

Reflection and Transfer Learning in the One-Shot: Demonstrating Student Learning

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Library instruction is predicated on the assumption that transfer learning can take place, but how do librarians determine whether transfer is occurring? This study examines the use of reflection as a learning theory within the one-shot library instruction classroom to facilitate metacognition and transfer learning. Through the analysis of student work, researchers demonstrate that students connect past skills with current learning and are able to assess what they know and what they need. This essay provides a framework for applying reflective pedagogy for broad application within the library instruction classroom.

Introduction

Library instruction as a construct is predicated on the assumption that transfer learning, the ability to take skills learned in one context and apply them to another, can take place. The concepts and skills taught within a library instruction classroom extend beyond the single library session and are applicable in a variety of contexts. By providing instruction that emphasizes transfer learning, librarians not only have an opportunity to teach students information literacy skills related to an assignment and course learning outcomes but can also teach students how to conceptualize the application of these larger concepts to other settings. How, though, can librarians develop lesson plans that will facilitate metacognition and transfer learning? And how can these types of learning materials be adapted for the one-shot instruction context, perhaps the most frequent setting of library instruction?

Research in disciplines such as Composition & Rhetoric and Education shows that reflective pedagogy is a successful way to facilitate transfer learning in semester-long courses. When reflection is embedded within the curriculum, students are offered an opportunity to engage with metacognition as they interact with various reflective stances. It is through this awareness of learning and process that students are able to transfer knowledge and skills from one context to another. Reflection as a learning theory aligns closely with the library instruction context. Reflective activities within library instruction provide a space for students to intentionally engage with their learning process, preparing them to apply newly acquired skills to their current research assignment, future assignments, and to future information-seeking experiences outside of the academic setting. Further, reflec-

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tive pedagogy is a cross-disciplinary instruction model that can support campus-wide instruction efforts.

Librarians can adapt the reflective pedagogy frameworks used in semester-long courses to help students make their learning visible while they develop an understanding of information literacy skills, course content, and the larger information ecosystem. Based on the findings of a years-long study, this paper will examine reflective pedagogy as a learning model and educational theory within the context of the one-shot library instruction session. Observations of student learning within this study show engagement with both metacognition and transfer learning when facilitated and guided by reflective pedagogy. Further, assessment of student learning throughout this study highlights the relationship between reflective pedagogy and transfer learning within the one-shot context.

Literature Review

In the early 2000s, librarians such as Mandy Lupton and Scott Walter began making the case that librarians are indeed teachers.¹ Today, library instructors position themselves as part of the educator community and apply learning theories to the teaching and learning within libraries. As the professional identity of librarians has trended toward that of teacher, the one-shot library session has also evolved, as evidenced by library literature. Collaborative teaching practices between instructor and librarian, pre- and post-tests measuring effectiveness of active learning, and both qualitative and quantitative assessment to understand student self-efficacy before and after library instruction are just a few representative studies that have influenced the design of this study.² Further, these studies not only center one-shot events as an object of analysis but also demonstrate the critical work that librarians are doing to create meaningful and effective learning environments within this traditional library instruction context.³

Reflection as a pedagogical approach to library instruction facilitates both the design and structure of the library instruction session, as well as the creation of assessment materials to capture student learning in the classroom. In the book *Reflective Teaching, Effective Learning: Instructional Literacy for Library Educators*, Char Booth frames reflection as the means by which librarians can create effective learning opportunities for students.⁴ Booth explores teaching strategies librarians can incorporate, such as think-alouds, which help students get in the “metacognitive mindset.”⁵ Karen Bordonaro and Gillian Richardson assert that reflection is the process by which students actually learn.⁶ Their findings emphasize the importance of both scaffolding and reflection to overall student success in the library instruction classroom.⁷ Reflection becomes embedded within a course when introduced at the beginning of class, followed by scaffolded and intentional reflective prompts throughout the class session. Donald L. Gilstrap and Jason Dupree’s Critical Incident Questionnaire, a qualitative assessment method to understand student learning, demonstrates that students can perform critical reflection within the library classroom.⁸

