



Meeting Users in Their Spaces: Key Findings on Discovery to Delivery

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Abstract:

OCLC Research has been studying how individuals get their information and resources and how they engage with technology for almost two decades. We have learned that convenience often is one of the factors that most drives individuals' decisions for getting information and resources. However, convenience is a moving target and is dependent upon the context and situation of the individual's need. Many factors will influence the decision-making process, such as how quickly the information or resource is needed, how important that information is to the individual need, and how much effort is required to get access to the information or resource. Our findings indicate that individuals often do not consider the library as the first place to get information and sometimes do not consider libraries at all. This often is attributed to the complexity and misunderstanding of library processes for acquiring resources and to not knowing resources or options for accessing and acquiring these resources through the library. Many individuals opt for open content since it is easy to discover and readily and quickly available in full-text.

We have conducted semi-structured individual interviews with undergraduate and graduate/post graduate students and faculty in Australia and the U.S. to identify how they discover, access and acquire resources and why they make these choices and decisions, including their format preferences. We also have conducted focus group interviews with resource sharing and ILL librarians in Australia and the U.S. to identify their workflows and to discuss ideas to improve these processes to better meet the needs of their users. The findings from these interviews provide ideas for enhancing the discovery to delivery experience for both users and librarians.

Introduction

OCLC Research has been studying how individuals get information, find resources, and engage with technology. We have learned that convenience often is one of the factors that most drives individuals' decisions for getting information and resources (Connaway, Dickey, and Radford 2011). However, convenience is a moving target and is dependent upon the context and situation of the individual's need. Many factors influence the decision-making process, such as how quickly the information or resource is needed, how important that information is to the individual's need, and how much effort is required to get access to the information or resource.

Our previous findings indicate that individuals often do not consider the library as the first place to get information and sometimes do not consider libraries at all (Connaway, Dickey, and Radford 2011). This often is attributed to the complexity and misunderstanding of library processes for acquiring resources and to not knowing resources or options for accessing and acquiring these resources through the library. Many individuals opt for open content since it is easy to discover and readily and quickly available in full-text.

The research team conducted semi-structured individual interviews with forty-three undergraduate and graduate/post graduate students and faculty in Australia and the U.S. to identify how they discover, access and acquire resources and why they make these choices and decisions, including their format preferences. We also conducted focus group interviews with resource sharing and interlibrary loan (ILL) librarians in Australia and the U.S. to identify their workflows and to discuss ideas to improve these processes to better meet the needs of their users. This paper summarizes the findings of fourteen semi-structured individual interviews with undergraduate students, graduate students/post-graduate/PhD students, staff members, and faculty members in the U.S. and four focus group interviews with ILL and resource sharing librarians in Australia and the U.S. The results of the twenty-nine semi-structured individual interviews with graduate/post-graduate/PhD students and faculty from Australia and the U.S. will be published in a separate paper.

The findings from the student, staff, and faculty semi-structured individual interviews and the librarian focus group interviews discussed in this paper provide ideas and recommendations for enhancing the discovery to delivery experience. The results also create a more complete view of the journey that students, staff, and faculty take throughout their library experience, and identify points of delight, frustration, and inefficiency encountered along the way. The insights gained from the librarian focus group interviews provide a framework to begin planning for the next generation of ILL services that will meet ever-changing user expectations.

Data Collection and Analysis: User Semi-Structured Individual Interviews

Fourteen undergraduate and graduate students, staff, and faculty from five institutions in the U.S. participated in semi-structured interviews. The interviews were centred on the individual's search behavior represented in logs from WorldCat Discovery. This is an experimental methodology not found in the literature to identify how academic library users navigate the path from discovery to access.

