

Strategic Library™



Issue 70 // January 15, 2020

Silence in a Noisy World

» Using Student Feedback to Enhance Library Silent Study Space

BY JOHN STEMMER AND MICHAEL G. STRAWSER

SETTING

Bellarmine University Library provides services and support to the University's roughly 3,200 FTE students (approximately half living on-campus). Undergraduates are about 2,500 of the student body with graduate programs contributing about 700 students. Bellarmine University is a private, Catholic university located in Louisville, KY. Over 80% of Bellarmine's undergraduate students attend full-time and are under 25 years of age. The library building is not home to only the library; Other units located in the building include The Thomas Merton Center, Information Technology, the Student Success Center, Disability Services, and the President's Office. The four-floor building is heavily used with a gate count of almost 300,000 (297,572) during the 2017-18 academic year. In 2014-15, the first floor was renovated to create the Lansing

Learning Commons, which was intended to provide a student-centered collaborative learning space with technology support. At the same time, staff space on the second floor—the quiet study floor—was reduced, doubling the individual seating, and old-style, individual study carrels from the first floor were repurposed on this quiet floor.

PROBLEM

In 2017-18, the President's Office and boardroom, on the second floor, were slated to move out of the building, resulting in the availability of boardroom space to be reassigned for new functions. At the university, space is always in high demand. Given that the University had conducted a major renovation of the library specifically to address student needs, it was now looking to address the space needs of a number of programs and projects, such as creating more classrooms, faculty development space, or the veterans affairs office among others. Not all proposed uses would

SETTING UP FOR SUCCESS

Implementing a Learning Outcomes-Based Pre-Class Communication Process

FROM DIGITAL LIBRARY TO OPEN DATASETS

Embracing a “Collections as Data” Framework

HOW CAN WE SERVE YOU BETTER

Customers' Perceptions of Services and Facilities Offered in a Community Library

Table 1. Reasons You Come to the Library

Options	Count	Percentage
To check out books	167	29%
To check out media	96	17%
To locate journal/newspaper articles	125	22%
To get help with research papers or other course assignments	197	34%
To read newspapers or current magazines	19	3%
To use items placed on reserve by your professor	111	19%
To use media equipment	37	6%
To study alone*	473	82%
To study with a group*	367	64%
To use the group study rooms*	367	64%
To use the second-floor quiet study area*	279	49%
To use a printer, photocopier	433	75%
To use the computers for academic purposes	359	63%
To use the computers for recreational/personal use	60	10%
To use a Mac computer	64	11%
To visit the "Ask Us" Desk for research assistance	82	14%
To visit the Technology Support Center	141	25%
To visit the Student Success Center for writing assistance	97	17%
To visit the Student Success Center for advising	139	24%
To visit the Student Success Center for tutoring	202	35%
To visit Disability Services	46	8%
To visit the Merton Center	55	10%
To meet friends	207	36%
To look for information in online databases	197	34%
I have class in the library	142	25%
To use the library as a "late night" study place	233	41%
To browse the popular fiction collection	23	4%
To browse the DVD collection	78	14%
To use the Smartboard	33	6%

Table 2. On Average, How Often Do You Use the Library in Person?

Options	Count	Percentage
Daily	103	17.98%
2 to 4 times a week	206	35.95%
Once a week	94	16.40%
2 to 3 times a month	74	12.91%
Once a month or less	76	13.26%
Never	20	3.49%

be compatible with the quiet nature of the floor, and this was a major concern of the library. The library desired to convert the space into a modern quiet study space. The library had some anecdotal indications that the students would use more quiet space, but the library needed to be able to convey that this plan was the best use of the space.

EVIDENCE

To address the problem, the library needed to demonstrate that there was an ongoing student desire for quiet space. Anecdotal staff observations would not be sufficient; more compelling evidence of student demand would need to be identified or collected. The library reviewed the data from two sources that could convey student

opinion on the question of quiet space. We used data collected through a library satisfaction survey and from the headcount data routinely collected by the library. The survey was concerned with three primary guiding questions:

- What is the perceived student satisfaction level of library services?
- In what ways is the library most used?
- What library services are most valuable for student stakeholders?

A total of 574 (n = 574) participants completed the survey. Participants were asked various questions related to their perceptions of the institution's library. Pertinent questions are included below however, to aid in clarity, tables have been created for responses to negate narrative representations of the results and hopefully increase clarity.

Students were asked to select reasons why they came to the library. Students could select more than one answer. Results are in **Table 1**.

For purposes of this study, four components (indicated by * in **Table 1**) stand above the rest: the number of people who want to study with a group, use group study rooms, study alone, and use the quiet study area. **Table 2** illustrates how often participants use the library in person.

Students were also asked how often they complete or perform certain tasks during the school year. Responses are in **Table 3**.

Students were asked to evaluate various library areas in terms of their importance from 1 (least important) to 5 (most important). DK, or don't know, was also an option. Students were asked to rank the importance of several areas, and the most relevant are included in **Table 4**.

Researchers asked students to share their opinions regarding various aspects of library services on a scale of Strongly Disagree to Strongly Agree. In addition, Don't Know was also an option. The most relevant responses for this study are in **Table 5**.

Students were also asked to rate the library's renovation and creation of the Lansing Learning Commons and its value as a work space. In two questions, the students broke down roughly into a two-thirds and one-third split. Most students clearly see the renovated collaborative space as valuable work space.

However, a sizable minority of students, about one-third indicated that the space was too noisy or busy to work in effectively. On a scale from Strongly Disagree to

Table 3. Library Related Tasks

Library Use	Never	Occasionally	Often	Very Often
Used the library as a place to study alone	14%	26%	26%	34%
Used the library as a place to study in a group	18%	40%	24%	18%

Table 4. Evaluate Importance of Library Areas

Library Areas	1 (Least Important)	2	3	4	5 (Most Important)	DK
Rank the importance of ... Group Study Rooms	4%	2%	6%	21%	60%	7%
Rank the importance of ... Quiet Study Rooms	4%	3%	9%	15%	62%	7%

Table 5. Opinion of Library Services

Services	Strongly Disagree	Disagree	Agree	Strongly Agree	Don't Know
I can find a quiet place to study in the library	2%	7%	47%	37%	7%
I can find areas to work in groups in the library	1%	8%	45%	37%	9%

Table 6. In General, How Would You Rate the Library?

Options	Count	Percentage
Excellent	187	33.45%
Very good	311	55.64%
Average	58	10.38%
Below average	3	.54%
Poor	0	0%

Table 7. Suggested Improvements

Improve One Thing	2012	2018
Furnishings	.45%	6%
Hours	11%	6%
Quiet Study	8%	10%
Resources	19%	8%
Space	26%	35%
Technology (Computers) Technology (Printers)	7%	2%
24 Hours Study Room (Larger Size)	3%	2%
	2%	N/A

Strongly Agree, 223 (39.26%) said Agree, and 163 (28.70%) responded Strongly Agree. Also, 145 (25.53%) responded Don't Know. In addition, when asked if the Lansing Learning Commons is too noisy or busy for me to work effectively, 114 (20.04%) said Agree, and 81 (14.24%) responded Strongly Agree. Also, 142 (24.96%) responded Don't Know.

Finally, students were asked to provide their general rating of the library. Responses

are included in **Table 6**.

In addition to the numeric responses, the survey also provided students with the opportunity to provide feedback to open-ended questions. The survey asked, "If we could improve one thing about the library for you, what would it be?" We received 367 written responses. The results were categorized and tabulated to identify areas that could use attention. The top three improve-

ment requests follow:

1. Space: 34.6%
2. Quiet Study: 9.54%
3. Resources: 7.9%

The overwhelming "one thing" students requested was more space in some way—more study rooms, more seating, more tables, or a bigger library. However, the desire for quiet study space is a demand for a significant number of our students.

A comparative analysis of responses in 2012 to 2018 showed an interesting connection. Table 7 below outlines survey differences regarding suggested improvements for the library. One chronological note, the responses from 2012 were collected prior to the renovation, and the responses from 2018 were collected after the renovation was completed. Also, all student responses are not listed below, only the most relevant for this study.

Post renovation and the significant increase in the number of individual study spaces on the quiet floor, student demand for quiet study space continued to increase. In addition, these survey responses were supported by the headcount data. While overall use of the library increased about 23% from pre- renovation (13-14) to post-renovation (16-17). The largest increase was for the quiet, second floor, which saw a 27% increase. Students were not just saying they wanted more quiet space; when provided with more seating, they used it.

IMPLEMENTATION

As the University considered how to allocate the recently freed up Presidential space in the library, we were able to present data that demonstrated student desire for quiet space beyond the recently renovated learning commons collaborative space. Over 60% percent of the students rated the quiet study spaces as very important. About 1/3 of the respondents indicated that the learning commons area was too loud or busy to work effectively. This is a significant number of students who were looking for something other than collaborative work space. In looking at the trend of student responses, we were able to demonstrate that this was in fact an ongoing and increasing desire of the students. Finally, we were able to verify these user survey results with observed data in our headcounts. Students were using the library's quiet space more. As a result, the University moved Veteran's and

International Student recruitment into other available spaces on the campus but designated the large open spaces to be library quiet study space.

OUTCOME

The use of the new study spaces has been strong. The addition of the boardroom as a more relaxing quiet study space has also been well received. In the Fall of 2018, the boardroom study space was 23% of the use of the quiet floor. Unexpectedly, when the University was looking for a more centralized location for a meditation, prayer, or reflection space, the library's quiet floor was selected, and additional space was provided so as not to cut into student study space.

REFLECTION

Faced with a potential space vacancy that would attract many programs, it was important to be able to go to the University administration with evidence of the need for quiet student space. The first step in this process was acknowledging that anecdotal staff observation was not going to be sufficient to maintain the quiet space in the library. University priorities had to be considered and empirical evidence was needed to make a compelling case that quiet study space would meet a significant student demand.

The student user survey is conducted regularly, so the next step was to review it for data that would support the library's contention that more quiet study space was an outcome desired by students. It was fortunate for us that a number of questions addressed the quiet space concern, and we were even more fortunate that the answers all consistently pointed in the same direction—a significant part of the student respondents wanted quiet library space and not just collaborative library space. Realizing that the historical trends also supported the library's point of view was a surprising discovery.

Finally, having two complementary

data sets, student responses on the survey and student actions from the headcounts collected, contributed to making a compelling case.

Taken together, the results reveal necessary truths about library functionality and physical space design. Libraries today are central features on campus (Head, 2016). In some ways the library has become a cultural icon. It must satisfy several dimensions of campus needs. The ability and necessity of the library to become a chameleon campus service are well known (Oliveira, 2018). As universities attempt to re-design the library to reach all student stakeholders uniquely, an emphasis on space to achieve individual learning mixed with collaborative design techniques is appropriate (Spencer & Watstein, 2017).

The results from this study should encourage library staff and university administrators to consider library design from two perspectives. While libraries continue to explore ways to develop open concept physical space design, individual study rooms and, more importantly, quiet study spaces are still a desirable feature (Diller, 2015).

We would be remiss to sacrifice all features of the traditional library, including quiet study rooms or study spaces in order to develop more high-tech collaborative open-space design. Students still appreciate the opportunity and ability to study alone and to separate themselves from distraction. Library services would do well to remember what Goodnight and Jeitner reminded us of in 2017: "They [students] come to the library searching for spaces that are quiet, where they can settle down to read and study and write papers in silence, without distractions they find everywhere else in their lives" (p. 100). Collaborative space is necessary but remember to offer students a place for silence in this noisy world. ■

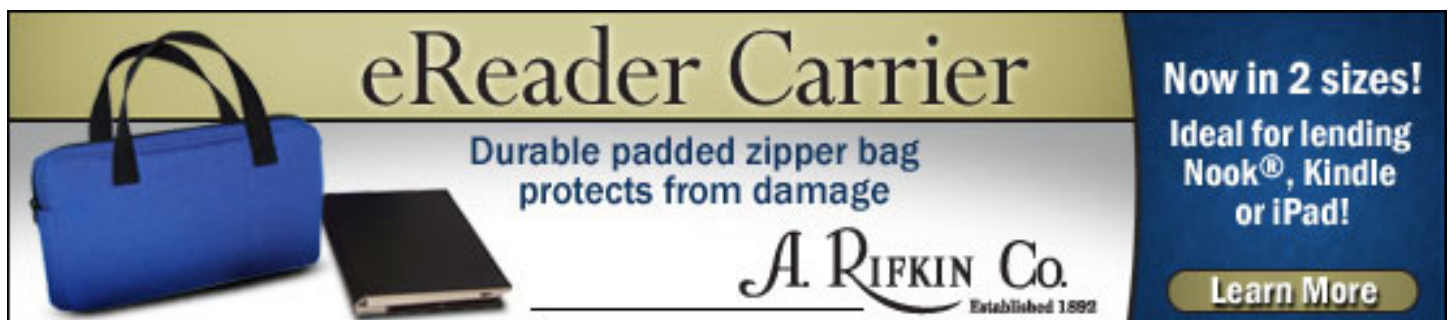
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Setting up for Success

» Implementing a Learning Outcomes-Based Pre-Class Communication Process



BY ANNE C. BEHLER

BACKGROUND

Teaching and learning librarians are asked to fill a tall order when it comes to delivering instruction. We face the challenge of imparting knowledge to a group of individuals to whom we are complete strangers within a typically short period of time. We are briefly plugged into the syllabus, and into the experience, of our students' education. We face instructor expectations, spoken and unspoken, for the way our lessons will fit into the grand scheme of their course. What we do is often but a moment in time within a semester – for us, for the students, and for the instructors we work with. This brief moment can be one of excellent chemistry and engaged learning that jet propels our students into their research projects, or it can be one that falls completely flat. At the heart of this dichotomy is communication.

As an instruction coordinator, I know

that communication is something teaching librarians typically take great pains to do. "Be in touch early and often," is a saying that often bounces around the halls of the library I work in. At this institution, we have a prescribed flow of messaging – instruction requests come in through a form and are triaged, librarians and rooms are assigned and confirmed, librarians reach out to instructors to hold a conversation (usually via email), instruction happens, sometimes students come back for consultation. It is a cycle that happens like a well-oiled machine.

