Student Archival Research Activity: An Exploratory Study

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A b s t r a c t

This paper explores archival instruction at the Bentley Historical Library and students' archival research activities over one semester. It examines the roles of the class instructor and reference archivist in instructing students in critical and contextual thinking in the archival research setting. The paper also investigates the specific needs of students in an archival setting, the skills they require, and their responses to archival research. The findings suggest methods class instructors and reference archivists can use to improve archival research classes to serve the needs of students. A suggested model of archival and student research activities depicts visually the process of student archival research activities, incorporating the forms of knowledge and skills that students need at different stages of the research process, as well as archivists' roles in these stages.

I n t r o d u c t i o n

Each semester, the Bentley Historical Library (BHL) at the University of Michigan provides ten to fifteen class orientations to undergraduate students. These students come from a variety of departments and schools, and their instructors require or encourage the students to use archival materials for their research projects. For most students, this is their first archival experience. During the semester, students develop archival research skills under the instruction and guidance of their professors and reference archivists.

For many university archives and manuscript repositories, as well as for other historical collections near college campuses, students are a major research constituency, visiting archives for research projects, term papers, or dissertations.[1] Their initial experience, however, may influence their motivation for

[1] Mary Jo Pugh, *Providing Reference Services for Archives and Manuscripts,* Archival Fundamentals Series (Chicago: The Society of American Archivists, 2005), 50.

future archival research. For many students, the first visit to an archives includes an archival orientation presented by a reference archivist. The class instructor arranges this visit in advance. Students then pursue archival research and interact further with reference archivists.

The case study presented in this paper follows one class in modern American history. It examines the students' needs, their research process, and the educational roles reference archivists play in helping students identify, select, understand, and use historical documents. The study identifies factors that affect students' archival research activities, such as the instructor's personal experience with archival materials, the strategy and design of the class, archival orientation, and interaction with reference archivists. This paper further explores and addresses how a university archives serves its students and how the instructor and reference archivist play their roles at each stage of the student's research.

L i t e r a t u r e   R e v i e w

Mary Jo Pugh notes that working with students is similar to working with other unskilled archival researchers but warns that students may be overwhelmed by research in archives if their research experience is not well structured.[2] Compared to other researchers, however, students usually have special needs for research projects or term papers for classes, because the research pace must match a predetermined class schedule, class themes constrain the choice of topic, or the instructor may set the deadline for each research step. Students may have time conflicts with other classes and activities that limit their time in the archives. The number of students may pose difficulties for archival repositories because most students conduct their research for particular classes, and archivists must customize the orientation and sample materials to meet the basic needs of each individual class.

To understand students or novice users of archives, it is useful to examine the characteristics of experts. Elizabeth Yakel and Deborah Torres[3] assert that "three distinct forms of knowledge are needed to work effectively with primary sources," which consist of domain (subject) knowledge, artifactual literacy, and archival intelligence. Domain knowledge is an understanding of the topic being researched, and artifactual literacy is the ability to interpret records and assess their value as evidence. Archival intelligence is a researcher's knowledge of archival principles, practices, and procedures; strategies for reducing uncertainty

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[2] Pugh, *Providing Reference Services,* 52–53.

[3] Elizabeth Yakel and Deborah Torres, "AI: Archival Intelligence and User Expertise," *American Archivist* 66 (Spring/Summer 2003): 52.

and ambiguity during archival research; and intellective skills, which are the abilities to understand primary sources, their surrogates, activities, and associated processes.

Most undergraduate students rely first on an instructor's lectures in the classroom and textbooks to obtain subject knowledge. Archivists, however, play an important role in helping students achieve archival intelligence. Students may learn archival theory in the classroom, but learning practices, strategies, and skills requires students to spend time in an archives. Marcus Robyns points out, "students get a range of instruction from their professors but when encountering original documents for the first time, they are rarely fully prepared."[4] His research at Northern Michigan University is an example of teaching the application of critical thinking skills in the analysis and interpretation of primary sources. He argues that archivists must join with faculty as partners in building the foundation that supports the growth of "independent learners."

An average of about 37 percent of users of university archives are undergraduates,[5] but only a handful of research studies exists on archival instruction for undergraduate students. Anna Allison[6] presents the format and content of archival instruction in undergraduate classes as provided by eight-five survey respondents from U.S. university archives. Her study also addresses the instructional services accessible to undergraduates and the impact of undergraduate use on primary resources. Greg Johnson[7] addresses issues of "archival anxiety" when undergraduate students initially interact with archival materials. He suggests several methods that archivists can use to help educate undergraduate students on the value of primary sources and how to use them.

Methodology

This case study investigates how undergraduate students develop their archival knowledge and research skills, how this development is embedded in the different stages of any research project, and what roles the instructor

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[4] Marcus C. Robyns, "The Archivist as Educator: Integrating Critical Thinking Skills into Historical Research Methods Instruction," *American Archivist* 64 (Fall/Winter 2001): 370.

[5] Anna Elise Allison, "Connecting Undergraduates with Primary Sources: A Study of Undergraduate Instruction in Archives, Manuscripts, and Special Collections," master's thesis, University of North Carolina-Chapel Hill, available at http://hdl.handle.net/1901/158, accessed 6 May 2008. See also in this issue, Wendy M. Duff and Joan M. Cherry, "Archival Orientation for Undergraduate Students: An Exploratory Study of Impact," *American Archivist* 71 (Fall/Winter 2008): 499–529.

[6] Allison, "Connecting Undergraduates with Primary Sources."

