 2018, para. 11).

Successes

1. Requires few resources and little planning, so can be quickly executed.
2. Effective for rapidly finding solutions to specific problems or generating ideas for services.
3. Group-think allows for the generation of diverse and interesting ideas.

Challenges

1. Requires participants to have some prior knowledge of the related issue.
2. Can be difficult to capture ideas if the group does not designate a note-taker or if the note-taker is not vigilant.

3. Group-centric and requires participants to quickly adjust to a group setting and be comfortable, effective communicators.

Conclusion

Big data and open data opportunities abound and, contrary to popular belief, not all civic hacking initiatives require the host to have advanced computing or statistical knowledge or require months of advanced planning. Librarians can utilize hacking initiatives to answer user services-related questions, like "How would students like to see information presented on a LibGuide?" to advanced information and data literacy questions, like "Where should I look for data for project X?" or "What tools will help me organize and manage my data?" This project presented examples from four initiatives:

1. The long-term, guided hackathon
2. The two-day hackathon with subject experts
3. Mapathons and the Missing Maps Project
4. Innovation hackathons

These initiatives provide a range of examples that librarians can lead or participate in. Each of these co-curricular events includes elements that require participants to search for, manage, and share data and information. However, this list is not comprehensive. Opportunities like datathons and wikithons have become popular.. As other relevant opportunities continue to arise, librarians should know that they have an important role to play.

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Chapter Twelve

Exploring Service-Learning with Dance Students

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Introduction

In 2010, the Association of College and Research Libraries (ACRL) published *The Value of Academic Libraries: A Comprehensive Research Review and Report*, which recommended using high-impact educational practices and assessing their potential impact on student success to demonstrate the value of libraries. High-impact educational practices, which include practices such as diversity/global learning, undergraduate research, and writing-intensive courses, are those shown in research to significantly affect student engagement and retention (Kuh, 2008). However, engaging in such practices can be challenging, especially given decreasing funding in higher education and libraries in particular. Many of these practices require sustained resources and support for success. In order to maximize resources, it is important for libraries to support programs that demonstrate their value but are also sustainable. It can be particularly difficult for libraries to demonstrate the value of involvement in co-curricular learning experiences because they occur outside of the formal classroom environment. However, co-curricular activities enrich students' learning experience by providing a complementary and supplementary educational environment. This chapter describes some strategies libraries can use to support and assess student success via the high-impact practice of service-learning in a co-curricular setting.

Service-Learning

The goal of service-learning is to "give students direct experience with issues they are studying in the curriculum and with ongoing efforts to analyze and solve problems in the community" (Kuh, 2008, para. 10). Experiential learning, of which service-learning is a form, can also be a part of diversity/global learning, another high-impact educational practice which "helps students explore cultures, life experiences, and worldviews different from their own" (para. 9). Both service-learning and diversity/global learning are identified as high-impact educational practices. Felten and Clayton (2011) note that service-learning provides an opportunity to connect learning in the classroom with public and civic responsibility. They define service-learning as experiences that:

- advance learning goals (academic and civic) and community purposes;
- involve reciprocal collaboration among students, faculty/staff, community members, community organizations, and educational institutions to fulfill shared objectives and build capacity among all partners; and
- include critical reflection and assessment processes that are intentionally designed and facilitated to produce and document meaningful learning and service outcomes (p. 76).

The focus on learning, reciprocity, and community engagement make service-learning a natural fit with co-curricular learning since it emphasizes both academic and civic growth. Research on service-learning, synthesized in Eyler (2010), also shows that service-learning has small but significant effects on students, improving their personal growth and civic development, among other skills.

International Service-Learning

Several researchers have addressed the specific impact of international service-learning. Bringle and Hatcher (2011) define international service-learning as

> a structured academic experience in another country in which students (a) participate in an organized service activity that addresses identified community needs; (b) learn from direct interaction and cross-cultural dialogue with others; and (c) reflect on the experience in such a way as to gain a deeper understanding of global and intercultural issues, a broader appreciation of the host country and the discipline, and an enhanced sense of their own responsibilities as citizens, locally and globally (p. 19).

Although both domestic and international service-learning opportunities are valuable, Niehaus and Crain (2013) found that students on international service-learning trips connected with and learned more from community members than students in similar domestic programs. Similarly, Nickols, Rothenberg, Moshi, and Tetloff (2013) argue that "the experiences available to students in an international setting, particularly one without a familiar infrastructure in relation to language, physical comforts, culture, and/or belief systems, stretch students in both expected and unanticipated ways" (p. 98). Crabtree (2013) also suggests that even short-term service-learning projects can be a point of transformation on students' educational paths.

Service-Learning Challenges and Opportunities

However, service-learning also presents challenges. Crabtree (2013) notes that student participants may develop new ways of looking at the world but may also disrupt community relationships in the areas they serve or cause other community conflicts. She advocates looking carefully at multiple considerations, such as participant preparation and project partnerships, to make sure that the project does not destabilize community relationships or burden communities unnecessarily. Multiple scholars also address the need to integrate reflection into the curriculum to support student learning (e.g., Crabtree, 2013; Keen & Hall, 2009). Felten and Clayton (2011) also suggest that service-learning is most effective when learning and service goals are integrated, when student work supports these goals, and when communities collaborate in the design process. They also highlight the importance of a flexible curriculum that adapts to dynamic environments and allows students to integrate learning inside and outside the classroom (p. 81).

Co-curricular service-learning offers a great opportunity for students to learn outside of the traditional classroom. Bass (2012) argues that increasing opportunities for experiential learning, as well as the informal peer-to-peer culture of the internet, have disrupted higher education and that institutions need to recognize that formal learning is not the only or even the primary way that students learn. Bass (2012) also notes the need for institutions of higher learning to provide resources for service-learning, noting that "we have supported the experiential co-curriculum (and a handful of anomalous courses, such as first-year seminars) largely on the margins, even as they often serve as the poster children for the institutions' sense of mission, values, and brand" (p. 2). This shift in learning practices offers librarians a chance to connect with faculty and students in a new way, highlighting information literacy skills both inside and outside of the classroom.

Service-Learning in Libraries

Librarians still have work to do in terms of showing the value that they can bring to such learning. Halperin and Schmidt (2016) note that experiential learning opportunities like service-learning are dynamic and follow less-traditional modes of classroom engagement, which may make it harder for faculty to understand how and why to include librarians. They explain that "research has shown that even the most research-intensive senior seminars or capstone courses—including those that may include community-based projects—do not rely on librarian support unless that work is negotiated between the faculty member and the librarian, and there is intentionality built into the projects" (p. 3). Therefore, librarians interested in service-learning must work harder to develop relationships with faculty and find opportunities to involve themselves in service-learning. Kott (2016) asserts that libraries need to play a greater role in service-learning by coordinating campus resources for service-learning, partnering with other campus entities who do service-learning, creating a service-learning plan for the library, and integrating it with other strategic initiatives. In particular, she suggests that each library should assign a person or group as the locus for service-learning initiatives and that libraries assess their collections and services as they relate to service-learning (Kott, 2016). Integrating libraries into the many partnerships that foster service-learning makes sure librarians are on hand to offer their services.