Adjacent to the conversation about reflective pedagogy in the library instruction classroom is the work librarians have done to define concepts like metaliteracy and metacognition within the one-shot instruction context. Broadly speaking, metaliteracy is an awareness of the systemization of literacy and literacy learning, engaging students in their own literacy acquisition process, while metacognition is an awareness or the intentional act of observing one’s own learning process. Connections have been drawn between reflection, metaliteracy, and transfer learning. There are a few studies within library instruction literature that help

contextualize these concepts. For example, Trudi E. Jacobson and Thomas P. Mackey frame reflection as a process for learning metaliteracy within library instruction.⁹ Likewise, Donna Witek and Theresa Grettano use reflection as a method for students to engage with metaliteracy concepts in the classroom.¹⁰ Rebecca Kuglitsch and Lindsay Roberts explore transfer theory and identify connections between metacognitive reflection and the transfer of information literacy skills.¹¹

Reflective pedagogy within this study is grounded in Kathleen Blake Yancey's theory of reflection:

“It is reflection which stimulates the growth of consciousness in students about the numerous mental and linguistic strategies they command and about the many lexical, syntactical, and organizational choices they make—many of which occur simultaneously—during the act of composing.”¹²

Reflective pedagogy is centered on the practice of asking students explicit questions about their learning throughout the learning event. These questions are framed in such a way that student responses assume one of Yancey's four Reflective Stances:¹³

1. Looking backward to recall previous knowledge
2. Looking inward to review the current situation
3. Looking forward to determine how to use knowledge in a new way
4. Looking outward to connect identity to a larger context.

Kara Taczak and Liane Robertson extended Yancey's theory of reflection into a fully functional writing curriculum that engages students in a number of reflective practices throughout the semester in the first-year writing classroom.¹⁴ Their years-long study demonstrates specific strategies for effectively engaging students in reflection. Taczak and Robertson named Transfer Learning as an explicit goal of reflective pedagogy, defined as students having the ability to take a skill in one context and extend it into another context.¹⁵ This might mean taking writing skills learned in a writing classroom and transferring them to another classroom context, but Taczak and Robertson also focused on a student's ability to take a skill learned during one writing assignment and make use of it in the next—literally, that students will be able to intentionally pull these skills from their toolbox as they learn to recognize themselves as writers.¹⁶ This interpretation of transfer learning is important within the context of library instruction as students often experience a single session in the library for the entire semester's worth of research, and on some occasions course instructors assume that since a student has attended library instruction in a previous semester, they have no need for another session. The hope of reflective learning is that students will be able to more deeply connect the skills they're learning in library instruction with their own way of learning, discovering, and writing.

The authors of this study have used Taczak and Robertson's work as a model for exploring reflective pedagogy within the library instruction classroom. Further, more than simply an assessment measure, this study proposes that the use of reflection within the library instruction classroom can trigger a student's metacognitive awareness as they are explicitly asked to observe and articulate details of their own learning process.

Reflective pedagogy, much like information literacy, is interdisciplinary and can be used as a framework for teaching information literacy concepts. Reflection is not something students do intuitively; it is a practice that must be cultivated within the learning context, and care must

be taken to lead students through the practice so that they benefit from it. Knowing how and why students engage with reflection is an important part of curriculum design, and scholars have explored how to effectively implement reflection and interpret student learning. Mary Ryan advocates explicitly framing reflective activities so that students understand why and how to move through them.¹⁷ Robert Grossman cautions that teachers and researchers must learn to interpret student reflections because sometimes students will parrot what they think they should be writing rather than responding authentically to the prompt.¹⁸ Recognizing that students need to experiment and become comfortable with academic terminology is an important part of being able to interpret what they are trying to say within their reflective responses; the point is interpretation rather than critique.

Study Background and Methodology

This essay is the second report on a large, multiyear, Institutional Review Board (IRB) study that seeks to explore the application of reflective theory as pedagogy in the library instruction classroom and focuses on the impact of reflection in the one-shot session. The two researchers are seasoned instruction librarians who regularly work with first-year writing students as part of their instruction loads. As the researchers contemplated how to share findings in a pragmatic way that will have the highest value to fellow library instructors, it became clear that the focus should be on the one-shot learning context. The data for this study was collected over the course of the first two-semester of a six-semester IRB-approved study at the University of Alabama, an R1 research university. All instruction took place as course-embedded information literacy instruction that has been integrated into the first-year writing curriculum at the University of Alabama; sessions lasted an entire class period. All subjects of this study were enrolled in EN 102, the second course in a two-part sequence of first-year writing courses that are required as part of the core curriculum at the University of Alabama. The subjects participated in face-to-face library instruction as part of that course, which has an enrollment of twenty-two students per section.