[7] Greg Johnson, "Introducing Undergraduate Students to Archives and Special Collections," *College and Undergraduate Libraries* 13, no. 2 (2006): 91–100.

of the class and reference archivists assume throughout a semester. It explores the research experience of one undergraduate class devoted to the history of the United States in the 1960s in the Department of History at the University of Michigan. Ten of the eleven students in this class had not previously used primary sources. The instructor took her class to both the Bentley Historical Library and the Labadie Collection of Social Protest Material in the Special Collections Library and required her students to write a term paper based on research in the primary sources in one of these two archives.[8] During the course of this case study, I observed six hours of interactions at the Bentley History Library during the students' orientation and discussions in the classroom and interviewed four students, the instructor who taught this class, and the reference archivist responsible for supporting this class (ten hours). The student interviewees were recruited through a public email to the class.

The interview protocol used a semistructured design. Appendixes A, B, and C respectively list the interview questions for the reference archivist, instructor, and students. I asked all students the same core set of questions, but I also asked each student other questions to elucidate individual statements. The protocols for interviewing the professor and reference archivist focused on their overall objectives, strategies employed, and methods for measuring success.

The field observations in the archives focused on the orientation process and students' research activities in the public reading room after the orientation, including their use of computerized and analog access tools, the questions they asked of archival personnel, and their use of actual archival materials. Observing regular classroom discussions provided additional information about how students viewed and understood archival materials. This type of participant observation puts the author as researcher where the action is and allows him or her to collect data not only from what interviewees say but also from seeing what really happens and how.[9] Interviewing as a research method has its limitations. Sometimes interviewees tell researchers how things ought to be instead of how things are in reality. Also, because only four students were willing to be formally interviewed in this study, my observations and interactions with other students on-site provided general insights into student research activities. All data for analysis came from the interviews and observations.

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[8] The Bentley Historical Library houses the Michigan Historical Collections, which document the history of the state of Michigan and the activities of its people and organizations, and the university archives. See http://bentley.umich.edu/ and http://www.lib.umich.edu/spec-coll/labadie/, both accessed 6 May 2008.

[9] H. Russell Bernard, *Social Research Methods: Qualitative and Quantitative Approaches* (Thousand Oaks, Calif.: Sage Publications, Inc., 2000), 317–70.

Findings/Discussion

I structured the findings according to the significant issues that emerged as factors influencing the effectiveness of archival instruction, which include

- receiving the research assignment and preparation;
- archival orientation;
- general topic exploration and determination;
- focused topic exploration and determination;
- information collection; and
- writing.

These factors mirror those identified by Carol Kuhlthau in her well-cited study of high school students in the library search process, which suggests a six-stage model to describe students' search process: 1) task initiation, 2) selecting topic, 3) exploring information on the general topic, 4) focus formation, 5) collecting information on the focus, and 6) writing up results. The findings also reflect the forms of archival knowledge identified by Yakel and Torres.[10] (See Figure 1.)

In the following sections, I discuss each issue in relation to the process of the students' archival research activities. I also discuss how students developed their archival searching skills and research strategy.
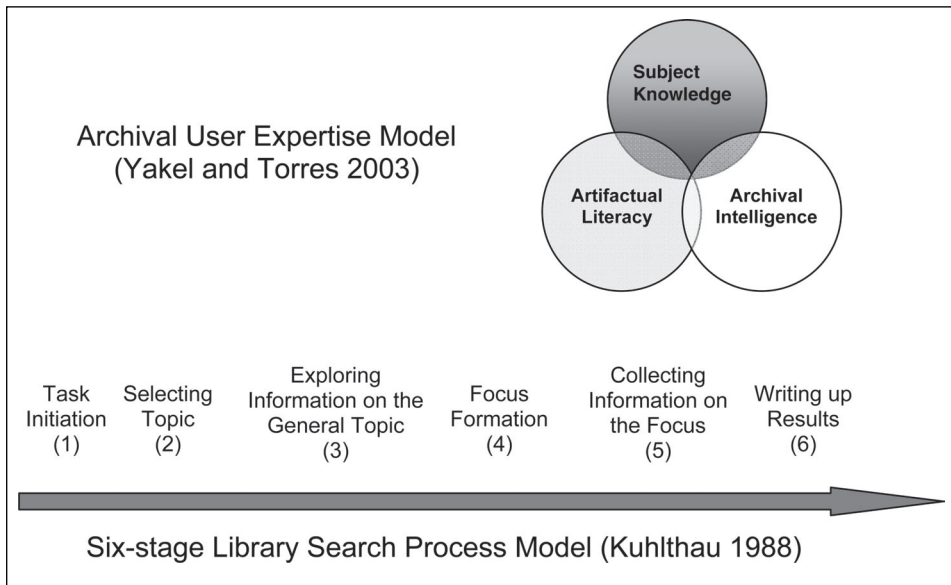
FIGURE 1.

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[10] Carol Kuhlthau, "Developing a Model of the Library Search Process: Cognitive and Affective Aspects," *Reference Quarterly* 28, no.2 (1988): 232–42; Yakel and Torres, "AI: Archival Intelligence and User Expertise."

Research Assignment and Preparation

At the beginning of the semester, the instructor gave the students the *research assignment*[11] and *research preparation* was identified as the first stage of the student research process. When the instructor announced her requirement for the term research paper, she framed it so the topic and research questions would come from what the students saw in the primary sources. She described her expectation as follows:

> I was hoping that from an immersion in an archive, they would think of a question they want to ask of these sources, and they would explore that question through the source materials. So instead of doing traditional papers, where they go to the library, and they find a bunch of secondary survey texts of social movements, and then they would turn in a paper more like a giant book report, instead, I want them actually to do primary research, and I want them act like historians in an archive. Instructor, 12 March

The students' expectations for this class varied; each had selected it for different reasons or purposes. From the class description, the students knew they would learn about American social movements in the 1960s. They were also aware that they were required to complete a research paper based on primary sources. Using primary sources proved to be a big challenge for the majority of the students in this class. Student 1 said:

> It would be very interesting, and probably a lot more helpful than a lot of the research I have done before because it is primary resource, . . .it will probably give you a lot more insight I think than just books [those] regular secondary sources. I think I have a good expectation for it and I think I will get a lot out of it. Student 1, 26 March

Student 3 explained that he had to take this class because it was a requirement for history majors, but he did not have any particular expectations about it. He reported that his strategy for doing archival research was to decide on a topic based on the online archival resources so that he did not have to physically visit the archives. The variation in student expectations suggests that both instructors and reference archivists cannot simply assume that all students are reacting positively to archival materials. Instructors and reference archivists need a strategy to develop students' interest in archival research and to cultivate the relevant skills.

