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Teaching Archival Research Skills to Undergraduates

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Archivists in universities and colleges have long supported the scholarly research conducted by faculty in their institutions. In the past, scholars were considered their primary clientele. While occasionally called upon to provide an orientation to the archives for undergraduate students who had been assigned a research project, academic archivists understood their main task as providing access to archival materials for scholars and administrators. All of this began to change in the 1980s as archivists were increasingly called upon to document the value and utility of archives to decision-makers of institutional resources allocation. Academic archivists’ efforts to document the wide-ranging importance of their role in the academy compelled them to turn their attention to their users. They sought to understand who their users were, what their needs were, and to evaluate their own performance in meeting those needs. Attention was now given not only to current users, but also potential users of the archives. Among the leaders of this introspective turn for archivists were Bruce W. Dearstyne and Elsie T. Freeman.¹

Students at all levels, including undergraduates, were identified as a group that could benefit from archives in their learning experience. The teaching of history to K-12 students and undergraduates traditionally relied on textbooks, lectures, and the memorization of facts. However, in the 1980s the use of primary sources in the classroom gathered momentum and popularity for a number of reasons. Their intrinsic interest as authentic evidence from history
held the potential for increased student engagement. It was also thought that students should not only learn history, but “do” history—i.e., actual historical research—as one aspect of a participatory learning experience. This “doing” of history empowered them by giving them a taste of what it was like to be “real historian[s].” Students could develop their critical thinking skills by using primary sources to create their own interpretations and assess other interpretations of history.ii

The growing emphasis of history teachers on research by students was part of a shift in pedagogical practices toward an inquiry-based, student-centered learning process in which students were conceived as active builders, not passive receptors, of knowledge. The teaching of research and writing skills thus acquired greater significance in all subject areas. The application of these trends to higher education was furthered by the influential report of the Carnegie Foundation’s Boyer Commission in 1998. Reinventing Undergraduate Education: A Blueprint for America’s Research Universities cited the philosopher of education John Dewey in support of the Commission’s belief that “learning is based on discovery guided by mentoring rather than on the transmission of information.” Therefore, the report lists “make research-based learning the standard” among its “Ten Ways to Change Undergraduate Education.” Educators’ emphasis on student research and engagement with primary sources along with the archival profession’s new user-awareness set the stage for an expansion of whom academic archivists believed their
cliente to be. They sought to understand students’ information needs and their ability to conduct archival research.iii

Despite these changes in theory and approach, academic archivists continue to struggle in their attempts to meet the research needs of undergraduate instructors and students. College and university archives generally are not utilized to their greatest potential by undergraduates. One explanation is that one or both user groups may be unaware of the subject coverage of their university or college archives’ collections. Another possibility is that some instructors may not be aware of archivists’ willingness to collaborate with them on students’ research projects. Other instructors find it difficult to incorporate the use of primary sources and student research in the archives into their current teaching practices. On this point, archivists can be cautiously optimistic as there is evidence that younger, non-tenured history faculty tend to utilize primary sources more often in their teaching than older, tenured faculty.iv

Archival Skills and Primary Sources in Classroom Practice

This paper will undertake another explanation of the problem of underutilized academic archives and propose an agenda for resolving it. Undergraduate students generally do not have the requisite knowledge and skills for effective archival research. This lack of proficiency in basic principles of archival research prevents students from pursuing significant online and on-
site research. Archival research skills and classroom exposure to primary sources are incommensurate in recent educational practice. As noted above, the use of primary sources in all levels of instruction is on the rise. Recent evidence of this is the Common Core State Standards Initiative, a set of national curriculum standards for K-12 students, adopted by many states beginning in 2010. They emphasize the development of research skills and critical thinking about primary sources. Doris J. Malkmus thus argues that students are “arriving on college campuses more prepared to deal with primary source documents than any previous generation, but they have not yet developed the skills to find and identify primary sources—whether online or in the archives.”

While an instructor’s increased exposure of students to primary sources improves their ability to think critically about those sources, such thinking is entirely different from the ability to do effective archival research to find those sources. Archivists are grateful for the newfound importance of primary sources in all instruction, particularly history. Some academic archivists have even joined the effort to teach critical thinking about primary sources. But as the opportunities for collaboration between archivists and faculty to facilitate undergraduate students’ research grow, archivists are paying more attention to the methods they utilize in teaching archival research skills. The improvement of archivists’ teaching methods would raise the archival research proficiency level of undergraduates. A secondary benefit of better archival
research skills would be an improved ability to contextualize primary sources. This is due to the provenance-based system of archival organization that requires consideration during the search process of such primary source attributes as creators, document functions or purposes, and dates of creation.\textsuperscript{vi}

The advantages of an expanding base of college and university archive users are clear. Once a student becomes proficient in archival research, he is more likely to return to the archives in the future for more research. English instructor Carol A. Senf noticed this pattern after a class project requiring archival research. She noticed that students completing that project continued to use the archives for research in other classes she taught, even though such research was not required. Moreover, Kenneth Osborne argues that archivists who fail to teach archival research skills “deny themselves the possibility of building and benefitting from the support of a knowledgeable and sympathetic public.” Put into an academic context, the administrative support that archivists need is more forthcoming when the archives have the widespread support of proficient users across the academic community.\textsuperscript{vii}

\textit{Archival Orientations for Undergraduates}

Academic archivists’ traditional method of preparing undergraduate students for a research project has been an “archival orientation.” In its least effective form, this orientation is
what Barbara Rockenbach calls a “‘treasure tour’ highlighting the gems of archival collections.”

The rationale behind this approach, writes Michelle McCoy, is that “a selection of materials is displayed for students with the hopes that their interest would be piqued.” The hope is that the archival treasures will make students eager to return to the archives and discover their own treasures. But without any element of active participation in which students could learn by engagement in practical steps toward such discovery, few students are likely to return voluntarily. At its best, the traditional orientation takes the form of what Elizabeth Yakel calls a “how to do research here” session that focuses too specifically on the research steps that are particular to this archive. Yakel argues that there is little generalization of archival research skills that the student can take away from this presentation. While there is a positive role for step-by-step instruction (in this archive) in reducing students’ research anxiety, so long as it has students walking through the steps and not simply listening to or observing them, little progress is made in terms of a student’s ability to conduct research in other archives. viii

With traditional archival orientations for undergraduates coming under heavy criticism, the question can now be asked: How should archival research skills be taught? What pedagogical methods should archivists use in order to ensure undergraduate students’ proficiency as archival researchers? Answering these questions is the primary task of this paper. I will begin by describing the ideal context of instructor-archivist collaboration for learning archival research
skills. Second, I will outline the specific archival skills and knowledge that should be taught in archival orientations. Third, I will highlight the importance of archivists writing out and using lesson plans for their instruction. Finally, I will suggest ways in which current educational research and theory can be applied to the teaching of archival research skills. These theories will be divided into several categories: 1) constructivism, 2) inquiry-based, active learning, 3) the theory of multiple intelligences, and 4) assessment. For each of these, I will first summarize the theory or practice in general terms, then propose several applications of it to the teaching of archival research skills.

