Graduate Student Citation Management Tools
Design Thinking Project Report (Winter-Summer 2017)

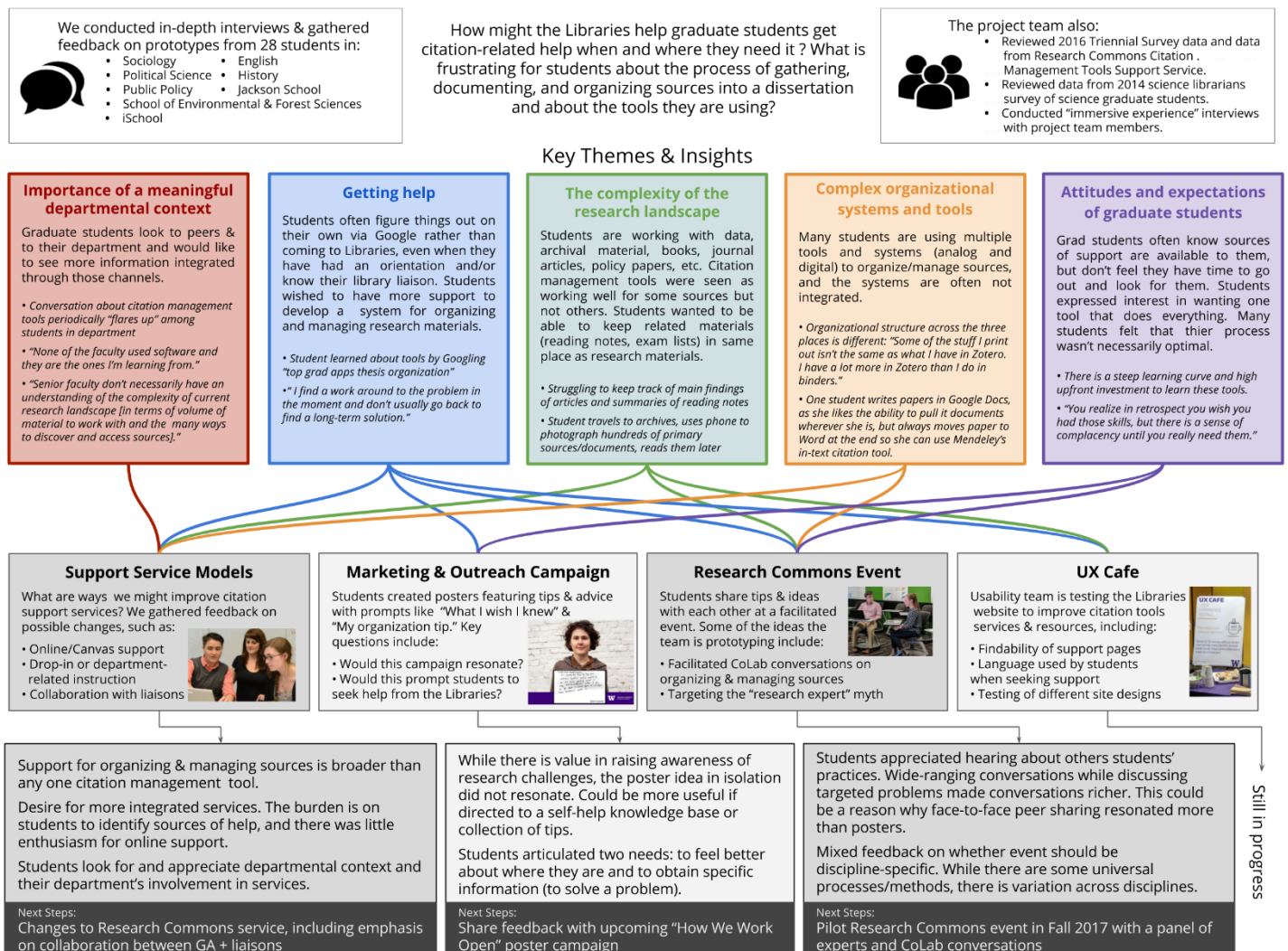<u>Guiding "challenge"/question for this project:</u>
How might the Libraries help graduate students get citation-related help when and where they need it (in ways that are scalable and sustainable)? What is frustrating for students about the process of gathering, documenting, and organizing sources into a finished thesis/dissertation and about the process/tools students are using?

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I.   Executive Summary

As part of prototyping and reporting back to users, the team created a poster to give participants a quick overview of the project stages and results. This poster has been provided below as the executive summary for this report.

We conducted in-depth interviews & gathered feedback on prototypes from 28 students in:
- Sociology
- English
- Political Science
- History
- Public Policy
- Jackson School
- School of Environmental & Forest Sciences
- iSchool

How might the Libraries help graduate students get citation-related help when and where they need it ? What is frustrating for students about the process of gathering, documenting, and organizing sources into a dissertation and about the tools they are using?

The project team also:
- Reviewed 2016 Triennial Survey data and data from Research Commons Citation . Management Tools Support Service.
- Reviewed data from 2014 science librarians survey of science graduate students.
- Conducted "immersive experience" interviews with project team members.