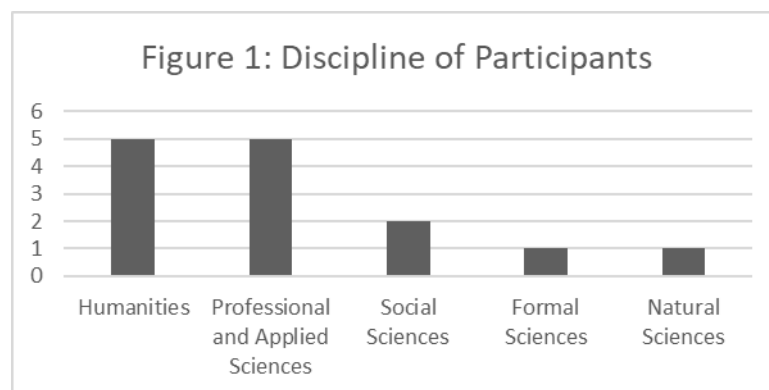
Participant Recruitment

A list of potential interviewees was identified through a screening survey. This was done with a convenience sample using snowball methodology. We initially reached out to contacts at several U.S. university libraries to request their assistance with this project and got participation from five different universities. Four of these were small private academic institutions, and one was a large public academic research institution. Three of these institutions were in the Southeast, one was in the Northeast, and one was in the Midwest. All participating universities had their institutional review board (IRB) review and approve the study methodology.

Participant recruitment varied by university, but generally librarians sent a recruitment email to library users explaining the project and incentive for participation and gave a link for interested participants to use to access the screening survey.

Respondents were asked to provide key information about their search session on their library website, which used the discovery layer that was being studied. Respondents were asked what they were looking for and if they felt that they had accomplished their purpose. They were then asked to paste the "Request ID" from their search, which was used to match their survey with the log of their search session. The survey provided demographic information about the respondents, which included gender, age, academic level, discipline, parent or guardians' education level (which is a rough indicator of economic background), and the educational institution where they performed the search (Thomson 2018). If the respondents were interested in talking about their search session and were selected, they were given a \$20 Amazon gift card for their time.

Twenty-five respondents of the screening survey indicated they were interested in participating in an interview, resulting in fourteen user interviews being conducted. The interviewees were diverse on several demographic characteristics, including academic discipline, as described in Figure 1.



Two were faculty members, two were graduate students, one was a staff member, and nine were undergraduates. Five of the participants reported they were in professional & applied sciences, two in social sciences, one in formal sciences, and one in natural sciences.

Individual Session Log Analysis and Interview Protocol Development

The session IDs that users copied and pasted into their screening surveys enabled the research team to identify the users' search logs, which then were used to create customized semi-structured interview protocols. To the authors' knowledge, this methodology of creating interview protocols based on session logs, which is an update of a methodology developed by Connaway, Budd, and Kochtanek (1995), has not been done before.

Customized interview protocols were developed for each interview participant based on the extracted session logs. Two members of the research team reconstructed each user's behavior based on details found in the log. This information was used to create a summary of the major actions taken by the participant during the search session.

Interview protocols were developed using the critical incident technique, where users were asked to describe the specific steps that they took throughout their search session. The participants were asked to elaborate on what they were searching and why they had conducted the online search. The protocols served as a reminder of what the individuals searched for during this specific search session, as interviewees were asked about their specific search terms rather than general questions about the experience.

When they were asked about the success of the search, participants were asked to explain whether they found what they were looking for, how they felt about the experience, and if there were points of delight or frustration. The specificity of the questions about their search helped users identify the specific points in the search that impacted their overall experience. In the concluding section, participants could offer additional insights and ask questions of their own.

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Semi-Structured Interviews

One team member conducted the semi-structured interview, asking a pre-determined set of questions based on the user's submitted search session and follow-up probing questions based on the participants' responses, while a second team member took notes. Interviews were conducted using Skype and were recorded and transcribed. Interviews took approximately 45 minutes. Interviewees were compensated for their participation with a \$20 Amazon gift card.