**Instructor-Archivist Collaboration**

The application of current educational techniques to the teaching of archival research skills logically leads one to an ideal context in which these skills should be taught. My assumption throughout this paper is that the archivist is teaching such skills to a class of undergraduate students who have been assigned a research project requiring the use of archival sources. The instructor has invited the archivist to teach a lesson to his/her class on how to do archival research. This context compels the archivist to avoid teaching archival research skills and concepts in an exclusively abstract manner. The archivist does not need to artificially generate an information need for students. Rather, the archivist addresses the *real* research needs.
of the class as stated in the assigned project. The most ideal conditions for active learning occur when the student can immediately apply abstract concepts to real problems and questions.

Magia G. Krause’s survey research shows that the majority of archival research teaching opportunities for archivists occur within a collaborative context. The course subjects most often represented are History and English. For example, McCoy describes a research project at Duquesne University that required each student to choose a letter that was written home by an American Catholic missionary to China during the early twentieth century. The letters were in a collection called “China Mission Correspondence.” Each student was required to create an annotated critical edition of his chosen letter by using both primary and secondary sources to research its context.\textsuperscript{ix}

Barbara Rockenbach, an archivist at Yale University, provides another example of an instructor-archivist collaborative project. She worked with a class whose project was to create an online exhibition of Yale archival materials on a chosen topic. Each student was in the curatorial role of choosing which materials he wanted to have digitized for the exhibition. Both of these projects exemplify how instructors and archivists can work together to create engaging archival research and learning experiences for undergraduate students.\textsuperscript{x}

The instructor and archivist both contribute their own expertise and play specific roles in the collaboration. The archivist knows which collections are relevant to the instructor’s
assignment, but “only faculty can determine which collections animate students, support course objectives, and are appropriate for student levels of skill.” To ensure a positive collaboration, the archivist should review the course syllabus and requirements before meeting with the instructor. Close collaboration can prevent instructional time from being lost on learning objectives that are either non-essential to the project or that students are already proficient in. For example, Xiaomu Zhou relates one instance when an archivist spent a lengthy time explaining the difference between primary and secondary sources despite the fact that students in the class had already received instruction on this point. The subjects of archival collections, their accessibility to novice researchers, and learning objectives are all essential conditions for keeping students engaged. The archivist’s collaboration with the instructor is vital to getting each of these factors correct. Krause reports that one archivist in her study summed up the importance of collaboration: “the more a professor participates in the instruction session, the more engaged the students are.”

There are two main alternatives to teaching archival research skills in an instructor-archivist collaborative context: 1) a traditional archival orientation, 2) online tutorials. Both alternatives involve learning archival research skills through methods that are disconnected from students’ actual research needs. Both alternatives consist of lessons that are meant for mass distribution to the university or college community. The disconnection is the main root of
students’ difficulty in applying it to their own needs. However, neither alternative should be completely avoided by an academic archivist. Outreach to the academic community requires a multifaceted approach that is prepared with a variety of educational tools and programs for an equally wide variety of potential users and needs. For some undergraduate students, an orientation or online tutorial might be the only communication that occurs between archivists and students; this is especially true given the rising popularity of digital archives. Some instructors or students might be inspired by one of these alternative teaching opportunities to pursue more collaborative learning contexts with the archivist. But orientations and online tutorials remain alternatives to the ideal context for teaching archival research skills to undergraduates: instructor-archivist collaboration.

A traditional archival orientation is given to undergraduate students under several circumstances. Some universities and colleges include it as a component of their library orientation programs. Other archivists offer an archival orientation in response to the request of an instructor to introduce his class to the basics of archival research—such an orientation is distinguished from the collaboration described above by not being designed for the specific research needs of students in that class. Archival orientations need not take the form of the denigrated “treasure tour” described above. Many lesson features with active, hands-on participation in resolving (archivist-generated) archival research problems can be incorporated
into orientations. James Gerencser and Malinda Triller of Dickinson College teach an effective
two-session orientation as part of a semester-long course, “Introduction to Historical
Methodology.” Several of their inquiry-based teaching methods are cited in this paper. For
example, they generate research questions that require students to search through both finding
aids and the materials they describe. Their questions and anticipated searches illustrate important
research ideas they want students to learn. However, the fact remains that students experience a
temporal gap between the learning of archival skills and concepts and the application of them to
research needs that arise in their normal coursework. According to theories of active learning, the
further instruction is removed from actual research needs either temporally or in its application,
the less effective it is.\textsuperscript{xii}

Yakel notes another problem with many archival orientations. She argues that
orientations do not prepare students for archival research in general, only research in the
particular archives where they are taught.

Orientation reflects a paradigm focusing on a physical tour of the facilities as the
necessary preparation to facilitate use of the archives of manuscript collection[s]. Even if
this is combined with a more detailed instructional component, the module usually deals
primarily with understanding access tools and procedures within the context of a single
repository. This approach can be characterized as how to do your current project in this
archive.
Yakel therefore contends that orientations do not address the more abstract concepts she believes to be part of “archival intelligence.” The latter term and Yakel’s elucidation of it will form the foundation of the archival research learning objectives to be outlined in this paper. However, it is worth noting that while Yakel highlights the importance of abstract archival concepts that can be applied to all archives, not all instruction should be at a high conceptual level. Undergraduate students also need step-by-step directions for how research in a particular archive is done in order to reduce their anxiety about getting started. I will address the issue of abstract and particular archival ideas later. It is therefore evident that archival orientations are not by any means totally ineffective. While they are not the ideal means of teaching archival research skills to undergraduates, they can be used with some success in the absence of collaborative opportunities for the archivist.

Online tutorials are another alternative to teaching archival research skills within an instructor-archivist collaborative context. In Krause’s survey of archivists who teach research skills, she found that only twenty percent of archivists have utilized this teaching method. These can take the form of either videos or interactive activities. For example, San Diego State University’s “Special Collections and University Archives” department makes two video tutorials available on its website: 1) “Special Collections and University Archives Reading Room Orientation”, and 2) “Using Finding Aids for Special Collections.” The main objection of active
learning theory to online video tutorials is that viewers are only *watching how* to do archival research, not actually *doing* the research. This critique would not hold up as well regarding online interactive tutorials that may well involve live research in a digital archive.\textsuperscript{xiv}

There are several good reasons for archivists to create and maintain online tutorials. Yakel writes that online tutorials were originally created because of the growing recognition that an increasing number of archives users, specifically online digital archives users, would probably never have the opportunity to speak with an archivist face-to-face. This is a problem for archivists because they have always considered the in-person reference interview as a significant opportunity for user education. As long as this issue of lost opportunities for user education persists, online tutorials can be justifiably maintained for a similar reason to that of orientations. A variety of outreach tools should be retained in order to make contact with the largest possible group of users. Moreover, there is evidence that college and university history faculty are highly supportive of online tutorials.\textsuperscript{xv}