Nevertheless, when the library instruction "season" is upon us each semester, it hasn't been unusual for colleagues to share comments such as, "The instructor said the students would be ready, but they didn't even know the assignment yet!" Another commonly voiced issue is, "I have no idea how I'm going to teach this class. The instructor wants me to cover everything about research in 50 minutes!"

Sometimes the frustrations crop up after a session was delivered. "I can't believe the students didn't have their topics," is a phrase no librarian wants to have to utter. Another is, "I had this great lesson planned, but I got there and the instructor asked me to be sure to cover this one database (or topic) and it took the whole class!"

If you've been a teaching librarian for any length of time, chances are good that you've experienced something like one (or all!) of these scenarios. And this is despite the fact that you've got a seemingly solid communication flow in place for planning instruction.

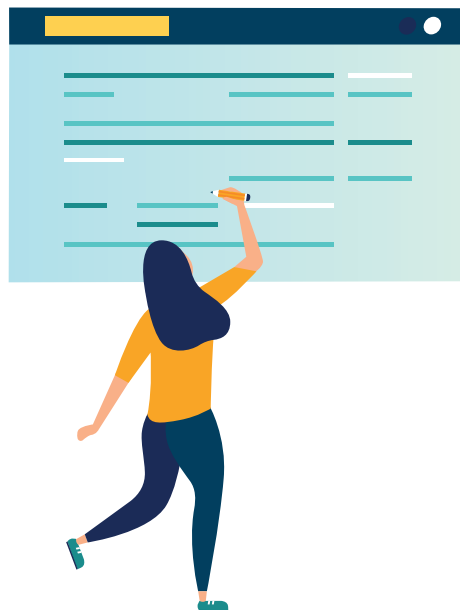
Given these recurring challenges to successful teaching and learning, the Library Learning Services Department at Penn State University set out to remedy some of these common pitfalls. We recognized that when it comes down to the brass tacks of planning individual instruction sessions, the pre-class communication between the

librarian and the instructor has the power to set the stage for success or mediocrity in the classroom – and it has nothing to do with the ability of either educator. The instruction request content, timing of conversations and preparations, topics of conversation, and level of instructor engagement all play important roles in successful preparation for teaching. Each of these elements of communication with the course instructor is a potential fail point. However, much can be achieved through implementation of a thorough and consistent instruction consultation process. This article offers a communication process that lays a strong foundation for a successful class.

REVIEW

Literature related to the communication process for planning library instruction perhaps unsurprisingly appears most often in works intended for beginning librarians. Themes that arise from these guiding works are communication as a collaboration with course instructors and taking care to select a manageable amount of content to cover within a single class session.

In *The One-shot Library Instruction Survival Guide*, Buchanan and McDonough discuss librarian communication with course instructors as a road to a collaborative relationship. They point to librarianship as a “misunderstood profession,” necessitating that librarians clearly explain and emphasize our roles as teachers (2014). They note that “[c]ourse instructors will ask for what they think you can provide based on their own perceptions of what librarians do. You will need to negotiate with the instructor to identify and focus the intended learning goals, and establish the best ways to meet those needs” (p. 12). Benjes-Small and Miller (2017) also emphasize the importance of forming a partnership with course instructors. They advise that “the more you communicate before the library workshop, the more effective your session can be” (pp. 108-109).



A major point of frustration and confusion that surfaced in every source reviewed was that of defining and then teaching what is considered to be a reasonable load of content in a single session. Oakleaf et al (2012) encourage librarians to counter the tendency for course instructors (and librarians!) to want the one-shot library instruction session to be jam packed with every research concept imaginable by considering first what “students actually need to know at the end of your time together” (p. 7). They encourage this as a conversation to undertake with the course instructor, and in reference to excess material that is not essential to the core of the lesson they instruct, “if it does not fit, offload it” (p. 7).

USING LEARNING OBJECTIVES TO ESTABLISH COMMON GOALS

The Library Learning Services Department at Penn State University’s University Park campus is situated as the hub for teaching and learning geared toward foundational-level researchers. The ten librarians within this unit teach via a variety of modes, including digital badges, online learning objects, workshops and orientation events, and one-

shot face-to-face classes. While we work in multiple modes, face-to-face one-shot classes remain the largest

component in our teaching portfolio, at a rate of approximately 125 sessions per semester. Our primary teaching partners in these efforts are English as a Second Language (ESL 15), Rhetoric & Composition (ENGL 15), and Communications, Arts, and Sciences (CAS). Of these, ENGL 15 comprises approximately 65% of our teaching load.

ENGL 15, in particular, is taught primarily by graduate students in the Penn State Program for Writing and Rhetoric. What this means is that every fall brings a new cohort of instructors, who are most certainly new to Penn State, and who may also be new to teaching. With so many people to communicate with on an ongoing and cyclical basis, a clear message and mode of communication is extraordinarily important. Finding a common language with our teaching partners has been key to effective instruction and a successful relationship.

Buchanan & McDonough (2014) write, “The key similarity that librarians and teaching faculty share is the common goals of student success. Course instructors do not want to grade bad research papers and projects” (p. 9).

In order to facilitate conversation that delves into this common goal at Penn State University, we have established a standard set of learning outcomes that serve as a vehicle to a common understanding of what the library class will accomplish. Because the instruction that the Library Learning Services Department provides is geared toward beginning information literacy knowledge and skills, we developed a set of learning outcomes that we have termed foundational learning outcomes. Each learning outcome can either stand alone as the basis for an intensely focused lesson plan or learning activity, or it can be combined with one or two other outcomes for a broader scope to the class (Appendix 1). All learning out-

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» Holding conversations based around questions such as these opens the door for you to offer instruction based on learning objectives rooted in your own expertise in research skills and library resources.

comes are written to 1) enable design of an active learning session for students with a measurable learning goal(s) and 2) facilitate conversation with course instructors about our common goals for an upcoming library class. When holding these conversations, Benjes-Small & Miller (2017) suggest asking “What do the students need to leave the session having learned?” instead of asking the instructor what they want you to teach (p. 109). This question evokes two additional questions that information literacy learning outcomes guru Debra Gilchrist (2015) notes as essential to instructional design:

- How will the student demonstrate the learning?
- How will you know the student has done this well?

These questions could translate to asking the instructor what they hope to see the students accomplish when it comes to using research in their papers. What will the students need to be able to do in order to succeed?

Holding conversations based around questions such as these opens the door for you to offer instruction based on learning objectives rooted in your own expertise in research skills and library resources. Black & Allen (2019) assert that “[t]o be truly effective in our instruction, it is essential to collaborate with professors to agree on learning objectives and appropriate means to help students achieve them” (p. 94). They also note that the librarian’s ability to demonstrate “solid knowledge of the principles of instructional design” can bolster our credibility in the eyes of the instructors with whom we are working (p. 94). As Gilchrist (2015) notes, establishing learning outcomes enables the librarian to be intentional in their plan for what takes place in the classroom. “[Outcomes] ground us...and [outcomes] are also the agreed-upon elements that we as a faculty or group of educators within our institution come together about, and, after lots of discussion, agree really on what is important. What are the common things that we say are our curriculum?”. Gilchrist’s point about agreement as to what is important is at the heart of these

conversations with instructors. Additionally—a point not to be undervalued—learning objectives also offer the opportunity to give a limited set of options for material or topics to cover during a class, combatting the tendency for instructors to tell you that they want you to cover “all of it.”

THE COMMUNICATION PROCESS

Learning outcomes certainly provide the meat of the conversation with course instructors, but a successful teaching experience relies on the communication process which is built around these outcomes. For the 2018 calendar year, the librarians of Library Learning Services all followed a consistent communications process, designed to not only establish and confirm logistical elements of a class, but also to facilitate in-depth conversation and ultimately understanding around shared learning goals for the students we would be teaching.

Because all Penn State librarians across disciplines and locations use the same common instruction request form to receive instruction requests, the form is generic and does not include information about the specifics of the library class content. Thus, key to setting the tone for collaborative planning with the instructor was the

confirmation response that instructors received upon booking a library session (Appendix 2). In addition to detailing the facilities and time information for the library class, the emailed confirmation included a list of four learning objectives which might be addressed through the lesson. Additionally, the email message opened the door to further conversation between the instructor and the assigned librarian(s) by letting the instructor know that they could “expect to hear from one of the librarians soon regarding the learning objectives and workshop design for the library instruction session.” Also included in this message were our expectations of the instructor – that they respond to our confirmation message to verify the scheduled session(s) and that they be present for the class.

Buchanan & McDonough (2014) note that it’s important to take the conversation with course instructors beyond the functional details of the session, such as number of students, what the assignment is, and how much time can be devoted to instruction. Holding a face-to-face meeting, phone call, or video conference can be an incredibly effective way of moving beyond these foundational points and diving into the meat of what the library class will be – learning objectives and learning activities that support them. Thus the next step to our communications process was for the librarian(s) to immediately respond to the confirmation notice with a brief greeting, which included an introduction of the librarian(s) and a promise to be back in touch one to two weeks prior to the scheduled class, in order to discuss the goals and objectives for the class (Appendix 3). The librarians then made sure to mark their calendars accordingly with reminders to reach out again at the promised time. This interaction, while simple, served to set the stage for an engaged conversation with the instructor about their goals for the students’ learning in the library class.

As promised, one to two weeks prior to the class, the librarian contacted the instructor again (unless the person had reached out on their own) to set up a





time to meet. This message served as an invitation to meet and discuss the learning objectives for the upcoming library class. The librarians crafted email messages that would 1) review what was already known about the students' assignment, 2) ask whether there had been any updates to the assignment or any other details about the class, and 3) invite the instructor to a brief meeting to discuss the learning goals they had for their students. In-person meetings and phone calls or video chats were always offered as a first option, with email as the least stressed mode (Appendix 4).

The final step in the pre-class communication process was to carry out a meeting with the instructor via their selected mode. While the number of in-person meetings held was not tracked, anecdotal evidence was that a surprising number of instructors were enthusiastic about meeting in person or over the phone. Prompts for discussion during these meetings included:

- What is students' knowledge of the as-

signment and/or topics?

- How does the instructor define student success with the research assignment?
- What information literacy and/or research knowledge/skills does the instructor view as important for the students to know?

The first question served to strongly encourage the instructors to introduce the assignment prior to the library session and to have their students come to the library with topics to explore through the class. We stressed that we could conduct learning activities to support the objectives for the class, but that they depended upon the students being able to engage directly with their assignment. In the conversation about student success and learning goals, instructors often listed skills such as selecting the "right" resources, using "credible information," and knowing how to find and use library databases.

The librarians' job in this conversation was to listen, and to reflect the goals as

they understood them. Next, the librarians could translate the instructor's language into library and research skills (information literacy) language, using the learning outcomes as a vehicle. For example, if an instructor expresses that they really want the students to use credible sources for their research and not so many biased resources, the librarian might reflect, "It sounds like you want your students to be able to do a better job of evaluating the information they find." This one reflective sentence accomplishes both clarification and reframing into the language of the foundational learning outcomes. The librarian might go on in this instance to articulate their plan to build a lesson around the learning objective: Students will be able to critically evaluate different sources of information and identify key criteria needed in an authoritative source. An optional element for discussion might be a specific learning activity the librarian planned to use; however, that wasn't necessary to accomplishing the goals of the conversation – establishing a shared understanding of learning outcomes. An example of how this might play out in an email conversation can be found in Appendix 5.

PLAN, TEACH, AND FOLLOW UP

Armed with clear learning objectives for the upcoming class, the librarian can then build out a lesson plan designed to arm students with the skills they need in order to do well with their instructor's research expectations. As a help to our librarians, and in effort to provide consistency in library instruction classes, we do maintain a repository of class activities that are designed to meet our articulated foundational learning outcomes. In many cases, the librarian is able to draw from these and plug them into their lesson plans. It is important to note that in implementing this

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communication process, we did not do anything to fundamentally change our classes or the typical contents of our lesson plans. However, the pre-class communication, in many cases, added a new dynamic to the sessions in the form of increased instructor engagement. It was observed that when instructors had an idea of what to expect during the library class, and the precedent for engagement in the learning process had been set through previous communications, the instructors were more likely to be active in answering student questions during class, assisting with independent research time, and supporting particular research strategies we might cover during the lesson. Following the class, it was also helpful to touch base one more time with the instructor, thanking them for giving of their class time for library instruction and inviting a continued relationship.

CAVEATS

What is good practice without a few caveats? Following an entire year of employing this communication process, Library Learning Services held a debrief to discuss as a group what was going well, what could use some tweaking, and what just did not work. Generally, there was agreement that clear communication centered on our established learning objectives for information literacy was extremely helpful in delivering a more meaningful library instruction class. One caution that arose was that, although our pre-instruction conversations were intended to help instructors narrow focus to what was the most important in terms of learning objectives, it was still not uncommon for the instructor to give a response that akin to “I want you to teach them everything about the library.” This could turn into a teachable moment, but one that had to be navigated carefully so that it didn’t seem we were just saying, “No.” One possible solution for this could be to remove the list of possible learning outcomes from the confirmation email (Appendix 2), leaving it to the librarian to offer assignment-based suggestions at the time of the conversation. This would prevent the situation in which the instructor responds to that email with a message affirming all of the learning outcomes as important. It is also important to consider the amount of time it will take to carry out so many consultations. For example, if a librarian works with fifteen different instructors, that is fifteen slightly different conversations to keep track of. Many of



our librarians work with more. The juggling of individual sessions’ pre- consultations, along with small but not insignificant differences in what each instructor valued for their students, was often cumbersome for librarians. Many used calendar reminders to prompt them to send consultation invitations, but even so the increased workload was a challenge. Also challenging was scheduling these consultations. The instructors’ and librarians’ time is always at a premium – fitting in even a 30-minute consultation can be quite challenging. Finally, our communication process has many steps for the librarian to keep track of – confirmation response; consultation invitation; responses to the consultation invitation (which can become lengthy); the consultation itself; the class; and the follow-up. Multiplied by the number of instructors the librarian teaches for and, it’s a lot to keep track of. Going forward, we are considering removing and/or simplifying some of these steps. In particular, the confirmation response can probably be removed from the process without detriment; a sentence could be added to the first confirmation email that indicates that the librarian will reach out 1-2 weeks before the class.

