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# Developing a Reflective Practice Template for Citation Management Software Instruction

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One of the essential characteristics of successful librarians is the ability to use their experiences to build their skills. Donald Schön defined this concept as “reflective practice” in his 1983 book *The Reflective Practitioner*. Here, Milewski and Williamson take on the role of reflective practitioners in examining their work in teaching citation management software. Their experience offers a model for librarians in all sorts of instructional positions to engage in reflective practice.—Editor

**R**eflective practice, which Schön termed “reflection-in-action,” has to do with practitioners’ attempts to make sense of surprising elements in the unique and uncertain contexts in which they act.<sup>1</sup> As Schön discusses, practitioners often must solve problems that do not match theoretical knowledge in their disciplines. Such problems, when reflected upon, can lead to improvements in practitioners’ understanding and practice. Describing this process, Schön states:

In each instance, the practitioner allows himself to experience surprise, puzzlement, or confusion in a situation which he finds uncertain or unique. He reflects on the phenomena before him, and on the prior understandings which have been implicit in his behavior. He carries out an experiment which serves to generate both a new understanding of the phenomena and a change in the situation.

Library researchers, too, such as Booth,<sup>2</sup> have discussed the value of incorporating reflection to understand instruction and improve it. This paper describes our reflections on uncertainties arising in bibliographic management instruction, which led us to develop a template for others to use in reflecting about these kinds of classes.

As citation management software such as EndNote has been adopted by universities, librarians have often been responsible for instructing faculty and students how to use complex computer programs that automate the complex task of formatting citations in thousands of reference styles. Citation management software instruction poses challenges distinct from other kinds of library instruction due to its level of detail and numerous things that can go wrong as students with varying technology backgrounds, academic majors, and language skills attempt to follow along with instruction while using different kinds of computers, operating systems, browsers, and word processing software.

While research has focused on the features and futures of citation management software and the use of citation management software,<sup>3</sup> we could locate no writings on the application of reflective practice to citation management software instruction. Instructors in the fields of education and library science have used reflective practice to reflect upon and improve their instruction,<sup>4</sup> and citation management software instruction can benefit from such reflection. The present study describes the development of a reflective practice template for citation management software classes using critical incidents as prompts for reflection. Specifically, we selected surprising events that happened during the instruction as the incidents for reflection, since we find that surprises are frequent in citation management software instruction and can provide useful data for analysis.

## CRITICAL INCIDENTS IN INSTRUCTION

Tripp made the point that critical incidents could include any occurrences in instruction that are interpreted by the instructor as significant.<sup>5</sup> They could include routine events typical of a category of occurrences, as well as solely surprising ones. Any analyzed event could be a critical incident. For example, a librarian might notice that students regularly check their smartphones during instruction. While this regular event is not surprising, it is worth analyzing because it may point to students' lack of engagement in the instruction.

Booth seems to have a fairly flexible conception of instructional events or features that can provide material for reflection, as well.<sup>6</sup> Describing her own process of reflection, Booth stated,

To help me remember specifics immediately after any session, workshop, or presentation (when my residual impressions are at their strongest), I do a three-question reflection about the interaction: what worked, what didn't work, and whether I achieved my goals. I also quickly note anything that stood out about my own performance or that of my learners/audience, such as an interesting turn of phrase, takeaway, best moment, or problem I might have experienced with technology.

Graf and Harris call for re-emphasizing "the process of framing and setting the problem in the first place."<sup>7</sup> They cite Schön's statement: "when we set the problem [upon which we reflect and act], we select what we will treat as the 'things' of the situation, we set the boundaries of our attention to it." Thus, for Schön, as for Graf and Harris, the perception of critical incidents would depend on what events were paid attention. Graf and Harris give an example of a survey in which they asked librarians to think about risks they encouraged students to take in an instruction session and risks they

embraced themselves in the instruction session. The critical incidents in this case were risks taken.

