Archives and Special Collections Instruction for Large Classes

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abstract: With increasing demand for archival instruction and growing class sizes, archivists and special collections librarians are struggling to accommodate larger classes, both logistically and pedagogically. This paper reviews the literature on approaches from both higher education and archival instruction to identify trends for teaching big classes. The author then suggests how the techniques used across higher education might be adapted for use in archival instruction. Some of these methods include working with teaching assistants who lead discussion sections, utilizing digital tools such as learning management systems and digitized primary sources, and creating a community of practice within archives and special collections for large class instruction.

Introduction

The field of archives and special collections has long advocated for the use of primary sources in undergraduate learning, resulting in a wealth of literature focused on archival instruction. As the larger academic community has become more aware of archives and special collections as an important avenue for critical inquiry, demand for archival instruction sessions has increased. The growing interest in such instruction means that archivists and special collections librarians in many higher education systems struggle to provide these services to larger classes.[1] Conversations among practitioners about efforts to teach big groups, such as discussions during the Teaching with Primary Sources Unconference in Austin, Texas, in 2019, reveal that the archival and special collections community is grappling with this issue.[2] The field not only needs to address the logistical challenges that result from large class sizes but also must think about the pedagogical impact of class size and adapt archival instruction accordingly. It is time for archivists to create a community of practice around archival

instruction for large classes, to discuss and share ideas that address the logistical, security, and pedagogical concerns of teaching with primary sources in large classes.

When the author of this manuscript was asked to provide an archives instruction session for a political science class of 75, by far the largest she had ever taught, she sought guidance from the professional literature to learn how others in the field tailor their instruction to larger class sizes. The archival instruction literature offered only a limited body of work to draw from. This led the author to question where archivists and special collections librarians like herself might find such information. Are there techniques or models that she and her colleagues might take from literature on large class pedagogy in various disciplines in higher education? The following exploration examines both archival literature on instruction and higher education literature on large class pedagogy to discover the focuses, approaches, and strategies used. It seeks to determine whether the techniques utilized by instructors in higher education might help those in archives and special collections to adapt their teaching to better suit substantial class sizes.

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Search Methodology

To compile a representative body of archival and higher education literature from which to draw, the author followed similar procedures for each area. In 2019, Patricia Garcia, Joseph Lueck, and Elizabeth Yakel published a nearly comprehensive review of literature on primary source instruction and outreach,[3] and the author modeled her search methodology around theirs. She began by conducting searches in the scholarly databases used by the three authors, including ProQuest Central, EBSCO Academic Search Complete, and Google Scholar, using the keywords *primary sources*, *archives*, *special collections*, *teaching*, *archival instruction*, and *instruction*. Additionally, the author searched using the same keywords in a discipline-specific database, Library and Information Science Source. All results were limited to peer-reviewed English-language resources and a date range of 1980 to 2019. This range started more recently than that of Garcia, Lueck, and Yakel because growing class sizes and demand for archival instruction are newer trends. Like Garcia and his coauthors, the author specifically concentrated on archival and special collections literature focused on instruction and excluded publications from other disciplines, such as history. Two additional deviations from the methodology of Garcia, Lueck, and Yakel were the exclusion of outreach-focused articles in favor of those dealing exclusively with instruction, as well as the elimination of articles centered on K–12 education. Although not an intentional search parameter, the articles from these searches were generally from the United States or Canada. These initial searches yielded a total of 35 articles.

To augment this search and address any gaps, the author consulted the "Teaching with Primary Sources Bibliography" compiled and maintained by the Society of American Archivists (SAA) Reference, Access and Outreach section.[4] With this resource, an additional 23 articles were added to the bibliography, for a total of 58 articles. The author also consulted the *Case Studies on Teaching with Primary Sources* series published online by SAA because these studies are recent, provide detailed information about approaches in archival instruction, and serve as an easily accessible tool for archivists who do such teaching.[5] When the author conducted the research in December 2019, the series included nine case studies.

To compile a body of literature on the pedagogy of large class instruction in higher education, the author used the same databases she had consulted for the archival-focused search, as well as ERIC (ProQuest), a database from the Education Resources Information Center. For this search, the keywords included *large class pedagogy*, *class size*, *higher education*, and *large classes*. The author limited the search to peer-reviewed English-language articles published between 1980 and 2019. She excluded literature from developing countries because their increases in enrollment have been relatively understudied until recently.[6] The educational infrastructure in developing countries also differs between countries and in comparison to that in developed countries.[7] The author attempted to get a sample of literature that would represent a wide variety of academic subjects, since class size is a consistent issue across disciplines. She included a range of institution types, both two- and four-year colleges and universities, as well as public and private institutions of various sizes. The author excluded literature that focused exclusively on online courses to identify pedagogical approaches used in in-person classes. These searches resulted in 68 total articles.