Key Themes & Insights

Importance of a meaningful departmental context

Graduate students look to peers & to their department and would like to see more information integrated through those channels.

• Conversation about citation management tools periodically "flares up" among students in department

• "None of the faculty used software and they are the ones I'm learning from."

• "Senior faculty don't necessarily have an understanding of the complexity of current research landscape [in terms of volume of material to work with and the many ways to discover and access sources]."

Getting help

Students often figure things out on their own via Google rather than coming to Libraries, even when they have had an orientation and/or know their library liaison. Students wished to have more support to develop a system for organizing and managing research materials.

• Student learned about tools by Googling "top grad apps thesis organization"

• "I find a work around to the problem in the moment and don't usually go back to find a long-term solution."

The complexity of the research landscape

Students are working with data, archival material, books, journal articles, policy papers, etc. Citation management tools were seen as working well for some sources but not others. Students wanted to be able to keep related materials (reading notes, exam lists) in same place as research materials.

• Struggling to keep track of main findings of articles and summaries of reading notes

• Student travels to archives, uses phone to photograph hundreds of primary sources/documents, reads them later

Complex organizational systems and tools

Many students are using multiple tools and systems (analog and digital) to organize/manage sources, and the systems are often not integrated.

• Organizational structure across the three places is different: "Some of the stuff I print out isn't the same as what I have in Zotero. I have a lot more in Zotero than I do in binders."

• One student writes papers in Google Docs, as she likes the ability to pull it documents wherever she is, but always moves paper to Word at the end so she can use Mendeley's in-text citation tool.

Attitudes and expectations of graduate students

Grad students often know sources of support are available to them, but don't feel they have time to go out and look for them. Students expressed interest in wanting one tool that does everything. Many students felt that their process wasn't necessarily optimal.

• There is a steep learning curve and high upfront investment to learn these tools.

• "You realize in retrospect you wish you had those skills, but there is a sense of complacency until you really need them."

Support Service Models

What are ways we might improve citation support services? We gathered feedback on possible changes, such as:

- Online/Canvas support
- Drop-in or department-related instruction
- Collaboration with liaisons

Marketing & Outreach Campaign

Students created posters featuring tips & advice with prompts like "What I wish I knew" & "My organization tip." Key questions include:

- Would this campaign resonate?
- Would this prompt students to seek help from the Libraries?

Research Commons Event

Students share tips & ideas with each other at a facilitated event. Some of the ideas the team is prototyping include:

- Facilitated CoLab conversations on organizing & managing sources
- Targeting the "research expert" myth

UX Cafe

Usability team is testing the Libraries website to improve citation tools services & resources, including:

- Findability of support pages
- Language used by students when seeking support
- Testing of different site designs

Support for organizing & managing sources is broader than any one citation management tool.

Desire for more integrated services. The burden is on students to identify sources of help, and there was little enthusiasm for online support.

Students look for and appreciate departmental context and their department's involvement in services.

Next Steps:
Changes to Research Commons service, including emphasis on collaboration between GA + liaisons

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While there is value in raising awareness of research challenges, the poster idea in isolation did not resonate. Could be more useful if directed to a self-help knowledge base or collection of tips.

Students articulated two needs: to feel better about where they are and to obtain specific information (to solve a problem).

Next Steps:
Share feedback with upcoming "How We Work Open" poster campaign

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Students appreciated hearing about others students' practices. Wide-ranging conversations while discussing targeted problems made conversations richer. This could be a reason why face-to-face peer sharing resonated more than posters.

Mixed feedback on whether event should be discipline-specific. While there are some universal processes/methods, there is variation across disciplines.

Next Steps:
Pilot Research Commons event in Fall 2017 with a panel of experts and CoLab conversations

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Still in progress

II.   Project Overview

Why this project?
- Results from both 2013 & 2016 UW Libraries Triennial Surveys (see Appendix B) indicated strong interest among graduate students in a variety of disciplines for citation management support. However, more detailed user data was needed to understand fully what kind of support might be needed and how the Libraries could best provide it.
- The Research Commons Citation Management Support Service is popular and widely used by students and faculty. No assessment of the support offered by the service had been undertaken recently; the Triennial Survey results offered an opportunity to explore ways this successful service could be tweaked to best meet user needs.
- The Libraries Citation Tools Support Team (CaTS) committee expressed an interest in better understanding ways to support liaisons in providing citation management support to faculty & students.