## SURPRISES AS CRITICAL INCIDENTS

Beilin discusses the fruitfulness of departing from plans in library instruction when students respond differently from how the librarian expects.<sup>8</sup> Unexpected responses can give opportunities for novel thinking about a topic. While Beilin discusses "unanticipated ideas, questions or events," which are "the results of the students' unique contributions, group dynamics, and accidents that happen in the course of a lesson," one could add other causes of surprises in technology-rich teaching such as citation management software instruction. Indeed, features of the computer hardware and software are as much causes of surprises as students' experiences. We agree with Beilin that surprises can offer useful material for reflection. We used the concept of surprises in developing our template for reflective assessment of citation management software instruction.

## CONTEXT

Our development of a reflective practice template for citation management software instruction was prompted by our experience with teaching EndNote to graduate social work classes. These classes were a rich source of surprising critical incidents that we incorporated into the template.

Social work teachers themselves frequently incorporate reflective practice in their instruction, but due to the nature of the subject matter, the reflection is quite different from the reflection that we incorporated in citation management software instruction. For example, Norton, Russell, Wisner, and Uriarte held meetings in which social work faculty shared reflective teaching journals, engaged in intergroup dialogue, and practiced meditation and visualization to focus on improving their teaching.<sup>9</sup> These meetings were prompted by the anxiety that new teachers felt about instruction and by students' preference for faculty "who could role model social work practice skills in the classroom, such as creating a safe space, using empathic listening, and responding to students in a respectful and culturally competent way."

To give another example, Mishna and Bogo focus on using reflective practice and mindfulness to "aid instructors' understanding or and response to conflict in the classroom, which is unavoidable."<sup>10</sup> The social work focus on group conflict is rather different from the focus of librarians as citation management software instructors. Similarly, Hermesen and Embregts incorporated reflective practice with a goal of helping students develop a "perspective focused on professional loving care."<sup>11</sup>

### TECHNOLOGY TEACHING IN SOCIAL WORK

Since technology was the focus of our citation management software instruction, our reflective practice looked rather different from the social work examples above. The NASW and ASWB Standards for Technology and Social Work Practice (2005) has a section on technical competencies which states the following:

Social workers shall be responsible for becoming proficient in the technological skills and tools required for competent and ethical practice and for seeking appropriate training and consultation with emerging technologies.<sup>12</sup>

While technology is increasingly being used by social workers, it is probably safe to say that people and communities are the primary focus for social workers, and technology is a tool.

The people/things dimension in applied psychology is an empirically derived way to summarize data about occupational differences.<sup>13</sup> Helping professions such as social work have a “people” orientation, whereas technological fields tend to have a “things” orientation. Allen and Robbins place technical occupations squarely on the things side of the dimension and social service on the people side.<sup>14</sup> Nevertheless, despite the “people” orientation of social work, students in this field must use technology, including for research and writing, and one would expect that like students in all fields, different individuals have varying degrees of success with these tools.

A challenge in technology education for social workers is that some educators do not have a high degree of computer self-efficacy (confidence in using technology). Colvin and Bullock point out that many social work educators are older than thirty-five and may lack confidence in incorporating technological tools in their courses.<sup>15</sup> Younger social workers may have more computer self-efficacy. We found that many of the students in our citation management classes for social workers were nontraditional students older than 30. Thus they may have had lower computer self-efficacy than younger students.

We have both taught and roved for many graduate social work classes. Milewski is the social work liaison librarian, and Williamson is the EndNote specialist at the University of Tennessee, Knoxville. During our experience teaching the classes, we have run into several snags. Thus we wanted to engage in a careful reflective practice on the classes as a whole to improve them.

We began by brainstorming answers to Booth’s questions cited above about what worked in the class, what didn’t work, and whether our goals met. After the initial brainstorming and further follow-up discussions, we sought a way to make our reflective practice more organized and focused. To do this, we brainstormed again, this time reflecting upon surprising critical incidents during the instruction.

We asked ourselves two working questions at this stage of the process:

1. What surprises did you encounter during the instruction, and what were the consequences?
2. What plans did you not carry out, and why? What were the consequences?

After this stage of brainstorming, we looked for themes in our discussion and found there were four kinds of surprises we encountered. These pertained to

1. people;
2. instructors/curriculum;
3. EndNote or other citation management program; and
4. supporting technology and software

Identification of these themes led us to develop questions associated with each theme that could capture all the problems that arose during the two sets of brainstorming.