As demonstrated below, not all students in each class agreed to participate in this study. The data used for analysis in this essay are a subset of the study's original dataset, which includes both one-shot sessions and multisession series of library instruction during the fall 2019 and spring 2020 semesters. The data isolated for this essay were taken from one-shot classes. Two classes with a total of eleven participants consented to participate in all 2019, and five classes with forty-four participants in spring 2020, bringing the total to fifty-five participants and seven classes for the full year. Participants for the study were identified through an electronic consent form that was circulated to all students in designated sections of EN 102. Students had the opportunity to opt out of participation in the study at any time, and only students who provided written consent were included in the dataset.

This study was designed to take place in EN 102 classes, and each section had different assignments, course themes, and student learning styles. Therefore, it was of vital importance that the learning materials and protocols were flexible and streamlined. Rather than prescribe specific instruments, this study provides a framework for designing assessments that gather student responses in a qualitative and emergent fashion, providing maximum flexibility when it comes to the lesson plan content and the activities chosen to engage students in learning. Instead of specific, stable instruments, library instructors used a set of formalized, programmatic information literacy learning outcomes to guide the topic of sessions and developed

questions that would elicit reflective student responses using Yancey's four reflective stances.¹⁹ Librarians worked to create an inclusive learning experience for all students, and the design of the study intentionally allows for students with different backgrounds and experiences to engage. Both researchers used a combination of electronic worksheets and short learning modules as part of their routine classroom practice. Learning modules were completed as homework in preparation for the session, and worksheets guided them through formative reflective exercises focused on the learning outcomes of the session. As students moved through different activities, the worksheet prompted them to observe and document their learning in progress. At the end of each session, each student submitted the worksheet they completed during class (worksheet examples can be found in appendix A). Some student submissions were not used in this study, as the authorship of work and individual consent for participation (e.g., large Post-it notes used for brainstorming in small groups) was difficult to identify. An end-of-semester reflective survey was sent to respondents during the final three weeks of the semester to assess recall and perception.

The design and wording of the worksheets were imperative to the study. In order to effectively observe student learning, the worksheets needed to be designed in a way that allowed students the space to authentically engage with each question and Yancey's reflective stances as they articulated their learning. Further, the structure of each worksheet was important because it allowed students to focus on the material they found most engaging and to progress through the instruction session content at their own pace. When electronic worksheets were used in the classroom, students were always given the option of working with a print worksheet instead, an acknowledgement of different abilities and learning preferences in the classroom.²⁰ Most students preferred the electronic worksheet. Responses on both the print and electronic worksheets tended to be about a paragraph long, although occasionally responses were much longer on the electronic worksheets.

Reflection was scaffolded throughout the entire instruction session. One or two key terms helped to situate the conceptual ideas within a lesson plan in an explicit way at the beginning of library instruction sessions. Because everything in a one-shot is truncated, readings were distilled into short passages or paragraphs that could be used to illustrate how students could use reflection to transfer what they learned during the session to their homework, their classwork, and even their everyday lives outside of school. The planning of activities that invited students to reflect and articulate as they moved through the work of research helped to make that work visible to them and to the library instructor (and course instructor), and helped them

FIGURE 1
Definitions of Themes Coded within this Study

<i>Looking Backward</i>	Recall previous knowledge
<i>Looking Forward</i>	Determine how to use knowledge in a new way
<i>Looking Inward</i>	Review the current situation
<i>Looking Outward</i>	Connect to a larger context
<i>Efficacy and Process</i>	Self-assessments and descriptions of workflow
<i>Connect to Specific Topics</i>	Drawing connections to course content and current research assignment
<i>Keyword Development</i>	Discussion surrounding keywords
<i>Transfer Skills to a Different Context</i>	Thinking beyond the assignment or class

identify where they were excelling and where they were struggling. Asking students to do a final reflection on their experience of research helped to underscore what they had learned during the session and invited them to articulate a plan for moving forward with their project.