Interview Analysis

The codebook was developed based on the common themes emerging from the interviews. These themes were organized to capture user search strategies, decision-making factors, preferred resource formats, feelings of frustration and delight, and other relevant search behaviours and preferences. The researchers coded several interviews together to refine the codebook and resolve problems of ambiguity in code definitions. Each interview was coded by two team members to ensure intercoder reliability, which was calculated at 84%. These data were used to identify the major themes that appeared across interviews to provide a better picture of how users interacted with the discovery system and to identify specific areas for improvement.

Data Collection and Analysis: ILL and Resource Sharing Librarian Focus Group Interviews

Participant Recruitment

The research team conducted four focus group interviews with thirty-five ILL and resource sharing librarians in Australia and the U.S. to identify the librarians' resource sharing/interlibrary loan (ILL) workflows, focusing on inefficiencies in their processes, task automation efforts, opportunities for unmediated borrowing and lending, perception of faculty and student service expectations and desired features in an "ideal" resource sharing system.

Convenience sampling was used to recruit participants for the focus group interview sessions. A list of potential interviewees was identified using attendee lists for four conferences. The four conferences where the focus group interviews took place were the Australian Library and Information Association (ALIA) Online Information 2019 Conference in February 2019, the OCLC Resource Sharing Conference in March 2019, the Association of College & Research Libraries (ACRL) 2019 Conference in April 2019, and lastly the Colorado ILL Conference also in April 2019.

Conference	Location	Date	Participants
ALIA Online Information 2019 Conference	Sydney, Australia	February 13, 2019	9
OCLC Resource Sharing Conference	Jacksonville, Florida	March 19, 2019	10
ACRL 2019 Conference	Cleveland, Ohio	April 10, 2019	4
Colorado ILL Conference	Westminster, Colorado	April 24, 2019	12

Table 1: Focus group interview sessions.

Focus Group Interview Protocol Development

A focus group interview protocol was created to guide the group discussion around six main questions dealing with (1) typical ILL workflows, (2) inefficiencies within those workflows, (3) opportunities for unmediated fulfillment, (4) shared or standardized ILL policies, (5) librarians' perceptions of faculty and graduate student expectations regarding fulfillment and (6) features of an ideal resource sharing/ILL system. See Appendix A for the protocol.

Focus Group Interview Analysis

Transcripts and notes from the focus group interview sessions were reviewed by the research team to identify common themes across the groups. Common topics emerging from the transcripts were identified, grouped together, and summarized.

Findings

Users select resources based on easy access or convenience of accessing the resources. Immediacy of access also was listed as a factor when selecting a resource. Based on this need for easy access was the “Held by” feature in WorldCat Discovery, which indicates to the user if and where the resource is available. Students and faculty also prefer PDF since it is portable and easy to access. The users’ expectations for ease of access and convenience corresponds with the librarians’ perceptions that users want speed – users want the resources now! The librarians who participated in the focus group interviews use multiple systems for fulfillment, which makes their job more cumbersome. However, the librarians believe it is their responsibility to provide a seamless ILL interface to the users regardless of how many systems the librarians are using to fulfil the request.

The quotes from students, faculty, and librarians included below support and provide context for these findings.

Highlights from Findings: Student and Faculty Semi-Structured Interviews

Convenience/ease of access is a major factor in choosing from a list of search results. Eleven of the fourteen interviewees spoke about convenience or easy access to a resource as a factor in choosing which source(s) in their search results to pursue. Related to convenience, timing/immediacy of access was another prominent factor, mentioned by eight of the interviewees. More than half of the interviewees (n=9) spoke specifically of the “Held by” feature in WorldCat Discovery as being an indicator of whether they would be able to access a particular search result.

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“The downloading part was a big thing to me because I knew that I would have to show this to my other group members... If I’m able to download it, then I can save it.” (Undergraduate, Social Sciences)

“...I made sure that they were all available if I needed them. I think I might have clicked the downloadable option because when I’m in it, I just want to get it right then and there.” (Undergraduate, Humanities)

“The first thing, the most important thing that I always do, no matter what I’m looking for, is I want to make sure the full text is available.” (Undergraduate, Humanities)

Users were familiar with Interlibrary Loan; some loved it, some avoided it. One of the interviewees mentioned ILL in the interview several times.

