Citation Tools in Academic Libraries: Best Practices for Reference and Instruction

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In recent years libraries have seen an increase in the number and complexity of citation management programs like Zotero, RefWorks and Endnote, and with this an expanded role for libraries in support of citation and research management. But how should libraries best support citation management and the needs of users and how do the tools fit into information literacy programs? Penn State University librarians decided to take stock of the various tools and programs available for citation management and outline how these might be incorporated into reference and instruction settings. With an appointed Citation Tools Team, they researched tools and their uses, polled public service librarians and staff, and held workshops and discussion sessions to outline a set of best practices and to assess user, librarian, and staff needs. The result is a set of best practices for supporting, recommending, and teaching tools for the many aspects of citation management.

Librarians often ask themselves "Which citation manager should I recommend?" From undergraduate and graduate students, to faculty and researchers across disciplines, people want to know which citation manager is the best match for their research process. With increasing support and instruction for citation managers in libraries and institutions marketing these tools to users, librarians and library staff may feel overwhelmed by the options, features and best uses of these tools. Public service librarians and staff may also feel pressure to recommend a citation manager too quickly, resulting in another concern: the over-reliance on citation managers to replace what might be a valuable part of the learning and research continuum, especially for undergraduates. In this context, the question of which citation manager to recommend frequently begs more questions. Perhaps libraries should first consider the broader issue surrounding their role in supporting a more systematic approach to citation management as part of a comprehensive information literacy program. Rather than evaluating and comparing a selection of citation managers to answer the question of which tools to recommend, this article will examine the variety of citation management tools and their usefulness in the learning and research process and will explore best practices for recommending or implementing a particular tool in various reference and instructional situations.

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WHAT CITATION TOOLS ARE WE TALKING ABOUT?

In this context, a citation management tool is any resource, program or service that supports citation management, or, the understanding, gathering, organization, and use of citations in research and information literacy. Organized into four categories, these include citation managers, citation generators, citation guides and citation management education. Citation managers, sometimes referred to as bibliographic or reference management software, are programs that allow researchers to store, organize, output and share their bibliographic citations. Endnote, RefWorks and Zotero are the most commonly supported in academic libraries, but there are many different programs available.[1] Citation generators are web tools that help users generate formatted citations and bibliographies they can then copy and paste into a document. These are usually stand-alone web applications like EasyBib, KniteCite, and NoodleBib, but also include the "cite this" feature of many databases.[2] Citation guides provide users with rules, guidelines and examples for specific citation styles. In this category are official style guides, such as the *MLA Handbook* and *Chicago Manual of Style*, as well as quick style guides on library webpages.[3] These are often our most important resources for citation help. Finally, citation management education might include introducing concepts or tools in bibliographic instruction, classes on using citation managers, or one-on-one consultation with a subject or technology specialist. Whether at the reference desk, in the classroom, or liaising with academic departments, providing effective citation management support requires the librarian to consider a range of tools and services.

A REVIEW OF THE LITERATURE

There is little published addressing the role of libraries in citation management and an absence of literature discussing its importance in the learning and research process. Much of the available literature deals largely with citation managers and generators, more specifically reviews, comparisons, evaluations and use cases for such programs. A collection of recent reviews for some of the most common citation managers and generators can be found in the November 2010 "Internet Resources" column of *Public Services Quarterly*.[4] A different author writes each review and each makes a case for the software covered. The citation managers reviewed are Zotero, Endnote, RefWorks, Mendeley, and CiteULike, while the generators reviewed include BibMe, NoodleBib, and OttoBib. Another article reviewing and comparing citation managers is Butros and Taylor's "Managing Information: Evaluating and Selecting Citation Management Software, a Look at Endnote, RefWorks, Mendeley, and Zotero."[5] Butros and Taylor choose to focus on EndNote, EndNote web, and RefWorks, but also briefly examine Mendeley and Zotero. They provide a product-by-product guide to the main features, advantages and disadvantages of each program, with illustrations, and offer comparisons that may help librarians or researchers needing to recommend or choose a citation manager.