CONCLUSION

Having a clear, consistent, and robust communication process that engages instructors early can help to set the stage for a more meaningful library class. When articulating goals for the session, established research-related learning outcomes can serve as an invaluable tool for framing the conversation and coming to a common understanding of what the students

need to take away from class in order to be successful with their assignments. As with any departmental process or procedure, it is important to revisit the practice and assess what is working well and what is not, what has utility and what does not. ■

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APPENDIX 1. LEARNING OBJECTIVES FOR LIBRARY INSTRUCTION

Learning Objectives for Library Instruction:
At the foundational level, students will be able to:

- recognize that there are a variety of resources available to assist in their research needs, including the Libraries’ home page, the ENGL:015 or CAS:100 course guide, and the Ask a Librarian service.
- determine the most appropriate information source or search tool (e.g. LionSearch, Google, or other database) for their information need.
- distinguish between different information formats (scholarly article, newspaper article, blog, etc.) and determine the appropriate format for their research needs.

- identify keywords based on their topics or research questions and revise their search terms as needed in order to conduct an effective search.
- use information resources in order to gain an understanding of a research topic and generate research questions.
- refine search results using built-in database features and/or search term refinement in order to locate resources that meet their specific information needs.
- critically evaluate different sources of information and identify key criteria needed in an authoritative source.

As they delve into the process of writing and research integration, students will be able to:

- locate citation generator tools and the libraries' citation guides in order to create accurate citations in the appropriate style.
- practice ethical use of information, avoiding plagiarism and copyright infringement, in order to produce academic-quality, original works.

Additionally, librarians strive to give students a strong sense of the library as a place for safe and supported academic activity.

APPENDIX 2. CLASS CONFIRMATION EMAIL

Hi [instructor name]!

I am writing to confirm your library class request for [date and time]. Your class will be held in [room and location].

I have forwarded the instruction request including your instruction lesson to the librarian, [name], who is copied on this message. **You can expect to hear from [the librarian] soon regarding the learning objectives and workshop design for the library instruction session.**

The learning objectives for your customized library instruction session will address some combination of research and information seeking skills, which may include:

- Topic exploration and evaluation
- Information source evaluation
- Identification of appropriate keyword search terms
- Generation of research questions

Please feel free to be in direct communication with [the librarian] with any questions or comments prior to your class's visit to the library. The library will send you three emails to verify your session. If we don't hear back from you after the third email, your session will be canceled.

We strive to meet your assignment objectives and empower your students to carry out research at the [institution name]. In the event that you yourself cannot be present for a library instruction session, we ask that you arrange for a substitute instructor who is also familiar with the course assignments to attend, and that the substitute be designated to administer attendance. Your presence enhances student success and reinforces the value of the library as a resource. Thank you for your cooperation!

Many thanks, and please let me know if I can be of further assistance— Best,
[(department) Admin Assistant]

APPENDIX 3. LIBRARIAN RESPONSE TO CONFIRMATION EMAIL

Hi ,

I just wanted to quickly introduce myself as the librarian who will be conducting the research session for your students on [date] in [room location]. I'm really looking forward to working with you and will touch base about a week before the session to confirm your goals for the session.

Please let me know if you need anything before then. Otherwise, I'll look forward to talking to you more the week of [date]!

Best, [Librarian]

APPENDIX 4. EXAMPLE INVITATIONS TO MEET

Example 1:

Hi ,

I am looking forward to working with your classes on [date]. Since we like to tailor our classes to your students' needs, it could be helpful to find a time to chat (in person, over the phone, or through email) about your goals for the session. I see in your request your class will be working on their annotated bibliography [insert assignment name here] and you'd like to discuss plagiarism [note topics if they were given in the class request]. Can you tell me more about what you'd like to accomplish in the session and what stage of the bibliography your students will be at? That will help us craft a session that will be the most useful to your students and their research.

I look forward to hearing from you. Best,
[Librarian]

Example 2:

Hi ,

[My colleague] and I are looking forward to leading the library workshops for your

English 15 classes on [date] in [room location]. I see that the students will be working on a position argument and then a productive counterargument paper [insert assignment name here]. Could you tell us about your goals for the session? We can then see how those align with what we offer and propose some learning outcomes. Let us know if you prefer to talk in person or phone and we can set something up.

Otherwise, we can just email back and forth. Thanks!

[Librarian]

APPENDIX 5. INSTRUCTOR CONSULTATION VIA EMAIL

Dear [Instructor],

Thank you for all the information about the assignment and your goals....

I think your goals align very well with what we can offer. Recently in the library, we have developed a set of learning outcomes to define the scope of our teaching, so once we hear back from instructors about their vision, we suggest a few specific learning outcomes for the workshop.

For your session, here are the outcomes that I think match your goals best:

"By the end of the library session, students will...

1. recognize the variety of resources available in the library for their research needs (course guides, databases, Ask a librarian, etc.)
2. select appropriate search tools for their assignment (e.g., CQ Researcher, Opposing Viewpoints, Lionsearch, our local resources page)
3. identify keywords based on their topics and revise search terms as necessary.

Does this sound right?

If not, please let us know so we can adjust.

..Would you also like a short source evaluation activity? Since your class is 75 minutes, we could work something like that in, which some instructors like but others prefer to do themselves during regular class time.

Just let us know and if desired, we could add one in. Best,

[Librarian]

From Digital Library to Open Datasets

» Embracing a “Collections as Data” Framework

BY RACHEL WITTMANN, ANNA NEATROUR, REBEKAH CUMMINGS, AND JEREMY MYNTTI

INTRODUCTION

For decades, academic research libraries have systematically digitized and managed online collections for the purpose of making cultural heritage objects available to a broader audience. Making archival content discoverable and accessible online has been revolutionary for the democratization of scholarship, but the use of digitized collections has largely mimicked traditional use: researchers clicking through text, images, maps, or historical documents one at a time in search of deeper understanding. “Collections as data” is a growing movement to extend the research value of digital collections beyond traditional use and to give researchers more flexible access to our collections by facilitating access to the underlying data, thereby enabling digital humanities research.¹

Collections as data is predicated upon the convergence of two scholarly trends happening in parallel over the past several decades.² First, as mentioned above, librarians and archivists have digitized a significant portion of their special collections, giving access to unique material that researchers previously had to travel across the country or globe to study. At the same time, an increasing number of humanist scholars have approached their research in new ways, employing computational methods such as text mining, topic modeling, GIS (geographic information system), sentiment analysis, network graphs, data visualization, and virtual/augmented reality in their quest for meaning and understanding. Gaining access to high-quality data is a key challenge of digital humanities work, since the objects of study in the humanities are frequently not as amenable to computational methods as data in the sciences and social sciences.³ Typically, data in the sciences and social sciences is numerical in

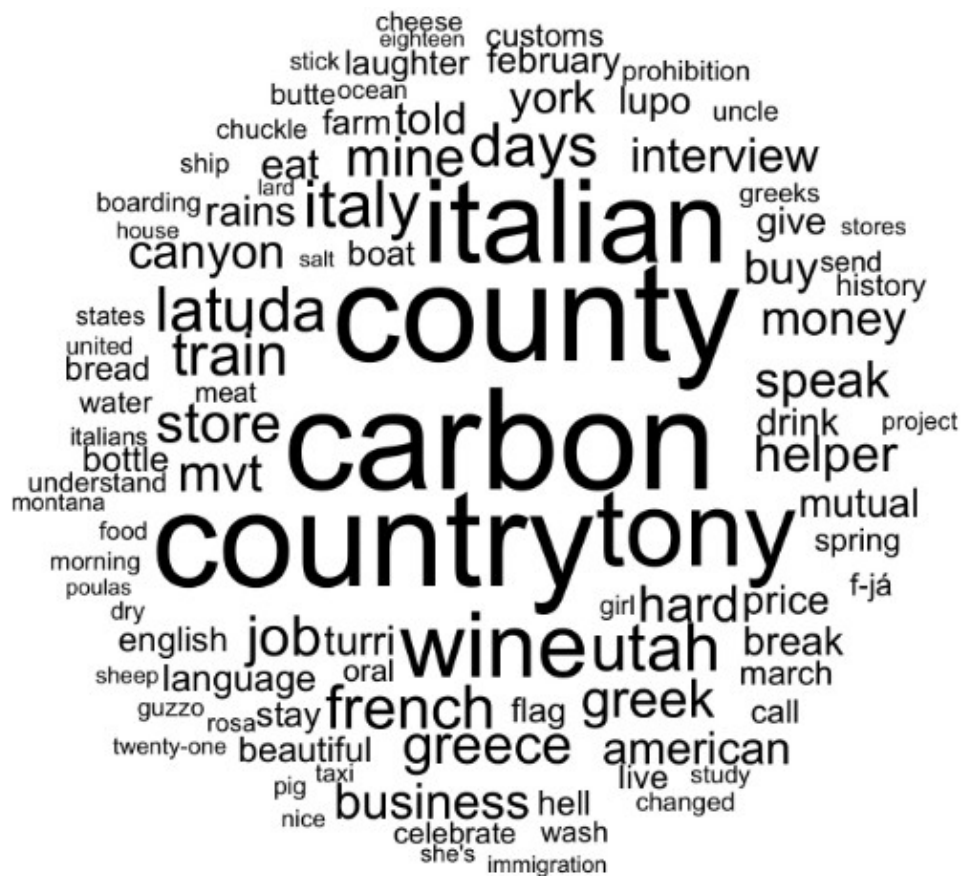


Figure 1. Topic model from text mining the mining-related oral histories found in the University of Utah's Digital Library.

nature and collected in spreadsheets and databases with the intention that it will be computationally parsed, ideally as part of a reproducible and objective study. Conversely, data (or, more commonly, “evidence” or “research assets”) in the humanities is text- or image-based and is created and collected with the intention of close reading or analysis by a researcher who brings their subjective expertise to bear on the object.⁴ Even a relatively simple digital humanities method like identifying word frequency in a corpus of literature is predicated on access to plain text (.txt) files, high-quality optical character recognition (OCR), and the ability to bulk download the files without running

afoul of copyright or technical barriers.

As “The Santa Barbara Statement on Collections as Data” articulates, “with notable exceptions like the HathiTrust Research Center, the National Library of the Netherlands Data Services & APIs, the Library of Congress’ Chronicling America, and the British Library, cultural heritage institutions have rarely built digital collections or designed access with the aim to support computational use.”⁵ By and large, digital humanists have not been well-served by library platforms or protocols. Current methods for accessing collections data include contacting the library for direct access to the data or “scraping” data off library web-

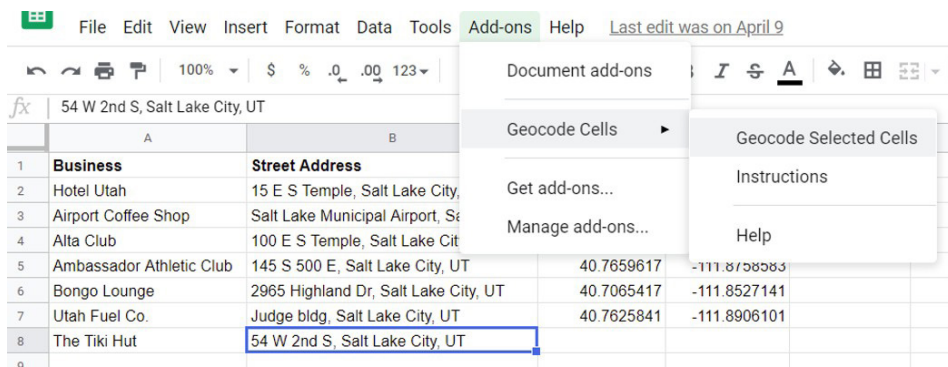


Figure 2. A screenshot of Google Sheets add-on, Geocode Cells.

sites. Recently funded efforts such as the Institute of Museum and Library Services' (IMLS's) Always Already Computational and the Andrew W. Mellon Foundation's *Collections as Data: Part to Whole* seek to address this problem by setting standards and best practices for turning digital collections into datasets amenable to computational use and novel research methods.⁶

The University of Utah J. Willard Marriott Library has a long-running digital library program and a burgeoning digital scholarship center creating a moment of synergy for librarians in digital collections and digital scholarship to explore collaboration in teaching, outreach, and digital collection development. A shared goal between the digital library and digital scholarship teams is to develop collections as data of regional interest that could be used by researchers for visualization and computational exploration. This article will share our local approach to developing and piloting a collections as data strategy at our institution. Relying upon best practices and principles from Thomas Padilla's "On a Collections as Data Imperative," we transformed five library collections into datasets, made select data available through a public GitHub repository, and tested the usability of the data with our own research questions relying upon expertise and infrastructure from Digital Matters and the Digital Library at the Marriott Library.⁷

DIGITAL MATTERS

In 2015, administration at the Marriott Library was approached by multiple colleges at the University of Utah to explore the possibility of creating a collaborative space to enable digital scholarship. While digital scholarship was happening across campus in disparate and unfocused ways, there was no concerted effort to share resources, build community, or develop a multi-college digi-

tal scholarship center with a mission and identity. After an eighteen-month planning process, the Digital Matters pop-up space was launched as a four-college partnership between the College of Humanities, College of Fine Arts, College of Architecture + Planning, and the Marriott Library. An anonymous \$1 million donation in 2017 allowed the partner colleges to fund staffing and activity in the space for five years, including the hire of a Digital Matters director tasked with planning for long-term sustainability.

The development of Digital Matters brings new focus, infrastructure, and partners for digital humanities research to the University of Utah and the Marriott Library. Monthly workshops, speakers, and reading groups led by digital scholars from all four partner colleges have created a vibrant community with cross-disciplinary partnerships and unexpected synergies. Close partnerships and ongoing dialogue have increased awareness for Marriott faculty, particularly those working in and collaborating with Digital Matters, of the challenges facing digital humanists and the ways in which the library community is uniquely suited to meet those needs. For example, a University of Utah researcher in the College of Humanities developed "Century of Black Mormons," a community-based public history database of biographical information and primary source documents on black Mormons baptized between 1830 and 1930.⁸ Working closely with the Digital Initiatives librarian and various staff and faculty at the Marriott Library, they created an Omeka S site that allows users to interact with the historical data using GIS, timeline features, and basic webpage functionality.