“And one of the things I love about the library is interlibrary loan. That’s probably one of my most used tools.” (Undergraduate, Social Sciences)

“I did have the full PDF and that one was directly available. I didn’t have to do interlibrary loan or anything. I think there were two sources that had the direct link through access.” (Undergraduate, Social Sciences)

Most interviewees conducted their searches in both search engines (Google Scholar and Google, namely) and specialized library databases. Ten of the fourteen interviewees

specifically mentioned they used Google Scholar or Google as part of the search process; seven of them also mentioned they used library-specific databases or the library's resources.

"...I figured the best place to do it would be through the school's library system because they advertise it so much and it's been helpful in other papers previously." (Undergraduate, Humanities)

[Upon doing search and getting too many results, then refining search and still getting too many results]: *"I started just doing Google searches at that point because I was still unclear of a direction I was going on. I was thinking, 'Hm, this may be better for when I know where I'm going...'" (Undergraduate, Humanities)*

Users wanted PDFs and looked for indicators that something was available in that format. Five of the fourteen interviewees specifically mentioned PDF as a format they looked to access. Having clear indicators such as a button or icon to click on for direct access to the PDF was important to them.

"It's always pretty easy. Most of them have that... little blue button or the PDF icon on them. And you just click there, and it'll take you straight to the document, and you can choose to download it." (Undergraduate, Humanities)

"...Usually PDF just because it makes it easier to print off and all of that." (Undergraduate, Social Sciences)

No clear preference for print versus online materials was found among these interviewees. Ten interviewees mentioned they were looking for both physical and online formats; three mentioned only online, and one mentioned only physical items.

"I was just looking for the best, I guess, book or article that I could find." (Undergraduate, Applied Sciences)

While all of the interviewees were satisfied with their search experience, not many agreed they were "delighted" by the experience. Eight of the fourteen interviewees talked about being satisfied because they found what they were looking for, but they wouldn't say that the search experience delighted them. Five of them were surprised that they actually found something.

"So I accomplished what I needed to accomplish, but in comparison with other searches using the same databases, I've had ones where I was just afterwards like, 'Ooh, that was so cool.' But this one was just kind of like, 'Got to get it done.'" (Graduate Student, Humanities)

For many of the interviewees, influence of a librarian and/or library instruction has had a positive effect on their search experience. Eight interviewees spoke of the positive effect of having consulted with a librarian and/or having received instruction in using the library and its resources.

"...when I started in school, they focused more on teaching us how to research things. Over the years, I feel more comfortable, and I kind of just – I just know not to waste too much time

on the World Wide Web and just use the library, things they library has deemed good.”
(Graduate Student, Applied Sciences)

Highlights from Findings: ILL and Resource Sharing Librarian Focus Group Interviews

The greatest inefficiencies in participants’ ILL workflows center around the need to work in several different systems to determine if the library already has access to the item and if not, who might; manual sorting of requests to determine who should process it (e.g., student worker vs. professional librarian) and which system they should use; the time it takes for a request to get routed through multiple potential suppliers before one is found that actually has the item to share; lack of (or confusing) communications to users about their request status.

Using disparate, multiple systems which “do not talk to each other” is the norm for resource sharing librarians. More than forty systems were mentioned by interviewees, including ILLiad, RapidILL, Relais, RePrints Desk, DOCLINE, INN-Reach, Alma, Tipasa, FirstSearch and IDS Logic. Librarians need these systems to interoperate and believe using APIs may be the best approach.

Librarians believe the onus for making fulfillment seamless should be on them, not the users. Users do not need to know how to make it all work – it needs to be seamless for them no matter how many systems are being used in the background.

Speed is the key for users! Users want to get their materials as soon as possible. Speed and cost are the keys for librarians! If it’s cheaper and quicker to buy an item from Amazon than get it through ILL, that’s what some of them will do.