Students prepared to do research by reading works on archival principles and practice and brainstorming about potential term paper topics. At this stage,

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[11] Italicized words or phrases are the main elements in the sequential research process. The author develops a model from this research and compares it to the models of Yakel and Torres and Kuhlthau in the summary section of this paper.

the students' level of real archival research experience was low even though several were seniors majoring in history. How and what did the students do to prepare for research? While they were taking the class to gain subject knowledge, they started brainstorming on possible research topics. The interviews with students 2 and 3 show that some students did not realize that the best way to keep up with the class and the research project was to prepare some general ideas on a research topic *before* the archival orientation, so they could start to explore this general topic right after the orientation. The orientation itself gave students two hours' practice (experience) exploring the archives, with both the instructor and reference archivist at their sides. In these two hours, student 2 felt completely lost and did not know what she was doing because she did not have any thoughts about the topic of her research assignment. As a result, she spent these two hours doing nothing related to her research topic, which she determined several weeks later. During the interview, she reported that the orientation seemed too early in the class:

> I just wish we would have more class time to talk about some of the issues and focus on some activists during that period before we had the orientation, because it was like you were supposed to be looking for information, but information on what? Student 2, 2 April

This finding suggests that instructors play a critical role helping students prepare for the orientation. To present students with a broader view of their research, instructors may need to encourage and push students, *early* in the semester, to think more about their research. Instructors might also consider introducing all of the topics that will be covered during the semester, in addition to related topics, so students see the array of choices and have a better sense of how to identify their research topics. Instructors also need to know which archival holdings are related to the class and to work with reference archivists to design an orientation that complements classroom instruction and the students' existing knowledge.

A r c h i v a l   O r i e n t a t i o n

Archival orientation is the turning point at which students first visit the archives and start to interact with actual primary sources. Turning points mark those "milestone" moments or activities when the student researchers start, when they pass from one stage to the next, and when they arrive at the end of the research process. To ensure a good first archival experience, the instructor and the reference archivist tailored the orientation to the class. For a standard orientation, the BHL uses a set selection of materials. In this case, the instructor wanted to make sure that the collections used in the orientation were examples relevant to the focus of the class, namely American social movements

during the 1960s. The instructor consulted the online finding aids, physically visited the BHL, and developed a list of the collections for use in the orientation. She also created a list of collections that the students might choose for their research papers. The archivist affirmed the need for customization, "[if] I just pull out things that are not related to their topic, oh, it is the real thing, but it would not give them [students] much excitement." After the orientation, one student, who was the first to determine her research topic and made faster progress than her classmates, attributed her success to the list that the instructor created to help students determine their topics quickly.

For most classes at the BHL, a one-hour orientation is the only time the reference archivists systematically introduce basic archival knowledge, specific holdings of the archives, and archival search skills. For this class, the orientation introduced the history of the BHL, its holdings, and the archival concept of provenance; differentiated primary sources and secondary sources; interpreted handwritten letters; and demonstrated search strategies in the university's Integrated Library System (ILS) and Encoded Archival Descriptions (EAD) database. The reference archivist said, "I call them tricks, because they are tricky. They are techniques using Mirlyn [the university's ILS][12] and EAD." After that, the students did some hands-on exercises, reading copies of a handwritten letter selected by the reference archivist and instructor and trying to recognize words and interpret their meaning. They also had a chance to look at other materials from relevant collections.

Although both the instructor and the students were satisfied with the orientation and said it was helpful, the interviews indicate that the reference archivist, the instructor, and students understood its content, form, and effectiveness differently. For instance, the reference archivist focused on talking about primary versus secondary sources as one of the most important themes, but one student said:

> [the archivist] talked something I already knew. She went through a lot of details describing the difference between primary and secondary sources that I kind of already knew. I don't think I really need to hear that much detail of that. Student 1, 26 March

Asked whether all of her classmates would feel the same way she did, she added that "most of the people in the class are history majors. So they would have some sense of difference." The interviews with the other three student interviewees confirm this.

The instructor and most of the students observed that the teaching of basic archival skills was the most important feature of the orientation. Three of four student interviewees explained that the most important skill was to learn how to

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[12] Mirlyn is the library catalog system of the University of Michigan.

use the online finding aids to search the detailed descriptions of archival collections. Student 1 also thought that the understanding of archival materials arranged "in certain order for certain reasons" was very important because that helped users access the right point to start their research. However, student 3 thought the specific rules of accessing archival materials, such as wearing gloves and archival opening hours, were the most important part of the orientation. He said, "those things we have to know" and the other questions they could ask later on. The instructor summarized that

> the orientation is much more complex than I might think at the first, because it's easy to overwhelm undergraduates with a lot of the details of what is the archive about and what's the Bentley about specifically. And it seems that the straight things that the students need are what is the archive and then specifically about the Bentley, and then what do I do with the archive. Instructor, 12 March

The reference archivist played the leading role in interacting intensively with the students during the orientation, offering them two forms of knowledge— artifactual literacy and archival intelligence.[13] Instead of giving a formal presentation of archival instruction, she demonstrated by example, presenting the students with real boxes of collections and her on-the-spot interpretation of them, teaching students online searching skills through a computer demonstration, and getting students to participate in the handling, reading, and interpreting of original materials. Both the instructor and students responded positively to this part of her orientation. They also recognized that the reference archivist was encouraging the students to think critically and to be aware of context as they read original records during the exercise, and thus to develop their ability to interpret primary materials and assess their value. Still, the exercises were problematic, as the instructor observed:

> I wonder if there is some way integrated into the orientation, some kind of hands-on exercises where they have to do something, for example, do something with the finding aids. . . . because I think if people are told to do something and then actually do it, they learn that in a deeper way than if they are only told to do something. And I think the finding aids might be the hardest challenge for the students. Instructor, 12 March

Student 4 thought "the orientation was great," but also suggested, "just slow down, maybe only do one thing at a time. They showed you a lot of different ways of finding things that was a little confusing."