Key activities:
- Reviewed 2016 Triennial Survey data to shape questions & determine areas of focus.
- Reviewed 2015-17 data from Research Commons Citation Management Service to understand who is using the service and for what purposes.
- Reviewed data from 2014 Science Librarians survey of science graduate students.
- Reviewed sample chat transcripts from 2016-17 to identify any potential user questions.
- Conducted a literature review and limited (not exhaustive) environmental scan to see what other Libraries are doing in terms of citation support and what other support, if any, is available on campus (e.g., through campus writing centers).
- Conducted 19 interviews (some with journey mapping activity) with graduate students from the following Schools/Departments: School of Environmental & Forest Sciences, Sociology, Political Science, Public Policy, English, History, & Jackson School.
- Conducted "immersive experience" interviews with project team members in usability lab: this was designed to help the team put themselves in their users' shoes by understanding the dynamics of asking questions and getting help while using a citation management tool of their choice.
- Identified themes and key insights from interview participants.
- Brainstormed possible solutions and ways to address barriers and issues faced by participants.
- Prototyped 3 ideas and gathered feedback from 9 users on whether these met their needs.
- Met with selected group of liaisons and project team members to brainstorm possible solutions from their perspective.
- Met with additional stakeholders (e.g., Core Programs) to share findings.

III.   Inspiration
This stage involves formulating guiding questions and developing a deeper understanding of user needs (Design Thinking Toolkit, p. 27).

<u>Key themes emerging from data & interviews:</u>

- *Importance of a meaningful departmental/disciplinary context*: grad students look to peers and departments, and would like more information integrated through those channels.
    - Sample comments/quotes:
        - Conversation about citation management tools periodically "flares up" among grad students in departments.
        - "None of the faculty used software and they were the ones I'm learning from."
        - Senior faculty don't necessarily have an understanding of the complexity of current research landscape (volume of material to work with, many ways to discover and access).

- *Getting help*: all students expressed perceptions of (lack of) support from department. There is a general assumption that graduate students already knew/had a system for organizing and managing research materials, or would figure it out on their own. Students often do not think of citation management tools per se, but did think of their work in terms of wanting a system to help them stay organized. Students often figure things out on their own via Google rather than coming to Libraries, even when they have had an orientation and/or know their liaison. This extended to research skills generally. Few students were introduced to tools at undergraduate level. Students would have liked to learn about options for getting organized (including using these tools) earlier in their process.
    - Sample comments/quotes:
        - Student learned about tools by Googling "top grad apps thesis organization."
        - Googles help for Mendeley rather than seeking in-person assistance.
        - Didn't know that we offer support services for Zotero; student who did use Research Commons service didn't realize she could come in for a follow-up appointment.
        - "I find a workaround to the problem in the moment and don't usually go back to find a long-term solution."

- *Attitudes and expectations of grads*: grad students often know that sources of support are available to them, but don't feel they have the time to go out and look for them. Students often expressed an interest in wanting one tool that does everything. Some students were ok with their process, but felt that it wasn't necessarily optimal (especially those transitioning from exams to dissertation writing).
    - Sample comments/quotes:
        - There is a steep learning curve and high upfront investment to learn these tools.

- ■ "You realize in retrospect you wish you had those skills, but there is a sense of complacency until you really need them."
        - ■ Many students remarked that they knew they weren't using tools to full potential, wanted a more effective & manageable process, wanted to use the tools more effectively, but didn't necessarily have time to learn new system/improve how they were working.

- ● *The complexity of research landscape, environment, and sources* made developing a coherent system for organizing/managing research materials challenging. Students are working with data, archival material, books, journal articles, policy papers, etc. Citation management tools were seen as working well for some sources but not others. Students also wanted to be able to keep related materials (reading notes, exam lists) in the same place as research materials.
    - ○ Sample comments/quotes:
        - ■ Struggling to keep track of main findings of articles/summaries of reading notes.
        - ■ Student travels to archives, uses phone to photograph hundreds of primary sources/documents, then reads them later. "Can I keep my photo archive in Zotero and share it with others [who share a similar research topic]?"

- ● *Complex organizational systems and tools*: many students are using multiple tools and systems (analog and digital) to organize/manage sources, and the systems are often not integrated.
    - ○ Sample comments/quotes:
        - ■ One student noted that she writes papers in Google Docs, as she likes the ability to pull up documents wherever she is, but she always moves paper to Word at the end so she can use Mendeley's in-text citation tool. A number of students noted that they use Google Drive to write & collaborate.
        - ■ Some students noted that they like to print documents to read/highlight. One student noted that in addition to using Zotero, he has readings saved in folders on his desktop and also has "a couple of binder notebooks with printouts." Their organizational structure across the three places is different: "Some of the stuff I print out isn't the same as what I have in Zotero. I have a lot more in Zotero than I do in binders."

IV.   Ideation

This phase "transforms research into actionable insights that become the foundation for tangible design" and prototyping (Design Thinking Toolkit, p. 51).

<u>Brainstorming question to guide prototyping (arising out of initial round of interviews):</u>
How might we coordinate with liaison librarians and other collaborators (Writing Centers, Graduate School, etc.) to provide support for organizing & managing research materials, including citation management help, within the departmental context?

Top ideas arising out of prototyping brainstorming session:
- *Event:* Grad students present on how they manage their info - tools used, "tips and tricks" (in Research Commons and/or in department).
- *Marketing & Outreach:* Libraries Citation Tools Support Team (CaTS) and Research Commons staff work with liaisons and AC Petersen to create citation service marketing plans tailored to grad students in their departments.