Since beginning this article, several articles have appeared that venture beyond review and comparison, looking at the implications for libraries and the experiences of the end user. In her article "Citation Management Software: Features and Futures," Hensley compares four citation managers: RefWorks, Endnote, Zotero, and Mendeley.[6] In addition to looking at the main features of the reviewed tools, Hensley examines the benefits, drawbacks, and possible impact on library services for each of the tools, providing a framework for librarians to use when choosing which programs to support at their own institutions. For the scholar's perspective, there are two recent articles by Croxall and Gibbs' comparing the pros and cons of Zotero and Endnote within the context of the research process.[7] Croxall, a self-professed admirer and proselytizer of Zotero, admits he prefers using Endnote for his own research. He focuses on key differences in the two programs and offers specific reasons for preferring one program to another in the context of his own research process. In a response to Croxall's article, Gibbs brings forward two other important concerns researchers should consider when deciding what citation manager to adopt: the sustainability of reference libraries and how researchers evaluate those aspects of their workflow on which they base citation manager choice. Gibbs makes a case for the openness of Zotero for long-term sustainability and suggests that minor considerations, such as format accuracy and the ease with which users can create a bibliography, should not eclipse these larger issues when choosing a program.

Other articles address more practical aspects of citation managers, such as the usefulness of citation managers in a specific field or the steps taken by librarians to support a specific citation manager in their library. Hull, Pettifer, and Kell explore many of the digital resources used by researchers today and discuss the issues and complexities of researching in an increasingly digital environment.[8] As a solution to these issues, the authors describe how tools like citation managers can help researchers in the sciences manage their workflows in an increasingly digital environment and create a more personal environment that is well integrated in their research process. Walker, Row, and Dolence outline their process of creating an online, interactive course for Endnote to meet the high demand for Endnote support and instruction at their institution.[9] The article provides useful information to help other libraries supplement classroom instruction with an effective online instruction tool. Another account of supporting a citation manager, Duong's article highlights a librarian's efforts to promote Zotero to students and faculty in the sciences.[10] In addition to reaching out to the campus scientific community to encourage adoption of Zotero, Duong advocates for outreach and promotion to other campus units, such as writing and other support centers, to create new stakeholders in Zotero and library services.

A NOTE ON METHOD

Much of this article is based on the experiences of the author and colleagues while administering to the needs of the academic community through user workshops and technical support of citation management tools, consultations with researchers and faculty on managing their research, reference and bibliographic instruction for students, and as a member of the Citation Tools Team. The Citation Tools Team, a team of four appointed librarians with expertise in citation managers, reference, or instruction, was created to develop and enhance the libraries' support of citation management tools.[11] The goals of the team were to provide information, education, and guidelines for promoting and supporting citation management at the library and to make recommendations on the tools and resources to be supported. To supplement practical experience, the Citation Tools Team set out to gather information on the needs of users and of librarians and staff so the library might create a set of standards and best practices for supporting citation tools in the library. As a large institution with many campuses throughout the state, it was important that the needs of users and practices of librarians and staff across disciplines and throughout the regional campuses were represented. The team began by reviewing library training and support materials and consulting the library pages of other institutions, including those of other Committee on Institutional Cooperation (CIC) institutions and a sampling from Association of Research Libraries (ARL) libraries.[12] The team was looking specifically for available information on writing help, citation styles and managers, training materials and how the information was organized. Finding information addressing some of the larger questions surrounding citation managers was also a priority, such as choosing an appropriate tool and troubleshooting technical issues. The team reviewed current trends and practice at the library, beginning with a review of reference statistics to determine the number and range of citation related questions. The group then surveyed librarians and public service staff and hosted several discussion sessions on issues and best practices to determine facility with citation tools, how citation resources were incorporated into reference and instruction, and possible unmet user, librarian, and staff needs. From the results, a plan of action was developed to include training materials, increased awareness, and opportunities to improve skills.