Evaluating the success of an orientation is difficult. The reference archivist reported that student performance after the orientation signaled whether the

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[13] Yakel and Torres, "AI," 51–78.

orientation or a specific part of it was successful: "how comfortable are they in the reading room and doing research on their topic. If they seemed to know what they were doing. . .go to Mirlyn, to the on-line finding aids, fill in the call slip." These kinds of details told the reference archivist whether students "got it." If students later asked the reference archivist a lot of "what if or how" questions, that indicates to her that she "missed the boat." Similarly, the instructor also evaluated the orientation based on further observation of students leaving the orientation. She noticed that her students were "really unsure about actual action to take next." This might indicate that the students did not get the basic steps in the orientation.

Evaluating archival instruction by observing the students' performance right after the orientation is direct but superficial and only gets part of the story. The findings suggest that the design of an orientation is very important because reference archivists need to transfer different forms of knowledge and skills to students in a very limited time. In this case study, students started to develop the ability to interpret the archival records and gain knowledge of archival theory and skills during this central activity. In preparing students for the general topic exploration and topic selection stages, the orientation is a critical turning point. Instructors need to interact more with archivists in assessing the students' background knowledge and in refining the content of the orientation to avoid repeating what the students already know. As Pugh notes, for reference archivists, many of the problems students encounter can be better resolved by cooperating directly with their instructors.[14] Archivists should be more aware that they are real instructors in the orientation, and they should take the responsibility both for transferring basic archival searching skills and for encouraging students to develop critical and contextual thinking skills. Since primary sources may be subjective interpretations of an individual's observation of an event or activity, both the instructor and archivist are responsible for training students to approach the primary source with a positive skepticism, thinking critically and contextually during the early stage of their direct engagement with archival materials. Instructors and archivists also need to think more about the content and format of the orientation based on the disciplinary and experiential backgrounds of the students. Students need to be better prepared with their research topics before attending an archival orientation in order to hit the ground running. With practice, students may gradually become capable of selecting evidence and formulating arguments for their research papers without further help.

General Topic Exploration

Table 1 shows the requirements for the students' research papers.

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[14] Pugh, *Providing Reference Services,* 54.

Table 1. Requirements for the Research Paper

Week 3	Archive orientation
Week 6	Report on experience in the archives
Week 11	Research paper proposal
Week 12	Detailed description of primary sources
Week 13	Research paper outline
Week 14	Final research paper

The time-line gave students more time for the general topic exploration stage (between weeks 3 and 11) compared to other stages. During *general topic exploration*, the next stage after the archival orientation, students move to dealing directly with their research topics. For the students in this study, the first, and hardest, challenge during the research process was deciding on a research topic. The instructor required them to start thinking about a topic and questions as they first examined primary sources. The students, however, felt uncertain about how to do this as they were used to starting with secondary sources. Using primary sources proved to be a big challenge to a majority of the students, who were told to consult secondary sources after they had determined their research topic. Some students became confused about why they had to start with primary sources. The instructor explained her reasoning:

> Many undergraduates think that a research paper means summarizing what other people have to say about the topic, and that kind of research is so unsatisfying and leaves students feeling like they are not challenged. I want them to have something that is truly original. . . . I want them to come up with some of their own ideas and questions before they get caught up in existing research. Then the secondary literature can support their research instead of the other way around. Instructor, 12 March

Carol Kuhlthau's study of the library search process identifies students' feelings at this stage of the research process as "uncertainty and apprehension."[15] This characterization applies to the students in this study. Two students described their feelings about this period:

> Yeah, I was definitely unsure whether I might be able to do it. It's kind of intimidating that I am new to it. Student 1, 26 March

> I am always unsure what I am going to find. Like if I expected to see something, whether or not I might be able to find it. Student 2, 2 April

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[15] Carol Kuhlthau concludes that the search process in libraries involves a complex combination of thoughts, actions, and feelings. She observes that students express different feelings along each stage of the search process, such as uncertainty, apprehension, confusion, optimism, and confidence. See Kuhlthau, "Developing a Model of the Library Search Process," 232–42.

Observing the students after their first two visits to the archives following the orientation revealed that several students requested at least three different collections within an hour and a half. At the same time, they used both computer- and paper-based finding aids to search for new collections. Searching for, identifying, and selecting primary sources were less precise and more intensive than the students imagined. Students needed to explore archival collections at a more general level just to find those that pertained to their topics. During this period, the students started to build their ability to interpret records, understand archival concepts, and gain search skills.

The instructor played the main role in helping students understand domain knowledge during the semester. To facilitate students' general topic exploration, the instructor spent time and effort to become familiar with the BHL and Labadie holdings before the orientation. She provided her students with a list of topics in which they might be interested. Some students benefited from this list, and they moved faster than others in determining a focus for their topics of exploration. However, providing students with a prepared list of potential collections at the very beginning of their exploration had a disadvantage, because in this period the emphasis should be on the students developing their *own* archival search strategies and skills. Some students were not interested in any topic on the list, so they had to start from scratch. This might be a good experience. For instance, student 2 reported that as she did not find a topic of interest on that list, she had to think harder and talk more with her professor. At the same time, she spent more time exploring and searching both online and at the BHL. Eventually, she was happy with the topic she selected because she would not have thought of it at the beginning. She considered being able to locate an interesting topic *on her own* her biggest achievement in archival research during the semester. One might infer that this experience will help her become more confident in doing archival research in the future.