From an archivist’s pedagogical perspective, there is another reason for continuing to make online tutorials available. The idea of a “flipped” classroom is currently gaining popularity in K-12 education and could easily be applied to an instructor-archivist collaborative teaching context as well. K-12 teachers who use this technique create online material (e.g., videos or interactive activities) for their students to learn from prior to class. The main incentive is that
instructional time (for introducing new ideas or modeling new skills) that would normally occur in the classroom is instead shifted to a student’s own time before class. The student arrives in class already having learned and thought about the lesson topic. The teacher can then use lesson time in the classroom to move the discussion forward to more advanced questions that students have about the topic. The flipped classroom was inspired by K-12 teachers’ recognition that lesson time in the classroom is scarce. A “flipped” classroom is one response to the scarcity of in-person instructional time.xvi

The online tutorials that many academic archivists have created provide an excellent set of tools to “flip” the archival research classroom. In this lesson scheme, undergraduate students would arrive at the archives already having been introduced to a concept such as “finding aid.” The archivist could then engage students in a more advanced discussion of finding aids than could otherwise be managed. This type of lesson is most ideal in the context of instructor-archivist collaboration because the instructor has the leverage with students to ensure that they use the online tutorials to prepare for the archival research lesson and arrive in the archives with higher-level questions to be addressed.

Archival Intelligence and Artifactual Literacy
Elizabeth Yakel and Deborah A. Torres’ important article, “AI: Archival Intelligence and User Expertise,” provides an organization of knowledge and skills required for proficient archival research. They write that successful archival research requires proficiency in three distinct skill and knowledge sets: 1) domain knowledge, 2) artifactual literacy, and 3) archival intelligence (AI). Domain knowledge is subject knowledge in the field that the user is researching. Teaching domain knowledge as a regular practice is clearly out of the professional expertise of archivists as archivists. There are of course many archivists with significant domain knowledge in a particular field. This knowledge is frequently a considerable asset for their institutions to take advantage of. But the expertise that all archivists have in common is archival theory and practices, not another subject domain. Therefore, the teaching of domain knowledge (even when it is applicable to archival materials) should in general be left to other specialists in the academic community.xvii

Artifactual literacy is the ability to correctly interpret primary sources in the archives. Marcus Robyns, an archivist at Northern Michigan University, divides this skill into “external” and “internal” criticism of a primary source. External criticism of a primary source is the process of “determining ‘where, when, why, and by whom’ a document is written.” Conversely, internal criticism is the “evaluation and interpretation of the content” once an external critique has been completed. Robyns argues that many of the undergraduate students he has observed in his
university archives are unable to think critically about primary sources. After citing evidence that many of the academic librarians who teach information literacy to undergraduates include critical thinking about information sources among their objectives, he argues that it is archivists’ responsibility to teach both internal and external criticism of primary sources. Robyns developed a standard lesson template that he uses to teach critical thinking about primary sources in many different departments across campus. The diversity of departments from which faculty have invited him to teach, including history, nutrition science, and chemistry, is a testament to his teaching skill and the design of his lessons. Robyns is clearly effective in realizing his teaching objectives. But I will argue below that archivists would do better to focus their efforts on teaching archival intelligence, an idea that in my view is inclusive of Robyns’ concept of external criticism of a primary source, but excludes the notion of internal criticism.

According to Yakel and Torres, archival intelligence is “a researcher’s knowledge of archival principles, practices, and institutions.” It contains three dimensions: 1) archival theory, practices, and procedures, 2) strategies for reducing uncertainty and ambiguity, and 3) intellective skills. Each dimension itself contains a number of ideas. Dimension 1) includes knowledge of technical archival language and concepts such as “provenance,” along with the rules and procedures commonly practiced in archives. Dimension 2) involves the researcher’s ability to translate unique information needs into search strategies that query the archival
descriptive tools in their own language. For dimension 3), a researcher with “intellective skills” understands the multiple descriptive tools designed by the archivist to provide intellectual access to archival materials. With this understanding, he determines ways in which each tool represents or does not represent the materials. In my view, dimension 3) is inclusive of Robyns’ “external criticism.” Dimension 3) implies to large degree knowledge of the external facts of a primary source. If a researcher knows how a descriptive tool represents or does not represent an archival document, then he also knows the “where, when, why, and by whom” contextual facts about it. Again, the capability of searching the provenance-based organizational scheme in archives presumes an awareness of these facts as well. The teaching of archival intelligence enables students to better contextualize their sources by providing them with the information required to do so.\textsuperscript{xix}

Yakel and Torres’ idea of archival intelligence is an excellent starting point for determining the learning objectives that academic archivists should be aiming for in their teaching to undergraduates. Although knowledgeable on the subject of artifactual literacy, academic archivists are generally not the most ideal academic faculty for teaching the internal criticism of primary sources. This would be better left to faculty in other university departments for whom critical thinking about primary source content is a common necessity of their scholarly research. Yakel and Torres contend that “the acquisition of archival intelligence is something
that should be embraced by archivists as a role unique to them in this educational puzzle.”

Considering the limited instructional time available to academic archivists, it is reasonable for them to focus entirely on teaching archival intelligence.\textsuperscript{xx}

\textit{Archival Intelligence and Learning Objectives}

Yakel and Torres articulate archival intelligence and its three dimensions (noted above) at an abstract level. Archivist educators are left to translate these ideas into specific learning objectives. This section will undertake such a translation.

Yakel and Torres argue that archival intelligence provides the researcher with generalized or abstract knowledge of archival theory, practices, and procedures. They advocate a “movement away from a focus on ‘how to do research here’ toward a more conceptual understanding of archives and search strategies.” The user can apply this abstract knowledge to research in \textit{any} archive. They are backed up on this point by findings in cognitive science, which reveal that a person with relevant conceptual knowledge can adapt to a new situation more quickly than a person with merely relevant particular knowledge from his experience. Following their dictates would therefore result in a set of learning objectives whose focus is beyond any specific archives, including the institution in which they are being taught.\textsuperscript{xxi}
Archivists collaborating with an instructor should not, however, lose sight of the fact that they have an institution-specific goal at hand. They are preparing this class of students for research in this repository. Archivists should prepare students with the basic rules and procedures for their particular archives. If a new researcher is able to initially go through the motions of archival research without difficulty, then his anxiety about pursuing this new type of research is reduced. One researcher relates this idea: “There’s something to a starting place I think that you just get into it. I’ve done that a few times where I was like, ‘I don’t know what’s all in here. But I’m just going to start somewhere just to get a lay of the land…” Archivists cannot in any case teach the larger archival concepts without frequent referral to applications of them to actual research. Students cannot acquire the larger concept without multiple examples of the idea at work. What better source of examples can there be than those from the archives in which the research instruction is occurring? Moreover, for student engagement and effective use of time, these examples can be chosen for their relevance to the research assignment at hand.xxii

Therefore, for both practical and theoretical reasons, archival research instruction should utilize a combination of large archival research concepts and illustrative examples from the archivist’s own repository. But this conclusion is not represented in the instructional practices of most archivists. Krause’s surveys of archivists show that the most popular elements of archival instruction are rules, procedures for requesting materials, and the presentation of materials.xxxii
Provenance and original order are two concepts of central importance for students’ ability to conduct successful archival research. In order to frame their research questions effectively in a provenance-based system of arrangement, they need to begin by considering who would have recorded the information they are searching for; or, who would have performed the function that is being inquired into. Malkmus points to two major benefits of these concepts for researchers’ external critical thinking about primary sources: creators and context. Because of the centrality of provenance to the search process, there can generally be little doubt about who created a record or document. Students’ understanding of the principle of original order leads to improved contextualization of archival materials. Provenance and original order are thus essential not only in the archival search process, but also significant in the correct interpretation of materials.