In particular, librarians can emphasize their ability to help students develop information literacy skills by finding resources to complete their projects. Stark (2016) argues that librarians teaching in service-learning classrooms need to provide information about how to find both scholarly and community sources. She suggests that students can connect what they learn with their experiences more effectively if they do this.

> Information literacy, in particular, is a potential point of confluence that has not yet been fully considered as an area for deep connection with service-learning. Students enrolled in service-learning courses could benefit tremendously from a form of information literacy instruction that encourages them to use research as a mode of building a bridge between the academic and service information environments (Stark, 2016, p. 51).

Sweet (2013) also notes that service-learning can help students practice information literacy skills outside of the classroom, explaining that

> most well-designed service-learning courses require this sort of background research from students to better understand the problems at hand and the organizations/communities that students will be working with. This type of contextual research may not be referred to as information literacy by either the instructor or students, but it is quite commonplace in most authentic service-learning courses (p. 269).

Although it may not be recognized as information literacy instruction initially, librarians can play a key role in helping service-learning students and the faculty who teach them find the contextual information necessary to prepare for the program.

Ballet and Modern Dance in Panama

The University of Utah has a longstanding commitment to student success, demonstrated by its strategic goal to "promote student success to transform lives," which includes a commitment to "increase participation in high impact programs (deeply engaged learning opportunities" (University of Utah, 2018, para. 1). The School of Dance is one of several departments in the university that offers service-learning opportunities to its students in a variety of ways, including international service-learning trips to teach and share dance. In 2017, the School of Dance offered students the opportunity to participate in Ballet and Modern Dance in Panama, a weeklong service-learning trip to Panama to teach dance to Panamanian youth through an organization called Movement Exchange.

Although similar types of service-learning trips had previously been offered through the School of Dance, personnel changes meant that a new dance faculty member took over as the head of the Ballet and Modern Dance in Panama program. With new program leadership, the opportunity arose to pilot a new collaborative and interdisciplinary approach. The goals for the pilot were to explore the possibility of a long-term

collaboration between the library and the School of Dance in support of service-learning projects based on information literacy and social justice. Program leadership wanted to introduce students to a curriculum focused on cultural competence, information literacy, and dance pedagogy and to explore whether or not students found this curriculum helpful in the context of a service-learning trip. The J. Willard Marriott Library was an ideal partner for this pilot because of its strategic goals, which call for employees to "promote student success to transform lives" and to "foster collaborative partnerships with campus and community" (Marriott Library, 2018). In addition, the library has been interested in supporting service-learning as a new way to build collaborative relationships, fitting well with the goals of this program. The library also actively seeks opportunities to develop additional collaborations with other faculty and departments on campus. The lead author, a librarian in the Marriott Library Faculty Services division, served as instructor along with the new head of the Panama program.

Curricular Goals and Framework

The two instructors decided from the beginning of the partnership to develop a curriculum that integrated dance pedagogy and information literacy. Librarians at the Marriott Library regularly provide information literacy instruction in a variety of contexts in support of the library's goals of supporting student learning and fostering collaborative relationships. Ballet and Modern Dance in Panama instructors would explore cultural competence and social justice through the lens of information competency and fluency. The instructors' focus on integrating information literacy with service-learning and dance fit well with the library's interest in promoting learning for practical and academic contexts.

When developing the curriculum, the instructors aligned information literacy learning goals to the ACRL *Framework* (ACRL *Framework*, 2015). The instructors employed the Authority is Constructed and Contextual frame to develop a learning goal about dominant narratives. Students would be able to recognize that there are many people whose stories and voices about Panama or local service-learning may be silenced by dominant narratives about US service-learning. A related learning goal was that students would learn to use research tools to uncover these multiple views and assess their credibility. The curriculum also emphasized that Information Has Value, reminding students that some voices, like those of the students they were teaching, might be systematically underrepresented in scholarly literature. The instructors deliberately focused learning goals on social justice aspects of information literacy to help students understand that they would be exposed to many different viewpoints.

Based on these learning goals, the instructors identified several areas in which the library could provide support for the service-learning program:

1. Librarian-led classes on cultural competence to help orient the students for the trip
2. Librarian assistance to students searching for resources about dance pedagogy, since many of the students would be teaching dance for the first time
3. Librarian assistance in helping students find resources that would support their reflections about their learning goals and personal development

4. Librarian support in developing a curriculum that would integrate information literacy concepts, critical thinking, and cultural competence to prepare students for the trip
5. Librarian engagement during the trip to reinforce content learned during the pre-trip workshops, encourage critical reflection based on that content, and conduct observation and other methods of qualitative research that would be useful in developing the curriculum for future iterations of the program

Pre-Trip Workshops

Once the learning goals were developed, the next step was to design and deliver instruction in preparation for the trip. The instructors designed a series of four half-day workshops that occurred the semester before the trip. In-between each workshop session, students had readings and tasks to complete for the next session, such as developing an outline for their dance activities with Panamanian students. Students participated in the curriculum design by completing a pre-workshop online questionnaire asking them about their learning goals and areas of concern. In addition to dance pedagogy, the workshop curriculum included an overview of cultural competence principles, an introduction to finding and using library materials related to Panama and dance, and a series of reflection activities to help the students think about how to use what they learned. Librarians also provided basic Spanish vocabulary lessons and demonstrated how to access Spanish-language resources because many students were anxious about their lack of Spanish-language skills. Workshop participation was not limited to those traveling to Panama, as several students who were not able to participate in the Panama trip attended the workshops because of their interest in service-learning and culture competence.

During the Trip

After the workshops were complete, the instructors and participating students traveled to Panama for the week-long service-learning trip. During the trip, students volunteered with multiple organizations, including a group home for children and a dance school. The librarian role on the trip was multi-faceted. The lead author was actively involved in service-learning activities, chaperoning at least one group per day to their service-learning activity and conducting regular check-ins with students, reminding them of concepts they learned during the pre-trip workshops. Another major role was student support, as the lead author coached students through their concerns and anxieties about teaching and encouraged them to integrate cultural competence and information literacy concepts into their thinking. The third primary librarian role was related to assessment. Ahead of the trip, the instructors developed assessment tools to assess student perceptions of learning, requesting and receiving an Internal Review Board exemption for the research. During the trip, the lead author conducted observation and other methods of qualitative research that would be useful in revising the curriculum for future iterations of the program.

Assessment

Although assessment of instructional activities is always a best practice, assessment of the Panama service-learning program was identified as particularly important.

Library involvement in the program was on a pilot basis, and this pilot required considerable time and resources involved on the part of librarians. Although library administrators supported the service-learning pilot, they were unable to provide financial support to cover the costs of librarian travel. Instead, the lead author covered her costs using personal funds. Because this funding model was unsustainable, it was important to demonstrate the value of the pilot to library administrators in order to make the case for library funding for future service-learning projects. In particular, the lead author aimed to show that librarian participation in a service-learning trip would enrich the relationship between the library and faculty departments, support deep student learning using library resources, and lead to continued collaborations with faculty members.