INSTITUTION DIGITAL LIBRARY

The University of Utah has had a robust digital library program since 2000, including one of the first digital newspaper reposi-

ries, Utah Digital Newspapers (UDN, <https://digitalnewspapers.org/>). In 2016, the library developed its own digital asset management system using open-source systems such as Solr, Phalcon, and nGinx after using CONTENTdm for over fifteen years.⁹ This new system, Solphal, has made it possible for us to implement a custom solution to manage and display a vast amount of digital content, not only for our library, but also for many partner institutions throughout the state of Utah. Our main digital library server (<https://collections.lib.utah.edu/>) contains over 765,000 objects in nearly 700 collections, consisting of over 2.5 million files. Solphal is also used to manage the UDN, containing nearly 4 million newspaper pages and over 20 million articles.

Digital library projects are continually evolving as we redefine our digital collection development policies, ensuring that we are providing researchers and other users the digital content that they are seeking. With such a large amount of data available in the digital library, we can no longer view our digital library as a set of unique, yet siloed, collections, but more as a wealth of information documenting the history of the university, the state of Utah, and the American West. We are also engaged in remediating legacy metadata across the repository in order to achieve greater standardization, which could support computational usage of digital library metadata in the future. With this in mind, we are working to strategically make new digital content available on a large scale that can help researchers discover this historical content within a collections as data mindset.

Leveraging the existing Digital Library and Digital Matters programs, faculty at the Marriott Library are in the process of piloting a collections as data strategy. We selected digital collections with varying characteristics and used them to explore small- and large-scale approaches to developing datasets for humanities researchers. We then tested the datasets by employing various digital humanities methods such as text mining, topic modeling, and GIS. The five case studies below chronicle our efforts to embrace a collections as data framework and extend the research value of our digital collections.

TEXT MINING MINING TEXTS

When developing the initial collections as data project, several factors were considered to identify the optimal material for this experiment. Selecting already digitized and

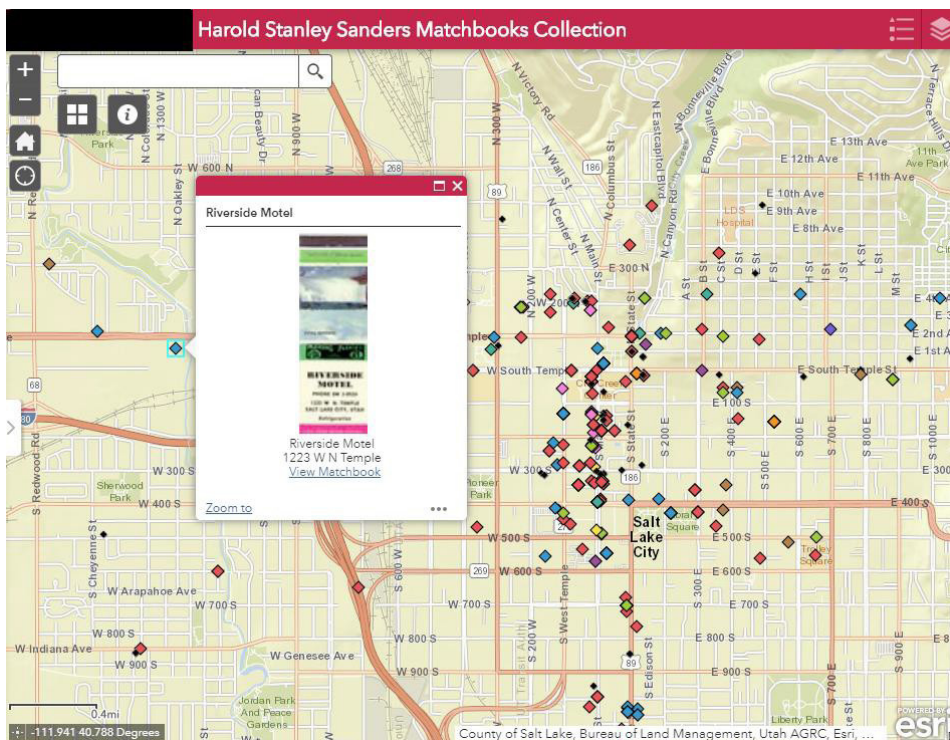


Figure 3. A screenshot of Harold Stanley Sanders Matchbook Collection Map, made with ArcGIS Online.

described material in the University of Utah Digital Library was ideal to avoid waiting periods required for new digitization projects. The Marriott Library Special Collections' relationship with the American West Center, an organization based at the University of Utah with the mission of documenting the history of the American West, has produced an extensive collection of oral histories held in the Audio Visual Archive which have typewritten transcripts yielding high-quality OCR. Given the availability and readiness of this material, we built a selected corpus of mining-related oral histories, drawn from collections such as the Uranium Oral Histories and Carbon County Oral Histories. Engaging in the entire process with a digital humanities framework, we scraped our own digital library repository as though we had no special access to the back end of the system, developing a greater understanding of the process and workflows needed to build a text corpus to support a research inquiry. In this way, we extended our skills so that we would be able to scrape any digital library system if this expertise was needed in the future.

The extensive amount of text produced by the corpus of 230 combined oral histories provided ideal material for topic modeling. Simply put, "topic modeling is an automatic way to examine the contents of a corpus of documents."¹⁰ The output of these models is

word clouds with varying sizes of words based on the number of co-occurrences within the corpus; larger words indicate more occurrences and smaller ones indicate fewer. Each topic model then points to the most relevant documents within the corpus based on the co-occurrences of the words contained in that model. In order to create these topic models from the corpus of oral histories, a workflow was developed with the expertise of the Digital Matters cohort, implementing MALLET for R script, using the LDA topic model style, developed by Blei et al.¹¹

From the mining-related oral history corpus, twenty-six topic models were created. Once generated, each topic model points to five interviews that are most related to the words in a particular model. In **figure 1**, the words carbon, county, country, and Italian are the largest, because the interviews are about Carbon County, Utah. Considering this geographical area of Utah was the most ethnically diverse in the late 1800s due to the coal mining industry recruiting labor from abroad, including Italy, these words are not surprising. As indicated by their prominence in the topic model, the set of words co-occur most often in the interview set. We approached the process of topic modeling the oral histories as an exploration, but after reviewing the results, we discovered that many of the words which surfaced through this process pointed

to deficiencies in the original descriptive metadata, highlighting new possibilities for access points and metadata remediation. Honing in on the midsize words tended to uncover unique material that is not covered in descriptive metadata, as these words are often mentioned more than a handful of times and across multiple interviews. The largest words in the model are typically thematic to the interview and included in the descriptive metadata. For example, when investigating the inclusion of "wine" in the topic model found in figure 1, conversations about the winemaking process amongst the Italian mining community in Carbon County, Utah were revealed. From an interview with Mary Nicolovo Juliana conducted in 1973 from the Carbon County Oral History Project, Nicolovo discusses how her father, a miner, made wine at home.¹²

As the topic models are based on co-occurrences in the corpus, there was another interview with Emile Louise Cances, from the Carbon County Oral History Project conducted in 1973. Cances, from a French immigrant mining family, discusses the vineyards her family had in France.¹³ With both of these oral histories, there was no reference to wine in the descriptive metadata. A researcher may miss this content because it isn't included as an access point in metadata. Thus, topic modeling allowed for the discoverability of potentially valuable topics that may be buried in hundreds of pages of content.

From this collections as data project, text mining the mining oral history texts to produce topic models, we are considering employing topic modeling when creating new descriptive metadata for similar collections. Setting a precedent, the text files for this project are hosted on the growing Marriott Library Collections as Data Github repository. After we developed this corpus, we discovered that a graduate student in the History department had developed a similar project, demonstrating the research value of oral histories combined with computational analysis.¹⁴

HAROLD STANLEY SANDERS MATCHBOOKS COLLECTION

When assessing potential descriptive metadata for the Harold Stanley Sanders Matchbooks Collection, an assortment of matchbooks that reflect many bygone establishments predominately from Salt Lake City that include restaurants, bars, hotels, and other businesses, non-Dublin

UTAH COPPER CO. Form 271 NO. 243

EMPLOYMENT CARD

Name *Alli Ebrahim* Date Employed *4/10/16*
 Address *Company House* Dependent *Casim N. Alli D.S.*

Age *35* Weight *155* Height *5-8* Eyes *Brown* Hair *Black* M F S
 Nationality *Albanian* Engaged by *Earl*

Last Employer *Salt Lake Ry.* Education _____

Date	<i>4/10/16</i>		
Dept.	<i>Track Operations</i>		
Occ.	<i>Trackman</i>		
Rate	<i>220</i>		
Date			
Dept.			
Occ.			
Rate			

Left Employ—Date *6/22/16* Reason *Quit*

Approved _____

Figure 4. Employment card for Alli Ebrahim, 1916.

Core metadata was essential for computational purposes. With the digital project workflow now extending beyond publishing the collection in the Digital Library, to publishing the collection data to the Marriott Library Collections as Data GitHub repository, assessing metadata needs has evolved. As matchbooks function as small advertisements, they often incorporate a mix of graphic design, advertising slogans, and addresses of the establishment. The descriptive metadata was created first with the most relevant fields for computational analysis, including business name, type of business, transcription of text, notable graphics, colors of matchbooks, and street addresses. For collection mapping capabilities, street addresses were then geocoded using a Google Sheets add-on called Geocode Cells, which uses Google's Geocoding API (see figure 2).

This proved efficient for this collection, as other geocoding services required zip codes for street addresses which were not present on the matchbooks. With the latitude and longitude addition to the metadata, the collection was then mapped using ArcGIS Online (see figure 3).¹⁵

The extensive metadata, including geographic-coordinate data, is available on the library's GitHub repository for public use. After the more computationally ready metadata was created, it was then massaged to fit library best practices and Dublin Core (DC) standards. This included deriving Library of Congress Subject Headings for DC

subjects from business type and concatenating notable matchbook graphics and slogans for the DC description. While providing the extensive metadata is beneficial for computational experimentation, it adds time and labor to the lifespan of the project.

KENNECOTT COPPER MINER RECORDS

One aspect of our collections as data work at the University of Utah moving forward is the need for long-term planning for resources that contain interesting information that could eventually be used for computational exploration, even if we currently don't have the capacity to make the envisioned dataset available at the current time. The Marriott Library holds a variety of personnel records from the Kennecott Copper Corporation, Utah Copper Division. These handwritten index cards contain a variety of interesting demographic data about the workers who were employed by the company from 1900-19 such as name, employee ID, date employed, address, dependents, age, weight, height, eyes, hair, gender, nationality, engaged by, last employer, education, occupation, department, pay rate, date leaving employment, and reason for leaving. Not all the cards are filled out with the complete level of detail as listed in the fields above, however, usually name, date employed, ethnicity, and notes about pay rates for each employee are included.

Developing a scanning and digitization procedure for creating digital surrogates of almost 40,000 employment records was

fairly easy due to an existing partnership and reciprocal agreement with FamilySearch, however developing a structure for making the digitized records available and providing full transcription is a long-term project. Librarians used this project as an opportunity to think strategically about the limits of Dublin Core when developing a collections as data project from the start. The digital library repository at the University of Utah provides the ability to export collection level metadata as .tsv files. With this in mind, the collection metadata template was created with the aim of eventually being able to provide researchers with the granular information on the records. This required introducing a number of new, non-standard field labels to our repository. Since we are not able to anticipate exactly how a researcher might interact with this collection in the future, our main priority was developing a metadata template that would accommodate full transcription for every data point on the card. Twenty new fields in the template reflect the demographic data on the card, and ten are existing fields that map to our standard practices with Dublin Core fields. Because we do not currently have the staffing in place to transcribe 40,000 records, we are implementing a phased approach of transcribing four basic fields, with fuller transcription to follow if we are able to secure additional funding.

WOMAN'S EXPONENT

A stated goal for Digital Matters is to be a digital humanities space that is unique to Utah and addresses issues of local significance such as public lands, water rights, air quality, indigenous peoples, and Mormon history.¹⁶ When considering what digital scholarship projects to pursue in 2019, Digital Matters faculty became aware of the upcoming 150th anniversary of women in Utah being the first to vote in the nation. Working with a local nonprofit, Better Days 2020, and colleagues at Brigham Young University (BYU), Digital Matters faculty and staff decided to embark on a multimodal analysis of the 6,800-page run of the *Woman's Exponent*, a Utah women's newspaper published between 1872-1914 primarily under the leadership of Latter-day Saint Relief Society President Emmeline B. Wells. In its time, the *Woman's Exponent* was a passionate voice for women's suffrage, education, and plural marriage, and chronicled the interest and daily lives of Latter-day Saint women.

UTAH COPPER CO. Form 271 NO. 4165

EMPLOYMENT CARD

Name *Almond Richard* Date Employed *12/24/17*
 Address *Highland Boy* Dependents *Ben J. William*
28 Bradley St. S. J. S. S. S.
 Age *33* Weight *176* Height *5'11* Eyes *Hazel* Hair *Brn* M. or S. *Eng*
 Nationality *English* Engaged by
 Last Employer *Mid West Oil Co* Casper Wyo
 Education *Common School* 12-27-13-10M

Date	<i>12/24/17</i>	
Dept.	<i>Mach Helper</i>	
Occ.	<i>Pitman</i>	
Rate	<i>4.00</i>	<i>Brn</i>
Date		
Dept.		
Occ.		
Rate		

Left Employ—Date *1/10/18* Reason *Quit w/ Bad weather* *P. M. W.*

Approved

Figure 5. Employment card for Richard Almond, 1917.

Initially, we hoped to access the data through the Brigham Young University Harold B. Lee Library, which digitized the *Exponent* back in 2000. We quickly learned that OCR from nearly twenty years ago would not suffice for digital humanities research and considered different paths for rescanning the *Exponent*. After accessing the original microfilm from BYU, we leveraged existing structures for digitization. Through an agreement that the Marriott Library has in place with a vendor for completing large-scale digitization of newspapers on microfilm for inclusion in the Utah Digital Newspapers program, we were able to add the *Woman's Exponent* to the existing project without securing a new contract for digitization. The vendor digitized the microfilm, created an index of each title, issue, date, and page, and extracted the full text through an OCR process. They then delivered 330 GB of data to us, including

high-quality TIFF and JP2000 images, a PDF file for each page, and METS-ALTO XML files containing the metadata and OCR text.