Prototyping plan:
Based on brainstorming session and previous discussions, the Design Thinking Team decided to prototype a total of 4 ideas. This was possible because we had received such a positive response to our initial call for participants and had a significant pool of participants to draw from to test a number of ideas. The following ideas were prototyped:
- "Collaborating with Strangers (CoLAB)"-style event designed to help graduate students share experiences and best practices for research management and organization & citation tool use with peers.
- "What I wish I knew…" marketing/outreach poster designed to share tips for research management and organization & citation tool use with peers within departments.
- Support models feedback designed to ensure that services continue to meet user needs.
- User experience testing related to citation management tools language used on Libraries website, designed to explore if changes to the website would help students better identify information and sources of support in the Libraries.

V.   Iteration
This phase "takes ideas and evolves them based on user feedback" (Design Thinking Toolkit, p. 81).

Some of the key themes arising from the prototyping sessions are detailed below.

Event:
- *Objective*: Students share best practices & pain points with peers in order to gather new ideas for their own work. Students provide feedback on event ideas in order to shape future peer sharing events offered by the Research Commons
- *Rationale*: Students wanted to hear what others were doing & felt that they were operating in a vacuum. Their systems were often not efficient or optimized (developed in ad hoc way). Help those who are open to learning new systems.
- *Feedback:*
  - Informal collaboration followed by best practices from faculty would be more effective.
  - Students going "off-topic" while discussing targeted problems made conversations richer. This could be a reason why face-to-face peer sharing resonated more than posters.
  - Mixed feedback on whether event should be discipline-specific. While there are some universal processes/methods, there is variation across disciplines.
- *Next steps:* Pilot an event for fall quarter that includes a CoLAB component and a professional/faculty panel to provide a balance of peer sharing & best practices.

Marketing & outreach (poster campaign):
- *Objective*: Students collaboratively develop advice about organizing research in order to facilitate information sharing with a wider audience. Students provide feedback on poster/marketing campaign ideas in order to inform development of marketing plans by librarians.
- *Rationale:* Support for asynchronous peer-to-peer information sharing. Students were curious about other models for organization, and the team wanted to know if seeing other models might help students improve their own understanding. The team also wanted to know if tips and quotes were useful when distilled into bite-sized chunks or if personal consultation was the only way to resolve issues with complex systems.
- *Feedback:*
  - Students wary of learning peers' bad habits, but also want to know what peers are doing. Tension between wanting information from authoritative source and wanting to share information informally.
  - Students articulated two distinct needs: to feel better about where they were in their process and to obtain specific information about an issue.
  - While there is value in raising awareness of research challenges, the poster idea in isolation did not resonate. Could be useful if it pointed to a knowledge base or existing services.
- *Next steps:* No immediate implementation of this version of marketing & outreach campaign: We will use feedback to shape design & implementation of any future marketing and have shared information from prototyping with upcoming campaign related to Open Access.

Service models: Research Commons Citation Management Service revisions:
- *Objective:* Students provide feedback on various revisions to Research Commons service in order to guide future iterations of the service.
- *Rationale:* The Research Commons is considering changing the citation management help service and training for student employees based on feedback from user interviews. Students expressed that citation management tools were part of a larger, complex system of organization - will they still be able to find the help they need if the service is reconfigured?
- *Feedback:*
  - Students tended to select elements of different models.
  - Little enthusiasm for online support. Students are not looking to Libraries for support for very specific tool-based questions (they use Google/tool-specific help sites for this); students are looking for help with best practices on organizing & managing research (including selecting a tool/system and optimizing their system for efficiency and ease of use).
  - Students would appreciate departmental involvement in services.
  - Recurring theme of desire for more integrated services so that burden is not on students to identify disconnected sources of help.
- *Next steps:* Research Commons librarians and Graduate Assistant(s) will work with liaisons to provide more integrated citation management support.

UX testing on website:
- ● *Objective:* Students provide feedback on how they locate information about citation management services and resources on Libraries website, and whether current branding resonates with them.
- ● *Rationale:* Students noted that "citation management" terminology did not always resonate with them, and few came to services/resources through the Libraries site.
- ● *Next Steps:* Currently working with Christine Tawatao and Angela Rosette-Tavares to explore this option.

VI. Getting to Scale
This phase "is about planning and putting ideas into the world in a more permanent way" (Design Thinking Toolkit, p. 105).

Based on user feedback and brainstorming among the Design Thinking team, liaisons, and other stakeholders, there are a number of actions that can be taken starting in Summer 2017.

A full list of ideas brainstormed by project team members, liaisons, and others is in Appendix D.

1. Research Commons Events
What: Organizing & managing research event (CoLAB + expert panel with experienced graduate students/faculty/librarians)
Who: Research Commons librarians, citation management GA, grad school, liaisons, support from Libraries Assessment for gathering user feedback on event
When: Fall 2018
Implementation notes: In partnership with liaisons and grad school, consider which option might work best:
- ● Organize along broad subject lines (e.g., social sciences, sciences).
- ● A session open to all subject areas (to gauge general interest), clearly articulating what participants might learn from students from many different subject areas.