The instructors collected assessment data that was intended to demonstrate the impact of the social justice-focused information literacy content as well as the dance curriculum. Accordingly, the instructors developed pre- and post-trip questionnaires to assess participants' perceptions of their knowledge of such topics as white privilege and cultural competence as well as their confidence in teaching dance skills. The instructors focused on these areas based on the curricular goals of teaching social justice and cultural competence using an information literacy lens and helping students explore dance pedagogy through teaching.

Results and Discussion

One focus of the pre- and post-assessment was to determine whether students felt that they progressed in their understanding of social justice issues covered in the workshop. Accordingly, in the pre- and post-trip questionnaire, the instructors asked participants to self-assess their understanding of common terms such as implicit bias and cultural competence as well as their comfort levels with aspects such as working with individuals from other cultures. Instructors asked participants in the service-learning trip to complete the questionnaire before and after the trip to gauge how their self-assessments changed as a result of the trip.

For the learning goal of understanding more about Panama and the voices that may be silenced in dominant discourses, instructors expected to see an increase in student self-evaluation of their knowledge as a result of their information literacy training and participation in the service-learning program. Instructors found that, as expected, when asked to rate their response to the statement "I have a strong understanding of the history of Panama's relationship with the United States," all participants rated themselves more highly at the end of the trip. This suggests that participating in the instructors' information literacy sessions and going on the trip changed students' perceptions of their understanding of Panama in an international context.

However, instructors also found areas in which participants rated themselves more poorly at the end of the trip. Questions such as "I understand the meaning of implicit bias," "I feel comfortable working with communities other than my own," and "I understand how implicit biases may lead to cultural conflict" resulted in lower self-assessments from participants (Figure 12.1).

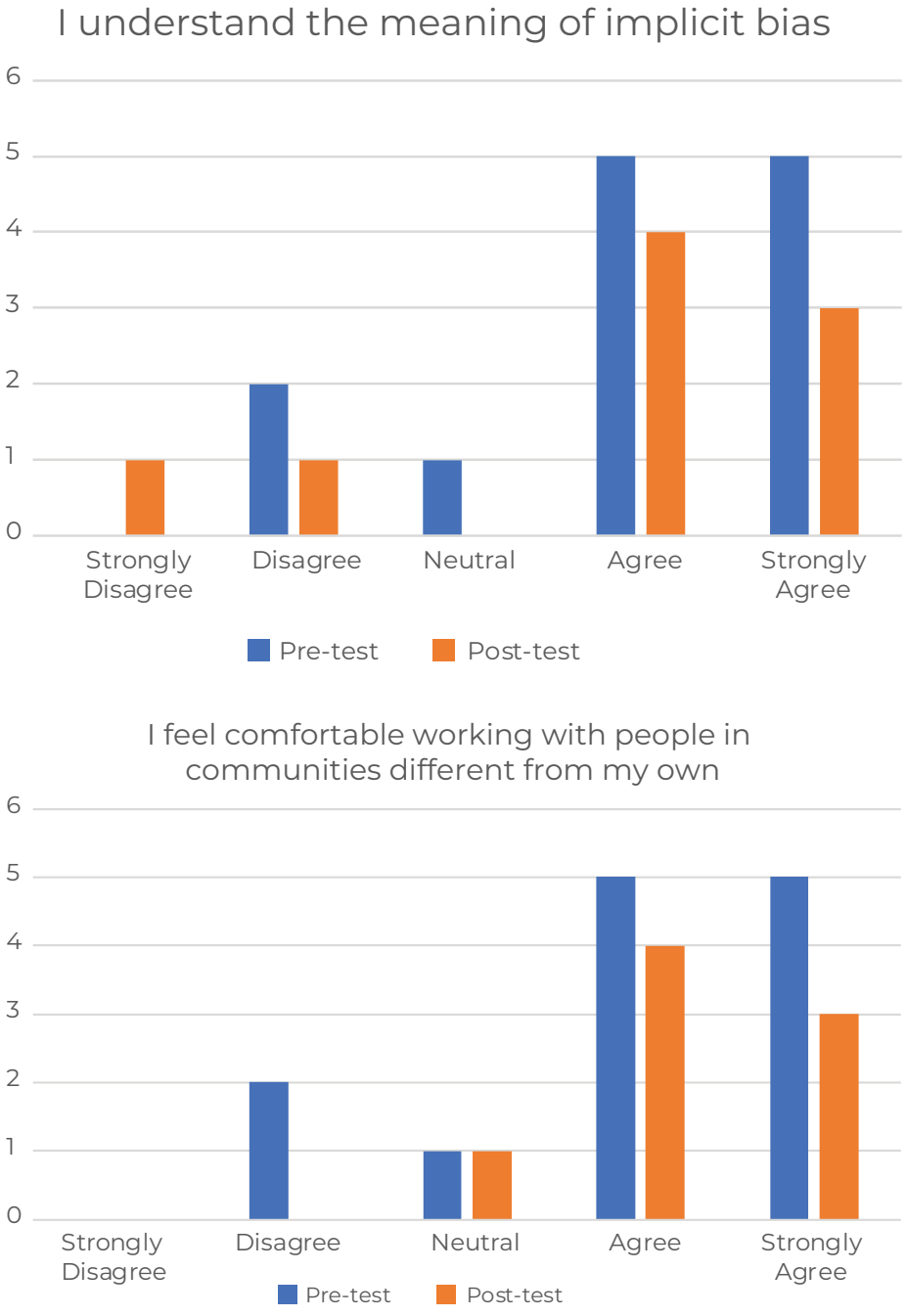

Figure 12.1
Student Pre-and Post-Test Responses

Although participants rated themselves more poorly in the post-assessment for these questions, the instructors were expecting this change as students became more familiar with these concepts. Gozu (2007) suggests that students may be arrogant or overconfident in their self-assessments of cultural competence. Increased familiarity with difficult concepts such as implicit bias (or information literacy) can cause a reduction in overconfidence and therefore a lower self-assessment. The instructors believe that these lower self-assessments are a measure of impact for the service-learning program. At the first pre-trip workshop, students discussed cultural competence, and many mentioned that they had not considered these concepts deeply before.

In addition to this quantitative data, the instructors also gathered qualitative data in the form of free-text responses to survey questions. These questions focused on the best and hardest parts of the trip and what students felt they learned. Figure 12.2 illustrates the words students used to describe the best part of the trip.

Figure 12.2
Best Part of the Trip Word Cloud

The authors coded the free-text survey responses into categories to better understand patterns in participant responses (Table 12.1).

Table 12.1
Participant Response Codebook

Codes:	Code examples:
Dance	Teaching dance, aspects of community-engaged dance
Departing	Leaving at the end of trip
Differences	Differences in culture
Importance of topic	Questioning the importance of bringing dance into the community
Interaction with local community	Opportunity for collaboration with local organizations
Interpersonal with group	Cliques, trash talking
Interpersonal with target population	Welcome from local community
Learning environment	Environment conducive to learning
None	No comments or suggestions
Time	More time
Trip organization	Communication, preparation for trip
Trip structure	Structure of trip, ability to manage time

Based on this codebook, the authors were able to identify both successful aspects of the trip and areas to improve. For example, Table 12.2 shows coded participant responses to the question "What was the best part of the trip?" Overwhelmingly, participants mentioned the interpersonal relationships that they developed with their Panamanian partners as the most positive aspect of the trip. The word "relationship" also appears as one of the dominant terms in the word cloud in Figure 12.2. Instructors recognized that students were initially very worried about their ability to connect with the people they worked with in a culturally competent way and considered these responses as an indicator that the information literacy and cultural competence preparation were helpful. This response further indicates that the students derived value from the experience of traveling to Panama and working closely with individuals from another culture.