Consortial borrowing benefits, according to resource sharing librarians, include on-shelf availability status, standardized policies (e.g., standard loan periods), fixed fees, and the speed of fulfillment.

There is increasing need to better integrate open access/open content into the ILL workflow. As one participant noted, “Open access is extremely important ...”

Conclusion and Future Research

Library users make a complex journey when finding and accessing resources on their own or through ILL. This journey involves many interrelated parts, which this research is attempting to study holistically with the inclusion of log analysis, individual semi-structured interviews with faculty and students, and focus group interviews with librarians. This research provides a specific roadmap for improving the library user experience. Future research will seek to find ways to improve the points of frustration and inefficiency along the way.

The twenty-nine individual semi-structured interviews conducted from February to May 2019 with U.S. and Australia graduate/post-graduate/PhD students and faculty members will be coded and analyzed. These findings will be compared to the findings reported in this paper.

Acknowledgments

We would like to thank the librarians who participated in the focus group interviews and the librarians who recruited students and faculty to participate in the individual semi-structured interviews.

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Appendix A

OCLC Fulfilment Project Focus Group Protocol – February 2019

Participants:

Interviewer:

Note Taker:

Date of interview:

Interview start time:

Interview end time:

Script for Introduction

Let me tell you just a little bit about who I am, who I work for and what we're doing with this research project. I work as **[provide brief description of your title or job role]** at OCLC. OCLC is a non-profit cooperative that works with libraries around the world.

This focus group interview will provide an opportunity for you to discuss your current work practices and processes and to identify what could help you streamline your process, and how you could spend your time more effectively.

Thank you for taking the time to talk with us today. We really appreciate your help. Our focus group won't take much longer than an hour. There are no right or wrong answers. It is not a test. I just want you to be as honest as you can to find out what you think.

We have our note taker here, **[Name]**, who will be typing notes as you speak. I also will be jotting down notes, so please don't think I'm not listening to you if you see me **[writing/typing]**. We also are recording the interview. We will be using the notes and recording transcripts later so that we are able to document what you have said. Everything you say is private and will not be discussed with anyone outside of the team. We will not identify you in any presentations, reports, or external communications about this project. We want you to be aware that any of you can stop participating at any time. Is this all okay? Does anyone have any questions before we start?

Librarian Focus Group Research Questions

1. Thinking about your typical ILL workflow, please describe where you find yourself spending most of your time. Please include the tools and systems you are using in your ILL workflow.
 - a. What do you think contributes to this? (For example, technology limitations, physical workspace limitations, or staffing limitations.)
2. Where are there inefficiencies in your ILL process? [Prompt: Describe a time when you thought to yourself "there has to be a better way to do this."]

- a. What changes have you made (or attempted to make) in your workflows to try to improve these inefficiencies? And did those changes work?
3. Where in your processes do you think opportunities for unmediated fulfilment exist? (Describe a time when you thought to yourself “there has to be an automated way to do this.”)
 - a. Think about a time when you changed from a manual ILL task to a more automated one, either big or small. What was that experience like? How did you identify the need to automate the task?
4. How have shared- or standardized- resource sharing and ILL policies made your work easier?
 - a. How have they created difficulties in your workflow?
 - b. What standardized policies do you think would make your work easier? Why?
 - c. How have these changes in procedures affected faculty and graduate students’ expectations and needs for getting access to items?
5. What do you think graduate students and faculty expectations are for getting access to resources from the library? What makes you think this?

[Probes: Have graduate students and faculty discussed this with you? Have you observed graduate student and faculty behaviors to make you think this?]

6. If you had a magic wand, what would be your ideal ILL/resource sharing system for borrowing and loaning resources? Please describe this ideal way. Include when, where, and how you would use it.

Conclusion of Interview

7. What else, if anything, would you like to share about your experiences?
8. What questions do you have for me?

Thank you again for your time and answering the questions. If you have any questions, concerns, or ideas after this interview, please feel free to contact me.