Data analysis was conducted using an emergent methodology. Researchers loaded qualitative data (student-created artifacts generated in the classroom) into NVivo, created file and case classifications in order to code data with important descriptive and bibliographic information, and then used a text query to explore the language used by students during library sessions.²¹

Researchers started querying the data using pre-structured themes based on Yancey's four reflective stances (forward, backward, inward, outward). As the researchers reviewed each individual worksheet, several emergent themes began to appear that provided further context for the ways in which students were engaging reflectively: Transfer skills to a different context; Efficacy & process; Connect to specific topics; Keyword development. These emergent themes provided specific topics that students were gravitating toward when they were asked to reflect. Themes were clearly defined, and the researchers coded independently and then cross-examined each other's work to ensure intercoder reliability.

Findings and Discussion

When broken down by individual themes, the data tells a story of students on a journey of learning to understand how to engage with the research process and how to merge their existing knowledge with their new knowledge. It is important to acknowledge that the participants of this study are first-year college students who may or may not have ever explicitly practiced reflection as a learning method. This essay does not analyze response quality; the goal of these observations is to identify the ways in which students make their learning transparent (both to themselves and to the librarian).

As illustrated in figure 2, each file represents a single student artifact that potentially contains more than one reference because each artifact contains responses to more than one reflective question. This means each artifact may contain multiple references within the same

FIGURE 2
Screenshot of NVivo Table Showing Codes by Theme*

Name	Files	References
efficacy and process	30	71
looking inwards	19	28
connect to specific topic	18	24
keyword development	11	19
looking back	13	19
looking forward	10	17
transfer to a different context	7	8
looking outward	6	6

*"File" refers to the student-created artifact within the dataset, and "Reference" refers to the number of coded sections for each theme.

theme (i.e., answers to multiple questions that take the same reflective stance) or references to multiple themes (i.e., different stances in each response or even multiple stances within a single answer).

Themes in this section are presented in order of highest number of coding references to lowest number of references, revealing levels of engagement with each reflective stance. Student responses are excerpted, italicized, and depicted below in grey boxes in order to clearly demarcate them. Broadly, these references make visible that students are often aware of their weaknesses and strengths in researching.

Efficacy & Process

Responses coded for the theme of Efficacy and Process reflect self-assessment of skills acquired and reflect on the progress made during library instruction. In these responses, students talk about their confidence level and their general feelings about research, and about the steps they took during their searching. Researchers were most interested in finding evidence of metacognition and transparency in student responses, an awareness of process and progress of learning, or any tactical or strategic adjustments students could point to in their work.

- *The biggest takeaway that I received from it was having time to get all of my ideas together.*
- *I feel a lot more confident.*

A key takeaway from these student responses is that students build confidence in searching when they are able to perform their searches in this context. Beyond efficacy, students spoke in detail about their process, noting what they thought worked and what didn't work.

- *I found this by searching the title in the search bar and then clicking on the book. I checked it through the information provided by both this as well as the top left corner of the article once I clicked on it.*
- *In the search bar put what is inside the quotation marks and enter the search, then find the name of the same author and title as what was presented above.*
- *Using a specific date range for research will be able to narrow it down to things that are more relevant based on what was happening in the research world during that time.*
- *The most effective strategy I have used so far has just been limiting it to an article and having a specific keyword. I think it works to an extent and it sometimes only adds to the storm brewing inside of my brain. Combined with previous research, [EDS] is very helpful. Narrowing it all down is very difficult.*

The researchers were glad to see efficacy statements (“sometimes only adds to the storm brewing inside of my brain”) mixed in with descriptions of process, signaling that students were integrating the process details into their personal research experience. Some of the process descriptions noted specific search interface features (“the search bar,” “the top left corner of the article”), and some described more conceptual elements of searching (“using a specific date range,” “limiting to an article”).