Acquiring data for the *Woman's Exponent* project illuminated the challenges that digital humanists face when looking for clean data. Our original assumption was that if something had already been scanned and put online, the data must exist somewhere. We soon learned, when working with legacy digital scans, that the OCR might be insufficient or the original high-quality scans might be lost over the course of multiple system migrations. As librarians with existing structures in place for digitization, we had the content rescanned and delivered within a month. Our digital humanities partners from outside of the library did not know this option was available and assumed our research team would have to scan 6,800 pages of newspaper content before we were able to start analyzing the

data. This incongruity highlighted cultural differences between digital humanists with their learned self-reliance and librarians who are more comfortable and conversant looking to outside resources. Indeed, our digital humanities colleagues seemed to believe that “doing it yourself” was part and parcel of digital humanities work.

The *Woman's Exponent* project is still in early phases, but now that we have secured the data, we are considering what digital humanities methods we can bring to bear on the corpus. With the 2020 150th anniversary of women's suffrage in Utah, we have considered a topic modeling project looking at themes around universal voting, slavery, and polygamy and tracking how the discussion around those topics evolved over the 42-year run of the paper. Another potential project is building a social network graph of the women and men chronicled throughout the run of the paper. Developing curriculum around women in Utah history is of particular interest to the group as women are underrepresented in the current K-12 Utah history curriculum. Keeping in line with our commitment to collections as data, we have released the *Woman's Exponent* as a .tsv file with OCR full-text data, which can be analyzed by researchers studying Utah, Mormon studies, the American West, or various other topics. Collaborators have also developed a digital exhibit on the *Woman's Exponent* which includes essays about a variety of topics as well as sections showcasing its potential for digital scholarship.¹⁷

OBITUARY DATA

The Utah Digital Newspapers (UDN) program began in 2002 with the goal of making historical newspaper content from the State of Utah freely available to the public for research purposes. Between 2002 and 2019, there have been over 4 million newspaper pages digitized for UDN. Due to

» **The *Woman's Exponent* project is still in early phases, but now that we have secured the data, we are considering what digital humanities methods we can bring to bear on the corpus. With the 2020 150th anniversary of women's suffrage in Utah, we have considered a topic modeling project looking at themes around universal voting, slavery, and polygamy and tracking how the discussion around those topics evolved over the 42-year run of the paper.**

» **As the digital library community recognizes the need for computational-ready collections, the University of Utah Digital Library has embraced this evolution with a strategic investment. Implementing the collections as data GitHub repository for computational users is a first step towards providing access to collections beyond the traditional digital library environment.**

search limitations of the software system used for UDN at the time, the data model for newspapers was made more granular, and included segmentation for articles, obituaries, advertisements, birth notices, etc. This article segmentation project ended in 2016 when it was determined that the high cost of segmentation was not sustainable with mass digitization of newspapers and users were still able to find the content they are looking for on a full newspaper page.

Before the article segmentation project concluded, UDN had accrued over 20 million articles, including 318,044 articles that were tagged as obituaries or death notices. In 2013, the Marriott Library partnered with FamilySearch to index the genealogical information that can be gleaned from these obituaries. The FamilySearch Indexing (FSI) program crowdsourced the indexing of this data to thousands of volunteers worldwide. Certain pieces of data, such as place names, were mapped to an existing controlled vocabulary and dates were entered in a standardized format to ensure that certain pieces of the data are machine actionable.¹⁸

After the obituaries were indexed by FSI in 2014, a copy of the data was given to the Marriott Library to use in UDN. The indexed data included fields such as name of deceased, date of death, place of death, date of birth, birthplace, and relative names with relationships. Since this massive amount of data didn't easily fit within the UDN metadata schema, it was stored for several years without the Marriott Library doing anything with the data.

Now that we are thinking about our digital collections as data, we are exploring ways that researchers could use this vast amount of data. The data was delivered to the library in large spreadsheets that are not easily usable in any spreadsheet software. We are exploring ingesting the data into a revised newspaper metadata schema within our digital asset management system or

converting the data into a MySQL database so it is possible to search and find relationships between pieces of data.

Working with a large dataset such as this can be challenging. The data from only two newspapers, including 1,038 obituaries, is a 25 MB file. The full database is over 10 GB of data. Since this is a large amount of data, we are working through issues related to how we can distribute this data in a usable way in order for researchers to make use of the data. We are also looking at the possibility of having FSI index additional obituary data from UDN, which will make the database continually expand.

CONCLUSION

As the digital library community recognizes the need for computational-ready collections, the University of Utah Digital Library has embraced this evolution with a strategic investment. Implementing the collections as data GitHub repository for computational users is a first step towards providing access to collections beyond the traditional digital library environment. While there may be improved ways to access this digital library data in the future, the GitHub repository filled an immediate need.

Developing standardized metadata for computational use can often require more time from metadata librarians who are already busy with the regular work of describing new assets for the digital library. Developing additional workflows for metadata enhancement and bulk download can delay the process in making new collections available. In most cases, collections need to be evaluated individually to determine what type of resources can be invested in making them available for computational use. For a project needing additional transcription, like the Kennecott Mining Records, crowdsourcing might seem like potential avenue to pursue. However, the digital library collection managers have misgivings about the

training and quality assurance involved in developing a new large-scale transcription project. Combined with the desire to ensure that the people who are working on the project have adequate training and compensation for their labor, we are making the strategic decision to transcribe for some of the initial access points to the collection now, and attempt full transcription at a later date pending additional funding. For the UDN obituary data, leveraging an existing transcription program at no cost with minimal supervision needed by librarians worked well in being able to surface additional genealogical data that can be released for researchers.

The collections as data challenge mirrors a perennial digital library conundrum—how much time and effort should librarians invest for unknown future users with unknown future needs? Much like digitization and metadata creation, creating collections as data requires a level of educated guesswork as to what collections digital humanists will want to access, what metadata fields they will be interested in manipulating, and in what formats they will need their data. Considering the limited resources of librarians, should we convert our digital collections into data in anticipation of use or convert our collections on demand? This “just in case” vs. “just in time” question is worthy of debate and will naturally be dependent on the resources and priorities of individual institutions.

With an increasing number of researchers experimenting with digital humanities methods, collections as data will be a standard consideration when working with new digitization projects at the University of Utah. Visualization possibilities outside of the digital-library environment will be regularly assessed.

Descriptive metadata practices beyond Dublin Core will be developed when beneficial to the computational and experimental

» The collections as data challenge mirrors a perennial digital library conundrum—how much time and effort should librarians invest for unknown future users with unknown future needs?

use of the data by the public. Integrating techniques like topic modeling into descriptive metadata workflows provides additional insight about the digital objects being described. While adding collections as data to existing digitization workflows will require an additional investment of time, developing these projects has also created new opportunities for collaboration both within the library and in developing expanded partnerships at the University of Utah and other institutions in the Mountain West. By leveraging our existing partnerships, we were able to create collections as data pilots organically by taking advantage of our current workflows and digitization procedures. While we have been successful in releasing smaller-scale collections as data projects, we still need to consider integration issues with our larger digital library program and experiment more with enabling access to large datasets. With librarians engaged in producing curated datasets that evolve from unique special collection materials, they can extend the research value of the digital library and the collections that are unique to each institution. As we look towards the future, we see this work continuing and expanding as librarians engage more with digital humanities teaching and support. ■

ACKNOWLEDGEMENTS

The authors would like to acknowledge Dr. Elizabeth Callaway, former Digital Matters postdoctoral fellow and current Assistant Professor in the Department of English at the University of Utah, for developing the topic modeling workflow used in the collections as data project, Text Mining Mining Texts. Callaway's expertise was invaluable in creating the scripts to enable distance reading of the text corpus, documenting this process, and training library staff.

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and Libraries, Vol. 38, No. 4. [HTTPS://DOI.ORG/10.6017/ITAL.V38I4.11101](https://doi.org/10.6017/ITAL.V38I4.11101)

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How Can We Serve You Better

» Customers' Perceptions of Services and Facilities Offered in a Community Library

BY HENRY W.L. HO

INTRODUCTION

Customer satisfaction is important to the success of for-profit and nonprofit organizations. According to Matzler and Hinterhuber (1998), many organizations around the world use satisfaction ratings as an indicator of the performance of their products and services and of the company's future. The idea of marketing implies that "achieving organizational goals depends on determining the needs and wants of target markets and delivering the desired satisfactions more effectively than competitors" (Kotler et al., 2003, p. 18). Therefore, organizations need to focus on their customers and aim at achieving long-term customer satisfaction. This requires continuously providing superior value, establishing a sustainable competitive advantage, and using an integrated organizational effort to achieve objectives (Ho, 2012).

Researchers such as Abd-El-Salam, Shawky, and El-Nahas (2013) have taken a similar view to that of Kotler et al. and Ho. They argued that in the service industry, customer satisfaction has emerged as "one of the most powerful tools for sustaining a competitive advantage for business success and survival nowadays, through excellent service quality" (p. 180). Furthermore, good service leads to satisfied and loyal customers (Grewal & Levy, 2016). Therefore, the ability to provide excellent service is no longer optional for today's organizations. As Little and Little (2009) pointed out, customers are more demanding in this severely competitive market, and they are the judges of quality. This is reflected in large numbers of empirical studies of the impact of service quality on customer loyalty and satisfaction.

The present study examines customers' perceptions of a community library in a rural area and tries to understand their needs and wants. From the library administrators'

Table 1: Residents of Big Rapids and Surrounding Townships

Township	Number of Residents
City of Big Rapids	10,532
Big Rapids Township	3,249
Barton Township	820
Colfax Township	574
Green (Paris) Township	1,228
Grant Township	680
Norwich Township	607
Total population	17,685

Source: United States Census Bureau (n.d.).

perspective, an increase in the number of customers using the library's services has come to be an important library-performance indicator (Bakti & Sumaedi, 2013). Furthermore, library managers and administrators believe that an increase in customer numbers provides strong support for their requesting additional budget and staff members to better serve their customers (Bakti & Sumaedi, 2013; McKnight, 2008).

LITERATURE REVIEW

Importance of Customer Satisfaction and Loyalty in Service Organizations

Customer satisfaction and loyalty have been widely discussed in the services marketing literature. From a service-provider manager's perspective, customer satisfaction and loyalty are among the most enduring assets of a company (Kandampully, Zhang, & Bilgihan, 2015). Abd-El-Salam et al. (2013) provided a similar account. They argued that in the contemporary market environment, "customer loyalty and retention is the most vital goal for a service organization's success" (p. 182). Customer excellence is achieved when a firm develops value-based

strategies for retaining customers and provides outstanding customer service (Grewal & Levy, 2016).

Paying attention to customers' needs and wants will narrow perceptual gaps between customers and the organization and yield better business performance through greater customer satisfaction and loyalty (Ho, 2012). Loyal customers are more willing to pay extra, express greater buying intentions, and re-use the services same provider's services for longer periods (Kandampully et al., 2015). In other words, loyal customers are the most profitable in the long term (Grewal & Levy, 2016). In addition, loyal and committed customers can be the best source of referrals for many service organizations. As Fallon (2014) suggested, committed and word-of-mouth referrals are the best sources of revenue for 80 percent of service organizations today.

Prentice (2013) noted that "although service quality is an important determinant of customer satisfaction and retention, an organization's service resources are limited, and customers are not served equally; nor are all customers equally profitable to the firm" (p.51). Customer loyalty requires the service organization to consistently meet or exceed expectations (Mothersbaugh & Hawkins, 2016), so service organizations should regularly evaluate their service quality and identify new values and services that can be used to better meet or exceed these expectations in return for satisfaction and loyalty.

Evaluating Service Quality in Service Organizations

Quality is subjective and difficult to define precisely. Service quality is commonly acknowledged as an antecedent of customer satisfaction and loyalty, though (Prentice, 2012). According to Zeithaml, Parasuraman, and Berry (1990), it can be defined as customers' perceptions of how well a

**Table 2:
Respondent
Profile**

Sample size	617
Gender	
Male	38.58%
Female	60.35%
Prefer not to answer	1.06%
Age	
18–24	24.51%
25–39	23.98%
40–54	20.78%
55+	30.73%
Marital status	
Single	45.31%
Married	50.09%
Prefer not to answer	4.60%
Annual household income	
\$0–\$9,999	13.68%
\$10,000–\$29,999	12.26%
\$30,000–49,999	16.52%
\$50,000–\$69,999	12.79%
\$70,000+	21.31%
Prefer not to answer	23.45%

service meets or exceeds their expectations. This definition is now used frequently by researchers in services marketing. The delivery of high-quality services is also one of the most important and difficult tasks a service organization faces (Pride & Ferrell, 2016). To deliver good service, Pride and Ferrell (2016) argued that providers need to understand their customers' expectations and design services to meet or exceed them.