### THE TEMPLATE

The following outline is the template of questions we developed during the reflective practice process. They do not represent an exhaustive set of questions that could be used in reflective practice, but they cover the data we generated in our discussions. The next section gives examples of surprising critical incidents that led to selecting the questions.

1. People
  - a. How did the students’ familiarity with technology affect their learning?
  - b. How did the students’ language skills affect their learning?
2. Instructors/Curriculum
  - a. If an instructor requested the class, how did his or her expectations affect the instruction? Were the instructor’s expectations communicated to the librarian before the citation management instruction session?
  - b. How did the students’ curriculum and class projects affect the features they needed to learn about in citation management software?
3. EndNote (or other citation management software)
  - a. What compatibility issues arose with the computer operating systems during the class?
  - b. How did EndNote or other citation management software look different for Windows and Mac and need different directions for completing the same task?
4. Supporting Technology and Software
  - a. How did computer hardware issues and presentation technology affect the class?
  - b. How did wireless issues affect the class?

## EXAMPLES OF SURPRISING CRITICAL INCIDENTS THAT INSPIRED QUESTIONS IN THE TEMPLATE

### People

*How did the students' familiarity with technology affect their learning?*

Many of the students in graduate social work classes are non-traditional students, and some are less comfortable with technology than traditional age students. We reflected about how could we help make the instruction experience more comfortable for students who struggle with technology? Could we have arranged for follow-up instruction for students who did not catch on to the steps for using EndNote?

*How did students' language skills affect their learning?*

In a general EndNote class, a student was using software that had text in the Korean language, and her English language skills were not good, so she had trouble understanding the demonstration. Could we have found a way to switch the text back and forth from Korean to English so we could read it and she could use it? Could we have met with her individually later to go over the material?

### Instructors/Curriculum

*If an instructor requested the class, how did his or her expectations affect the instruction? Were these expectations communicated to the librarian before the citation management instruction session?*

The instructor of the social work class wanted students to be able to collaborate when using EndNote, but he did not tell us this beforehand. Because we typically do not teach about sharing EndNote libraries in introductory EndNote classes, this posed a dilemma. We were not prepared, and we also thought the process might be too detailed for introductory EndNote students to learn. Typically we teach about sharing EndNote libraries in individual instruction. Should we be covering this topic in introductory classes, since some instructors would like us to? Should we tailor introductory EndNote instruction classes if the instructor wants the class to learn specific advanced functionality? If so, should we schedule longer classes or substitute out other content? Would it be good to schedule supplementary instruction?

*How do the students' curriculum and class projects affect the features they need to learn about in citation management software?*

In individual consultations we have learned that graduate students writing dissertations have different needs than

students writing class papers. Also students who are writing collaboratively may benefit from learning about EndNote Online or sharing EndNote libraries if they are doing research with professors. Should we have informed students of the ways they could use EndNote beyond what was in the standard lecture, and offered opportunities to meet for follow-up instruction? Could we have offered supplementary instruction for working groups?

### EndNote (or other citation management software program)

*What compatibility issues arose with the computer operating systems during the class?*

We noticed that the version of EndNote we were using for the social work class was not compatible with certain versions of Microsoft Word 2016 (Mac). It took a great deal of time to perform the update during the class. Perhaps we could have instructed students using Macs to update their Word before the class.

Also, we noticed in several classes before EndNote X8 came out that the Mac Sierra Operating System was not compatible. It is always difficult to stay on top of what is not compatible with EndNote or other citation management programs as computer systems evolve. Incompatibility issues are a frequent source of surprises. Perhaps we could have regularly monitored the EndNote users forum to learn about these issues. **We also have been surprised when students brought iPads or ChromeBooks to EndNote classes and expected to be able to install the software, which they cannot on these devices.**

*How did EndNote or other citation management software look different for Windows and Mac and need different directions for completing the same task?*

Traditionally we have used a Windows machine to demonstrate EndNote and included screenshots for using EndNote with Mac Word 2011, which looked very different. Even now when we work with EndNote with Mac 2016, it looks more like the Windows version but still has some differences. Perhaps we could have made the presentation clearer by also including screenshots of minor differences between the Windows and Mac EndNote interfaces, or even doing a dual presentation if two screens were available and switch between them with two computers.