Looking Inward

When students look inward, they identify what they know about where they are in the research process. Looking inward is a way for students to demonstrate metacognitive awareness of what they know and what they need to know. In the examples of student responses, some students connect their topics to their personal lives:

- *That worries me for my own future in the workforce.*

- *It is part of the field that I am pursuing.*

Some of the responses that were coded as looking inward assess personal needs for moving forward with the research, identifying specific skills and activities that students are aware of:

- *I may need help compiling facts and revising my topic.*
- *I'm not quite sure how to create a research question.*
- *I need most help finding the best articles for my topic.*

In many of these responses, students mimic the language they've heard or expect to hear ("the best," "the most effective"), which is typical for first-year students who are still acclimating to their new academic context. Mimicking the terms they are hearing in class and reading in assignments can potentially help students build personal frameworks for these concepts, and demonstrate that students are aware that such terms need to be negotiated within their writing.

Connect to Specific Topic

Responses coded as "connect to a specific topic" refer either to a student's current topic of research, or negotiations they were doing with their topic choice. Researchers wanted to see students connect the tasks of searching, evaluating, and keyword development to their specific topic rather than talk about it in the abstract.

- *The scope changed because I kinda changed topics and directions completely and am focusing on a new topic compared to what I wrote my last paper about but I really like the direction I'm currently heading with this topic.*
- *My topic is understanding what things affect college students' education. It also weighs what is good and bad about college and questions if students are getting enough out of college for what they are paying for. It is kind of a broad topic because it studies students while in college overall so I will have to narrow down to specifics.*

Responding to questions about the topic they're working on allows students to rearticulate their topic and get to know it better. Students talk about the difficulty they are having with scope or finding sources, granting them the opportunity to continue to evolve their thinking towards their topic.

Looking Backward

Student responses that were coded as "looking backward" made visible student perceptions about libraries, librarians, and research. The pedagogical intention of the researchers in asking questions that prompted students to look backward was to help them draw an intentional line from their high school experience to their college experience. The researchers wanted students to be explicitly aware that they were building on skills they have previously acquired, to develop an awareness of how the context has changed, and in what ways they would need to grow.

- *I very rarely visited the library in high school and it was not usually a part of any of my classes. I did not ever work with a librarian.*
- *The only time we used the library at my high school was to find a book. We were assigned certain topics to write about and couldn't pick our topic all the way up until our senior year.*
- *I wrote two research papers one junior year and one senior year. We used mostly articles online but one year they required us to use at least one book.*

In these responses, students recall their experiences in libraries and with performing researched writing. It's critical to note that their experiences with high school research are fairly limited,

and that their responses often reveal a disconnect between library spaces, library resources, and library (and librarian) services. What is not clear within these written responses, but was made clear in conversations with students, is that when students use databases and other electronic resources, they do not recognize that as “using the library,” and most of them did not understand how a librarian could help them. These findings will help the researchers make these concepts more explicit in their future teaching.

Keyword Development

In asking questions about keyword development, the researchers hoped to help students intentionally document their work, but more importantly, asking about keyword development was a way for the researchers to be more aware of where students were having trouble. Keyword development is an advanced skill that many first-year students struggle with, and so asking them to reflect on this process helps them recognize it as a skill and research strategy.

- *I used the keywords “zero-waste.”*
- *I believe the terms that will help me the most in researching this topic will be the “media bias,” “student loan debt,” and “policy and political agendas.”*

Responses to questions about keyword development demonstrated that students gravitate toward broad keywords and natural language (this is not a surprise to most librarians), and provided an opportunity for librarians to do more focused work on strategies for developing keywords during the session.

Looking Forward

Looking forward means making plans for your research. Asking students to document a plan is a classic metacognitive move which provides intentional space for students to think through the “what next” of their research.

- *I learned that there are good tools to help narrow my search instead of just aimlessly researching in Google and getting broad or not helpful articles.*
- *I still need to request and read the sources to decide if they are useful for my topic. I also need to obtain more sources and narrow my topic.*
- *I still need to know how to do in-text citations.*

When we asked students to look forward, they often created a task list and expressed awareness of the need for time management and quality assessment. Sometimes, they also mentioned skills they still felt they needed to learn. The researchers also noticed examples of looking forward in the end-of-class reflective prompts as students reflected on the library session as a whole. In this space, students discussed newly acquired research skills such as using limiters in database searching, the importance of keywords, various brainstorming methods, or the importance of considering scope when selecting a research topic and how these skills would be applicable in future research assignments.