To discover an interesting collection, students needed to know how to pursue discovery using archival descriptive tools, how to develop a strategy to narrow down a broad topic, and how to refine searching skills. During the selection of materials, they also needed to learn to interpret the original records. This process indeed involves the two forms of knowledge and skills—archival intelligence and artifactual literacy—that Yakel and Torres identify in their archival user expertise model.

The reference archivist supported the students as they explored the archival materials on-site. Individual interactions between each student and the reference archivist also started at this stage. Usually, students had very general questions for the reference archivist, such as "Do you have X's collection?" or "Why can't I find this collection?" The reference archivist also reported that to give the students direction she asked them questions, such as, "What kind of story do you want to tell?" or "What is the question you want to answer?" She

suggested some collections to the students by saying, "See if something jumps out at you." This senior reference archivist told me that she also urges other reference archivists, including graduate student archivists who work on the reference desk, to proactively help undergraduates with their archival research at the BHL.

In this case study, when I asked one student how she saw the role of the reference archivist in her research process, she said:

> I think it will be very helpful if they, reference archivist, when they suggest different things for you to look at. . . .That would be very helpful because they know the archive and they know what they have. So it's very helpful when they recommend things. Because sometimes you can feel you are lost or overwhelmed if you do not have help. So I think they play a very big role in that sense. Student 1, 26 March

Interviews with student 2 also indicated that talking with reference archivists for suggestions and advice on specific archival holdings of the BHL and search skills was very helpful. She reported being amazed by how much one senior reference archivist knew about the archival holdings, noting that when the student mentioned a collection in which she might research, the archivist immediately told her that it contained some other interesting and pertinent materials.

The instructor agreed about the role of the reference archivist during this period, stating very explicitly:

> I think the students really benefit from further conversation with people like [the reference archivist] on their specific topic. . . . It would be actually very good for them to have more discussion with [the reference archivist] and her colleagues about how to fully explore the topic because time is so limited. They cannot just by accident come across the correct collection. They will really benefit from someone saying, "Oh, you are talking something about ERA, you should look up XYZ collections." Instructor, 12 March

However, the observations and interview findings show that while some students asked reference archivists for suggestions on research topics, others turned to the instructor. According to student 1, she preferred to consult the instructor if she had a problem exploring the general topic, although at the same time she reported that talking with reference archivists at this stage might be very helpful. Asked why some students did not interact more with reference archivists in the archives, student 4 reported:

> You really didn't need much help from them [reference archivists] as long as you can find what you are trying to find. Also maybe some students, you know, were kind of scared to ask them. Maybe they want to change subjects. It's too hard to find something, and maybe they have changed the subject a couple of times. Student 4, 4 May

Although three of four student interviewees admitted that talking with a reference archivist would have helped them select their research topics, only one of them actually did so and benefited from this interaction. Student 3 completely ignored the possible role the reference archivist might play in helping students select their topics, saying that the archivist's work is

> just to bring you boxes. It is administrative. Their role is not to help you do research, just administrative. They are assistants. Beyond that, I don't see any additional role. . . . If I like to find something or personal events, they can help you find materials, because that is what they do. I don't think they should be in a way to help you choose your actual topic. Student 3, 4 May

According to this student, the role of reference archivists as archival research educators is invisible. Although this student's comments about the role of reference archivists might not represent other students' points of view, in this case study, some students did not interact with reference archivists during the whole research process except to request boxes of materials.

Because of their workload, the reference archivists had difficulty sustaining active involvement during each student's research visit, although they were always happy to help students if asked. My findings suggest that most of the students *failed* to realize that reference archivists could help them a great deal in selecting a research topic, and they suggest that the interaction between students and archivists during the general topic exploration stage should have produced more positive results. They further suggest that instructors should encourage students to interact more with reference archivists, as the instructors are not able to physically visit the archives with students all the time.

Focused Exploration, Information Collection, and Writing Up the Research

After the students determined their general research topics, they entered the stage of *focused exploration*, deciding on specific topics for their research papers. The students in this case study, having gained experience exploring the archives during the general topic exploration, felt increasingly optimistic and clear about their directions. Both students 1 and 2 said that the biggest achievement of their research process was finally finding interesting materials at the BHL that they really wanted to explore deeply and analyze in their papers.

As soon as they chose their general research topics, some students started working simultaneously on the focused exploration and *collecting information* (e.g. taking notes) stages. During their focused exploration, the students mainly worked on one collection and spent more time checking the materials in specific boxes. After they finally decided on their specific research topics, they gathered information through intensive note taking from the records. These two

stages overlapped for some students, and they did not fully decide on their focused topics until they started to write up their findings. They were more aware of time limits because the deadline for the research paper was looming, and they knew that taking notes as a part of interpreting the original records required time. One student stated her feelings at these two stages:

> I am getting a lot of information on my topic. I have got a lot of the left and right wing side (point of views). But I still feel like I have not done as much as I could. I still don't know exactly what it is going to be, because I haven't started writing on it. Student 1, 26 March

To some students, the turning point of focused topic determination proceeded directly to the next turning point—*writing up*. However, students 2 and 4 reported that they knew clearly what they were going to write about before they started to take notes intensively (i.e., *the information collection stage*), and they had already started writing. This suggests that focused topic exploration, collecting information, and writing do not necessarily exist as separate steps. For some students, they overlap.

The ability to interpret the primary materials and assess their value to their research topics became important as the students focused their explorations and collected information. They needed to understand the records, think critically, and develop their contextual knowledge. Students interacted with the instructor in class in an iterative process because they had to submit their research paper proposals for feedback. However, their interactions with reference archivists became less frequent. Student 2 said that with her research process underway, she turned to the archivists less, although she might still ask them to help her interpret some original records, such as handwritten documents. However, student 3 did not view even this limited role for reference archivists as helpful to his research paper, commenting, "I don't see the assistant's interpretation could be better than or more valuable than the person doing research."