In addition to general archival concepts, archival intelligence’s dimension 1) includes knowledge of basic practices and procedures. These include rules guarding the security of materials, handling of materials, and how to request materials. As noted above, each of these practices and procedures can constitute an affective barrier for users. Archival practices about security and handling can be easily misunderstood by researchers as evidence that the archivist distrusts them. Yakel argues that the instructional objective here should be the removal of practices and procedures from users’ deliberate thinking—that is, if practices and procedures are
internalized and habitual, then users’ thinking can be devoted more completely to searching strategies.

A final aspect of dimension 1) is users’ self-knowledge and ability to assess archivists’ knowledge on the topic of their research. Expert researchers are capable of self-evaluating their research. They can determine when they have found the answers to their questions and when they require still more information. For example, a key question an proficient researcher might ask himself is: “Have I considered all of the possible individuals or organizations that could have created the documents or recorded the information that I am looking for?” Expert researchers are also able to ascertain when and how the reference archivist can help them, especially during a reference interview. Reference interviews are the only aspect of dimension 1) that cannot be addressed in archivist-instructor collaborative lessons. Familiarity with the interpersonal skills needed in these circumstances comes primarily from experience, not instruction. However, the process of strengthening students’ self-knowledge during archival research is part of the archivist’s instructional task.\textsuperscript{xxv}

Dimension 2) of Yakel’s archival intelligence concerns a researcher’s proficiency in developing a searching strategy. Building a searching strategy requires users to understand the major concepts of arrangement, provenance and original order. The user needs to translate his research question into a query that matches archives’ unique organization. This can be a difficult
task given most researchers’ previous experience in subject-organized libraries. They need to become comfortable thinking in terms of who might have recorded the information they need. What was happening when the needed information might have been recorded? Why might the information have been recorded? When might it have been recorded? Expert archival users arrive at a new repository for research with a prepared search strategy. In this way they are able to establish, according to Yakel, “a modicum of control over the environment and independence from the reference archivist.” Despite their grounding in common principles, archives vary widely enough in the organization of their holdings (due in part to varying material types) that even experienced researchers sometimes become apprehensive in a new repository.

Dimension 3) of archival intelligence is about “intellective” skills, or a researcher’s grasp of the tools for intellectual access that archivists create. It involves recognition of how descriptive tools represent or does not represent archival materials. Researchers proficient in these skills are able to determine from descriptive tools whether a certain collection or part of a collection deserves closer examination. This dimension requires that users be familiar with multiple finding aid types, from descriptive inventories to indexes, from online subject guides to MARC records. It also encompasses the complex topic of how online and offline finding aids can describe both digital and analog records. The complexity added to intellective skills by online finding aids (and the expectations of users accustomed to online information-seeking)
compels the archivist to carefully consider how this dimension of archival intelligence can be effectively taught.

While the principles governing the arrangement of archives are simple, archivists’ descriptions are more complex. Archivists utilize a wide variety of finding aids to describe and provide intellectual access to materials. Intellective skills require an understanding of how each finding aid type is related to collections. Multiple finding aids types can describe a single collection that is arranged on the principles of provenance and original order. This fact is beneficial for the learning of these two concepts of archival arrangement. Educational research in cognitive science demonstrates that “teachers must teach some subject matter in depth, providing many examples in which the same concept is at work and providing a firm foundation of factual knowledge.” Examining a collection from the perspectives of multiple finding aids should facilitate conceptual comprehension of its arrangement. xxvii

Archivists have expanded access to their collections by placing an ever-growing number of finding aids online. This tactic has made access more convenient for some users and more confusing for others. The confusion stems partly from the misguided expectations of online archive users, and partly from a failure to understand the specialized language of archival descriptions. Some online researchers are bewildered when they find out that not all archival materials have been digitized and are hyperlinked to online finding aids. Others are sometimes
unable to distinguish between finding aids and original archival materials. Some of these misunderstandings are due to the fact that since so much information is now available online, some users expect all archival information to be accessible in this way as well. Archivists are culpable for some of these false impressions. For example, some databases give the option of searching the “full text” of finding aids. In most other online information contexts, “full text” does not refer to descriptions, but to the document itself. Archivists teaching research skills to undergraduates first need to establish the basic need for archivists to generate descriptions that make archival materials accessible, then progress into an examination of the ways that this can be done.

Proficient intellective skills depend on proficiency in archival language. Terms such as “finding aid” and “series” are essential for a user’s evaluation of whether a particular collection meets his information needs or not. Yakel argues that facility with what she calls archival “jargon” indicates a researcher’s mastery of dimension 1’s archival concepts. But she found that many archival researchers, even experienced users, do not understand even basics terms like “finding aid.” Misunderstandings range from believing that a finding aid is a staff person who helps researchers, to believing that it is a tool for searching all of a repository’s collections. Some archivists have responded to this confusion by replacing overly technical terms with others that they believe are user-friendly. But this is a mistaken tactic that can result in an even more
confusing multiplicity of terms, making it hard to apply archival intelligence across multiple repositories. Rather, education of new archival researchers, as undergraduates or earlier, in settings where archival language and concepts can be applied to actual research problems is a better approach. This is the approach argued for below.xxix

The dimensions of archival intelligence, including 1) archival theory, procedures, and practices, 2) searching strategies, and 3) intellective skills, have been outlined above. This paper has mostly followed Yakel’s original research and thought on the topic, supplementing it occasionally with the insights of other archivists. But there are two qualifications that need to be made in this paper. First, while archival intelligence requires knowledge of abstract concepts such as provenance and original order, undergraduate researchers are in need of significant pragmatic guidance in step-by-step procedures as well. This guidance will be one topic in the application of educational research to collaborative archival instruction below. Second, Yakel’s dimension 2) reference interview skills are excluded from the learning objectives considered below. Such interpersonal skills come primarily from experience, not instruction. It may be useful for archivists to think of reference interviews as opportunities to continue teaching archival intelligence in the future after the collaborative instruction has ended.

The outline of archival intelligence above can be easily condensed into learning objectives for a collaborative undergraduate research project between academic archivists and
instructors. The remainder of this paper will examine the ways in which current educational research and practices provide guidance for how these objectives can be effectively taught.