Table 12.2
What was the best part of the trip?

Question: What was the best part of the trip?	Frequency
Interpersonal with target population	9
Dance	4
Differences	3
Interpersonal with group	3
Learning environment	1

This data suggests that the Ballet and Modern Dance in Panama service-learning program helped students to actively engage with information literacy concepts as well as social justice concepts like implicit bias and cultural competence. Librarians are long familiar with the challenges involved in teaching information literacy to students overconfident in their searching and information evaluation skills. A common strategy for challenging this overconfidence is to create an opportunity for students to experience failure in information-seeking and then introduce new skills to help overcome this failure. The Panama program suggests that service-learning trips can be another strategy that librarians can use to reduce this overconfidence and reach students at a moment when they are ready to learn. Students' self-evaluations of their knowledge of important concepts such as implicit bias and cultural competence reveal an overconfidence ahead of the service-learning opportunity and suggest that an intensive service-learning opportunity helped students better assess their own expertise in these areas.

Lessons Learned and Future Directions

The Panama trip was a pilot to explore the possibility of a long-term collaboration between the library and the School of Dance in support of service-learning projects based on information literacy and social justice. Although assessment was considered a key element of the program, there were limitations to these assessments. Because this was a pilot effort for both instructors, they did not have the benefit of field experience to determine the most effective assessment methodologies or which content areas were most critical to assess. The assessments were also intended to speak to multiple audiences. The primary purpose of the assessment was programmatic improvement; student responses would inform changes to the curriculum in future iterations of the service-learning program. Another major goal of the assessment, though, was to share a narrative of impact on student learning. The instructors hoped to be able to share assessment data with library and School of Dance administrators to gain support for a continued partnership between the library and the School of Dance, possibly in the form of a credit-bearing course.

Unfortunately, designing assessments aimed at both improving programs and demonstrating value was much harder than the lead author imagined. Although the assessments suggest that information literacy instruction made a difference, the impact of library involvement might be more explicit had the instructors developed a more granular assessment plan. For example, adding a pre- and post-workshop assessment in addition to the pre- and post-trip questionnaire might have given the instructors a better understanding of the specific impact of the workshop series. For future projects, the instructors would develop additional and more granular assessments that would more precisely measure the impact of specific aspects of the program. Pre- and post-trip reflections would allow students to share more about their experience and the information literacy skills they learned, creating a qualitative narrative of the student growth. And pre- and post-testing or reflection after each workshop would allow instructors to build a larger data set to assess student learning. These additional assessment measures would help

the instructors make iterative changes to the curriculum, and they would also help them craft a narrative of impact for administrators, which would in turn serve as a key element for librarian involvement in future service-learning opportunities.

Finally, although the students who participated in this service-learning opportunity felt that they learned many new skills and ideas, it did require a heavy commitment of resources, including faculty time away from regular duties as well as a significant cash outlay since both instructors paid out-of-pocket to attend. Fortunately, however, there are plenty of ways to participate in co-curricular service-learning opportunities that use fewer resources. For example, tying such projects to university or external grant-funding opportunities could be a great way to finance the cost of a trip and research. In some cases, departments collaborating with libraries might also be willing to contribute to the cost of such research. Likewise, librarians could explore long-term partnership opportunities that don't involve librarian travel, which could save substantial funds. For instance, librarian involvement could be limited to instruction in workshops that prepare students for a service-learning trip. This model could be particularly successful after participating fully in a pilot project since the librarian would have personally experienced the full service-learning experience. Alternately, librarians could focus on developing information literacy materials to be used on campus. The curriculum developed to support the Panama trip workshops could be adapted and expanded into a co-curricular learning experience in which librarians could provide support and instruction without the financial challenge of travel. Although there is a great time commitment with any instruction, tying information literacy to real-life student needs is a great way to get students engaged in the learning.

Conclusion

Although many libraries recognize the potential impact of library involvement in high-impact educational practices such as service-learning, many librarians already struggle to manage the varied demands on their time. Therefore, even librarians who are interested in becoming embedded in a service-learning project can struggle to make the case to administrators for the time and resources necessary for full involvement in these activities. Because they are time-bound and require only a short-term commitment of resources, pilot projects can be an easier sell to administrators than a longer-term commitment to a program. By participating in pilots like Ballet and Modern Dance in Panama, librarians can experience the full scope of the service-learning experience and garner ideas for how the library might be able to provide sustainable support on a programmatic basis. But in order to gain long-term support, assessment is crucial. Librarians should prioritize developing and implementing a detailed and granular assessment plan that investigates the impact of a service-learning project on student learning and tracks alignment with library and institutional goals. This type of assessment can help librarians craft a narrative of impact and demonstrate that impact to a variety of stakeholders, including collaborators, administrators, and even the librarians themselves.

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SECTION IV

Assessment Approaches

Chapter Thirteen

Embedding Intentional Reflection Activities to Build Critical-Thinking Skills

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Introduction

Librarians‡ seek students' honest feedback and insight, both in and out of the classroom. A student's honesty allows the library to understand what they have learned and where there is still room for growth. A community-centered library knows that hearing student voices helps enhance programs and meets students where they are. However, merely asking students if they have learned something new or what questions they have does not always lead to ideal insight. In one-shot instruction classes, the limited face-to-face time prevents librarians from receiving meaningful feedback at the end of class. Or, when working with library student employees, librarians might miss opportunities to draw out meaningful feedback from their employees, due to the nature of supervising students, among the many other things on their plates. What if librarians had the space, planning,

‡ In this chapter, the word "librarians" encompasses anyone employee in the academic library setting who works with undergraduate students, through instruction or student employment.

and intentionality to ask meaningful questions and receive reflective, meaningful feedback? How might services and programs be impacted by that feedback?

This chapter explores the ways intentional reflection activities can be embedded in instruction and training to gain understanding and insight, track student learning, and create a space for improving critical-thinking skills. Reflection activities can be used in a variety of ways to check comprehension, provide scaffolding for students to dive into more abstract topics, and to gain a more holistic picture about a new service in the library. The chapter discusses reflective practices used with peer research consultants (PRCs)—students hired by the library to provide reference services at a large research institution. The chapter concludes with a reflection from the author, noting some best practices and tips for those interested in embedding reflection activities in their own setting.

Before diving into the case study of the peer research consultants, it is important to center this chapter through some theoretical perspectives. The chapter explores the literature around metacognition and the ways this scholarship intersects with work already done in libraries around reflection and information literacy skills. These frameworks will set the stage for exploring reflection with the PRCs.