CONTEXT AND CONCERNS

Public service librarians and staff regularly serve as the main source of information for students and researchers about formatting citation styles, creating bibliographies, and using citation managers. Since reference and consultation services are often the first stop for many of these questions, it makes sense for reference librarians and staff to be knowledgeable about citation management and the relevant tools. Similarly, many students get their first introduction to citation

styles and tools from an instruction librarian in their first semesters, so instruction librarians need a full and balanced understanding of citation management and its implications in the learning and research continuum. The challenge for many libraries, however, is providing accurate and consistent support in an environment with multiple service points, diverse backgrounds, and the range of knowledge required to support citation management at all levels. In the context of these challenges the team identified some general concerns:

Consistent and Accessible Information

Information on citation topics is often found in different locations depending on the context, i.e. pages on writing help, on citation management tools, or in a knowledge base for technical support. Information scattered throughout library webpages in this way may create more of a challenge for reference librarians and staff trying to find answers to users' questions. It was also found that information on citation management was at times inconsistent or incomplete across institutional pages. For example, descriptions and technical information related to tools such as Endnote, RefWorks, or Zotero varied between the library's citation guide, certain research guides, and university pages outside the library.

Librarians, Library staff and Citation Support

It seemed that many reference librarians and staff had low confidence levels and little knowledge of citation managers when dealing with citation related questions. Because of this, there was a concern that patrons with simple citation questions were frequently and unnecessarily referred to subject or other specialists. Likewise, perhaps these same librarians and staff were recommending citation managers, such as RefWorks, simply because it was supported by the library when another simpler option might have been more appropriate. Another concern was that there was no clear referral policy or service for citation related questions. Although there are a number of citation management specialists, the levels and areas of expertise vary from specialist to specialist, making it more difficult to refer the patron to an appropriate person in a timely manner.

The Role of Citation Management in Learning and Research

Finally, and perhaps most importantly, there was a concern with the over-reliance or overemphasis on citation managers, especially for undergraduate students. For simple citation work, a robust citation manager may be excessive and might interfere with students' understanding of certain aspects of the research process. Many students come to the university unfamiliar with citation styles and with little or no understanding of how formats (i.e. article, chapter, book) are treated and evaluated differently. Skipping directly to citation managers may replace what might be a valuable part of

the learning and research continuum. Additionally, citation managers and generators cannot always be relied on to format citations properly. This is a concern that is shared with many teaching faculty. Without a basic understanding of formats and citation styles, students using citation managers and generators are more likely to submit improperly formatted citations and bibliographies.

Since libraries cannot expect everyone providing research support to be experts in recommending, teaching and troubleshooting citation management topics, how do they ensure that users receive the excellent support to which they strive? The first step might be to assess public service librarians and staff to find out how they currently approach citation related questions, how they incorporate citation management into instruction, and how much they already know about the tools and options available. Libraries could then establish citation support core competencies and best practices for librarians and staff providing reference and bibliographic instruction. Finally, libraries could create a central resource for citation management information and make available the established best practices and ongoing training for public service librarians and staff.

ASSESSING PUBLIC SERVICE LIBRARIANS AND STAFF

To better understand the needs and behaviors of public service librarians and staff, the Citation Tools Team conducted a survey to determine comfort levels for working with citation related questions and to gauge staff experience levels with citation managers.[13] All librarians and staff with a public service role were included. Most of the survey questions concerned librarian and staff familiarity with the features and use of citation managers, their comfort level providing assistance for these tools, their interest in training and development of resources, and how often they used the current library resources for citation related questions and instruction.

The survey revealed that while a small majority (62 percent) of the respondents did feel comfortable with their understanding of a citation tool and just under half were either very or somewhat comfortable providing assistance with RefWorks, very few were comfortable or even familiar with Endnote, Zotero, or Mendeley. Fewer than 15 percent had experience using a citation manager. One interesting outcome was that while most did not feel comfortable helping patrons with citation managers and so few had used them, 69 percent of the respondents recommended a citation manager for questions involving formatting styles and bibliographies. Most responded that they did consult or recommend the library's "Citation and Writing Guide" pages, but 15 percent said they did not. So what can the library gather from these statistics? It is certainly clear that the majority of public service librarians and staff are not comfortable helping users with citation managers. What is perhaps more interesting is that they often recommend tools that they do not themselves use nor understand. Despite this inconsistency, most of the respondents seem to recognize the importance of a firmer understanding of the tools available and are interested in improving their skills with training and information sessions.

To supplement and follow up on the survey, the Citation Tools Team held a discussion session to obtain more feedback from librarians and staff on needs and current practices. The team was looking for discussion and examples of how citation management was incorporated into reference and instruction and what were thought to be the most important aspects of citation management in the contexts of information literacy and the research process. Much of this discussion contributed to the core competencies and best practices outlined in this article.