Consider starting with departments the team connected with in this project and/or departments with high percentage of users who expressed an interest in getting support for citation help. Use this information (from project & survey) in event marketing. Can also consider re-connecting with students interviewed for this project to help get the word out (and/or as panelists/participants).
Other notes: If HSL pilots a similar event, gather user feedback to assess usefulness of event and areas for improvement.
Related ideas: Replace "research smarter, not harder;" consider a workshop in RC about broader (organizational) skills for grad students (partner with Core Programs & liaisons for pilot).

2. Fostering Partnerships: Liaisons + Research Commons Citation Management Help
What: Changes to Research Commons Citation Management service/GA role to continue emphasis on collaboration between GA and liaisons.
Who: Research Commons librarians, citation management service GA(s), liaisons

When: Starting Fall quarter 2017
Implementation notes: There were a number of concrete ideas for strengthening collaboration between GA and liaisons:
- Robust referrals & regular communication: GA to share (quarterly or annual) updates with liaisons (if GA is seeing students from certain departments, what help they have been seeking, pain points). May wish to consider drawing up a script for GA support asking students if they would like a follow-up with liaison if research help is also needed (e.g., "Can I pass your details along for the liaison to reach out to you?"). The GA could also email the liaison with a summary of questions asked after relevant consultations.
- Bringing GA(s) into orientations/teaching sessions: GA can reach out to liaisons to advertise this option.
- Opportunities for GA(s) and liaisons to meet: GA could periodically invite liaison to sit in on consultation; GA could also consider occasionally attending fund group meetings or other existing librarian meetings (e.g., Science Librarians).
- Building capacity with Suzzallo/OUGL/other GAs: this might involve pairing the Research Commons GA with another GA from OUGL/Suzzallo to simultaneously teach research tools and how to store references, so they are not seen as separate skills; Suzzallo/OUGL GAs might be willing to offer support for the tool they use.

Other notes:
- May want to consider hiring two Research Commons grad students, if possible: one focused on outreach/partnerships, one focused on appointments/support (both with expertise in tools).
- Encourage GA to fill out Instruction & Consultation Reporting form: can be helpful for tracking activity and for sharing out information with liaisons.

3. Liaison Support (marketing, outreach, training)
What: Materials to support liaisons in outreach and support for students in departments
Who: Liaisons, CaTS Team, Research Commons GA, AC Petersen for marketing/outreach; assessment for understanding success of efforts & areas for improvements
When: Starting Summer/Fall 2017
Implementation notes: There were a number of concrete suggestions for training materials and outreach to support liaisons and users:
- Create materials for liaisons to bring with them to orientations (e.g., if liaisons only have 10 minutes, they can hand out materials highlighting citation tools services. May want to consider framing support around organizing/managing research generally *and* support from GA for particular tools).
- Consider pilot in which selected liaisons work with AC to develop targeted marketing & outreach campaign highlighting one service per quarter (including citation support).
  - If this is implemented, it would be useful to partner with Assessment Unit to track uptake and success.
- Create snapshots from project for liaisons to send to departments to raise profile of citation support services (consisting of survey data snapshot plus some student quotes from project); help liaisons to share project results with faculty.

Related ideas: Additional ideas discussed include a toolkit for librarians: this would need to be investigated further to understand if liaisons would use it. Canvas and other online options were also discussed for student support.

4. Framing & Language Used to Describe Services/Support
What: Possible changes to Libraries website and how we frame support for users
Who: Christine Tawatao, Angela Rosette-Tavares, Public Web Operations Group, Research Commons librarians/GA, liaisons
When: Summer/Fall 2017
Implementation notes:
- Consider if "citation management/tools" language on Libraries website resonates with users.
- Consider adding something called "Organizing your research" to the Libraries website. Right now this is located under "Support" and may not be easy to find.
- Liaisons and Research Commons may wish to consider how to frame support in different ways that are broader than just tools: e.g., providing support for organizing and managing research; pitching support around optimizing a current system, not just about learning a new system. Messaging that we can help improve an existing approach/system, not just find a new one.

Appendix A

Literature Review

As the number of citation management tools with varied functions continues to grow, academic libraries face the challenge of how to support student and faculty users. Dubicki (2015) contextualizes citation management within the broader research process, suggesting that instructional "review of the research process and emphasis on the iterative nature of research" (p. 685), including citation management, may reduce students' academic anxiety. Melles and Unsworth's (2015) analysis of postgraduate students and faculty found that "a broader approach to reference management instruction and support would increase the relevance of library instruction" (p. 249). While citation management services in academic libraries are most useful when integrated into broader research support, Childress (2011) notes that "demonstrating how a particular manager might be used in [graduate students'] discipline will help them to get the most of their citation manager for current and future use" (p. 149). Discipline-specific instruction, particularly in the form of one-on-one consultations or workshops embedded in courses, allows students to immediately apply strategies learned (Dubicki, 2015).