Literature Review

Research and conversation around metacognition began in the 1970s, popularized by developmental psychologist John Flavell. He defined metacognition as "the active monitoring and consequent regulation and orchestration of these processes in relation to the cognitive objects or data on which they bear, usually in the service of some concrete goal or objective" (Flavell, 1976, p. 232). In brief, metacognition is thinking about your own thinking. In her introduction to *Metacognition in Learning and Instruction: Theory, Research, and Practice*, Hartman (2001) proposes the importance of metacognition due to how "it affects acquisition, comprehension, retention and application of what is learned, in addition to affecting learning efficiency, critical thinking, and problem solving" (p. xi). In later articles, Flavell (1979) goes further to break metacognition down into four classes: metacognitive knowledge, metacognitive experiences, goals/tasks, and actions/strategies. These various models help breakdown metacognition and find ways to apply this concept in other settings.

While Flavell's initial studies focused on the metacognition of children, the field of education has also embraced metacognition and reflective practice as a key element of becoming a successful teacher. Studies have shown that teachers who have a reflective practice are not only more confident in the classroom but are also more effective teachers (Stronge, 2007). A strength of effective teachers who use reflective practice is that they can model what reflection looks like to their students. Booth (2011) argues that "reflective practice is all about motivation, honesty, and adaptability, and it can help you engage with your teaching in ways you might not expect" (p. 19). For this reflective practice to work, teachers must find ways to deliberately build this into their day-to-day. Making the space to reflect and engage is a habit that must be created.

In the field of library and information science, scholars have used metacognition in information literacy settings. In the first chapter of *Metaliteracy: Reinventing*

Information Literacy to Empower Learners, Mackey & Jacobson (2014) discuss the role metacognition plays in their new model of information literacy. They take Hartman's interpretation of Flavell's definition and use her insight to suggest that "information literacy instructors are similarly interested in how learners acquire, comprehend, retain, and apply what is learned about the information environment in an effective and efficient manner (p. 9). When thinking about undergraduate students, they are often met with challenges in using library resources, conducting research, evaluating their information environment, and navigating the world of higher education. Previous successes or failure in finding information and conducting research will impact the path undergraduate students will take when confronted with a new research challenge.

This idea of facing research challenges also involves another skill from undergraduate students: their ability to self-monitor and self-regulate. In an article about the role of metaliteracy and metacognition in the ACRL *Framework*, Fulkerson, Andriette Ariew, and Jacobson (2017) explain how "self-regulating learners have an enhanced awareness of their own strengths and weaknesses, are more resilient in adapting new tactics for problem solving, and are more adept at overcoming obstacles" (p. 25). Building up self-regulating learners is crucial for building peer-to-peer programs since these peer leaders need to have a heightened sense of obstacles in order to help their peers navigate the research process. Creating a practice of reflection and conversation around this process can help create strong peer leaders.

Academic librarians have found that using reflection can work well with their student employees. For example, the Peer Research Navigators (PRNs) at the University of Delaware also used this technique (Wallis, 2017). Wallis, the supervisor, used reflections as a way for the PRNs to both question and identify their research journey. Wallis prioritized the reflections of the PRNs by including the written reflections throughout the chapter. In making this decision to include the voices of the PRNs, the reflections help to guide the chapter. At Utah State University, the library peer mentors are trained by looking through past examples of chat reference to gain perspective on frequently asked questions and took regular quizzes on reference questions (Martin, 2017). This reflective work prepared the students for the time when similar questions might be asked of them. Finally, the Mason Undergraduate Peer Research Coach Program at the University of Nevada, Las Vegas, used critical self-reflection to gain assessment information on the success of the program and to push the students to think more deeply about their experiences as peer leaders (Rinto, Watts, & Mitola, 2017). After each instruction session the Peer Coaches co-taught, they were asked to reflect on a few different prompts meant to get a sense of how the students were feeling in their roles and things that could be changed for the future (Rinto et al., 2017). These examples provide several ways to engage with library student employees through metacognitive techniques.

With these ideas of reflection and metacognition in mind, it is time to see how they can be used in a library co-curricular learning setting. If librarians are able to create settings where students could apply those metacognitive skills to their experiences in and out of the library, they would be able to know more about their student's journey of thinking and learning.

Using Reflection with Peer Research Consultants

In September 2017, the Penn State University Libraries at University Park opened up the Search Bar, a suite of peer-to-peer services. This space contains writing tutors, technology tutors, and the newly created, peer research consultants (PRCs). The PRCs were hired and trained through the library. While the library had employed students before, this was the first time their student employees required a higher level of knowledge to answer reference questions and support their peers. Student employees in the past had received some training on how to use the library's discovery system, catalog, and databases, but it often happened when they were first hired and was not intentionally sustained beyond the initial orientation period.

A team of librarians created and implemented the training program for the PRCs, and reflection played a large role in the training process. Specifically, reflection played a role in all training sessions, staff meetings, and while the PRCs were answering reference questions at the desk. Reflection became a way to learn how this new space was operating, what questions were being asked, and how the PRCs felt about their peer-to-peer roles.

For the first month the Search Bar was open, the PRCs met for two hours once a week where they received training on more advanced research skills. This weekly check-in allowed the librarians to see how the new service was working. During the first training session, a routine was created where the group started with reflection and discussion. Previous research by Pintrich (2002) and Tanner (2012) stress the importance of embedding reflection into the fabric of a class as a way to build a supportive environment where students are encouraged to talk about their own learning. To begin the meeting, a handful of questions would be posed to the PRCs to take a moment and reflect on their answers. The questions would be along these lines:

- What has been the best thing about being a PRC so far?
- What has been the most challenging part of being a PRC?
- What do you feel has been the most successful part of the PRC job?
- What do you feel has been most successful with the Search Bar as a new service?
- What do you feel could still use some work in the Search Bar?
- What questions do you still have on the space/your job/training/etc.?
- Reflect on a time when you provided a reference to someone. What did you do and what did you find?

During the first few meetings, it would take a few minutes of silence before the PRCs would begin to talk. Then after a pause, one PRC would kick things off with a story or question. Usually, this was enough to spark a similar story or comment from another PRC. These check-ins became the place for librarians to find out what was working with the Search Bar and what still could be improved. For example, the PRCs discussed the Search Bar space heavily for the first few weeks of the semester. They talked about how they were navigating the space and how their peers were dealing with it when they came for help. This feedback became crucial when the administration approved the funding of new furniture for the Search Bar; the librarians were able to pass along major points

from the reflective discussions and have the PRCs voices directly impact the purchase. The PRCs also discussed how the other services were doing in the new space and brainstormed ways they could help them adjust to the Search Bar. From these discussions, the PRCs were able to put together a document of shared expectations they wanted everyone working in the space to follow. That sort of documentation would not have been possible without our honest, open discussions.

Additionally, the PRCs talked about questions received and shared the eureka moments. The PRCs also asked the librarians questions about certain databases, class assignments, and navigating the library's website and research tools. These questions led to more organic instruction because it suited the immediate needs of the PRCs. This reflective discussion became the way for the PRCs to ask critical questions, and sometimes those questions were ones that the librarians had not considered including in their training plan.