Also, different browsers behave differently when one exports references into EndNote. Perhaps we could have provided screenshots showing the different methods of exporting in Chrome, Firefox, and Safari, in addition to having the rover troubleshoot browser issues. The rovers in our EndNote classes answer questions when students raise their hand during the hand-on portion of the class.



## FOR YOUR ENRICHMENT

*What features did EndNote not have that students needed?*

We have found that some students use Pages or Google Docs instead of Microsoft Word. What help could we provide these students when our EndNote presentation is geared toward Word? Could we have provided handouts for these students to look at while we did the Word demonstration?

### Supporting Technology and Software

*How did computer hardware issues and the presentation technology affect the class?*

We noticed that one student in the social work class had a computer that did not work well. We had not brought extra computers with us since the class was in the social work building instead of the library classroom where we have extra computers when we teach. Should we have brought a few with us?

Also, in some EndNote classes there have been surprises with the computer we used for instruction. In one library classroom, three-column libguides displayed as one column because the older projector's display dimensions were limited. Should we have asked what dimensions the projector could display and then provided screenshots or been prepared for the limitation? We are often surprised by how projectors work or do not work with our teaching laptop, particularly in classrooms outside of the library.

In another instance in a building outside the library, we were surprised by the provided computer/podium set up which had some features we were not familiar with. While it was fairly easy to adapt, such problems added to the stress of teaching the class. Should we have had a policy of always bringing and using our own familiar computers?

*How did wireless issues affect the class?*

We have noticed that with many people using the wireless in the classrooms, there are problems with connecting. Also, downloading the EndNote software is often slow because of multiple users trying to download at the same time. Because of the volume of usage, we had to adapt on the fly, as was the case with many of the surprises we encounter in EndNote classes. We learned that it was good to have students start downloading the software before the start of class if they got there early.

### Discussion

We found our reflective practice to be a useful process because it resulted in some beneficial changes for our citation management classes. In the library's teaching classroom, we are now using dual monitors displaying how EndNote looks in Mac and Windows operating systems. We are shifting to more visual handouts with screenshots of Mac and

Windows EndNote programs and Cite While You Write tabs in Word as well. The EndNote Quick Reference Guides on EndNote.com have supplemented our previous strictly verbal handouts.

In addition, because of our experiences with the delays we encountered in installing EndNote on students' machines, we have improved the installation instructions on our EndNote libguide and asked that students try to install the program before class. We also arrive early to class and assist with the installation for any students who wish to get help.

We also have become more prepared to teach about using EndNote in collaborative research, which seemed to be important to the social work curriculum. We plan to direct students to the excellent training videos on this topic that are available from the Clarivate Analytics, the company that owns EndNote.

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## CONCLUSION

Our observation and analysis of surprising critical incidents in citation management instruction led us to develop a reflective practice template. We believe that engaging in a structured reflective practice process can help librarians include reflection on essential factors affecting the success of their citation management software instruction. A structured template such as ours does not preclude more freeform reflection, but it ensures that librarians do not leave out consideration of important aspects of this technology-rich instruction. Constantly reflecting on the instruction allows it to evolve in response to the people, instructors/curriculum, EndNote or other citation management program, and supporting technology and software.

We believe that the process of reflecting upon instruction in a team was effective since it allowed us to share our perceptions of surprising events during the instruction, compare memories, and validate our individual perspectives. The process of reflecting upon instruction in teams could be applied to a variety of different kinds of libraries and different types of instruction. For example, the general education librarians at a small college could get together and develop a template for reflecting upon their instruction. Similarly, children's librarians in a public library system could reflect together on how they provided story hours and develop a template to use when thinking about these instructional experiences. Reflective practice is a widely applicable thinking process that can be refined and applied by experienced librarian-practitioners. Tailoring reflective prompts to particular kinds of instruction should give librarians a useful method for generating insights about specific instructional contexts.

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