In 2011, 72 percent of major academic research libraries offered in-depth training in EndNote and/or RefWorks, the two primary citation managers at the time (McMinn, 2011). Emanuel's (2013) survey of graduate students and faculty at the University of Illinois found that many respondents think that the library should license a citation management tool, but are unsure about what support the library should provide. Many students do not view citation management support as necessary, although basic training workshops and consultations at the University library remain well attended. Rempel and Mellinger's (2015) research suggests that students and faculty are most interested in receiving assistance with tool selection. According to Cushing and Dumbleton (2015), the best time for librarians to offer doctoral students support in selecting and using a tool is in the middle stage of their program.

While librarians do have opportunities to influence the tool selection of students and faculty, Miller and Murillo (2012) found that students were more likely to select a tool based on recommendations from faculty in their department. Emanuel's (2013) survey similarly indicated that peers and faculty played a larger role in tool adoption than librarians. In addition to peer recommendations, users take into account basic functions such as usability, and are less influenced by advanced features (Emanuel, 2013). According to Rempel and Mellinger (2015), "participants adopt tools because of an expectation of enhanced research productivity," but "persist in using the tools because of ease-of-use experiences" (p. 43).

In a study by Salem and Fehrmann (2013), many undergraduate students reported having learned about citation management tools from high school teachers. However, students were often cautioned against using the tools for undergraduate work. Leckie (1996) identifies unrealistic faculty expectations of students' research abilities as an additional barrier to undergraduates receiving help with research and citation management. Lacking sufficient instruction or guidance, students "do not think in terms of an information-seeking strategy, but rather in terms of a coping strategy" (p. 202). As a result, students may not establish efficient

research processes as undergraduates. Further collaboration between libraries and departments, Leckie suggests, could help to create more targeted instruction in research and citation management.

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Appendix B

Key Highlights from 2016 Libraries Triennial Survey & Other Data Sources
(full survey results available at:
http://www.lib.washington.edu/assessment/surveys/triennial)

- Students who seek help with *supported* citation managers are generally satisfied
- Existing sources of help identified in comments:
    - Workshops/seminars
    - Meetings with subject librarians/"staff"
    - In-class presentations
    - Online citation guidelines
    - Online chat
- Unclear if students who suggest workshops/presentations have sought help previously
- Suggestions in comments:
    - Workshops organized by discipline/department ("students in my department get zero instruction on LaTeX…even though we are all expected to use these tools")
    - In-class presentations

Graduate respondents who find citation management useful for academic work, research, and scholarship (Full list)

Department	Percent of respondents who identify citation management as useful library service
History*	93
Sociology*	78
Public Policy*	70
Political Science*	69
Speech and Hearing	69
Jackson School*	68

Education	66
Chemistry	65
Earth and Space	65
Mechanical Engineering	64
Biology	63
Environmental Science*	63
Linguistics	63
iSchool*	61
Music	57
Bus Management and Org	56
Civil and Env Engineering	55
Psychology	55
Electrical Engineering	53
Landscape Architecture	53
Communication	50
English*	50
MBA	45

Aquatic and Fish	38

* We spoke with students from the indicated (*) departments

Demand for citation management tools

The Research Commons Citation Tools Support Service maintains a log of students and faculty who meet with Research Commons Graduate Specialists for citation management help. Users of this service sought help with the following tools:

2015-2016:
- **Zotero (47)**
- **EndNote (12)**
- Mendeley (6)
- RefWorks (1)

2016-2017:
- **Zotero (34)**
- **EndNote (9)**
- Mendeley (8)
- RefWorks (6)

2016 Triennial Survey respondents mentioned the following tools in their comments:
- **EndNote (7)**
- **Zotero (6)**
- Mendeley (1)
- RefWorks (2)

STEM Graduate Survey conclusions (2014)

Science Librarians conducted a 2014 survey asking STEM graduate students about their citation manager usage and preferred forms of support. See Staffweb for survey results and analysis. Key takeaways:

- Mendeley and EndNote Desktop most commonly used among respondents
- Requests for UW to offer free EndNote Desktop
- Multiple levels of orientation/training needed: overview, how-to, consultation on complex questions
- Workshops and online support most frequently chosen as preferred sources of help
- Timing: for fall quarter orientations
- Who: Kathleen/Anne, co-chairs of citation tools committee, can offer train-the-trainer sessions for science librarians
- Sciences Teaching Community members develop workshops for orientations in concert with TLG and other Teaching Communities

Appendix C: Feedback on Prototypes

<u>Event:</u> 6/22/17, 2 participants
- Students appreciated the "self-esteem boost" of learning that no one has a perfect system.
- More engaging than a lecture. While peer discussions may lead to new practices, they do not necessarily lead to best practices. Students would like to speak with librarians.
- Students wonder what faculty research process is like. Would be interesting to hear from them as well as librarians.
- CoLAB and more structured portion of event (hearing from professionals) would complement each other well.
- Hearing about event from department/program coordinator would be most effective. "They don't waste our time."
- Discipline-specific event might be best, although same principles apply across literature reviews. Students see potential value in cross-disciplinary event: helps to get fresh perspective and avoid department echo chamber.
- Start of first quarter in second year of program would be ideal timing. First year was overwhelming and consumed by teaching.
- Early evening event (3:30-5:30pm) with food available. Students usually do not teach on Fridays.