One of the most common instruments for measuring service quality and customer expectation, SERVQUAL, was developed in 1988 by Parasuraman, Zeithaml, and Berry (1988). SERVQUAL can be used as a research instrument to capture customer expectations and perceptions of a service along five dimensions—reliability, responsiveness, assurance, empathy, and tangibility—that are believed to represent service quality (Parasuraman et al., 1988). It is now used frequently by service-quality researchers, including those in the library sector. For example, Nimsomboon and Nagata (2003) conducted research using SERVQUAL to examine the overall service quality of Tham-

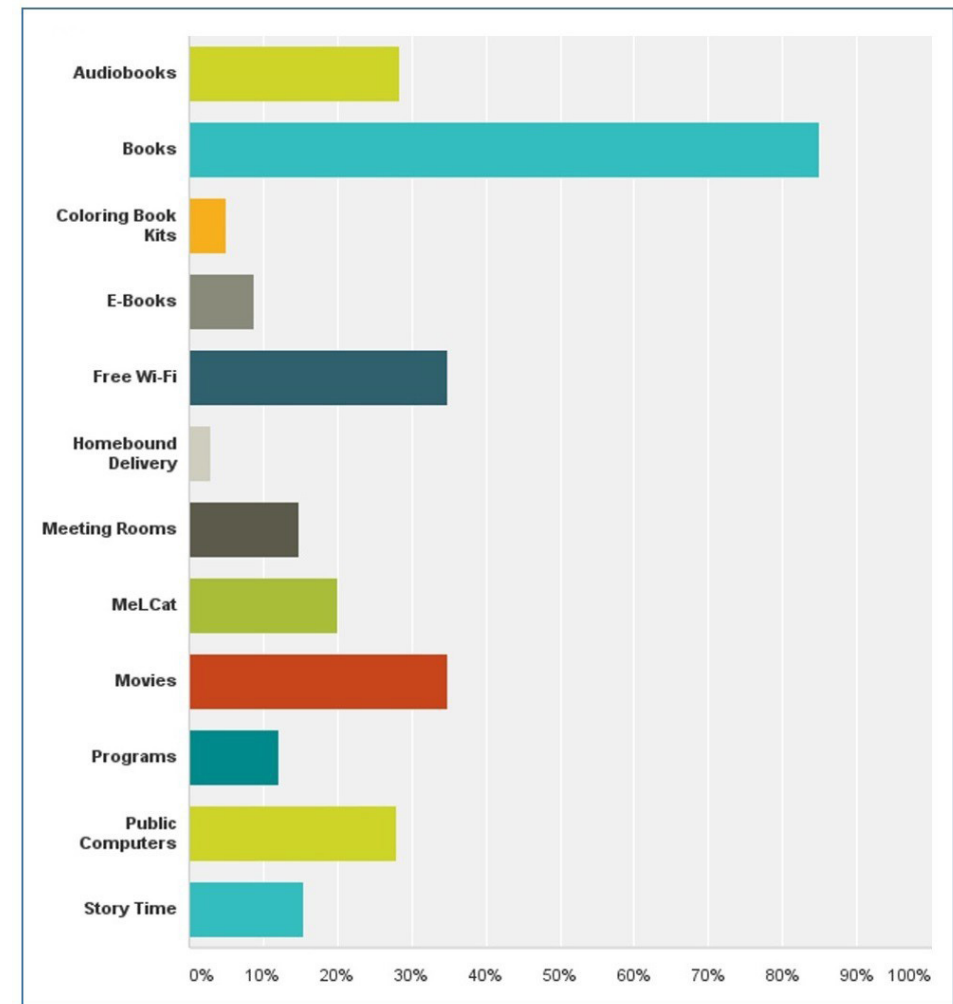


Figure 1: Services and Facilities Utilized

masat University Library System from users' perspectives and to identify the dimensions that determined customers' evaluation of service quality. Podbrežnik (2014) modified the SERVQUAL instrument to assess service-quality expectations and perceptions from the perspective of users of a public library in Slovenia. The SERVQUAL model has also recently been used to assess the quality of services in academic libraries in several developing countries: Bangladesh, Iran, Nigeria, and Pakistan (Asogwa et al., 2014). All these studies revealed that service quality has a direct impact on customer satisfaction, which in turn influences customer loyalty.

Although many service-quality researchers continue adapting SERVQUAL for their projects, the model has also been scrutinized and criticized in recent years. According to Hsu, Cummings, and Wang (2014), "there is little evidence that customers gauge service quality in terms of the service gap between expectations and perceptions" (p. 138). Other performance-based instruments, such as SERVPERF (Cronin & Taylor, 1992) and LibQUAL+ (Thompson, 2007) are

also popular among researchers, apparently for their relatively simple structure in comparison with SERVQUAL (Hsu et al., 2014).

No approach works best in all circumstances. No matter which instrument researchers adopt, they must understand that the definition of quality is a subjective matter (Sahu, 2006). Besides, customers always dictate what they want, when, and how. Customers can also change the direction, form, and character of any service depending on their needs (Sahu, 2006). For this study, therefore, the author has argued that the research instrument (structured open/closed ended questions) should be tailor-made to accommodate the overall objective: understanding customers' perceptions of the services and facilities offered by a local library and identifying services that should be offered in the near future.

Service Quality, Customer Satisfaction, and Customer Loyalty

The relationship between service quality, customer satisfaction, and customer loyalty has been discussed in many publications for

Table 3: Satisfaction Level with Services and Facilities Provided

	Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied	Mean
Audiobooks	0.00%	2.26%	26.55%	25.42%	45.76%	4.15
Board Games	1.20%	0.00%	56.63%	18.07%	24.10%	3.64
Books	2.50%	0.28%	9.72%	37.78%	49.72%	4.32
Coloring Book Kits	1.18%	2.35%	57.65%	17.65%	21.18%	3.55
E-Books	2.80%	2.80%	35.51%	30.84%	28.04%	3.79
Free Wi-Fi	1.14%	0.00%	17.14%	38.86%	42.86%	4.22
Homebound Delivery	1.20%	1.20%	56.63%	18.07%	22.89%	3.60
Meeting Rooms	1.65%	0.83%	36.36%	21.49%	39.67%	3.97
MelCat	0.76%	3.82%	20.61%	26.72%	48.09%	4.18
Movies	1.15%	1.15%	22.99%	33.33%	41.38%	4.13
Programs	1.71%	0.00%	41.03%	25.64%	31.62%	3.85
Public Computers	1.20%	0.00%	26.51%	33.13%	39.16%	4.09
Story Time	0.81%	0.00%	35.77%	21.14%	42.28%	4.04

n = 419, five-point Likert scale with 1 = Very Dissatisfied and 5 = Very Satisfied.

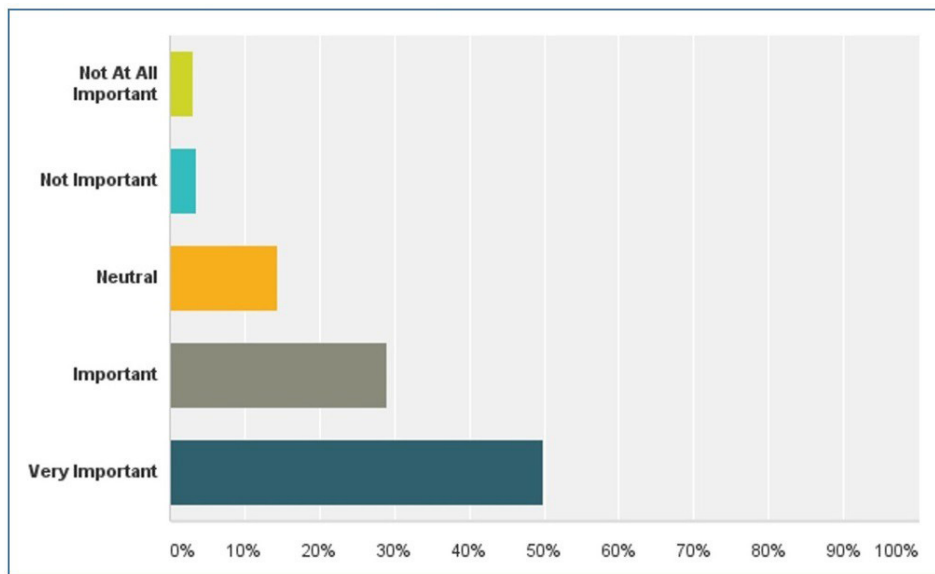


Figure 2: Importance of Library Access

several decades. In empirical research using the SERVPERF model (a modified version of SERVQUAL), Cronin and Taylor (1992) found that excellent services can always lead to total customer satisfaction, which determines rebuy intentions. This is similar to the claim by Grewal and Levy (2016) that “a service provider that does a good job one year is likely to keep customers satisfied the next year too” (p. 425).

A similar empirical study was conducted by Yu, Chang, and Huang (2006) in the leisure industry in Taiwan to examine the relationship between the three constructs mentioned above. Once again, the SERVPERF

model was used. The findings indicated that high satisfaction with service quality has a strong relationship with customer loyalty (Yu et al., 2006). In other words, the highest level of customer satisfaction can be reached only when high levels of services are consistently available to the customer.

Although the possibility exists of satisfied customers who do not make repeat purchases (Izogo & Ogba, 2015), more happy customers will be loyal than otherwise. Maintaining a high level of service quality is a major goal of marketers in the service industry today. Marketers should understand that any basic approach to customer satis-

faction that is unable to fulfil the customers’ expectations is likely to fail (Ho, 2012). In the long run, any service organization with the resources and ability to provide superior services to customers, will see an increase in market share, customer satisfaction, and stronger customer loyalty.

Customer Satisfaction and Loyalty in Public Libraries

Customer satisfaction with library services has a positive correlation with the overall image of the library itself and most importantly, with its financial state (Bakti & Sumaedi, 2013). Hence, the interest in satisfying customer needs and wants has tremendously increased over the last two decades in different kind of public libraries throughout the world.

A regional study was directed by Joy and Idowu (2014) to investigate the utilization and user satisfaction of public library services in south-west Nigeria. Questionnaire was the major instrument used for data collection and a total of 400 library users chosen across four states in south-west, Nigeria were used for the study. From their research findings, lack of adequate facilities, outdated information resources, and internet/ICT services in Nigeria public libraries were revealed by the users as major factors affecting user satisfaction of public library services. They recommended that funding should be increased by the Nigerian government so that adequate information resources and ICT facilities can be acquired in public libraries of the country (Joy & Idowu, 2014).

In 2012, Othman and Mazli (2012) conducted a research to investigate whether daylight and in-room temperature in the public library of Shah Alam, Malaysia influences the library users’ overall satisfaction. They claimed that since the main factors that affect library users is a good lighting as well as indoor temperature, their study helps to give an indication of the library users’ preferences, hence, “provide future designers to design better and efficient seating layout at the reading area of the library ... this will encourage people to go to the library and stay longer at the library” (Othman & Mazli, 2015 p. 245). As indicated in their research findings, the library users prefer the seat near day-lighted area, but the time spend in the library is not really affected by daylighting. Besides for visual comfort, daylighting is not the only contributor to overall comfort and user’s satisfaction.

Tyler and Hastings (2011) initiated an online survey for a university in the north-west region of Florida to determine if online students are satisfied with the resources and services being provided by their university's online library. Based on their analysis, several demographic factors were found to influence student satisfaction with the library's online resources which include age, gender, achieved educational level, student status, and computer experience.

Bakti and Sumaedi (2013) examined the relationship between library customer loyalty and other latent constructs, namely service quality and customer satisfaction in a university library service in Indonesia. They argued that in order to achieve library customer loyalty, "library management has to assure the library customer satisfaction. Thus, since many factors can influence library customer satisfaction, library management should improve not only library service quality, but also other aspects that influence library customer satisfaction, such as perceived price, situational factor, and personal factor" (Bakti & Sumaedi, 2013 p. 397).

Hakala and Nygrén (2010) implemented a customer satisfaction survey for Turku School of Economics Library (one of the six libraries of University of Turku) in Finland with the aim to improve quality and customer appreciation for their business library. Based on their research findings (n=486) via online survey, they claimed that "in order for the library to better serve their own clientele, as well as their parent organizations, they need to listen to the voices of their customers, the library users" (p. 204) and one way of "listening" is to conduct a similar survey once every two years (Hakala & Nygrén, 2010).

OBJECTIVE AND HYPOTHESIS OF THE STUDY

In recent years, academicians and practitioners have given more attention to customer perceptions of library services and customer satisfaction with a library, on the assumption that high satisfaction can lead to greater loyalty, more positive word-of-mouth (WOM), and improved customer retention (see Bakti & Sumaedi, 2013). However, most of this research was conducted in large and medium-sized public and college libraries (see Bakti & Sumaedi, 2013; McKnight, 2008). No similar research has been done on community libraries in rural areas. The aim of this study is to fill this gap by examining the perceptions of rural com-

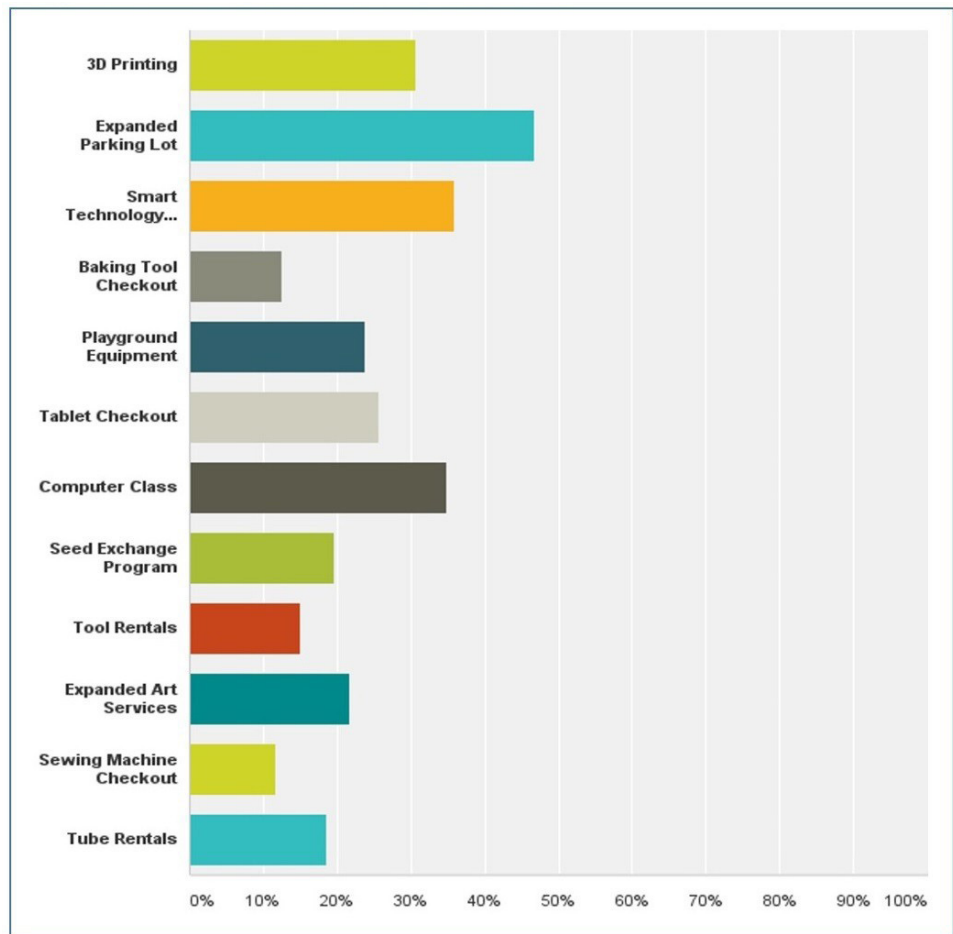


Figure 3: Future Services to Be Offered

munity library customers to determine how far this library—the Big Rapids Community Library—has succeeded in delivering such service to its customers.