Archival Instruction in the Literature

Although archivists and special collections librarians are seldom trained in pedagogy, many of them have long served in instructional capacities and advocated for conceptualizing the archivist as an educator.[8] Archival instruction has been a focus in the literature for many decades, with Ken Osborne's 1987 "Archives in the Classroom" drawing initial attention to this topic.[9] After Osborne, articles on archival instruction surged beginning in the late 1990s and into the 2000s.[10] While much of the literature discusses undergraduate or graduate-level history courses,[11] archivists and special collections

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librarians have also documented their work in a range of humanities and science, technology, engineering, and math (STEM) disciplines.[12] Discussions of archival instruction have focused on five themes: (1) a codification of desired learning outcomes of archival instruction, often referred to as "primary source literacy";[13] (2) the need for assessment

of teaching in archives and special collections;[14] (3) a movement away from the traditional "show and tell" lecture and toward active learning, in which students become actively engaged in assimilating the material instead of passively absorbing it;[15] (4) the importance of the materiality of archival materials in primary source instruction;[16] and (5) a movement from "one-shot" instruction sessions toward longer term collaborations with faculty members.[17]

Much of the archives and special collections literature focused on a need for agreeing upon the desired learning outcomes of archival instruction, which had been lacking for many years.[18] Elizabeth Yakel began the discussion around defining primary source literacy in the early 2000s[19] and did much of the early work in putting forth what the goals of primary source instruction should be. For a 2003 article, Yakel and Deborah Torres interviewed archival researchers and proposed two types of knowledge those using archives should possess. They were "archival intelligence," which includes foundational skills such as understanding procedures for working with archival materials and creating search strategies for research questions, and "artifactual literacy," the ability to analyze and interpret primary sources.[20] Yakel expanded her work on primary source literacy in a 2004 article in which she called for archivists to have more discussions about what "information literacy for primary sources" would or should look like.[21] Building upon this work, other archivists began to develop and publish their own standards, learning objectives, and methods for instruction based on their own conceptions of archival literacy, information literacy for primary sources, and primary source analysis skills.[22] The core concepts or learning objectives that arose from this work varied, with some providing general skills that archival instruction should teach,[23] and others offering highly specific lists of learning objectives with anywhere from 15 to 51 goals.[24] In 2016, Peter Carini outlined six standards for primary source information literacy ("know," "interpret," "evaluate," "use," "access," and "follow ethical principles"), with learning objectives that fell within each standard.[25] Carini's model most closely aligns with the "Guidelines for Primary Source Literacy" published in 2018 by the SAA-ACRL/RBMS (Association of College and Research Libraries Rare Books and Manuscripts Section) Joint Task Force on the Development of Guidelines for Primary Source Literacy. These guidelines provide four "core ideas": analytical concepts, ethical concepts, theoretical concepts, and practical considerations. The document also outlines 22 learning objectives, organized into five areas: "conceptualize"; "find and access"; "read"; "understand and summarize"; "interpret, analyze, and evaluate"; and "use and incorporate."[26]

Much of the literature addresses the challenge of assessing learning in archives and special collections. In her 2008 study on instructional practices in archives and special

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collections, Magia Krause found that 38.7 percent of survey respondents did not collect feedback from students for assessment purposes.[27] For those who did do assessment, 47.7 percent performed an exit interview, 27.2 percent used student papers to measure learning, and 25.8 percent administered an evaluation form or survey.[28] Many archivists argued that archival assessment practices should mirror the assessment work that has been done for years by

instructional librarians focused on teaching information literacy.[29] This contention was borne out in a collaboration between an archivist and an instructional librarian at the University of Illinois Urbana-Champaign aimed at improving assessment in archival instruction sessions.[30] While there is no standard practice of assessment in archives and special collections instruction, a number of models have been proposed, including the use of rubrics to measure student learning,[31] surveys to determine student satisfaction or self-reported confidence in using materials,[32] tracking use of archival materials to see if instruction sessions lead to increased use,[33] and online assessments such as tutorials or games.[34] Between 2004 and 2008, a group of archivists created the Archival Metrics Toolkit, comprised of five questionnaires to assess the work of archivists. Two questionnaires specifically targeted archival instruction: one for students who have attended instructional sessions, and one for instructors who use materials from the archive in their teaching.[35] While there remains no standard way of assessing archival instruction, the literature from the field, and especially the development of the Archival Metrics Toolkit, reveals that assessment is at the forefront of discussions about teaching in archives and special collections.

The "show and tell" approach has for many years been the standard approach to instruction in archives and special collections, with instructors providing a guest lecture in which they display archival materials and discuss their significance.[36] This approach has been called a "pure proselytizing moment," intended for archivists to show off their collections and knowledge, and to encourage a return visit for a deeper exploration of the collections at a later date.[37] However, those return visits rarely materialize, meaning that students' only introduction to archives and special collections focuses on viewing materials, not on investigation, analysis, or discussion. Recent research finds that many archival professionals engaged in instruction agree that the "show and tell" lecture is not the most useful teaching approach.[38] Despite that archivists have begun to move away from this style of teaching, many faculty still expect them to provide such a presentation in an instruction session.[39]