<u>Marketing/Outreach (Poster)</u>: 6/22/17, 3 participants
- Tips on posters are too long. Student doubts their usefulness: "Grad students are busy. I am not going to prioritize information from someone I don't know." Worries about learning bad habits from peers.
- One student disagrees with idea of framing tips as best practices: "it's idiosyncratic." Likes the idea of framing this as organization as opposed to just citation management. Having models early on can help students.
- Students seem to think that aim of poster idea is to connect students with peer advisors.
- Services offered by UW/Libraries need to be explicit in posters.
- Email blasts about tips/services from Grad Student Life could be helpful, but students would only read them if they had some free time.
- One student says that they never use UW web resources (beyond databases): info is outdated/generic.
- Poster could grab your attention, present different models, then direct you to knowledge base: collection of tips organized thematically, not by individual.
- On tip generation/exchange: one student says that it's a good idea to enable knowledge exchange. Just talking about citation management combats myth that everyone knows how to do it already.
- Another student feels that they don't have the expertise to advise students. That advice should come from departments. Would be good if librarians gave recommendations based on discipline.
- One student said that they would use a source that weeded out bad advice ("5 best ways to do something").

- Mixed responses when asked if they would look at posters. One student pointed out that you need multiple approaches to reach different people.
- Student identifies two forms of info seeking: "One is when you have a specific problem. Another is knowing that a tool has functionality and you want to learn something. For the first problem, I'd Google it or get an in-person consultation. Then, after that, you could point someone to a knowledge base."
- Student noted that they have never seen the "Citation Management" link on UW website.

Research Commons Citation Management Service Models:
- Session 1: 6/8/17, 1 participant
  - Department embedded model would be great if staff (of citation management service) is knowledgeable in field, able to give specific information.
  - Student asks about overlap between proposed models. Is not totally clear on what the new models would change about existing services (i.e., "How is OWRC different from new proposed model that shifts focus to broader research process?")
  - Different aspects of models are appealing depending on student's stage in program. New student: help picking research management tool. Later: help in department-specific needs and organizing paper/citations.
  - Hybrid support model appealing because you can access it whenever you want. Drop-in sessions are hard when you can't make the set times.
  - Student values in-person consultations. Would be great if consultant could be from student's department: "that adds more reliability and the consultations can go deeper because you have the same academic background/trajectory." Combining models 2 and 3 would be nice.
  - Having someone from department would absolutely encourage student to use services more.
  - Very easy/intuitive to schedule CaTS appointment from website. Student can't remember how they knew to look for the service.
  - For technical issue, would go to Mendeley first. Then consultation.
  - As a new student, would have taken a general research workshop over a lit review workshop (latter is too specific).
  - Wishes that orientation included resources provided by Libraries. Would be nice to go to one place for info related to academic life, as opposed to students reaching out to so many places.
  - Would like workshop about academic writing/how to participate in academic discussions: "I don't think there are explicit ways to inform each other, contribute to/participate in class, especially as an international student. I don't think that's related to research work but it's part of being in academia."
  - Departmental context more important than specific tool student is using.
  - Finds out about services through word of mouth and online.
  - Important to have access to help at earlier stage (first week or school or orientation): "If I knew all the options at one time, I wouldn't have wasted time running around campus, making appointments to figure things out. To be informed once is great."

- ○ Set time when services are always available makes a big difference (like GFIS or Writing Center).
  - ○ "I can't emphasize enough the importance of having this info at an earlier stage."

- Session 2: 6/9/17, 2 participants
  - ○ 4 and 5 are most appealing models to one student "because they're the most intense." Initial training was too basic, not specific to discipline/department. Student usually does not attend drop-in sessions. Troubleshoots problems because they are often small. "If I'm going to visit the library, I want it to be more comprehensive."
  - ○ Student likes broader conception of research help. Explanation for leaning towards later models: "I realized this morning as I was citing my paper that I've never been told how you cite in your work; I try my best to emulate what I've seen. Part of it is faculty don't expect you to have publishable status."
  - ○ One student tried to learn best practices in first year, attended a couple seminars. They weren't applicable yet because student wasn't actively engaged in research: needed guidance one year later. Trying to figure out citations while also learning how to do research is an added stressor. Timing is crucial: seminars did not help because of their timing.
  - ○ First model with ability to come in at set times is great. Student hasn't had great experiences using online resources like Canvas.
  - ○ Getting broad picture at earlier time could be helpful. But model 3 could be better to convey standards/best practices for citation management within departments. Maybe librarians could advertise more.
  - ○ 4 is great because learning broader concepts is harder than technical issues: "I like working with computers and figuring things out; if I have an issue, I can find the answer online usually. But I can't find the answer to broad research questions. I've spoken to other grad students who feel the same way."
  - ○ One student likes consultation model with both big questions and specific info. Integrate it within benchmarks of the department. Thinks students should be required to attend research methods session to avoid mistakes later on.
  - ○ One student gets info through emails, finds it useful despite large amount of emails they receive. Services could be advertised effectively through orientation, even just by putting the idea in students' heads.
  - ○ Useful to have message reiterated ("can't be overdone"). In history, students depends on faculty telling them best practices. Inconsistent support from faculty. Libraries sending constant reminders would be welcome.
  - ○ Students shouldn't be doing all the heavy lifting when it comes to learning research methods, seeking help.
  - ○ Students want some way to answer surface questions (why is everyone using Zotero?) and foster awareness ("once you get to a certain point people assume you know how to do this").
  - ○ Importance of integrating methods/discipline: "The more that I think about it, the history does have a required intro class, but it was really unhelpful because it