The objectives of this study are as follows:

- To measure residents' awareness of the library and its services.
- To measure residents' satisfaction with the library's services.
- To identify services the library needs to offer.

According to the administrators of BRCL, they continuously having conversations with their customers at the library in order to better understand customers' needs and wants. Based on what they have learned about the customers over the past decade, they have suggested several hypotheses which can be used for this research project. After detailed discussions with the BRCL administrators, this study proposes five hypotheses related to the research objectives:

1. If respondents have visited the library, they will feel it is important to have access to it.
2. There is a relationship between township of residence and most recent library visit.
3. There is a difference by income in whether residents have visited the library.
4. Female respondents perceive access to a local community library as important.
5. There is an association between resident's age and the important of having access to a local community library.

BIG RAPIDS COMMUNITY LIBRARY: A CASE STUDY

BRCL is a public library at 426 South Michigan Avenue, operated by the government of the City of Big Rapids, Michigan. Big Rapids is a rural city of about 10,700 in the vacation- recreation region of west-central Michigan (Institutional Research & Testing, n.d.) and is the county seat of Mecosta County. BRCL serves residents of Big Rapids and the six surrounding townships. It was renovated and reopened in 2014 and its customers use its resources and programs year-round (Big Rapids Community Library, n.d.).

The mission of BRCL is "To provide quality information and assure equal access to all materials using appropriate technologies" (Big Rapids Community Library, n.d.). The library's director reports that since its creation, BRCL has been a leader in provid-

Table 4: Crosstabulation. “Have you ever visited the Big Rapids Community Library?” * “How important is it that you have access to a library in your community?”

			How important is it that you have access to a library in your community?					Total	
			Not at all Important	Not Important	Neutral	Important	Very Important		
Have you ever visited the Big Rapids Community Library?	Yes	Count	9	7	42	119	226	403	
			2.2%	1.7%	10.4%	29.5%	56.1%	100.0	
		% within “Have you % ever visited the Big Rapids Community Library?”							
	% within “How important is it that you have access to a library in your community?”	52.9%	35.0%	52.5%	73.9%	82.2%	72.9%		
	% of Total	1.6%	1.3%	7.6%	21.5%	40.9%	72.9%		
No	Count	8	13	38	42	49	150		
		% within “Have you % ever visited the Big Rapids Community Library?”	5.3%	8.7%	25.3%	28.0%	32.7%	100.0	
		% within “How important is it that you have access to a library in your community?”	47.1%	65.0%	47.5%	26.1%	17.8%	27.1%	
		% of Total	1.4%	2.4%	6.9%	7.6%	8.9%	27.1%	
Total	Count	17	20	80	161	275	553		
		% within “Have you % ever visited the Big Rapids Community Library?”	3.1%	3.6%	14.5%	29.1%	49.7%	100.0	
		% within “How important is it that you have access to a library in your community?”	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
		% of Total	3.1%	3.6%	14.5%	29.1%	49.7%	100.0	
							%		

ing innovative services in Big Rapids and the surrounding areas. In today’s competitive market, however, every service organizations must understand the concept of service quality from the viewpoint of the customer, not the provider (Grewal & Levy, 2016; Jha, 2008). It is essential for BRCL to identify its customers’ perceptions of the services and facilities it offers, and to learn what other services those customers would like to receive from the library in the near future.

METHODOLOGY

Descriptive statistics were deemed appropriate for this study, as it was believed to be better suited to obtaining a clear under-

standing of customers’ overall perceptions of the services offered by BRCL.

Population and Sample

As indicated by the Director of BRCL, the population for this study should comprise of all the residents of Big Rapids and the six surrounding townships (see Table 1) since these residents are having access to the library’s services and facilities and are eligible for a free borrower’s card from BRCL. The author is aware of adopting self-selection sampling can lead to self-selection bias or causing the sample not being representative of the population being studied that might exaggerating some particular finding from

the study (Hair, Celsi, Ortinau & Bush, 2017). Self-selection sampling was still used in this study in order to encourage any residents who have a particularly strong feelings or opinions about the research or simply wanting to help out BRCL in this study.

Yamane’s (1967) approach to identify the right sample size for the survey was used for this research since his proposal is commonly accepted by many social science researchers for over four decades (see Babin & Zikmund, 2016; Hair et al., 2017; Sarmah, Hazarika & Choudhury, 2013; Silver et al., 2016; Singh & Masuku, 2014). Yamane (1967) argued that although a larger sample group can yield more accurate study results, the excessive responses can also be pricey. Hence, predetermined margin of error and level of confidence should be used to determine a representative sample size. In brief, the 95 percent confidence level is suggested for most research (Silver et al., 2016). For this study, a sample of 376 residents was considered appropriate for the population being studied (population size 17,685, confidence level 95%, margin of error 5%) as indicated in the Survey System’s Sample Size Calculator (Creative Research Systems, n.d.).

Data Collection

Data were collected from the participants through a structured questionnaire survey. The survey was given from March 29 to April 19, 2017, both self-administered (online via Survey Monkey) and person-administered (via mall intercept). With the help of the City of Big Rapids government, an invitation letter to complete the survey online was attached to water bills and distributed to households within the city and townships. Target respondents were also intercepted in several public areas, such as the library, the Big Rapids town hall, and local banks and restaurants, where interviewers read the questions from an Android tablet and entered the responses directly into Survey Monkey.

Questionnaire Design and Research Instrument

The questionnaire was designed by the author formulated on the basis of thorough review of literature and after detailed discussions with the administrators of BRCL. The final questionnaire consisted of 16 items for assessing residents’ perceptions of their community library. Respondents’ responses to various survey questions formed the basis for all of the variables used

in the analysis. The questionnaire has been separated into five sections: Demographics, Awareness of BRCL, Satisfaction level of services and facilities of BRCL, Relationships and experience with the library, and Future services to be offered in the library.

In brief, Five-point Likert Scale was used in several survey questions (i.e. 1 = Not at all & 5 = Very important as well as 1 = Very Dissatisfied & 5 = Very Satisfied) mainly within the sections of *Relationships* with the library and *Satisfaction* of the services provided by BRCL. This question aimed to measure residents' viewpoints of having access to a local community library. Nominal scale was used in many of the questions in the survey especially within the Demographics section in order to seek information related to demographics of the participants. Three open ended questions were then implemented in three different sections of the survey as directed by the administrators of BRCL to gather qualitative feedback from participants. All other questions were either interval or ratio (see **Table 13** under 'Appendix' for survey questions).

FINDINGS AND DISCUSSION OF THE RESULTS

The collected data were analyzed using IBM's SPSS statistics software, version 23. Several statistical tools (e.g., Pearson's correlation and chi-square test) were used to interpret the data. There were 617 surveys completed (slightly more than the projected appropriate sample size) in the four-week data collection period.

Demographic Information

As **Table 2** shows, the study sample included a good mix of ages, but more than 60% of the respondents were female. More than 50% of respondents indicated they were married, and approximately 45% that they were single. More than 34% of respondents reported a yearly income of \$50,000 or more, and about 42% reported less than \$50,000.

Awareness of the Library

Of the 617 respondents who completed the survey, more than 69% indicated that they had visited the library. Among those, nearly 61% reported using the library within the last six months. However, slightly over 25% of respondents said they hadn't visited BRCL for more than five years. One question asked if the respondent knew where BRCL is located. The majority (91.15%) answered

Table 5: Chi-square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.870 ^a	4	.000
Likelihood Ratio	43.783	4	.000
Linear-by-Linear Association	40.128	1	.000
N of Valid Cases	553		

a. 1 cells (10.0%) have an expected count of less than 5. The minimum expected count is 4.61.

Table 6: Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.291	.000
	Cramer's V	.291	.000
N of Valid Cases		553	

- H2: There is a relationship between township of residence and most recent library visit.
- H0: There is no association between township of residence and most recent library visit.

Table 7: Chi-square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	59.887 ^a	42	.036
Likelihood Ratio	66.710	42	.009
Linear-by-Linear Association	4.730	1	.030
N of Valid Cases	399		

a. 31 cells (55.4%) have an expected count of less than 5. The minimum expected count is 0.33.

Table 8: Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.387	.036
	Cramer's V	.158	.036
N of Valid Cases		399	

- H3: There is a difference by income in whether residents have visited the library.
- H0: There is no association between household income and whether residents have visited the library.

Table 9: Crosstabulation. "Have you ever visited the Big Rapids Community Library?" * "What is your household income per annum?"

		What is your household income per annum?						Total
		\$0–9,999	\$10K–29,999	\$30K–49,999	\$50K–69,999	\$70K+	Prefer not to Answer	
Have you ever visited the Big Rapids Community Library?	Yes	31	44	69	56	95	104	398
	No	46	25	24	16	25	28	164
Total		47	69	93	72	120	132	563

Table 10: Chi-square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	46.806 ^a	5	.000
Likelihood Ratio	43.439	5	.000
Linear-by-Linear Association	33.364	1	.009
N of Valid Cases	563		

a. 0 cells (0.0%) have expected counts of less than 5. The minimum expected count is 20.10.

Table 11: Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.288	.000
	Cramer's V	.288	.000
N of Valid Cases		563	

- H4: Female respondents perceive access to a local community library as important.
- H0: There is no association between gender and the important of having access to a local library.

“Yes.” These results imply that most of the residents of the Big Rapids area are aware of the community library and have visited it and used its services and facilities in the past six months.

Respondents' Satisfaction Levels with Services and Facilities

The first question in this section asked respondents which of the twelve major services and facilities at BRCL they used. Among the 419 who answered, books services scored the highest (close to 85%), followed by free Wi-Fi and movies (both nearly 35%). All these results are in **Figure 1**.

When the respondents were asked, “What is your level of satisfaction regarding these services?” it appeared that all 419 were very satisfied with all the services currently offered, with a mean score of at least 3.55 for each of the major services (see **Table 3**).

One open-ended question was used in this section to find out how respondents felt about the services the library currently offers. Unfortunately, most of the respondents chose not to answer this question. Those who gave feedback mainly recognized the services currently available at BRCL. However, they did seem to especially appreciate BRCL staff members' customer service skills and contributions to the local community. Some direct quotations are given below:

- We are blessed to have this facility which we use almost every week when we are in town.
- My library card is the best card in my purse. Excellent!

- It's great for families! Keep up the great work. We need our community library!
- Staff are always friendly, helpful, and willing to assist with or even purchase requested selections.
- It is an amazing space with an astonishing selection. The staff is extremely responsive. The story time for preschoolers is very interactive! I love it. I am very surprised and extremely pleased.

Other feedback on the question included the following:

- Good, average. I feel like they should advertise more or have more events to bring people in.
- Needs to be expanded into a regional library so more services can be offered.
- It's underfunded and limited. If one was an avid reader of philosophy, there is only Christian “literature” available.
- I enjoy them, but they need more services for high school age students (books are ok, space is small and uninviting).
- They need services for those who are blind and/or deaf.

Relationships and Experience with the Library

This section started by requesting the respondents to rate the four main categories (Available Technology, Check-out Process, Facilities, and Helpfulness of Staff) of experiences at BRCL (1 = poor and 10 = excellent). The results indicated that the respondents had had positive experiences at the library. The averages for all four categories exceeded 8 out of 10 on the scale. For the question “How important is it that you have access

to a library in your community?” the vast majority answered either “Very Important” (approximately 50%) or “Important” (close to 29%; see **Figure 2**).

The open-ended question in this section asked respondents whether they had ever had a bad or good experience with the staff of BRCL and how long had it been since the experience. Once again, few respondents chose to answer. The constructive feedback included the following:

- Had good experiences interacting with staff, staff seemed knowledgeable in helping to locate checkout materials.
- No bad experiences ever. All my contacts have been good, and I average coming here several times per month and have used the library since 1974— more frequently since my children have grown and moved and I have retired.
- My son has special needs. His class used the library every week for many years, it was a very good exposure. He still loves visiting the library.
- The majority of the staff are very helpful. Occasionally the staff seem too busy to help patrons.
- I couldn't find a quiet reading area. All the comfortable reading chairs are near noisy computer area or service desks.

Future Services and Facilities to be Offered by the Library

More than 450 people answered the question “Which of the following services/offering would you like to see provided in the future at the Big Rapids Community Library?” More than 45% of those wanted more parking spaces on site. Respondents also wanted “Smart Technology Workshops” (nearly 40%) and “Computer Classes” (close to 35%) to be introduced at BRCL. Details of the respondents' preferences are shown in **Figure 3**.

The open-ended question in this section asked, “Are there any services not listed that you feel would benefit you?” Unfortunately, respondent numbers for this question were low. Some of the qualitative feedbacks that could be useful to BRCL is below:

- A better children's section in the library, with services for children (other than story times). I have grandchildren who would live in the East Grand Rapids Library's children section. So I know it can be done. They no longer want to visit the Big Rapids library.
- I live in Big Rapids but have joined the Wheatland Library in Mecosta, as they have someone there to give tech support. I

Table 12: Crosstabulation. “How important is it that you have access to a library in your community?” * “What is your gender?”