CORE COMPETENCIES AND BEST PRACTICES FOR PUBLIC SERVICE LIBRARIANS AND STAFF

After closely examining the variety of tools available, reading through existing literature, and consulting public service librarians and staff, the Citation Tools Team outlined a set of core competencies and best practices to meet the needs of Penn State Libraries. The standards outlined include practices for recommending an appropriate tool to users, determining whether or not it is time to recommend a citation manager, ways to incorporate citation management into bibliographic instruction, and procedures for referrals and technical support. These standards were developed to supplement existing standards and best practices for reference and instruction and to add to training materials for new public service librarians and staff.

The Citation Tools Team first asked, "what do librarians and staff need to know about citation management to better serve our users?" Based on the most common types of reference questions from reference statistics and on the experiences of librarians and staff in reference and instruction, the team decided on the following:

1. Librarians and staff should be aware of the many citation management tools available for assisting users with citation related questions and to incorporate into bibliographic instruction.
2. As part of the reference interview or during a research consultation with researchers and faculty, librarians and staff should know the relevant issues and questions to determine the best course of action to recommend.
3. For bibliographic instruction, librarians should recognize the role of citation work in the learning and research continuum, understand the goals and expectations of the class, and know the appropriate tools to achieve the stated goals.
4. Finally, librarians and staff should know how to troubleshoot basic issues and when and to whom to refer the user when it is time for a specialist.

What Options are Available?

Public service librarians and staff should be aware of the range and types of resources available at their institution and know where to find information about these resources. Apart from the citation managers and generators that prompted this article, most libraries have many other useful tools at the ready. For example, the institution may have a writing center or online plagiarism tutorials, as well as writing and research manuals or tutoring services. Library webpages often provide a great deal of information on citation matters with librarian-created writing and style guides, "quick style guides" for the most common bibliographic styles, and information on the various tools supported by their library. Reference librarians and staff should also be aware of sources from library collections, such as published style manuals, and websites like Diana Hacker's *Research and Documentation Online*.[14] Other useful tools might include institution-specific services or resources, such as the "cite this" feature in many databases, import and export filters available for supported citation managers, or OpenURLs for importing full-text into a citation library. Finally, librarians and staff adept at using and troubleshooting a range of citation tools are a valuable resource that should not be overlooked.

Best Practices for Reference

To outline best practices for the reference desk, the Citation Tools Team defined four areas for citation management questions: (*1*) *Writing and plagiarism, (2) Citation styles and formatting, (3) Knowing when to recommend a citation manager,* and (*4*) *Choosing a citation manager.* Within each of these areas the team identified examples of the types of questions asked, recommended resources or services to help the user, and possible questions that reference librarians and staff might ask to better assist the user.

Writing and Plagiarism

Questions on writing and plagiarism matters are usually straightforward and most reference librarians and staff easily find the answers. Common question in this area might involve if or when something should be cited, understanding "quoting" versus "paraphrasing," and the occasional student hoping the helpful reference librarian or staff might look over their bibliography. For questions such as these, consulting the institution's plagiarism guide or referring students to the writing center or to published writing guides is usually the best course of action.

Citation Styles and Formatting

Probably the most common citation related reference inquiries involve answering questions about citation styles. Questions for this area include: "How do I create a 'Works Cited' page?" "How do I cite a book chapter using APA?" or "Do I have to include the URL of the website I am citing?"

Librarian-created "quick style guides" and websites like Purdue's *Online Writing Lab* (OWL) often provide answers to these questions.[15] Other questions deal with less frequently cited materials or complex sources, such as manuscript collections or government documents, or using footnotes, endnotes or in-line citations. In these cases it is usually necessary to consult the official style manual directly.

Time to Recommend a Citation Manager

Beyond assisting users with the elements of writing and formatting citations, librarians must occasionally recommend a citation manager, such as Endnote, RefWorks or Zotero. While users do approach the reference desk looking for a recommendation, in some cases users are asking questions that indirectly point to the need for a citation manager. For example, an appropriate citation manager might be the best solution for students and researchers looking for ways to share citations and bibliographies for collaborative projects. Likewise, a professor wanting to share a reading list with her class or looking for ways to organize or publish a bibliography to the web will find the features of a citation manager such as Zotero useful. Apart from these clues, most graduate students and collegiate faculty will likely find some benefit in using a citation manager to collect, organize and share citations for their research. For those users simply wanting to generate citations, such as undergraduate students with only a handful of citations, a citation generator like KnightCite or EasyBib might be useful. Unless the student is interested in using word processor integration for automatically formatting citations and a bibliography, these generators are a better alternative to the complexity and learning curve that comes with citation managers. Better still, in these cases the students might be best served by referring them to citation quick style guides or to an official style manual.