Several examples will be provided of how some archivists have already applied these ideas. Archivists should also take note of similar instructional objectives that confront academic librarians in their teaching of information literacy—and how librarians’ instructional practices are progressing. The analysis below will supply archivists with some of the ideas and practices that they require in order to take advantage of current educational research in their archival research instruction.

Lesson Plans

University and college archivists teaching archival intelligence should create structured lesson plans with distinct learning objectives. With an average of one to two hours spent with each undergraduate class, careful consideration should be given to what the lesson’s goals are and how they can be efficiently achieved. In addition to the cultivation of good time management, writing a formal lesson plan compels the archivist to consider the basic steps that educational theorists believe are requisite for students’ learning. Fewer than ten percent of archivists have any formal education in pedagogy, having learned how to teach primarily through individual study and other teaching experiences. Surveys conducted by Krause demonstrate that
archivists preparing to teach archival research skills tend to focus more on the content of their teaching than on their delivery. Time management, learning objective, and pedagogical methods can all be improved by an archivist’s preparation of a lesson plan before teaching undergraduate students.

The preparation of a lesson plan requires basic familiarity with various approaches to what educational theorists call “instructional technology.” Instructional technology is a “systematic way of designing, carrying out, and evaluating the process of learning and teaching.” There are many lesson plan prototypes available for instructors to build their plans on. But all effective prototypes have certain features in common. All prototypes have learning objectives (including the communication of these to students), the introduction of new information or skills to students, activities for students to exercise or practice their new knowledge or skills, and some type of assessment or evaluation of students’ learning. Plans written within the parameters set by these essential elements permit the instructor to utilize a wide range of constructivist, active learning, and multiple intelligence-guided methods. Many of these methods will be applied below to the teaching of archival intelligence.

The process of writing a lesson plan not only ensures that essential instructional elements are included, but also requires the instructor to carefully consider the effectiveness of learning activities and how they align with lesson objectives. Bruce R. Ledford argues in his primer on
instructional design that instructors who fail to use lesson plans produce “learning activities [that] are usually limited, inappropriate, or lacking in proper depth and focus.” The failure to use a lesson plan results in an “inefficient” lesson. Inefficiency in instruction is not a luxury that archivists can afford, given the limited instructional time available to them.xxxi

**Constructivism**

Constructivism is a psychological theory of how people acquire new knowledge. People “construct” new knowledge on the basis of what they already know. The theory has several historical roots, being found in the ideas of John Dewey, Jean Piaget, and Leon Vygotsky. Educational psychologists John D. Bransford, Ann L. Brown, and Rodney R. Cocking explain that people approach learning with a set of incomplete, naïve, and false beliefs. Educators begin by recognizing these incorrect beliefs, but then guide learners in activities designed for them to construct new knowledge for themselves. Learning on the constructivist model is a student-centered process of discovery. Bransford and his collaborators sum up the importance for educators to understand the constructivist approach: “if students’ initial ideas and beliefs are ignored, the understandings they develop can be very different from what the teacher intends.”xxxii
It is critical that archivists teaching archival intelligence to undergraduates account for the constructivist approach to learning. Most undergraduates arrive in the archives with a set of vague assumptions about archival materials, organization, procedures, and practices. In many instances, these assumptions are largely based on their knowledge of libraries and the belief that archives are similar to libraries. The comparison comes naturally. Yakel’s archival user studies have produced much evidence that new archives users initially frame their research strategy as if they were in a library—e.g., by hoping to search for materials by subject. Some users compare finding aids to card and online library catalogs.

A constructivist approach to archival intelligence accounts for misguided expectations that online users bring to both digitized archival descriptions and digital archives. Malkmus observes the “disjuncture between the ‘instant information’ environment of the Web and the need for critical analysis of sources.” Studies of information seeking online behavior show that if given the option between two methods, browsing through subject headings or typing a keyword in a search box, users prefer the keyword search. Similarly, in the online archival information context, Christopher J. Prom’s research shows that novice users’ first preference is a keyword search, regardless of whether the search is for descriptive or original (digital or digitized) materials. In fact, novice users are often unable to distinguish between archival materials and their representative descriptions in an online environment. Some believe that online finding aids
will ultimately guide them through hyperlinks to a digitized archival record. Alternatively, Prom finds that expert online archival researchers browse “through the collection as a whole, often reading the scope and content note or the narrative series descriptions.”

If archival intelligence is to be successfully taught to undergraduate students, archivists must both build on and correct the knowledge that students already have about archives. But what do students already know about archives? One method of discovering students’ existing archival knowledge is to begin the lesson with a five-minute class discussion during which students have the opportunity to share the knowledge of archives they bring to the class. The archivist will carefully set a tone of openness to student expression and thought that is so vital to a constructivist approach—students need to feel free to share their pre-existing knowledge. Some students take pride in their researching skills, even if they apply mostly to libraries. The archivist has an important opportunity here for building students’ confidence by affirming the archival knowledge, however small it may be, that they already have. Most importantly, the archivist takes away from this activity an understanding of misconceptions about archives that he should focus on guiding students to correct.

Individual students approach the archivist-instructor collaborative lesson with not only varying levels of pre-existing archival intelligence, but varying subject knowledge. Prior subject knowledge is closely related to a student’s level of curiosity in that subject. In a sense, a person
has to have some knowledge on a subject before he can have unanswered questions about it. If
the archivist chooses not to account for students’ prior subject knowledge and interests, then he
risks not fully engaging them. Alternatively, a constructivist lesson plan would allow students
some level of personal choice about what archival materials they would handle during the lesson
or project’s exercises or research. This would produce a higher level of student interest.

The allowance to students of some choices in their learning is not only rooted in
constructivism, but is also the basis for inquiry-based instruction. In this instructional model,
students are permitted to pursue their own line of inquiry so long as it meets the guidelines set by
the instructor. The archivist in collaboration with the instructor can arrange these guidelines and
parameters to ensure that both archival intelligence and course content knowledge are utilized
during the student’s inquiry. When students visit the archives to learn about archival intelligence,
the archivist could offer an array of materials for students to choose from for their research and
lesson exercises. Allowing students research choices leads to higher motivation. The authors of
one book on inquiry-based learning passionately argue that, “in the end (and the beginning) it is
the raw and vibrant interest and curiosity that we see in very young children that drives
learning.” Inquiry-based learning and the constructivism it is based on offer to archivists the
opportunity of expanding undergraduate students’ self-motivation in conducting archival
research. xxxvi
Active learning is most clearly defined in relation to passive learning, the pedagogical method that is opposed to it. A lecture with little opportunity provided for teacher-student interaction is a frequently-cited example of passive learning. A passive learner is thought to take in or memorize information with little modification or engagement with it. Active learning involves significant engagement of students with the material to be learned through reading, writing, reflection, interaction with teachers and classmates, and the practicing of skills. The educational philosopher John Dewey was a prominent early advocate for active learning. Inquiry-based learning and cooperative learning are both types of active learning. This section of the paper will apply the inquiry-based variety of active learning to the teaching of archival intelligence, with the subsequent section on the theory of multiple intelligences addressing cooperative learning.