In addition to the reflection happening during the PRC training and staff meetings, the students were also asked to complete a reflection component after each interaction they had helping another student in the Search Bar. This reflection piece was modeled after past experiences with reflection as a writing center consultant. After each writing consultation, there was a reflection on what had happened, including thoughts on how the session went. As a writing consultant, reflections helped to assess growth and further reflect on the role as a peer leader. This experience of regular reflection left a mark; thus, it became important to replicate this process for the PRCs. The reflection component was meant to help the PRC document the reference question and create a space for the PRC to reflect on their work. Additionally, this component was shared with the librarians and allowed them to gain insight into the questions being asked in this new space.

The PRC Reflection Form is just six questions long. It requires the PRC to explain what the question was, what they did to find the answer, and perhaps most importantly, to reflect on the strongest and weakest moment of the reference conversation. While it is important to know what sorts of questions are being asked in the Search Bar, the responses to the strongest and weakest moments were very important. The form was set up to allow for metacognitive experiences in those two questions. Hopefully, by reflecting on the question posed to them, they would have that knowledge for future questions they received in the Search Bar.

When reviewing the responses submitted by the PRCs, their strongest moments occurred when they knew exactly where to find a certain resource (which indicated to the librarians that the training program had been successful), when they were able to show their peer how to navigate the library website, when, after a bit of searching, they found the item their peer was looking for, and sometimes, when they were able to realize it was time to refer the question to a subject librarian. These responses highlighted that the PRCs were performing at a high metacognitive level because the questions asked "encourage[d] higher-order and critical thinking by requiring you to step back and take stock of your environment, experiences, and abilities in order to meet challenges purposefully" (Booth, 2011, p. 18).

At the same time, every PRC also expressed their weaker moments during their conversations with their peers. Usually, these responses focused on the moment when the PRC could not find exactly what their peer was looking for or when they had misspelled

something in the search which delayed their search process. Some of those things cannot be helped, but it was good to know that was where the PRCs struggled the most. A few mentioned a conversation where the discipline was out of their range of expertise or they had to use a new database. While these moments pushed the PRCs out of their element, it also helped them become better PRCs because they were asked to face a new challenge and use their skills to find an answer. These moments show that "a metacognitive approach to information literacy prepares learners to gain new insights about their own learning and shifts the focus from skills development to knowledge acquisition through deep reflection of the learning process itself" (Mackey & Jacobson, 2014, pp. 9–10). The librarians were able to learn a lot about how the PRCs felt about the role of peer leaders in this part of the survey and, ultimately, was able to use some of these moments as training examples and discussion starters at future PRC staff meetings.

Reflection

When the Search Bar launched, it was hard to find time to go into the space and observe what was happening. Being in the space also defeated the purpose of the space in the first place—to be a peer-to-peer space where students felt comfortable being vulnerable and asking for help. Having the space for reflection and discussion, both during staff meetings and through the PRC reflection form, allowed a better understanding of what was happening and how to help the PRCs thrive in the Search Bar. Especially during the staff meetings, upon reflection, more time for discussion would have been beneficial. There was a trade-off, however, between providing the necessary training the PRCs needed and exploring the dynamics behind the new space. Conversations were cut short in order to cover the materials for the day. For the future, 30 to 45 minutes would be built in for this conversation and perhaps even have the PRCs meet with the librarians on a regular basis to continue those conversations in a smaller setting.

These written documents, like a report from the PRC Reflection Form, can also be more broadly shared with administration (after gaining approval from the students). Especially in higher education, there continues to be a push for student-centered practices, and reflective statements can be amplified to show off the student experience. For example, a presentation on the PRCs and the Search Bar was provided to an audience halfway through implementation. To end the presentation, reflective statements were used and gathered from the PRCs about what they thought were advantages and benefits of being in this position. Those statements resonated with the audience and provided an opportunity for more library colleagues to hear and understand the benefits of this space and service. Library student employees can be some of the best library advocates, and libraries need to give their students the space to share their reflections and, by extension, share their growth in information literacy skills.

Conclusion

Student reflection is a powerful tool. It allows librarians to see where their students are and where the students end up. Building in these opportunities for reflection takes commitment on the part of us, as instructors, teachers, and librarians, but it is a

worthwhile endeavor. The work put in preparing for this reflective space and discussion helps produce meaningful results. It establishes trust with students, provides windows into their experiences, and pushes librarians to think critically about future programs, services, and support. Building space and workflow for intentional reflection takes time; it is best to start small and add it into a session or two of instruction or training. As the sessions feel more comfortable, instruction and training can be embedded more regularly until it has integrated fully into the students' practice. Another way to start with intentional reflection is to use it with graduating student employees as a way to capture insight from their experiences in the library. Then this practice can be reinstated and developed with new student employees hired each year. Creating a practice of reflection can be done, with time, patience, and a continued commitment to construct a community-focused library.

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Chapter Fourteen

Rethinking Information Literacy Assessment:

Relevance, Reliability, and Validity of Constructs and Measures

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All learning must be assessed. Assessment must be aligned with learning objectives. Learning objectives must be specific, observable, and measurable. Everyone reading this chapter has almost certainly heard these statements many times. They have been repeated time and again until they have become part of the mantra of higher education, and even some librarians have ceased to cite their authors. In fact, the very haziness of their origins and the assumptions upon which they are based have become a major stumbling block for the modern instruction librarian. Measures employed in the assessment of learning cannot be relevant, reliable, or valid if they are based on outdated or invalidated theories of learning, and librarians cannot design appropriate assessments for information literacy learning without an understanding of both current and outdated learning theories as well as their implications. Learning is more than the classical and operant conditioning espoused by the behaviorists of the 20th century, and so assessment must be multifaceted and flexible enough to allow for the natural ambiguities of the human mind. Learning also occurs on more than just the cognitive domain: social and emotional growth does not halt at the entrance to adulthood, and the cultivation of these critical skills demands attention.

Knowledge and Learning

One of the most influential persons on the current educational system is B. F. Skinner, whose work on behaviorism in the second half of the 20th century came to dominate learning-theory thought in the 1970s and 1980s (Hill, 1997). Whereas earlier theorists, such as Dewey (1930), acknowledged a cognitive or "psychical" type of knowledge and learning (p. 389–390), Skinner (1953) defined knowledge solely in terms of action (or reaction):

> We need not regard such repertoires as "signs" of knowledge but rather as knowledge itself. Knowledge enables the individual to react successfully to the world about him just because it is the very behavior with which he does so (p. 409).

Learning, therefore, is the process by which individuals are conditioned to respond with the desired behavior when presented with a given stimulus (Skinner, 1953, p. 65). If one believes that knowledge does not exist without physical demonstration and learning has not happened without increased operant behavior, then it is logical to expect assessment to be observable and measurable. Furthermore, in this theoretical framework, knowledge does not exist without learning, learning does not exist without knowledge, and neither exists without instruction (i.e., conditioning). Because knowledge, learning, and teaching are defined by one another, the measures designed to assess them are essentially the same: a measure of learning necessarily indicates knowledge and teaching, and a measure of knowledge necessarily indicates learning and teaching. It is straightforward, simple, and appears to be perfectly reliable and valid, and in this context, the performance or behavioral objectives advocated by Mager (1962), Esbensen (1966, 1967, 1970), Deno and Jenkins (1967), and many others seem quite reasonable.