Choosing a Citation Manager

Recommending or choosing the "right" citation manager is often a matter of personal preference. The programs supported by most institutions share many of the same features and functionality, but there are some exceptions. An awareness of the differences may help to rule out one or two, but there may be a few other factors to consider. For example, some managers are web-based or allow syncing of citation libraries so researchers can work from multiple locations, others are better suited for group projects or shared bibliographies, some have more customization options for word processor integration, and some are great at capturing information from the web. There are comparison charts available that highlight many of the differences and features of citation managers;[16] however, since features and capabilities are always changing, maintaining a familiarity with citation managers and their features is key to helping users choose the right tool. Another factor to consider is the academic discipline. Some disciplines favor one tool over another for it's ease of use with specific

databases or the types of sources most commonly cited. For this reason, referring a patron to their subject librarian or recommending they consult with other researchers in their field is good practice. Subject librarians should be aware of the tools most commonly used by their constituents and keep up with changes in tools while maintaining an understanding of just how researchers in their disciplines are using citation managers.

Best Practices for Instruction

Whether teaching information literacy to undergraduate students or research methods to graduate students, the library instruction session is a wonderful opportunity to introduce and reinforce the role of citation work in the learning and research process. While developing best practices for citation management and library instruction, the Citation Tools Team identified three areas that instruction librarians and staff should consider: (1) What are the necessary citation related competencies and skills needed by students? (2) What are the goals and expectations of the class? And (3) How do librarians incorporate the tools into a library session?

Citation Related Competencies and Skills

At the very least, the majority of students need basic citation competencies and skills. These should include:

- Recognizing citations and understanding their function in research.
- Knowing what a citation is and understanding the concepts of citation styles and formatting, such as in-line citations, footnotes, endnotes, and bibliographies or Works Cited.
- Understanding the difference between citations for common item types and why this matters. For example, are they looking at a citation for a book, book chapter, article, newspaper, or blog post? What does the item type tell them about the cited resource?
- Understanding what constitutes plagiarism, the differences between quoting and paraphrasing, and why it is important to cite your sources.[17]

Once the basics have been established, students might need to possess a variety of other skill and competencies related to citation management. Depending on whether they are undergraduate or graduate students, the expectations of their instructor, and the requirements of the course, students might benefit from:

- Knowing where to find style guides, either quick guides or manuals, to assist them with formatting their own citations and bibliographies.
- Understanding how to use the guides and have an understanding of what information can be found in the suggested resources.

- At more advanced levels, a familiarity with citation generators or managers might be in order. If this is the case, it is helpful for students and researchers to have a basic understanding of the key uses and features of citation management tools, such as collecting, organizing and sharing citations or word processor integration.

In addition to knowing how to use these tools, it is important for users to understand the pitfalls and limitations of citation generators and managers and, in the case of citation managers like Zotero and Endnote, that they should be researched before taking the plunge to ensure they are using the tools effectively.

Goals and Expectations of the Class

When discussing the assignments and learning outcomes with the course instructor in advance of the session, one should consider which citation related skills are required to complete and master these goals. For undergraduate students learning about the research process, one might ask: Is there a writing assignment requiring library research? Are the students expected or likely to use a particular citation style? Are they required to use certain types of resources, like journal articles, books or news sources? Are they creating an annotated bibliography? What other expectations does the instructor have of the students? Is there any reason to introduce citation managers or generators? Not all instructors will have considered the citation component of the assignment and may have an unexpressed expectation. For this reason, it is important to be familiar with any assignments and learning outcomes and be prepared to suggest the skills or competencies needed while discussing the session with the instructor. For more advanced or graduate students, these same questions may apply; however, there may be additional considerations. If a citation manager is needed, how will it be used? For collecting and formatting citations? For creating shared or group bibliographies? Does the instructor use or recommend a particular program? Or, are there programs that are most often used in the discipline?