One argument given in defense of the lecture method of teaching with little student interaction is that more material can be “covered.” Some instructors faced with a demanding curriculum and a limited time to teach it in respond by reluctantly expanding the percentage of the course or class taken up by lectures. Active learning techniques, such as hands-on activities, often require a greater amount of lesson time to teach an objective. But, ironically, the results of
research in cognitive science have shown that students tend to retain less knowledge from
passive lectures than they do from active learning methods. Wendy Duff confirms this
conclusion in the case of archival intelligence instruction, quoting a student who just completed a
lecture-style archival orientation: “You did a fine job, but it did not stick in my mind.”
Therefore, what seems on one view to be more subject coverage accomplished by a lecture
actually translates to less knowledge retention than active learning methods. Consequently,
Bransford and his collaborators argue that “superficial coverage of all topics in a subject area
must be replaced with in-depth coverage of fewer topics that allows key concepts in that
discipline to be understood.”

There are many ways to use active learning in the teaching of archival intelligence. Short
exercises for students that practice the use of a recently introduced archival concept or finding
aid allow the student to engage with ideas and tools and through first-hand experience build a
more solid foundation for their knowledge. For example, after learning from a short lecture about
the representation of an archival collection through MARC records, students might be asked to
locate in the MARC record five “external” facts about the collection that help to establish the
context in which the records were created.

A more extended approach involves posing problems for students to resolve through
research in the archives. Gerencser and Triller use this approach in their historical methodology
class. For one of their lesson exercises, they craft research questions that are designed to illustrate selected concepts of archival organization. Students are asked to use Dickinson’s archival finding aids and materials to find answers to the questions. For example, they pose the problem of how several reliable secondary sources cite variant birthdates for John Dickinson, the founder of the college. Even though students are permitted to request any materials in the archives to resolve the problems, Gerencser and Triller have a general awareness of which collections and series can answer their questions. They prepare the relevant boxes ahead of time and hold them out of sight. This active learning method compels students to make use of their newly learned information about archival organization and searching strategies.

Teaching Archival Intelligence to Multiple Intelligences

The theory of multiple intelligences began as a reaction in the early 1980s to traditional intelligence assessments. Psychologist Howard Gardner argued that human intelligence is based on a capacity for solving problems and on the ability to resolve problems in a naturalistic, as opposed to an artificial learning, context. He categorized human intelligence into eight categories:

<table>
<thead>
<tr>
<th>Intelligence</th>
<th>Description</th>
<th>Teaching Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linguistic</td>
<td>Sensitivity to the sounds, structure, meanings, and functions of words and lectures, discussions</td>
<td></td>
</tr>
<tr>
<td>Intelligence</td>
<td>Definition</td>
<td>Methods</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Logical-mathematical</td>
<td>Sensitivity to, and capacity to discern, logical or numerical patterns; ability to handle long chains of reasoning</td>
<td>problem solving, critical thinking</td>
</tr>
<tr>
<td>Spatial</td>
<td>Capacity to perceive the visual-spatial world accurately and to perform transformations on one’s initial perceptions</td>
<td>visual presentations, mind-mapping, metaphor, visualization</td>
</tr>
<tr>
<td>Bodily-kinesthetic</td>
<td>Ability to control one’s body movements and to handle objects skillfully</td>
<td>hands-on learning, tactile activities</td>
</tr>
<tr>
<td>Musical</td>
<td>Ability to produce and appreciate rhythm, pitch, and timbre; appreciation of the forms of musical expressiveness</td>
<td>using songs that teach</td>
</tr>
<tr>
<td>Interpersonal</td>
<td>Capacity to discern and respond appropriately to the moods, temperaments, motivations, and desires of other people</td>
<td>cooperative learning, peer tutoring, simulations</td>
</tr>
<tr>
<td>Intrapersonal</td>
<td>Access to one’s “feeling” life and the ability to discriminate among one’s emotions; knowledge of one’s own strengths and weaknesses</td>
<td>individualized instruction, independent study, options in course of study</td>
</tr>
<tr>
<td>Naturalist</td>
<td>Expertise in distinguishing among members of a species; recognizing the existence of other neighboring species; and charting out the relations, formally or informally, among several species</td>
<td>nature study, ecological awareness</td>
</tr>
</tbody>
</table>

Individual people possess all eight intelligences to some degree. But each intelligence exists in greater or lesser degrees, in highly developed or underdeveloped states, in each person. A highly developed intelligence in a person can provide clues for an instructor about the most ideal methods for teaching new knowledge and skills to him. The fact that a single person can have more than one intelligence to a high degree (and that a classroom of students therefore contains a complex interplay of strong and weak intelligences) has important implications for teaching.
methods. Instructors should attempt to diversify their methods in order to address all eight intelligences and the modes of learning following from them.⁹³

Despite the similarity of terms, archival intelligence cannot be conceived of in terms commensurate with Gardner’s multiple intelligences. Gardner’s intelligences each meet a strict set of scientific criteria and are meant to apply universally to all humans. They are descriptive categories by which all human intelligence can be classified. For example, if the theory is true, there should be examples of savants or people with brain injuries for whom a particular intelligence exists in an isolated state of extreme development.⁹⁴

Archival intelligence, on the other hand, is the product of Yakel’s analysis of the skills and knowledge necessary for conducting effective archival research. She unifies the requisite archival skills and knowledge under the term “intelligence.” But her use of the term is entirely different from Gardner’s. It is more prescriptive than descriptive. Still, one can legitimately ask the question of how the skills and knowledge referenced by archival intelligence are related to Gardner’s multiple intelligences. How can instruction in archival intelligence capitalize on the strengths of undergraduate students who possess these intelligences to a high degree? That is the question that this section undertakes to answer. In the discussion below, when I refer to a student as having a particular intelligence, I am referring to a student with that intelligence in a highly developed state. I do not mean to imply in an absolute sense that some people have a particular
intelligence and others do not. As has already been said, each person has all eight intelligences in some degree.

Archival intelligence is related to some of Gardner’s intelligences more than others. For example, the abilities to categorize and classify ideas and objects are usually included in descriptions of logical-mathematical intelligence. Learning the concepts of provenance and original order and how to manipulate them during research probably comes more easily to a person with logical-mathematical intelligence. Despite this close relationship, an archivist teaching archival intelligence to undergraduates should attempt to diversify his instruction as much as possible to meet the learning strengths of his students, among whom all of the intelligence types are likely to be represented in a developed state."xlv

Archivists have a natural advantage in diversifying their instruction to meet the learning styles of multiple intelligences. Academic archives and special collections generally contain materials in a wide range of media formats and on many subjects. Archivists can use a variety of formats to illustrate archival concepts during short lectures (lectures appeal to those with linguistic intelligence) and student exercises. Archivists and instructors can design research projects for which primary sources are available in multiple formats for students to choose from. Textual documents appeal to those with linguistic intelligence. Students with spatial intelligence have a preference for materials requiring visual interpretation, such as videos or photographs.
Perhaps materials with musical features could be worked into some projects for those with musical intelligence. The same possibility exists for materials on the topics of nature, the environment, and animals—all of which would appeal to a person with naturalist intelligence. Clearly not all multiple intelligences could be addressed in most single instructional sessions, but archivists can make a general effort to design their lessons with an eye toward appealing to as many intelligence types as possible.