In general, this study found that during focused topic exploration and information collection, the students mainly improved their second form of knowledge—artifactual literacy, as identified by the Yakel and Torres archival user expertise model—through their own practice. Most of the students' on-site research activities at the archives ended when they started to write up their research results, although some of them still went to the BHL to confirm information or to gather more supporting evidence when they came up with new ideas.

Archival Searching Skills and Research Strategy

At the end of the semester, students expressed confidence about the archival searching skills they learned and developed during this class. Although the EAD online finding aids were newer than paper-based finding aids in terms of their

detailed description of collections, students accepted online finding aids as a natural tool, saying that it was really great that they could find the information about specific boxes so conveniently. While one student mentioned that her strategy for future archival research would be to search EAD finding aids first to find detailed descriptions of certain collections, she did not realize that the BHL had only mounted about 700 EAD finding aids online of its approximately 3,000 collections then. Another student's strategy was to begin by searching through Mirlyn to find the collection-level description. Then, the student moved on to search the detailed finding aids because she knew that Mirlyn contained all of the BHL's collection descriptions. Students felt comfortable with the paper-based finding aids as long as they were at the archives, since they also contained a lot of detailed information that helped the student researchers to locate what they wanted. My observations and interviews show that students understand basic archival concepts and that they develop archival searching skills, including how to choose among different access systems according to their particular needs.

The students built their archival research strategies upon their realization of the differences between archival and library settings. For instance, because they could not borrow and take primary materials home as they could with secondary sources, they had to prepare ahead and then use time more efficiently in the archives reading room. In particular, realizing that the archival searching process is more complicated than searching for books, they searched online at home to make sure the relevant materials existed before they actually visited the archives. If they could not find the information they wanted through online searching, they called the reference archivist to double-check. As it takes some time to locate the call number of a collection, fill out a call slip, request the box, and wait for the reference staff to bring the box to the reading room, student 2 mentioned she always tried to get the call number before visiting the archives to save time. Student 1 also described her strategy:

> . . . come more prepared for the archive, like having the list of things I want to look for sure. Also I have realized that going through the finding aids online beforehand [is important]. Once I get to the archive, I can immediately ask for the collection and know exactly what collection I want and save a lot of time. So being prepared before I go to the archive is very important. And I have been doing that more and more, I get the tricks of the archive. Student 1, 26 March

Some students developed the strategy of using a list of questions to talk with archivists at the beginning of their topic exploration so they could better understand the archival holdings and determine their topics faster. For instance, student 4 stated that he spent a lot of time after general topic exploration on writing "a huge paper of questions" that he could talk about with the reference archivist. This list also guided his later research activities. In this way, he reported, he always knew what he was doing and what he wanted.

This case study seems to show that student archival research strategies are more related to the archives reference service, such as the online finding aids, procedures for requesting collections, and a limited amount of interaction with reference archivists. This implies that the archives needs to undertake more efforts to digitize its finding aids to serve users who cannot afford any more time on-site, to streamline procedures for requesting materials, and to encourage all the reference staff, including graduate students, to become more involved in students' research activities. During the interviews, both student 1 and student 2 mentioned that the working hours of the BHL, from 9:00 a.m. to 5:00 p.m., do not accommodate an undergraduate's schedule. Most undergraduates attend classes during the day. In addition, because the BHL is on the North Campus, traveling there from the Central Campus takes time. To be efficient, students required a minimum of two hours between classes to manage a visit to the BHL. All students thought that the BHL's spring term hours, which added Wednesday evenings and Saturday mornings, were more workable.

The instructor's teaching strategy also affected the students because she designed the class so that each assignment built on the archival research process. The assignment and requirement of the time-line in Table 1 framed their research processes. Each part of the assignment counted toward their final grades. Student 3 said that this requirement discouraged students' creativity, and the most difficult experience for him was doing research under pressure of being graded, which affected his whole motivation and passion for this class. He particularly disliked the timing for each assignment, which seemed unreasonable to him because of the pace it set for the archival research process. However, another student had a different opinion:

> Usually I do not like to write papers, but this class made it fun to write. . . .[the instructor] didn't make the grading too hard. . . .I think she promoted students' creativity because she didn't say what is necessary for you to have, [such as a] huge theory or huge argument. She just tried to let us tell our own story of the time. . . .So it could be creative, and I thought the class was organized very well. Student 4, 4 May

These two different understandings of and responses to the instructor's strategy raise other possible research questions regarding which pedagogical methods are most effective for archival instruction. Further research on instructors' strategies and designs for archival-related research classes needs to be conducted to evaluate archival instruction.

Summary of Findings and Suggested Model

Student archival research is a complex process. Students need to obtain a wide range of archival knowledge and develop archival search skills during a

history class that requires archival research. Students acquire and develop this knowledge and the related skills at certain *stages* of the research process. Reference archivists and instructors play different *roles* when they teach archival knowledge and skills and help students develop archival expertise.

Archival orientation is a complicated activity. In a very limited time, students need to acquire new knowledge and skills, such as general archives concepts, specific knowledge of the archives' holdings, organization of archival records, accessing rules of archival materials, the concept of finding aids and archival searching skills, and so on. They also need to know how and what information they can extract from the primary sources and how to take and organize their notes. More importantly, students start to develop the ability to interpret and interrogate archival records during this central activity.

Subsequent in-person visits to the archives give students the critical opportunity to explore the general research topic. At this stage, students begin to develop strategies for reducing the uncertainty and ambiguity that naturally accompany their initial, ill-defined research interests. Tactics for reducing this uncertainty include broadly searching the archives' holdings and trying to locate appropriate collections. Gradually, students focus on specific records in one collection and narrow their research question. Going through general exploration and focused topic determination, students develop and accumulate intellective archival searching skills. During this process, they also learn how to apply general archival theory.