Experienced instructors, however, know that their observations of teaching and learning do not always match this theoretical framework. Knowledge exists independent of action; for example, one can know that the earth is spherical without indicating it in word or deed. Likewise, knowledge may not be taught, as is the case when students synthesize existing knowledge into new, complex ideas. A new philosophy of learning-theory addressed these gaps by focusing on the cognitive aspects of learning and knowledge. Heavily influenced and shaped by the work of Jean Piaget, it came to be called constructivism because knowledge was regarded as something constructed by each person within his/her mind, rather than an outward behavior, response, or object. Piaget (1985) described learning in terms of cognitive equilibrium, internal and external elements, and change in schemes through assimilation and accommodation (p. 5–6). Although many scholars have expounded, expanded, and criticized his work, the cognitive aspect is still a critical part of current learning theories; however, the resultant methodological problems of assessment have not been satisfactorily addressed. Cognitive processes cannot be measured directly, and so researchers must define indirect measures of learning and knowledge. Indirect measures result in less construct validity than direct measures (6 & Bellamy, 2011), with the actual level of construct validity varying greatly

by the quality of the measure(s) chosen. Measures of knowledge, which are now distinct from those of learning, indicate achievement or performance and may comprise any snapshot-style assessment. Measures of learning, however, indicate growth. Demonstrating growth requires assessment at two or more points in time.

Types of Knowledge and Skill Transferability

A further complication was introduced by a Piagetian scholar whose discussion of metacognition introduced a third category of knowledge—conditional (or strategic)—to the commonly acknowledged declarative and procedural categories (Flavell, 1985, pp. 105–106). Declarative knowledge, also called factual knowledge, can be expressed as discrete statements, such as "the earth is spherical" or "Paris is a city in France." Procedural knowledge, as the name implies, relates to processes, which may vary in complexity from simple to complex; for example, knowing how to tie your shoe or knowing how to perform cerebrovascular surgery. Conditional knowledge, however, involves the when's and why's of applying, adapting, and synthesizing declarative and procedural knowledge: it is the framework of problem-solving and critical thinking. Although Flavell identified this type of knowledge specifically within the context of metacognition, he noted that metacognitive knowledge is not inherently different from other knowledge, aside from the object of attention (Flavell, 1985, p. 106–107). Similarly, Bandura (1986) distinguished between knowledge (declarative and procedural) and skill, which could be gained only from enactive experience and analysis of the resultant sensory feedback (p. 107–108). The term "skill" implies some automation of cognitive processes, but in many ways it is analogous with conditional knowledge.

Classifying knowledge in this way, however, both clarifies and complicates problems with assessment. A perennial question in information literacy instruction is why students cannot transfer skills learned for one assignment to another in a different class or discipline. Cognitive skill transfer depends upon analysis, synthesis, and evaluation, which form the upper levels of Bloom's (1956) taxonomy of the cognitive domain and require relevant conditional knowledge. Therefore, if students are unable to transfer information literacy skills from one situation to another, they probably do not have the conditional knowledge to do so, and if that is a goal of instruction, then sessions should focus on developing this category of knowledge. However, assessing conditional knowledge is more complicated than declarative or procedural. Most standardized instruments focus on declarative knowledge because the questions are easily phrased as multiple-choice, true/false, or matching, which are easy to score and demonstrate high test/retest and internal consistency reliability (6 & Bellamy, 2011). This reliability is deceptive, though, because these instruments have low validity in measuring the higher-level cognitive skills students need.

Knowledge and Learning Beyond the Cognitive Domain

Rethinking assessment, though, requires more than just a review of knowledge and knowledge acquisition, which may be thought to reside in the cognitive domain; the other domains of learning, which impact cognitive learning, must also be considered. Although addressed in the literature as primarily a K-12 issue, social and emotional learning continue into and throughout adulthood. Continued social development,

the importance of which is emphasized in Bandura's social learning and social cognitive theories and Vygotsky's social development theory, is critical for student success. Bandura (Bandura, 1986; Bandura & Walters, 1963) theorized that human behavior is largely shaped by interaction with the environment, especially with other people, who influence those around them through modeled behavior and reactions to the behavior of others. Human behavior and the environment in turn affect cognition (and other internal factors, such as personality, attitude, and emotion) through "triadic reciprocal determinism" (Bandura, 1986, p. 18). Social interaction also features prominently in Vygotsky's social development theory, which emphasizes the importance of mediators, such as people and structured activities (i.e., scaffolding), in developing the higher-level cognitive skills (Kozulin, 2003, p. 17). The interpersonal skills students need in order to learn effectively will also be important for success in their professional and personal lives, as are the emotional skills (e.g., self-efficacy, self-confidence, emotional regulation, resilience), that should be included in a balanced approach to education (Olatunji, 2014). Krathwohl, Bloom, and Masia's (1964) taxonomy on the affective domain, a follow-up to Bloom's (1956) taxonomy on the cognitive domain, notwithstanding, social and emotional development has largely been omitted from curricula, instruction, and assessment in higher education.

Implications for Co-Curricular Learning

Taking these issues and complications into account, it is clear that assessment of information literacy needs to change. If a complete assessment of the cognitive domain is not possible, then at least the higher-level cognitive skills and conditional knowledge should be its focus. A complete assessment of the social and emotional domains would be ideal, but some attention is better than none. Because this represents a change for students and librarians alike, a gradual transition is natural, and co-curricular learning is an especially good place to start. Classrooms may be familiar and comfortable, but they come with expectations for behavior, curriculum content, and assessment. Co-curricular activities, however, are different: their structure, setting, and content are new and exciting. It would make sense for assessment to be different as well. Furthermore, opportunities for development in the social and emotional domains are particularly rich in co-curricular settings. Capturing evidence of that learning and presenting it alongside evidence of cognitive development would give administrators a more complete picture of student outcomes in co-curricular learning and enhance their understanding of its importance and impact.

Reliability, Validity, and Measures

Selecting relevant measures for assessing co-curricular learning requires close attention to the goals and objectives, just as with traditional, classroom-centered learning. Is the aim to assess knowledge or learning? Do measures assess conditional knowledge and higher-level cognitive processes? Which social and emotional dimensions are of interest

for the program and relevant to the co-curricular activity? The exact instrument needed may not exist yet, but many of the existing instruments can be adapted to different audiences and contexts, general scales can be modified to be domain-specific, and pieces can be combined with others to build one that fits the goals and objectives.

Assessing Procedural and Conditional Knowledge

Although most multiple-choice questions are written to assess declarative knowledge, it is possible to phrase them in a way that addresses procedural knowledge. Abu-Zaid & Khan (2013) provided some basic guidance on the process. In addition to the wording and focus of questions, multiple-answer multiple-choice questions, sometimes called pick-N multiple choice questions, can be employed to encourage critical thinking and problem-solving, while preserving the ease of marking that makes multiple-choice questions popular with instructors. When using this type of multiple-choice questions, though, the grading algorithm has a significant impact on results, and an algorithm that produces partial-credit for partially correct answers should be preferred to a dichotomous, correct/incorrect grading scheme (Bauer, Holzer, Kopp, & Fischer, 2011).