didn't connect theory to practical research practices. There was no integrated conversation and it was all high level theoretical. It felt so disconnected."
- On partnering with senior grad students: "I'm all for it, but I think it's a question about how to do it best. It's hard to get people to take on extra responsibilities...I don't think it needs to be done many times, but even just once to hear the journey."

- Session 3: 6/9/17, 1 participant
  - Student wishes they could have found citation management services differently/more easily. Wishes there was introductory package that was reinforced at various points throughout education. Starting a year earlier would have made huge difference.
  - At this stage, student would do specific/targeted help because more than halfway through graduate education.
  - Suggests modifying models to target students at particular stages of process.
  - Departmental-embedded support great for intro information.
  - Student has found all sources of help on their own. Word of mouth, searching online. Mostly finds help in the form of "figuring it out, copying what other faculty have done" rather than official UW services.
  - "Would like a model that's very organic and open ended to account for the weirdness of life."
  - Some kind of digital humanities center (one-stop shop) because "we parse [elements of the research process] out, and the parsing out is artificial."
  - Monetary/food incentives are effective. Also embedding instruction/support into courses. Departmental midterm refresher course, pre-exam check in. Dissertation/research support specifically advertised by departments would be ideal: "The tools you need to write a dissertation. Three-part series. Cookies provided."

Appendix D: Brainstorming List of Ideas

This list represents all the ideas brainstormed at meetings with liaisons, project team members, and other stakeholders on May 12 and July 7, 2017.

Question: how might we coordinate with liaison librarians and other collaborators (e.g., grad school, writing centers) to provide citation management help within the departmental context?

- Research Commons GA & Liaisons
    - Have GA citation specialist meet with liaison librarians at the beginning of each quarter to identify needs
    - Fund groups as a coordination point between GA & liaisons: bring RC consultant to fund group meetings to present/discuss services
    - RC grad student & liaisons target department 1st year grad seminar or other core classes, where possible. Citation workshops offered jointly by RC consultant and liaison in department
    - Have liaisons observe GA consultations to enrich understanding of citation management issues
    - Develop more detailed consultation reporting form for GAs to complete after consultations

- "Train the trainer"/scaling support
    - Training on citation tools for Suzzallo/Odegaard GA's
    - Workshop for graduate tutors in OWRC, departmental writing centers -- "robust referrals" for Libraries to promote RC consult service
    - Support materials for liaison orientations for new grad students
    - Create orientation materials/sessions focused on research management
    - Training or sharing insights with department advisors, faculty & students

- Workshops
    - Workshops that are activity based held in departments/workshop in departments to share practices/tools/expertise among students
    - Take the workshops outside of research commons and into classrooms.
    - Stand alone workshops in RC targeted specifically to broad disciplinary groups at certain times (e.g., Fall quarter "getting started with organizing and managing your research", selecting the right tool for you, etc.)
    - Session like self-guided lit review workshops on citation/research management

- Outside Library
    - Host citation assistance drop-in hours at various places on campus (such as OWRC or in departments)
    - Webpage with all resources/collaborators linked/contributed/sharing
    - Partner/work with student advisors as a center of info

- Outreach/Partnerships
    - Discussion within department with grad students to present findings and get their idea on how best to provide service
    - Liaisons who have connections with grad students can facilitate informal sharing

session about research management practices. RC consultant attends for Q&A

- o Sponsor themed monthly "unconference" discussions (maybe Grad School?)
- o Identify local experts in the department (students, faculty) and support local expert network among peers (in and across departments?)
- o Find a faculty member in department willing to talk about how they manage citations
- o Collaborate with partners to brand citation help as part of holistic, research process help
- o Advertise for and train citation/research insight "champions" for departments
- o "Dear future student" letters from grads to incoming students

- Canvas
  - o Canvas "Libraries" tab for 500-600 level classes – can this be customized for grad level
  - o Canvas pathways page for citations
  - o Create a department specific Canvas or Libguide presence tailored to their needs