Reference archivists play the central role as educators during the orientation, introducing archival knowledge and skills and demonstrating how to apply critical and contextual thinking skills in interpreting primary sources. Additionally, since general research, focused topic exploration, and information collection all happen in the archives, reference archivists have more opportunities to interact with students during these activities than do class instructors. During this period, instructors mainly provide general subject knowledge and information about interpreting primary sources in the classroom. This suggests that students may benefit significantly from increasing their interactions with reference archivists to speed familiarity with the archives' holdings, learn specific archival search skills, and determine their research topics more quickly.

I found it useful to depict these elements visually, and thus developed a new SARA (Student Archival Research Activities) model. (See Figure 2.) This model temporally integrates the development of archival knowledge and skills in the context of the process of research activities, and the educational roles that instructors and archivists may take at each stage of students' archival research activities.

Student archival research projects are associated with activities on two levels: turning points and stages. For example, turning points may be receiving
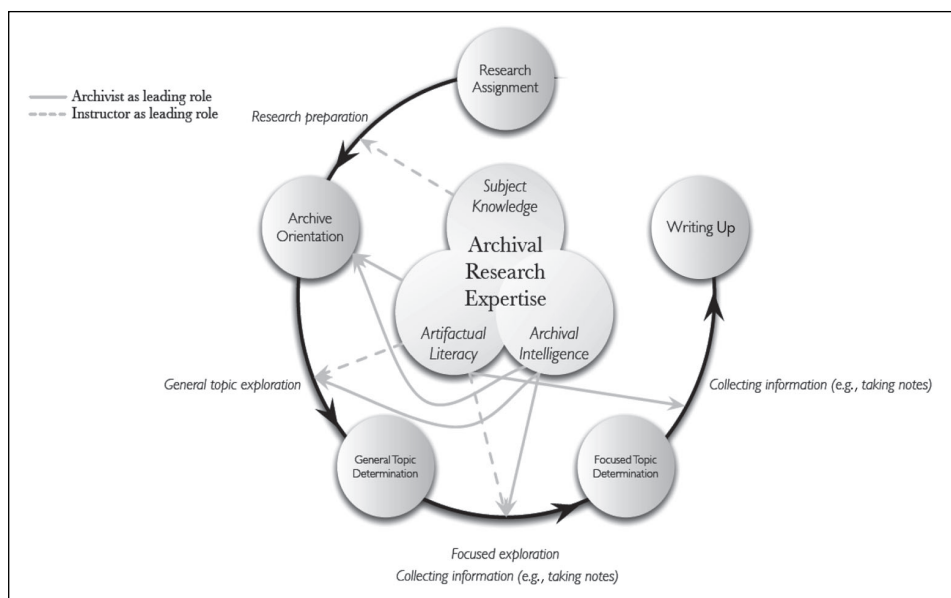
F I G U R E   2 .   Students Archival Research Activity (SARA) model.

the research assignment, archival orientation, determining the general topic, determining the specific topic for the term paper, and writing up the results. The stages parallel each step in the research process, such as research preparation, general topic exploration, focused topic exploration, and information collection.[16] In the SARA model, three forms of knowledge are embedded in the time-series-based model to identify the form of knowledge and skill students need to obtain or develop in each stage. Solid lines and dashed lines indicate the contributions of either the instructor or the reference archivist at turning points or stages to train and help the students.

This model combines the Yakel and Torres "archival user expertise" model with Kuhlthau's library search process model. It adds the "role" element from the interactions among students and educators, who include both the instructor and reference archivist. This model demonstrates how students acquire different forms of knowledge in each stage of the research process. It incorporates Kuhlthau's model factors in commonalities from research in secondary sources, but differentiates research activities in primary sources in terms of their forms, organizing principles, and the purposes they serve. The model displays when different forms of archival knowledge become important to students throughout their research process, how the instructor

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[16] The findings of this case study suggest that the focused topic exploration and collecting information are not necessarily linear time-series-based stages. They may overlap in students' research activities.

and reference archivist are involved in students' research at each stage, and how they contribute the different forms of knowledge needed by the students. It is important to note that this SARA model was developed from the preliminary findings of this case study and is presented here as a way to visualize the process of students' research activities and to invite further testing and development.

C o n c l u s i o n

My analysis of findings based on field observations of and interviews with the reference archivist, the instructor, and the students provides interesting comparisons of the varying perceptions of the research process among these undergraduates as they tried to learn to conduct research in archives. With one semester's research experience, the students began to build their own archival research strategies and learn essential archival searching skills, which made them more confident for future archival research. The class orientation could be better designed in terms of both content and format, and reference services staff might rethink how to better serve undergraduates' archival research activity by accommodating their schedules. Beyond the class orientation, the interactions between students and reference archivists were not significant in terms of time or frequency, but both believe that more discussions and contact would definitely benefit students in their archival research, particularly at the general topic exploration stage. This study also finds that students tend to turn more to their instructor when they have research problems, even though they have more opportunities to interact with the archivists during the research process. This phenomenon suggests that instructors play a very important role in designing a class on using archival materials. The design of the class affects the student research process. Closer collaboration between instructors and reference archivists may help build up a more productive relationship between students and reference archivists.

This study addressed a complex process with three dimensions:
- the *forms of knowledge* and how they are transferred to students;
- the *sequential stages* of gaining archival intelligence over time through the research process; and
- the *roles* instructors and the reference archivist assume in the process of teaching students and facilitating their archival research.

Given the small size of the class observed and the limited number of people interviewed, this study does not meet the requirements for statistical validity. However, the preliminary findings relating to forms of knowledge, sequential stages, and roles suggest that research can provide a better understanding of archival instruction and learning. It invites and warrants more extensive research by the archival community.