A second method of assessing procedural knowledge is to examine objects (e.g., bibliographies, reports or essays, portfolios) for evidence that students understand how to accomplish certain goals; called authentic assessment, it has been used in information literacy assessment (Carter, 2013; Holliday et al., 2015; McCulley, 2009; Whitlock & Nanavati, 2013). One caveat for this method, though, is to take care with the inferences drawn from the data; students who know how to do something may not necessarily understand the reasons why or be able to transfer that skill to another situation. However, combining authentic assessment with reflective writing that requires students to explain the steps they followed to complete the assignment, the decisions they made during the process, and the thinking behind their problem-solving can demonstrate conditional as well as procedural knowledge.

Assessing conditional knowledge can be as easy as asking students to explain their reasoning, though those responses may be time-consuming to score. Budd (2008) described an approach used in a credit-bearing information literacy course designed to develop metacognitive skills through coached and repeated questioning, but the method could be adapted to assess conditional knowledge by changing the content and object of the questions. Rubrics and other grading frameworks can streamline the evaluation process, and librarians can draw on the many examples employed by instructors in other domains, such as English, history, and philosophy.

Assessing Non-Cognitive Learning

Non-cognitive learning refers to learning on any domain other than the cognitive. In the K-12 literature, it is called social and emotional learning (SEL):

> [SEL] is the process through which children and adults acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions (Collaborative for Academic, Social, and Emotional Learning, n.d.).

In higher education, non-cognitive goals and objectives are more frequently referred to as affective instead, at least in part because that is the terminology used by Krathwohl, et al. (1964). Although this term is sometimes used in a broader sense that includes SEL (Schroeder & Cahoy, 2010, p. 129), more often it refers to beliefs, attitudes, and values, rather than skills and abilities. As a result, affective learning objectives bear some similarity with indoctrination (e.g., students will value or believe what the instructor or program decides), instead of the content-neutral SEL objectives (e.g., students will advance their interpersonal skills or improve their ability to recognize and respond appropriately to their emotions). For this reason, the chapter uses the terminology of SEL, but reviewing the literature on affective learning can be equally helpful in inspiring and developing a non-cognitive component of information literacy assessment.

Instruments designed to measure the social and emotional learning of children are plentiful, and though they are not directly relevant to college students, literature reviews on the subject (Frydenberg, Liang, & Muller, 2017; Humphrey et al., 2011; Stewart-Brown & Edmunds, 2003; Wigelsworth, Humphrey, Kalambouka, & Lendrum, 2010) may yield one that fits a stated learning objective and can be altered to suit young adults. Furthermore, domain-specific reviews, such as Buissink-Smith, Mann, and Shephard's (2011) summary of quantitative and qualitative measures of affective learning in a particular domain, sustainability studies, may also serve as inspiration for adapting or developing one's own instrument.

Several reliable and validated instruments relevant to the SEL of college students, or that are related closely enough to be easily adapted, have been published:

- An emotional literacy scale with 34 items on five dimensions to measure emotional literacy with a large sample (N = 345) of undergraduate students in Turkey (Akbağ, Küçüktepe, & Özmercan, 2016). Testing of the final version showed both reliability and validity, with Cronbach's $\alpha = 0.80$ and test-retest validity of 0.89.
- Achievement Emotions Questionnaire (AEQ) was designed to quantify students' emotions in three education-specific contexts: the classroom, studying outside class, and testing situations (Pekrun, Goetz, Frenzel, Barchfeld, & Perry, 2011). This scale was developed and tested with undergraduate students, making it ideal for use in information literacy assessment, although the contexts addressed in the scale would need to be adjusted.
- Widener Emotional Learning Scale (WELS) is a 33-item, 5-subscale instrument designed for use in higher education (Wang, Young, Wilhite, & Marczyk, 2011).
- Personal-Interpersonal Competence Assessment (PICA) was developed as a 32-item scale to measure social skills in graduate and undergraduate college students (Seal et al., 2011).
- Student Orientation to School Questionnaire (SOS-Q), one version of which intended for students in grades 9 through 12, addresses a range of affective domains, including attitudes, beliefs, and emotional and social competence (Burger, Nadirova, & Keefer, 2012).

Many indicators of social and emotional learning rely on self-reported data, which, though critical for assessing unseen effects, can be of questionable quality. Aside from controlling for socioeconomic and personality factors, one way to improve the reliability

and validity of this data is to correct for participants' attitude and approach to self-description (Primi, Zanon, Santos, De Fruyt, & John, 2016). A second way is to validate self-reported data with a measure of observed behavior or performance (Cahoy & Schroeder, 2012, p. 78–80). For example, a self-reported measure of social competence, such as PICA, might be complemented by peer assessments of a student's social and emotional competence (Issa, 2012) or performance on a standardized exam of social and/or emotional problem-solving (Durlak, Domitrovich, Weissberg, & Gullotta, 2015, p. 323), which results in a more complete and reliable representation of these constructs.

Conclusion

This is an exciting time in information literacy instruction and assessment. Growing interest in higher-level cognitive skills, which require attention to conditional knowledge in instruction and assessment, and understanding of the importance of social and emotional factors in learning, as evidenced by the introduction of the ACRL's new *Framework for Information Literacy for Higher Education* and its attention to the affective domain of information literacy, have set the scene for rapid, responsive change. Broadening the focus of assessment, both in and out of the classroom, to include social and emotional learning, as well as incorporating different types of knowledge, will result in the use of more relevant and valid measures, a better understanding of information literacy acquisition, and librarians creating more engaging and effective instruction.

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Madeline Veitch (MSLS) is a metadata, research and zine librarian at State University of New York at New Paltz. Her research interests include zines, student-faculty collaboration, and critical pedagogy. She likes making zines about food, information-seeking behavior, and social change.

Vong, Silvia

Silvia Vong is head of public services at the John M. Kelly Library, University of St. Michael's College in the University of Toronto. She has a master of library and information science from Western University (London, Ontario) and a master of education from York University (Toronto, Ontario). Currently, Silvia is a doctoral student at the Ontario Institute for Studies in Education of the University of Toronto. Her research interest is focused on critical reflective practice in librarianship and learning. When she's not fending off germs from her two kiddos, she likes to brainstorm and develop co-curricular learning ideas with Manda Vrkljan in her spare time.

Vrkljan, Manda

Manda Vrkljan is the InfoExpress liaison at the John M. Kelly Library, University of St. Michael's College in the University of Toronto. She has a master of information from the University of Toronto. She developed the Student Friends of the Library as an opportunity for students to establish their own library community centered around their mutual affection for its collections and spaces, and to cultivate future Friends of the Library committee members. Her research interests include organizational development, scholarly communication, and library monetization initiatives. At the end of the day, when she procrastinates commuting home, she pitches student engagement activities to Silvia Vong.

Willoughby, Lydia

Lydia Willoughby worked for almost a decade in libraries, focusing on teaching critical information literacy, zines, and research as a practice of radical liberation. Since 2010, Willoughby has been an organizer with Que(e)ry Party, the queer librarian dance party that raises funds in support of libraries and archives that preserve LGBTQI cultural heritage. Currently, she is the cofounder and shopkeep of Sassafras, a metaphysical mercantile for personal liberation in the historic waterfront of Kingston, NY.