Transfer to a Different Context

The responses coded for explicit discussion of transfer learning were the second lowest category of codes in this study. Students struggled to talk explicitly about transferring skills and concepts to different contexts (either a future assignment in their class or an assignment in another class, or even in a nebulous future context outside of school). Responses coded at

this theme explicitly demonstrate transfer of some kind, and although there are only a few responses, they provided a great opportunity for the researchers to learn more about transfer in the library instruction one-shot.

- *The biggest take-away that I have learned from the library workday is how to use [EDS] effectively using keywords, limiters, and the advance search. This will help me with my research so I can narrow down the amount of articles I have to look through to find sufficient evidence. Additionally, it will help me find evidence that is more detailed towards my topic.*
- *I am also very interested in psychology and what makes a person a person, so i want to touch on that in my essay and give a brief summary of dopamine as well as the identity process, which we are learning about in both my juvenile delinquency class as well as my psychology class.*

One student talked about how the skills learned during library instruction would help in “future research,” while another did make the connection to other classes (“we are learning about in both my juvenile delinquency class as well as my psychology class”).

Looking Outward

A much lower number of respondents engaged in the reflective stance of looking outward. Looking outward contextualizes new skill acquisition for future research assignments. In other words, students were quite ready to talk about what they found new in library instruction sessions, but they struggled when asked to describe how they would apply that new thing to a different context. Looking outward is another way for teachers to prompt students to engage in transfer learning. Asking questions about looking outward provides a bridge for students to move their skills into new territory. Even if students struggle to reflect in this way, the framing of the question can possibly prompt future connections.

- *I like the idea of making a chart to organize what my important topics are and then be able to narrow them down so that my paper is on something more specific.*
- *There was a lot of information about my topic and the different places that education is a struggle or not as enforced as it should be.*

The ability to look outward is key to achieving transfer learning, and a lack of engagement with this stance does indicate that students may be uncomfortable or unfamiliar with this way of thinking. Of the four stances, looking outward is perhaps the most difficult for even experienced scholars.

Future Opportunities for Reflective Pedagogy

There are many possible directions for future work demonstrating the influence reflection has on student learning within the library instruction classroom. As data from this study was being analyzed, the one-shot library classroom moved fully online due to the COVID-19 pandemic. Further research is needed regarding reflection and transfer learning in the online learning environment. There is significant value to exploring reflective pedagogy in synchronous, asynchronous, and hybrid learning environments. Similarly, as the flipped classroom model becomes a more common component of the one-shot session, there are opportunities to investigate how this additional time can support more student engagement with Yancey’s reflective stances. Due to the one-shot context of this study, one of the most challenging components was depicting transfer learning from current to future settings. However, employing reflective pedagogy in classes that meet multiple times throughout a semester, librarians can more closely observe

student learning as students transfer skills from one library session to the next. Further, in these multisession classes, students will have more time to engage with Yancey's reflective stances of looking forward and outward in order to demonstrate more specific instances of transfer learning.

Conclusion

The library instruction one-shot poses many challenges to student learning and engagement, including students' ability to demonstrate transfer learning. What potential, then, is there for transfer learning to take place in this type of learning environment? Evidence from this study shows that first-year writing students most often draw from previous learning experiences to situate themselves in the library classroom. The connections they articulate from previous research and writing experiences to the current library instruction learning environment show that some type of transfer learning is happening. Rather than demonstrating the transfer of learning from a current setting to future setting, we witness students transfer knowledge from previous experiences to the current setting.

This study used reflection as a generative activity to explore student engagement with transfer learning. Analysis of student responses demonstrates that scaffolding reflection throughout the one-shot session can guide students through in-class activities and at the same time introduce the various ways reflection can be used as a learning strategy. Further, the structure of the worksheets can include each of Yancey's reflective stances without overwhelming students with content. Creating an opportunity for students to engage with all four reflective stances allows them to engage with reflective strategies that resonate with them, empowering students to take a more active role in exploring their learning process.