A p p e n d i x   A :   I n t e r v i e w   P r o t o c o l   (R e f e r e n c e   A r c h i v i s t)

1. Please tell me first your name, the title of your position, and for how many years you have held this position.
2. How do you first establish contact with a class interested in using the Bentley?
3. What do you ask of the professor as you begin to plan for class use of the Bentley? Do you ask, for example, for access to course tools, for a copy of the syllabus, for examples of earlier assignments, for any information on individual student's research interests, for a schedule of intended visits beyond an orientation, if there is to be a group orientation?
4. What does the professor typically ask of you as he or she begins to plan for a class use of the Bentley? How do you typically communicate, via e-mail, in person at the archives, in person elsewhere on campus?
5. There is a common assumption within the archival profession that a group orientation, especially for undergraduate classes, can be beneficial. Do you have a standard approach to all class visits or do you individualize your approach to fit each class? If it is a mixture, could you describe what the commonalities are and what you do to make each class unique?
6. When does your interaction with individual students in a class with research dedicated to the Bentley begin and how? Do you systemize your contact with individual students? Do you keep, for example, e-mail folders for messages with students in a particular class? Do you take part in class group e-mail discussions?
7. When students come to the Bentley for an orientation, what can they expect to learn? What teaching aids do you use? Do you provide any sort of handouts, such as photocopies of samples from the archives, forms, brochures, or your business card?
8. Can you summarize for me an outline of your presentation to the students in a class orientation?
9. Do you ask students to engage actively in the orientation and if so, how?
10. Do you offer a tour of the archives? If so, why, and if not, why not?
11. What has been the most challenging orientation for you and how did you prepare and deliver it? Were you satisfied with the results?
12. How has the Internet changed archival orientations at the Bentley?
13. Can you characterize some of the questions students typically ask during an orientation, and how you answer them?
14. How did you help students (during the term after orientation) to improve their skills to search archival materials and interpret them?
15. What happens after the orientation? Do you conduct any sort of follow-up survey with the students either immediately after the orientation, later in the semester, or at the end of the semester?
16. How do you measure the success of your orientation?

A p p e n d i x   B :   I n t e r v i e w   P r o t o c o l   (I n s t r u c t o r)

1. Please tell me your name, the title of your position, and how many times you have brought your classes to archives and encouraged students to do research through primary sources.
2. How do you first establish contact with the BHL to express your interests in letting your students use primary sources to do research?
3. What do you ask of the reference archivist to prepare for a class orientation and use of the Bentley during the whole semester? Do you suggest some specific orientation procedures? If so, what are they?
4. How do the reference archivists at the BHL respond to your suggestions and how do they then prepare for your class?
5. There is a common assumption within the archival profession that a group orientation, especially for undergraduate classes, can be beneficial. Do you have some specific ideas for how an orientation for undergraduate classes should be?
6. How would you describe your students in terms of their knowledge, experience, and motivation in using primary sources? Do you have a sense of what your students' expectations are in using archival materials?
7. Do you share your own initial experiences in using archival sources to help foster an initial understanding and enthusiasm among your students? If so, could you please elaborate for me on what these experiences are and how you refer to them for your students?
8. What do you think of the orientation given by the BHL? What are the good points? How can they improve on the orientation?
9. How would you describe your students' reaction to the orientation? Do you think they are satisfied with what they have learned from the orientation, specifically do they seem to convey a satisfaction of a basic knowledge of archival materials and the techniques of searching for primary sources?
10. Do you think the orientation could be better designed for undergraduate students? If so, then how?
11. How do you think the reference archivist should help students improve their skills in using archival materials beyond the orientation, throughout the semester?
12. Beyond any sort of initial relating of your own experiences in beginning archival research, do you plan to relate the progress of your own experiences in using archival materials to your students?
13. Since your class is designed to encourage students to intensively use archival materials, would you outline how you prepare for this class?
14. How do you compare the different archival descriptive tools: Mirlyn, EAD finding aids, and paper-based finding aids? In other words, to what extent is it important to emphasize for the students the relationships between these tools, the degrees of precision versus recall that they offer, and the evolution of such tools over time?

15. Can you characterize some of the questions students typically ask and problems they might need to work on during the semester?
16. What is your expectation for the students after a semester of use of archival materials? Can you describe in general the progress of the students?
17. How do you factor in the role of the reference archivist in measuring the progress of your class?
18. How would you change to your pedagogical methodology as it relates to the archives if there is an opportunity to teach this class again?

Appendix C Interview Protocol (Students)

1. Why did you decide to take this class? Is it required or an elective?
2. Have you ever used archival materials to do a personal project or class research before?
3. How did you imagine archival materials before your orientation? How do you expect to use primary source materials to do your project?
4. There is a common assumption within the archival profession that a group orientation, especially for undergraduate classes, can be beneficial. What did you think of the orientation? Are you satisfied with it? Did you have specific expectations?
5. What specific knowledge and techniques did you learn from the orientation? Tell me what you thought was the single best part of the orientation.
6. How many access tools have you gotten to know after the orientation? Did you come across any archival jargon that the reference archivist did not explain but just happened to use in your orientation? (such as "finding aids")
7. Did you come back to the BHL to do research after the orientation? How often?
8. Did you ask for any help from the reference archivists at BHL as the semester progressed? In what way? (Give an example.)
9. Do you feel comfortable with the rules for doing research in the public reading room?
10. Having gone through an orientation and some subsequent use of the archives, what strategies have you developed for use of primary sources for your research?
11. How would you compare the different finding aids system: Mirlyn, EAD finding aids, and paper-based finding aids? Have you tried all of them?
12. How would you evaluate your own achievements in this class?
13. How do you see the role of the reference archivists in the progress of your class?
14. How do you see the role of instructor in helping you improve your skills to use primary source materials?