Incorporating the Right Tools

Perhaps most often citation instruction will be addressed directly with the students. Library instructors routinely explain the need for citations and cover citation styles and formatting bibliographies. They often ask students "just what is a citation?" hoping to find out what they already know. By looking at examples of citations during the session, they can demonstrate the differences between book, chapter, and article citations and show students what information is needed to format a citation or a bibliography correctly. They might even direct students to library resources, such as web citation guides and style manuals, so that the students can find answers on formatting and interpreting styles on their own.

Aside from devoting the scant time available with students

to talk about citations, it is probably good practice to integrate citation skills and tools into the library session within the course of demonstrating resources and services. For example, while teaching students to search the library catalog or subscription databases, showing the "cite this" feature found in many databases or viewing the bibliography or citations within full text articles presents an opportunity to view formatted citations and discuss the components that comprise a book or article citation. If introducing a citation manager like RefWorks into the session, rather than spending the time giving RefWorks instruction, library instructors might have students create or open their accounts either before or at the beginning of class, then have students follow along, importing citations and managing their new library as they learn to use the databases. In this way, the citation manager becomes an extension of the research process rather than yet another technology they need to master.

If using online research guides or course pages, adding links to the library's citation and writing guides will make it easy for students to return to the information shown in class and hopefully encourage them to take advantage of the resources provided. If a specific citation style is needed for the course, integrating examples, tips and other relevant information on the course page will ensure that students use the required style. Many content management systems used to create subject guides and course pages have the option to create widgets that can be added to any of the libraries pages. Using these widgets, libraries might create citation widgets that librarians can instantly add to their course pages and research guides.

Finally, providing information and instructions for a citation management tool, if introduced during the session, might help students master and integrate the tool into their current research. For graduate students, providing use cases and demonstrating how a particular manager might be used in their discipline will help them to get the most of their citation manager for current and future use. For example, students of art history or archaeology might find the "Related" feature in Zotero useful.[18] Students managing large citation libraries will benefit from a demonstration of the many ways to organize and filter a library, using tags, collections, folders, etc. Since many graduate students will eventually teach, showing how they can create reading lists for their students, or to share with fellow researchers, might be helpful. One way to integrate this into the session is for the librarian to create her own group folder to present important sources in the field. Students will then see how group folders can be used to share resources and to add citations for resources to their own citation libraries. It is also important to reinforce early on the limitations of citation managers and emphasize that ultimate responsibility for accurate citations rest with the user.

Support and Troubleshooting

Citation managers are useful and timesaving tools that save the researcher from the more tedious tasks of collecting and organizing their research; however, they do come with a learning curve and users often need help to get the most, or sometimes even the basics, from the program. As libraries increase awareness of these tools and as more researchers begin using citation managers in their research, the numbers of reference questions related to using and troubleshooting these tools are likely to increase.[19] Many basic technical and support questions can be answered with online resources or at the reference desk, especially those that are institution-specific; however, some will need more advanced support requiring a specialist either inside or outside the library.

Online Support

Basic questions related to using citation managers, such as installing programs, generating bibliographies, and word processor integration can often be answered by consulting the documentation, either on library pages or the citation manager's website. Libraries should also include more advanced, institution-specific information on library webpages. These might include tutorials or videos on importing citations from the local OPAC or discovery system, the OpenURL for retrieving full-text for citations already in the citation library, guides for choosing a citation manager, and contact information for additional support.

Support at the Reference Desk

Ideally, public service librarians and staff should be aware of the citation managers supported by their institution and be able to answer questions about basic features, such as importing citations, creating bibliographies, word processor integration, and shared or group libraries. It is also recommended that reference librarians and staff are able to demonstrate how to retrieve citations from the library catalog or from the most common subscription databases using officially supported citation managers. At the very least, reference staff should know what documentation and help are available on the library's webpages and where to find the appropriate information to answer user questions, as well as where to send the user when additional help is needed.