		What is your gender?				
		Male	Female	Prefer Not to Answer	Total	
How important is it that you have access to a library in your community?	Not At All Important	Count	6	11	0	17
		% within “How important is it that you have access to a library in your community?”	35.3%	64.7%	0.0%	100.0%
		% within “What is your gender?”	2.9%	3.4%	0.0%	3.1%
		% of Total	1.1%	2.0%	0.0%	3.1%
Not Important		Count	11	8	1	20
		% within “How important is it that you have access to a library in your community?”	55.0%	40.0%	5.0%	100.0%
		% within “What is your gender?”	5.3%	2.4%	16.7%	3.7%
		% of Total	2.0%	1.5%	0.2%	3.7%
Neutral		Count	38	40	0	78
		% within “How important is it that you have access to a library in your community?”	48.7%	51.3%	0.0%	100.0%
		% within “What is your gender?”	18.2%	12.2%	0.0%	14.4%
		% of Total	7.0%	7.4%	0.0%	14.4%
Important		Count	71	84	4	159
		% within “How important is it that you have access to a library in your community?”	44.7%	52.8%	2.5%	100.0%
		% within “What is your gender?”	34.0%	25.6%	66.7%	29.3%
		% of Total	13.1%	15.5%	0.7%	29.3%
Very Important		Count	83	185	1	269
		% within How important is it that you have access to a library in your community?	30.9%	68.8%	0.4%	100.0%
		% within What is your gender?	39.7%	56.4%	16.7%	49.5%
		% of Total	15.3%	34.1%	0.2%	49.5%
Total		Count	209	328	6	543
		% within How important is it that you have access to a library in your community?	38.5%	60.4%	1.1%	100.0%
		% within What is your gender?	100.0%	100.0%	100.0%	100.0%
		% of Total	38.5%	60.4%	1.1%	100.0%

- have used his services a number of times.
- Maybe a sewing class or ACT/SAT prep classes for high schoolers.
- A patron book exchange for books the li-

- brary does not offer and will not likely get.
- Partnerships with other libraries. I assume we already have this—publicize more.
- Resume-building workshop.

Hypothesis Testing

To understand customers’ overall perceptions of BRCL, the author tested five hypotheses proposed by the director and other administrators of the library.

- H1: If respondents have visited the library, they will feel it is important to have access to it.
- H0: There is no association between the important of having access to a local library and whether respondent have visited the library.

A cross-tabulation (crosstab) table was used to better describe the variables in H1. As **Table 4** shows, most of the respondents who had visited BRCL claimed that having access to a library in their community is either “important” or “very important”. Also, the probability of the chi-square test statistic (chi-square = 46.870) was $p = 0.000$, less than the alpha level of significance of 0.05 (see **Table 5**) and the effect size was considered moderate association (see **Table 6**, Cramer’s $V = .291$). Therefore, the null hypothesis (H0) can be rejected and hypothesis H1 is supported by this analysis where those respondents who had visited BRCL tended to claim that having access to a local community library is important for them.

A Pearson Chi-Square test was also used to assess the relationship between the two variables in H2. As **Table 7** shows, the probability of the chi-square test statistic (chi-square = 59.887) was $p = 0.036$, less than the alpha level of significance of 0.05. In addition, the effect size was considered weak association (see **Table 8**, Cramer’s $V = .158$). Hypothesis H2 is thus supported by this analysis. This makes sense if the library is closer to some residents than others. However, BRCL should be aware that its location may be affecting its impact on some of the smaller townships it serves.

As **Table 9** shows, the majority of respondents with annual incomes of \$50,000 or more claimed to have visited BRCL previously. In addition, the probability of the chi-square test statistic (chi-square = 46.671) was $p = 0.000$, less than the alpha level of significance of 0.05 (see **Table 10**) and the effect size was considered moderate association (see **Table 11**, Cramer’s $V = .288$). Therefore, H3 is supported by this analysis.

As **Table 12** shows, 49.6% of female respondents claimed that it is either “Important” or “Very Important” to have access to a library within their community. By contrast, only 28.4% of male respondents said the

Table 13: Chi-square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.328 ^a	8	0.002
Likelihood Ratio	23.849	8	0.002
Linear-by-Linear Association	6.834	1	0.009
N of Valid Cases	543		

a. 5 cells (33.3%) have expected counts of less than 5. The minimum expected count is 0.19.

Table 14: Symmetric Measures

		Value	Approximate Significance
Nominal by Nominal	Phi	.212	.002
	Cramer's V	.150	.002
N of Valid Cases		543	

- H5: There is an association between resident's age and the important of having access to a local community library.
- H0: There is no relationship between age and the important of having access to a local library.

Table 15: Pearson Correlation Test. "What is your age?" * "How important is it that you have access to a library in your community?"

		What is your age?	How you important is it that you have access library in your community?
What is your age?	Pearson Correlation	1	.203**
	Sig. (2-tailed)		.000
	N	564	540
How important is it that you have access to a library in your community?	Pearson Correlation	.203**	1
	Sig. (2-tailed)	.000	
	N	540	554

** Correlation is significant at the 0.01 level (2-tailed).

same. The probability of the chi-square test statistic (chi-square = 24.328) was $p = 0.002$, less than the alpha level of significance of 0.05 (see **Table 13**) and the effect size was considered weak association (see **Table 14**, Cramer's $V = .150$). Therefore, hypothesis H4 is supported by this analysis.

A Pearson's correlation was run to determine the relationship between the two variables in H5. This test (see **Table 15**) showed a weak, positive correlation between the variables ($r = 0.203$, $n = 540$, $p < 0.001$). In addition, a crosstab table was used to better describe the variables in H5. As **Table 16** shows, 86.6% of the respondents who are 55 and above claimed that having access to a community library is either

important or very important for them (followed by 82.6% from the age group of 40-54 and 80.6% from the age group of 25-39 respectively). On the contrary, only 63.5 % of respondents (age between 18-24) said the same. Therefore, hypothesis H5 is supported by this analysis.

DISCUSSION OF FINDINGS

Just like any other service providers, the administrators of a public library should always ensure its customers' satisfaction and, hopefully, turn satisfied customers into loyal customers (Asogwa et al., 2014; Bakti & Sumaedi, 2013; Nimsomboon & Nagata, 2003; Podbrežnik, 2014). The current study examines customers' perceptions of services

and facilities provided by BRCL, a rural community library in Michigan, USA. While a vast amount of residents are aware of the community library as indicated in the research findings, there are still a large portion of residents who are not aware of the library and its services. Hence, raising public awareness is one important and ongoing task for the administrators of BRCL in order to drive more customers to their library.

The findings from the first hypothesis reveal that those respondents who had visited BRCL tended to claim that having access to a local community library is important for them. However, even though this is very encouraging, it is not really a surprising finding. According to Lombardi (2019), libraries are more than just the place where books live. In fact, many classes are offered at the local libraries, along with seminars and book clubs. In other words, it can be a great place for socializing and learning new things that today's community libraries can offer (Vinjamuri, 2013). Since there are so many beneficial and enjoyable things to do at the community library, one must first paying a visit to the library and get involve in order to claim that having access to a local library is important.

The second hypothesis findings establish a significant relationship between township of residence and most recent library visit. These findings, too, are not surprising results where most of the respondents who live in the City of Big Rapids claimed that they have visited BRCL at least once in the past six months. This result conforming to Grewal and Levy (2016) argument where customers often chose to shop near where they live. Thus, any physical retails and outlets that are closer to their target customers tend to be able to attract local customers.

This also applies to a non-profit service provider such as BRCL. In order to increase BRCL's foot traffic, the administrators of BRCL should also look for approaches to encourage their customers who remain outside of Big Rapids (for e.g. residents of the six surrounding townships who are also eligible for a free borrower's card from BRCL) to visit and use the services onsite. By doing this, it will lead to improve customer satisfaction in long term.

The third hypothesis asserts that there is a difference by income in whether residents have visited the library. As indicated in the cross-tab table (see **Table 9**), majority of respondents with annual incomes of \$50,000 or more claimed to have visited BRCL previ-

Table 16: Crosstabulation. “What is your age?” * “How important is it that you have access to a library in your community?”

			How important is it that you have access to a library in your community?					
			Not at all Important	Not Important	Neutral	Important	Very Important	Total
What is your age?	18-24	Count	7	7	33	38	44	129
		% of Total	1.3%	1.3%	6.1%	7.0%	8.1%	23.9%
	25-39	Count	5	5	15	38	66	129
		% of Total	0.9%	0.9%	2.8%	7.0%	12.2%	23.9%
	40-54	Count	1	4	15	40	55	115
		% of Total	0.2%	0.7%	2.8%	7.4%	10.2%	21.3%
	55+	Count	4	4	14	44	101	167
		% of Total	0.7%	0.7%	2.6%	8.1%	18.7%	30.9%
	Total	Count	17	20	77	160	266	540
		% of Total	3.1%	3.7%	14.3%	29.6%	49.3%	100.0%

ously. In addition, the research findings also indicated that female respondents (see H4, **Table 12**) as well as older residents (refer to H5, **Table 16**) are more concerned of having access to a local community library.

To make the full use of the library, the administrators of BRCL should pay attention on the demographics information of their serving customers. For example, when considering marketing and promoting BRCL, they should focus more on the lower income families, male and younger age residents of Big Rapids; encouraging them to consider using the services and facilities offered by BRCL (such as public computer with internet access, meeting rooms, resume assistance, movies and etc.). Since the increase of customers will also increase the usage of the services and facilities in long term, this outcome is in conformity with the study conducted by Bakti and Sumaedi (2013) and McKnight (2008) where increase in customer numbers provides strong support for the library in requesting additional budget and headcounts to better serve their customers in long-term.

LIMITATIONS, FUTURE DIRECTIONS, AND CONCLUSION

This study should be viewed in the light of several limitations. These limitations, however, do point out promising directions for future research. First, the survey was conducted over a relatively short period (four weeks), so the sample size may be restricted. If there had been more time for

data collection, more respondents might have completed the survey.

Second, the quantitative method used in this study might be a limitation as well. Surveys are good tools for building a general understanding of certain topics, but they cannot go into further detail because every respondent completes the same set of questions. Diving deeper into the reasoning behind people’s responses would require qualitative approaches such as focus groups or in-depth interviews. Third, the current study focused only on the customers of the library. To obtain a holistic view and assessment of the services provided, staff members of BRCL (permanent employees and volunteers) could be included in future studies.

In addition, the administrators of BRCL should conduct this survey annually or biannually to familiarize their customers with all the services offered by the library. This will keep the customers more informed about any new services BRCL offers. As this was just a first stage, the author limited the investigation to a single rural community library. It would be interesting to build on this by undertaking parallel studies at other rural community libraries, both inside and outside the U.S., to compare the results and identify differences in approach.

The services marketing and library literatures describe many empirical studies into customers’ perceptions of the services offered by libraries. However, most of these studies focus on large public or college libraries. To address this gap, the

author investigates customers’ perceptions of a rural community library. Other community libraries inside and outside the U.S. can learn several things from our findings. This research project has important policy implications for BRCL and other community libraries because data on customers’ perceptions and satisfaction are increasingly being used to motivate service reforms, budget allocations, and management accountability. In addition, this undertaking by BRCL can be treated as a “best practice” model for other community libraries trying to build better relationships with their customers. ■

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Appendix: Questionnaire

Big Rapids Community Library Survey

Demographics

1. Please check the city/township in which you currently reside.

- The City of Big Rapids
 Barton Township
 Big Rapids Township
 Colfax Township
 Grant Township
 Green Township
 Norwich Township
 Other

2. What is your gender?
 Male
 Female
 Prefer Not To Answer

3. What is your age?
 18-24
 25-39
 40-54
 50+

4. What is your marital status?
 Single
 Married
 Prefer Not To Answer

5. What is your household income per annum?

- \$0-\$9,999
 \$10,000-\$29,999
 \$30,000-\$49,999
 \$50,000-\$69,999
 \$70,000+
 Prefer Not To Answer

Awareness

6. Have you ever visited the Big Rapids Community Library?

- Yes
 No (If no, go to question 8)

7. If yes, how long since visiting the Big Rapids Community Library?

- 1 Week
 1 Month
 6 Months
 1 Year
 5+ Years
 Before the Renovation
 I Only Use the Library During the Summer

8. Do you know where the Big Rapids Community Library is located?
 Yes
 No

Satisfaction of Current Services/Facilities

9. Select any of the following services that you utilized at the Big Rapids Community Library.

- Audiobooks
 Books
 Coloring Book Kits
 E-Books
 Free Wi-Fi
 Homebound Delivery
 Meeting Rooms
 MeLCat
 Movies
 Programs
 Public Computers
 Story Time

10. Considering the services you have used, what is your level of satisfaction regarding these services.

Very	Dissatisfied	Dissatisfied	Neutral	Satisfied	Very Satisfied
Audiobooks	—	—	—	—	—
Board Games	—	—	—	—	—
Books	—	—	—	—	—
Coloring Book Kits	—	—	—	—	—
E-Books	—	—	—	—	—
Free Wi-Fi	—	—	—	—	—
Homebound Delivery	—	—	—	—	—
Meeting Rooms	—	—	—	—	—
MeLCat	—	—	—	—	—
Movies	—	—	—	—	—
Programs	—	—	—	—	—
Public Computers	—	—	—	—	—
Story Time	—	—	—	—	—

11. How do you feel about the current services that the Big Rapids Community Library has to offer?

Relationships

12. Rate the following based on your experiences at the library (1 is poor - 10 is excellent).

- Available Technology —
 Check-Out Process —
 Facilities —
 Helpfulness of the Staff —

13. How important is it that you have access to a library in your community?

- Not At All Important
 Not Important
 Neutral
 Important
 Very Important

14. Have you ever had a bad/good experience with the staff at Big Rapids Community Library? How long has it been since the experience? Explain.

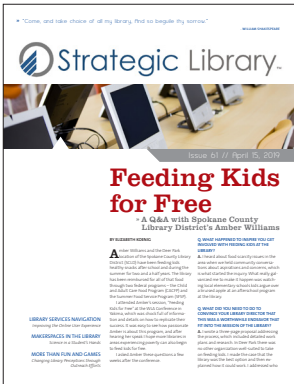
Future Facilities/Services

15. Which of the following services/offering would you like to see provided in the future at the Big Rapids Community Library?

- 3D Printing
 Baking Tool Checkout
 Computer Class
 Expanded Art Services
 Expanded Parking Lot
 Playground Equipment
 Seed Exchange Program
 Sewing Machine Checkout
 Smart Technology Workshops
 Tablet Checkout
 Tool Rentals
 Tube Rentals

16. Are there any services not listed that you feel would benefit you?

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