Worksheets produced in one-shot library sessions using reflective pedagogy demonstrate not only how students use reflection to engage with metacognition but also when and how students use reflection to transfer knowledge and skills from one context to another. Additionally, these classroom artifacts offer both students and librarians insight into the learning process that students experience within the one-shot session. Evidence shows students beginning to conceptualize application of new skills when describing research strategies learned in the one-shot session (i.e., brainstorming, mind mapping, keywords, strategic searching, and methods of organization). While student worksheets generated in the one-shot classroom rarely depict a direct transfer of skills from the current information context to a future one, we can see students working through the beginning phases of transfer learning as they articulate an understanding of their own learning and research process.

In summary, when reflection is embedded within the one-shot library classroom curriculum, librarians can provide students with multiple opportunities to engage with their learning process. When reflection is scaffolded throughout the session, students can engage with Yancey's four reflective stances as they are asked to look backward, inward, forward, and outward when learning something new. Through this process, students begin to develop metacognitive awareness and a skillset that will help them transfer new research skills from one context to another.

Appendix A: Worksheet Examples

Introduction to Library Searching

Remembering Your Past Experience

What kind of library experience did you have in high school? Did you work with a librarian (either in a group setting or one-on-one)? What kinds of papers did you write in high school and what kinds of sources did you use?

Restating Your Topic

In 2–3 sentences, state as specifically as you can what your topic is. [Try to use W questions](#) to drill down to specifics that you can address. You are also welcome to create a graphic using the Draw tool in Google Documents.

Searching For Sources

Spend some time in Scout and answer the following questions:

1. Where have you found this item? Can you see what database it's in? What keywords did you use?
2. What is the "metadata" for this item? Does it have a title? Can you tell anything about the article from this information?
3. Why are you interested in this item? What do you find appealing about it?

End of Class Reflection

What information did you gather about your topic? What is the biggest takeaway from this library workday? What do you still need to know before you can complete your assignment?

Introduction to Research – Finding Materials in the Library

Free Write

Spend a few minutes writing about what you will be researching today. What information are you hoping to find? Are there specific types of resources you're looking for?

Searching for Sources

Source 1:

1. What is the title of the source?
2. Who published this source (name of magazine, newspaper, journal)?
3. What search strategies did you use to locate this source? (Search strategies could be your keywords, any limiters/filters you used, or any way you located the resource.)
4. Briefly summarize what this source is about.

Source 2:

1. What is the title of the source?
2. Who published this source (name of magazine, newspaper, journal)?
3. What search strategies did you use to locate this source? (Search strategies could be your keywords, any limiters/filters you used, or any way you located the resource.)
4. Briefly summarize what this source is about.

End of Class Reflection

1. What information did you gather about your topic?

2. Were there any specific search strategies you found most helpful?
3. What do you still need to know before you can complete your research?
4. What is your biggest take-away from this library day?