Support from a Specialist

For questions that reference staff are unable to answer or that require institution-specific knowledge not covered on the library's citation tools pages, reference librarians and staff should know where to refer the user next: to either a subject librarian or a citation tools specialist within the library, or an expert outside the library. Subject specialists may be expert users of the citation managers used in their disciplines, or they may know of expert users in the departments for which they liaison. If there are citation manager specialists within the library, their contact information should be readily available to the reference desk and on library citation pages and their expertise clearly defined. If possible, a central resource for advanced troubleshooting and technical support is ideal.

For commercial products like Endnote, it is sometimes best to direct the user to the product's customer support for technical issues.

TRAINING AND SUPPORT FOR PUBLIC SERVICE LIBRARIANS AND STAFF

Once core competencies and knowledge levels have been established and there is a better understanding of what reference staff already know, the library can take steps toward a more systematic approach of supporting citation related reference and training for reference staff. Working with what they know, what can libraries do to better equip staff assisting users with citation related questions?

Create a Central Resource for Citation Information

One of the first steps might be to create a central resource for all things citation related. Since the "Citation and Writing Guides" library pages at many institution are heavily used, maintaining and updating these pages and using them as a central hub for both student and staff resources makes sense. Looking over the webpages of other academic libraries, it seems many have done the same by putting relevant information on their citation or writing guide webpages.[20] These guides often include quick citation style guides created by the library, information on print and digital resources for writing, citation styles and formatting, as well as links and information about or relevant to citation generators and managers like Zotero, Endnote, or RefWorks. There should also be a central resource for referrals, troubleshooting and higher-level support. Even with citation specialists, librarians and staff who are "in-the-know," getting the user in touch with the appropriate specialist in a timely manner can be difficult. To connect users directly with specialists and to facilitate referrals for citation help, libraries may find it useful to create a global e-mail list specifically for citation management questions that comprises all citation specialists at the library. Making the e-mail address available on the libraries' citation guides will allow users to send an e-mail directly to citation specialists and provide reference librarians and staff with a consistent referral resource for citation management questions.

Develop Training Materials and Programs for Reference Staff

Based on the feedback from the survey of librarians and staff at the library, there was clearly a need for education among librarians and staff to confidently and effectively serve their user community regarding citation tools. Incorporating standards and best practices into reference training is only the first step in educating reference staff on these matters. Library help pages are already a great resource for providing reference service, so creating training and information materials that are accessible through library webpages, such as citation and writing guides, will help librarians and staff find answers for patrons more readily and provide relevant and consistent information on using and recommending the various citation tools.

Many of the library citation guides reviewed included comparison charts outlining standard and unique features of citation tools, offering a better understanding of what citation managers do and a basis for recommending or choosing one tool over another.[21] Examples of "use cases" for citation managers are another useful training resource.[22] Outlining the various use cases for instructors, researchers, and librarians is a great way to demonstrate how these tools might be used beyond simply gathering and storing citations. These may also help librarians and staff to recognize opportunities for recommending a citation manager when it might not be obvious. Libraries might also consider a flow chart that can help reference staff decide the best course of action when presented with a question related to citations. The Citation Tools Team created a "Citation flowchart" which has been a big hit with librarians and staff alike.[23] The online, interactive infographic is organized by the four types of citation questions outlined above and provides example questions, a recommended course of action, and links to relevant resources.

Increased awareness and staff training may also come from forums, workshops, and basic and advanced training opportunities. Introductory or overview sessions for librarians and reference staff, with brief demonstrations, can cover the basics of what citation managers have to offer and highlight the differences and similarities between the tools supported at the institution. In addition to encouraging staff to attend scheduled Zotero, Endnote, or RefWorks training sessions, it may be helpful to organize and offer "train the trainer" sessions to provide staff with the necessary skills to teach citation manager basics to students and researchers during a reference consultation.

Conclusion

Some may question just how much time libraries should invest in promoting, teaching and supporting citation management within our libraries. This is an important consideration; after all, librarians are stretched thin with the multiplicity of roles they have adopted in recent years. However, these tools are fast becoming research standards and libraries will likely see even larger numbers of researchers looking toward the library to support not just their citation management needs, but their broader personal information management needs as well. Libraries have already begun providing these services in the form of scholarly commons, information management specialists, and data curation services. It could be said that citation management is the foundation for scholars to begin collecting, managing, and archiving their research findings as well as their own scholarly output. If libraries are to reinforce these goals, they need knowledgeable staff and an effective program to support the citation needs of their users.