Another natural advantage for archivists is the fascination that many students have with handling original artifacts from history. This fascination is heightened for students with bodily-kinesthetic intelligence, whose learning is heightened by touching and handling objects. But instruction for this intelligence type need not always involve movement or hands-on activity directly tied to learning objectives. Simply asking students to stand up and shift locations in the room periodically, perhaps to join a group exercise, can improve the ability of a person with bodily-kinesthetic intelligence to concentrate on the material to be learned.

Repository tours are another excellent method for teaching archival intelligence, particularly archival organization and intellective skills. By observing the magnitude of archival materials in conjunction with finding aids in print, students can generate a more accurate sense of their relationships to one another. Tours provide a combination of physical movement and learning that is ideal for both bodily-kinesthetic and spatial intelligences. The physical
organization of the archives becomes more clearly evident. One novice researcher questioned by Yakel and Torres commented on the usefulness of tours for intellective skills: “when I got there, I saw them [finding aids] all on a book shelf about this size. That helped too, just to be able to see how big is this that whatever I saw online… was exactly what I was seeing in front of me.”

Graphic charts constitute another effective method of teaching intellective skills to students with spatial intelligence. Such charts could present a visual contrast between records or manuscripts on the one hand and the various descriptions or finding aids on the other. The complexities added by digital and digitized records and finding aids could also be graphically represented. Such charts may not be able to self-evidently stand on their own without the archivist’s explanation, but once understood, graphic charts could be a useful way for students to distinguish between archival materials and their many representations in finding aids. One example of a graphic chart for building intellective skills is Figure 1 below.
<table>
<thead>
<tr>
<th>PRIMARY SOURCES</th>
<th>Non-Digital</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>paper records, photographs, films, etc.</td>
<td>born-digital sources such as email, digitized copies of non-digital materials</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DESCRIPTIONS (Finding Aids)</th>
<th>Non-Digital</th>
<th>Digital</th>
</tr>
</thead>
<tbody>
<tr>
<td>descriptive inventories, indexes, subject guides</td>
<td>descriptive inventories, indexes, library catalog records</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1
An appropriate complementary exercise with Figure 1 would be the physical handling by students of both archival materials and finding aids; this would, of course, benefit those with bodily-kinesthetic intelligence. Students could be asked to compare critical external details between the original document and the finding aid corresponding to the collection of which it is a part. Finally, the archivist could present students with digital versions of both the document and finding aid, dispelling any notion that the digital format is the sole province of either archival records or their descriptive finding aids. The graphic chart and the above exercise in handling materials could be the first steps in building intellective skills in students with bodily-kinesthetic and spatial intelligences.

Cooperative and group learning is another major teaching method for archivists to utilize in archival intelligence instruction. This method appeals to students with interpersonal intelligence who thrive on learning in an interactive social context. Despite cooperative learning’s theoretical backing for classroom applications of multiple intelligences and its grounding in broader educational psychology research, it is underutilized by archivists in their current instructional practices. Krause’s survey results reveal that group exercises are “rarely or never part of instruction” for more than half of all archivists who teach archival research skills. Only 16.8% of archivists surveyed “always or often” utilize group exercises. As noted for active learning above, some instructors hesitate to use cooperative learning methods because they cannot “cover” as much material. But archivists should consider not only how many aspects of archival intelligence are covered, but also how many of them are retained and internalized by
students. As an effective instructional method for students with interpersonal intelligence, cooperative or group learning should play some role in almost all teaching. xlvi

Cooperative learning allows students learning archival intelligence to hear the multiple perspectives of their classmates. This produces in each student a more nuanced understanding of the skill or knowledge under examination. When a student is compelled during group discussion to articulate his understanding or critique, his thinking is usually more active and richer than when he is merely listening passively to new information. This point is accentuated under one model of cooperative learning called reciprocal teaching, in which one student teaches other students a new concept or skill. xlix

The teaching of searching strategies (Dimension 2)) becomes more effective by incorporating cooperative learning. In an activity they call “Team of Detectives,” Gerencser and Triller give a research problem to each small group of students. Their task is to solve the problem using the Dickinson College Archives and Special Collections’ finding aids and archival materials. Through the interplay of students’ ideas, the searching strategies employed soon become more complex; each student benefits from the perspectives of his classmates. The research problems can, of course, be crafted to emphasize skills in using one type of finding aid or document; in this way, a spectrum of problems are engaged in by the class. The whole class ultimately benefits if each group is given a chance to share their problem or question and what searching strategies they employed in finding an answer.¹

A “jigsaw” activity in cooperative learning has each student become an “expert” on a topic, then teach classmates about it. It can be applied to intellective skills and searching strategies by having students examine a variety of finding aids or document
types. The class could be divided into four groups of four students each. Each group would be given one of four different finding aids to examine, discuss, and become “experts” on. The second stage of the activity would be a redistribution of students into new groups, with each new group containing an “expert” on one of the finding aid types. This activity has not only the advantage of each student learning about four types of finding aids, but also knowing one finding aid type well enough to introduce it to other students.

As beneficial as cooperative learning is for students with strong interpersonal intelligence, archivists should not neglect to account for students with intrapersonal intelligence. Students with intrapersonal intelligence need time for individual study and introspection. In practice, archivists should use a combination of methods in their instruction that addresses the needs of both groups. Gerencser and Triller’s “Touching the Past” activity combines group and individual instruction. They prepare for the activity by gathering “documents, photographs, and artifacts that represent a wide range of formats, functions, and points of view.” One item is distributed to each student. They are asked to inspect their documents to answer a list of basic questions about the context in which the item was created. After several minutes, students are asked pair up with nearby classmates in order to compare and contrast their documents. Finally, they are asked to share their document and their analysis of it with the rest of the class. Gerencser and Triller successfully combine features directed toward the interpersonal and intrapersonal intelligences within this single activity. In general, archivists’ goal should be an overall combination of group and individual learning activities in a single lesson or instructional session.
Archivists should attempt to address as many of Gardner’s eight intelligences as they can through their instruction on archival intelligence. While it is true that some archival concepts such as provenance are intrinsically related to the thinking of a person strong in logical-mathematical intelligence, archivists can deliberately craft their teaching to reach all or most of the eight intelligences. It is important for archivists to remember that all eight intelligences are present in the classes they teach.