Notes

1. Mandy Lupton, "The Getting of Wisdom: Reflections of a Teaching Librarian," *Australian Academic & Research Libraries* 33, no. 2 (2002): 75–85. <https://doi.org/10.1080/00048623.2002.10755184>; Scott Walter, "Librarians as Teachers: A Qualitative Inquiry into Professional Identity," *College & Research Libraries* 69, no. 2 (2008): 51–71. <https://doi.org/10.5860/crl.69.1.51>.
2. Shevaun E. Watson, C. Rex, J. Markgraf, H. Kishel, E. Jennings, and K. Hinnant, "Revising the 'One-Shot' through Lesson Study: Collaborating with Writing Faculty to Rebuild a Library Instruction Session," *College and Research Libraries* 75, no. 4 (2013): 381–98. <https://doi.org/10.5860/crl12-255>; Kevin W. Walker and Michael Pearce, "Student Engagement in One-Shot Library Instruction," *The Journal of Academic Librarianship* 40, no. 3 (2014): 281–90. <https://doi.org/10.1016/j.acalib.2014.04.004>; Rui Wang, "Assessment for One-Shot Library Instruction: A Conceptual Approach," *Portal: Libraries and the Academy* 16, no. 3 (2016): 619–48. <https://doi.org/10.1353/pla.2016.0042>.
3. Our previous essay includes a more comprehensive examination of reflection in the library instruction classroom; for the purpose of space in this essay, we have chosen to focus on the one-shot. Sara Maurice Whitver and Karleigh Knorr Riesen, "Reiterative Reflection in the Library Instruction Classroom," *Reference Services Review* 47, no. 3 (2019): 269–79. <https://doi.org/10.1108/RSR-04-2019-0023>.
4. Char Booth, *Reflective Teaching, Effective Learning: Instructional Literacy for Library Educators* (Chicago, IL: American Library Association, 2011).
5. *Ibid.*, p. 22
6. Karen Bordonaro and Gillian Richardson, "Scaffolding and Reflection in Course-Integrated Library Instruction," *The Journal of Academic Librarianship* 30, no. 5 (2004): 391–401.
7. *Ibid.*
8. Donald L. Gilstrap and Jason Dupree, "Assessing Learning, Critical Reflection, and Quality Educational Outcomes: The Critical Incident Questionnaire," *College and Research Libraries* 69, no. 5 (2008): 407–26. <https://crl.acrl.org/index.php/crl/article/view/15956>.
9. Trudi E. Jacobson and Thomas P. Mackey, *Metaliteracy in Practice* (Chicago, IL: American Library Association, 2017).
10. Donna Witek and Teresa Grettano, "Teaching Metaliteracy: A New Paradigm in Action," *Reference Services Review* 42, no. 2 (2014): 188–208. <https://doi.org/10.1108/RSR-07-2013-0035>.
11. Rebecca Kuglitsch and Lindsay Roberts, "Scholarship of Teaching and Learning and Transfer of Information Literacy Skills," in *The Grounded Instruction Librarian: Participating in the Scholarship of Teaching and Learning* (Chicago, IL: Association of College & Research Libraries, 2019), 38.
12. Kathleen Blake Yancey, *Reflection in the Writing Classroom* (Logan, UT: Utah State University Press, 1998), 4.
13. Kara Tackzak and Liane Robertson, "Reiterative Reflection in the Twenty-First Century Writing Classroom," in *A Rhetoric of Reflection*, edited by Kathleen Blake Yancey, 42–63. (Logan, UT: Utah State University Press, 2016), 46.
14. Kathleen Blake Yancey, Liane Robertson, and Kara Tackzak, *Writing across Contexts: Transfer, Composition, and Sites of Writing* (Logan, UT: Utah State University Press, 2014).
15. Tackzak and Robertson, "Reiterative Reflection in the Twenty-First Century Writing Classroom."
16. *Ibid.*
17. Mary Ryan, "The Pedagogical Balancing Act: Teaching Reflection in Higher Education," *Teaching in Higher Education* 18, no. 2 (2013): 144–55. <https://doi.org/10.1080/13562517.2012.694104>.
18. Robert Grossman, "Structures for Facilitating Student Reflection," *College Teaching* 57, no. 1 (2009): 15–22. <http://dx.doi.org/10.3200/CTCH.57.1.15-22>
19. Yancey defines these reflective stances in great detail in her book *Reflection in the Writing Classroom*, but Tackzak and Robertson give a succinct summary of them in their chapter "Reiterative Reflection in the Twenty-first Century Writing Classroom," in *A Rhetoric of Reflection*, 42. We are noting both because these stances are such an integral part of our project.
20. Reflection is not automatically an inclusive practice; teachers must bring inclusion into the equation through mindfully educating themselves about the barriers their students might encounter. Students will respond to reflection in different ways depending on ability, identity, and background. There are a few important

resources available to anyone who is interested in reading more: Tone Sævi, "Seeing Disability Pedagogically: The Lived Experience of Disability in the Pedagogical Encounter." [Dissertation], University of Bergen, 2005; Asao B. Inoue and Tyler Richmond, "Theorizing the Reflection Practices of Female Hmong College Students: Is Reflection a Racialized Discourse?" in *A Rhetoric of Reflection*, edited by Kathleen Black Yancey (Logan, UT: Utah State University Press, 2016): 125–48.

21. NVivo is a qualitative research software package that allows researchers to upload a variety of file types and attached descriptive, bibliographic, and thematic tags to specific data points for the purpose of deep qualitative analysis.