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11. See appendix A for more information and the charge of the Citation Tools Team.

12. See appendix B for a selection of library webpages reviewed.

13. See appendix C for a complete list of survey questions.

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18. This Zotero feature allows the user to create a relationship between two or more items in their library. For example, a relationship can be created between an image of a painting and any articles discussing the image. For more information on creating relationships in Zotero, see the Zotero support topic here: www.zotero.org/support/related.

19. Penn State Libraries' citation related questions have increased 16 percent over last year. The Libraries' have also seen a 30 percent increase in citation management workshop attendance and an increase in requests for workshops and demonstrations for faculty and graduate student groups.

20. See appendix B for examples of library citation guides.

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APPENDIX A. CHARGE OF THE CITATION MANAGEMENT TOOLS TEAM

The Citation Management team will develop and enhance the Libraries' support of citation management tools, including (but not limited to) Endnote, RefWorks, and Zotero. This Team will investigate, narrate and support the reference management workflows mandated by our users' different research needs and levels of scholarship. In collaboration with I-Tech, the subject libraries, and Library Learning Services and other University-wide partners, the Team will enrich the Libraries' ability to support these specialized tools and complementary databases, empowering students and faculty to create their optimal digital intellectual workflows, and stay abreast of new and emerging citation management tools relevant to Penn State users.

Initial Tasks:

1. Create use cases for specific types of users (novice, advanced, etc.) and the tools that are inherent to each user group.
2. Benchmark initiatives to support citation management and personal library development at peer institutions, producing a report on emerging (and continuing) trends for the Web Steering Committee.
3. Analyze the utility of RefWorks for the Libraries' core citation management software users. Recommend to the Web Steering Committee a course of action for RefWorks—continue support, or move support to another more applicable and appropriate tool.
4. Scan the environment for new and emerging citation management tools, testing new resources and creating a mechanism to share information with Libraries faculty and staff.
5. Make recommendations to Web Steering, Library Learning Services and I-Tech as appropriate regarding needed support for new, worthwhile citation management tools.
6. Work collaboratively with the Discovery System Implementation Team on the integration of citation tools within the discovery interface.

APPENDIX B. SELECTION OF LIBRARY CITATION AND WRITING GUIDES REVIEWED

1. "Bibliographic and Footnote Style Guide | New York University Library" http://nyu.libguides.com/citations.
2. "Citation Management | Cornell University Library" http://www.library.cornell.edu/services/citing.html.
3. "Citation Management | University of Minnesota Libraries" http://www.lib.umn.edu/researchsupport/citationmgmt.
4. "Citation Management and Formatting | Boston College Libraries" http://www.bc.edu/libraries/help/citation.html.
5. "Citation Management Tools | The Library-University of California, Berkeley" http://www.lib.berkeley.edu/Help/citation_mgmt.html.
6. "Useful Citation Management Tools | MIT Libraries" http://libguides.mit.edu/citation-tools.
7. "Citation Management at Purdue. Citation Management Basics." http://guides.lib.purdue.edu/citation/.
8. "Writing & Plagiarism Help | University of Illinois Libraries" http://www.library.illinois.edu/rex/erefs/writing.html.

APPENDIX C. PUBLIC SERVICE STAFF INTERNAL SURVEY QUESTIONS

1. How comfortable are you answering the question "What is a citation management tool?"
2. How comfortable are you providing assistance for each of the following tools: RefWorks, Endnote, Zotero, Mendeley?
3. What is your level of experience using each of the following tools: RefWorks, Endnote, Zotero, Mendeley?
4. How often do you get questions about each of the following tools: RefWorks, Endnote, Zotero, Mendeley? [Often, Sometimes, Rarely, Never]
5. Do you get questions about creating or formatting bibliographies? [Often, Sometimes, Rarely, Never]
6. If yes, do you recommend a citation tool? [Often, Sometimes, Rarely, Never]
7. How often do you refer users to the Libraries' "Citation and Writing Guides" page? [Often, Sometimes, Rarely, Never]
8. Do you find it easy to locate relevant information on citation management? On citation tools? On technical questions?
9. Have you attended a library training session for any of the following tools? RefWorks, Endnote, Zotero?
10. Are interested in or willing to attend a training session?