Assessment of the Learning of Archival Intelligence

An indispensable part of each lesson on archival intelligence should be some type of assessment or evaluation of the new skills and knowledge acquired by students. Whether intended for the improvement of students’ self-knowledge or the archivist’s instructional practices, assessment in these circumstances is primarily of the formative, not summative, type. Any type of examination or quiz to assess students’ archival intelligence would seem out of place in a collaborative archivist-instructor session in the archives. Archival intelligence is not an end in itself. It is one of the means by which better research products are realized. The proof of archival intelligence is not in an exam, but in the research product itself. In her study of archival orientation sessions at Yale, Duff undertook this type of research product assessment. She found that three out of four instructors reported an increased number of archival citations in their students’ work following the orientations. An evaluation of students’ research product is the closest to a summative evaluation that can be achieved in this context.

Students should be provided with time to reflect on their learning, evaluating what they have learned and where they still need improvement. This self-evaluation is what
Bransford et al. call “metacognition.” They posit that “a ‘metacognitive’ approach to instruction can help students learn to take control of their own learning by defining learning goals and monitoring their progress in achieving them.” There are many self-assessment activities that can meet this need. For example, students may keep a “KWL” table for self-monitoring during the class. This would be a three-column table with the following headings: 1) What I know about archival research, 2) What I want to know about archival research, and 3) What I learned about archival research. The first two columns are completed at the beginning of the class. The final column is completed during and at the end of the class.

The metacognitive skills developed during archival intelligence instruction can be transferred to student’s actual research processes. Yakel and Torres’ dimension 3) of archival intelligence is about self-knowledge in the research process. Proficient researchers evaluate their own research results to determine when they should pursue further information. They evaluate when their knowledge of searching strategies or collection details is not meeting their information needs—thus requiring guidance from a reference archivist.

The effectiveness of the archivist’s instructional practices is another major area to be formatively assessed. The data and information gathered from this instructional assessment allows the archivist to modify his lessons to improve students’ learning experience. These assessments potentially benefit the whole profession as best practices for teaching archival intelligence could be developed. But Krause reports that only a minority of archivists who teach archival intelligence undertake any formal assessment effort. This will probably change in the future as the pressure from administrators builds
for academic archivists to objectively measure their utility to the academic community, as academic librarians have lately been asked to do.\textsuperscript{iv}

Yakel argues for “pinpoint” assessments that could target specific points for improvement in archivists’ instruction. But the assessment tools currently available for evaluating archival instruction tend to be less precise than one would hope for. The most widely used assessments are a set of surveys developed by the Archival Metrics Project. These gather the perceptions of archival instruction from both students and collaborating instructors. The surveys address topics such as students and instructors’ satisfaction with the instruction, the level of confidence students have in conducting archival research following the instruction, and students’ use and citation of archival sources in research. One advantage of the surveys is that archivists can determine the level of archival anxiety present in students. This indicates the likelihood of their continuing to use the archives even after the course ends.

An indirect assessment of archivists’ instruction is simply the number of teaching exercises throughout the academic community that utilize the archives and special collections; similarly, the number of repeat collaborations between an instructor and archivist is an indirect indication of the instructor’s satisfaction. But none of these assessments, including Archival Metrics, approach Yakel’s demand for “pinpoint” evaluations in order for archivists to know what they did or did not teach well. Perhaps the best available way at present for archivists to acquire the feedback with which they can evaluate their instruction is to have colleagues observe their instruction and discuss how it can be improved.\textsuperscript{vii}
Conclusion

The necessity for academic archivists to build their user base beyond their traditional scholarly and administrative groups is increasingly apparent. They are being asked to actively participate in the education of students. Fortunately, many academic archivists have responded by offering archival orientation and research skills classes, often in collaboration with instructors for specific research assignments. However, pedagogy and current educational research are not usually part of the training programs for archivists. This means that academic archivists teaching archival research skills should familiarize themselves with contemporary pedagogical practices in preparing their lessons.

Elizabeth Yakel and Deborah A. Torres analyzed the knowledge and skills required for proficient archival research, summing them up under the term “archival intelligence.” This is a good starting point for an archival research curriculum. On the basis of archival intelligence, archivist educators can develop learning objectives for written lesson plans. Writing a lesson plan compels an archivist to carefully consider the teaching methods by which the objectives can be learned. In preparing their lessons, archivists should incorporate the findings of recent educational research and correlative practices. Three major theories and practices are constructivism, active learning, and the theory of multiple intelligences. This paper is an introduction to the ways that these theories can be applied to the teaching of archival intelligence. Adopting these practices will result in increased student engagement and, ultimately, will produce more ongoing and lifelong users of archives. An expanded base of users with archival intelligence will provide support for archives as an important component of the academic community.
This is a prospect that should motivate many archivists to continually develop their instructional skills.

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iv It is difficult to determine what the conclusion from this finding should be because the explanation of why older faculty use primary sources less often is unclear. For the survey of college and university history instructors’ use of primary sources in their teaching, see Doris J. Malkmus, “Teaching History to Undergraduates with Primary Sources: Survey of Current Practices.” *Archival Issues* 31, no. 1 (2007): 26.


xiv Yakel and Torres, “Archival Intelligence,” 51-54.

x Yakel and Torres, “Archival Intelligence,” 52. Malkmus makes a similar point in “Primary Source Research,” 61. She argues that K-12 teachers are teaching critical thinking about primary sources, but not archival intelligence.


xxii Yakel and Torres, “Archival Intelligence,” 71; Bransford et al., How People Learn, 20.

xxiii Krause, “Learning,” 251. Krause’s survey of archivists who teach archival research skills was inclusive of all types of archivists, not only academic archivists. Respondents from academic archives and special collections represented 54% of her study group.

xxiv Malkmus, “Primary Source Research,” 63.


xxvi Yakel, “Information Literacy,” 62; Yakel and Torres, “Archival Intelligence,” 70.

xxvii Bransford et al., How People Learn, 20.


xxix Prom, “User Interactions,” 247, 262; Yakel and Torres, “Archival Intelligence,” 64.

xxx For the one to two-hour average of instructional time, see Krause, “‘It Makes History Alive’”, 407; Sherri Berger, Ellen Meltzer, and Lynn Jones, “‘The Links in the Chain’: Connecting Undergraduates with Primary Source Materials at the University of California,” California Digital Library (May 1, 2012), escholarship.org/uc/item/5b1044cd, (accessed February 10, 2014); McCoy, “Manuscript,” 51.


Keyser, “Active Learning,” 40.

Gerencser and Triller, “Hands-on Instruction,” 57, 62-64.


The table here is a selective combination of two tables found in Thomas Armstrong, *Multiple Intelligences in the Classroom*, Alexandria, VA: Association for Supervision and Curriculum Development, 2009: 10-11, 58-59. The “Description” column contains all quotes of Armstrong. The “Teaching Activities” column is taken from a table on pp. 58-59. I chose to include in my table only those activities I think are relevant to teaching archival intelligence to undergraduate college students.


Krause, “‘It Makes History Alive,’” 406.


1 Gerencser and Triller, “Hands-on Instruction,” 62-64.

A description of the “jigsaw” and other activities is in Science Education Resource Center, “Cooperative Learning”; a slightly different activity designed for information literacy instruction appears in Keyser, “Active Learning,” 38.


3 Duff and Cherry, “Archival Orientation,” 517.


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