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Rather than the traditional approach to instruction, which is instructor-focused, many educators now favor a student-centered technique called active learning.[40] Student-centered learning is referred to by a variety of terms, including *constructivism*, *active learning*, or *inquiry-based learning*.[41] This piece will use the term *constructivism* to encompass this hands-on, student-focused pedagogy. Constructivism is a learning theory that proposes that students construct their own knowledge through experience. In archival instruction, constructivism often means that students develop new knowledge and draw connections with their previous knowledge through hands-on activities and discussion with other students and the instructor.[42]

Constructivism's growing popularity among those doing archival instruction might be accounted for in part by the nature of archival primary sources. As David Mazella and Julie Grob point out in their 2011 article, approaches that allow students to direct their own inquiry are particularly well-suited to archives and special collections because students' curiosity is already piqued by the novelty of archival objects in comparison to the resources with which they usually engage.[43] In addition, primary sources present forms of information that have not already been mediated or interpreted by a teacher or scholar, allowing the students to contextualize the sources and find relationships among them through analysis.[44] These factors contribute to the idea put forth by Anne Bahde that archives can and should be thought of as "laboratories," where students engage in hands-on activities that build upon the learning gained in the lecture-based portions of their course.[45]

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Constructivist learning in archival instruction can take many forms, including having students curate physical or virtual exhibits,[46] engage in student-led discussions centered around materials,[47] create metadata for an archival item or collection,[48] or collaborate on a digital project.[49] The techniques that archivists cite as working well in archival instruction, namely, active learning (grounded in a constructivist approach), visual and hands-on learning, and collaborative group work, often depend on the materiality of archives and students interacting with items physically.[50] Allowing students to physically work with sources is a key aspect of archival instruction, both in terms of learning outcomes and student satisfaction.[51]

In addition to the new focus on constructivist instructional approaches, archivists have advocated for movement away from "one-shot" instruction and toward longer term collaborations between archivists or special collections librarians and teaching faculty.[52] "One-shot" refers to an instruction session that occurs only once during a course, and it may represent the only library, archives, or special collections instruction that students will receive during the semester.[53] The one-shot model makes it difficult for the librarian or archivist to follow up with students, answer additional questions that may arise later in the research process, provide feedback, or assess their learning.[54] Many have cited such instruction as one of the primary limitations to primary source teaching.[55] In an effort to move away from one-shot instruction, some archivists have collaborated with teaching faculty to plan a series of special collections visits with activities that build upon one another.[56] Others have opted to teach credit-bearing courses for a full academic term[57] or to work with faculty on research assignments that span multiple courses and semesters.[58] The practice of "embedded" librarianship has also grown in popularity, with a number of archivists and special collections librarians being embedded into semester or yearlong courses, where they form close relationships with the students and instructor.[59] Embeddedness could mean that an archivist or librarian hosts multiple instruction sessions for

a course, sits in on classes, or is embedded within the online components of the course, posting digitized archival materials, video tutorials, or other content within a learning management system (LMS).[60] As archivists and special collections librarians pursue longer term collaborations with teaching faculty beyond one-shot instruction, it will become even more important to think about how to handle large classes.

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The Large Class in Archival Instruction Literature

Teaching approaches for large classes have been a prominent topic in higher education literature for many years but have gone largely unaddressed by archival literature. The literature rarely discusses class size, and much of it "assume[s] smaller seminar-style classes rather than large lecture-style classes."[61] While Jason Tomberlin and Matthew Turi acknowledge that "the general rise in demand for special collections instructional sessions and the increased size of college classes have presented a significant logistical challenge,"[62] they fail to address this issue in the remainder of their 2012 article. Because much of the literature does not discuss class size, archivists may have difficulty determining how to scale their instructional activities for varying enrollments.[63]

In contrast to most archival instruction literature, the cases in *Case Studies on Teaching with Primary Sources* published by the SAA all cite the number of students in the classes described.[64] This information provides helpful and important context for archivists attempting to use these case studies as inspiration for their own instruction. However, nearly all the studies describe small classes, with between 4 and 16 students each.[65] Marc Brodsky's "Seeing through Risk in the Special Collections Classroom: A Case for Flexibility" was the only study in the series to address a larger class of 50 students.[66] While the class size was noted as a factor in planning the instruction, Brodsky focused more on the risk that such numbers of students pose to the physical materials they work with, rather than on any impact the class size might have on pedagogical approaches or learning outcomes.[67]

The only archivists to provide information on archival instruction in a large class in this literature review were Anne Bahde, Ann Schmiesing and Debra Hollis, and Robert Montoya. Bahde describes an instruction session she taught for a political science class of 120 students.[68] Schmiesing and Hollis briefly mention a class of 77 students in their discussion of how they handle larger class sizes at the University of Colorado Boulder.[69] Montoya provides the most in-depth information on large classes in his description of working as an embedded librarian at the University of California, Los Angeles (UCLA), where teaching assistants taught the smaller discussion sections of a 170-student lecture course.[70]

The Large Class in Higher Education Literature

Class size has been a topic of study in higher education since at least the 1920s, when J. B. Edmondson and F. J. Mulder studied it as a factor in student achievement.[71] Findings related to the impact of class size on learning and teaching have been mixed.[72] Many studies show that large classes result in negative student and instructor outcomes,[73] while others find little or no evidence that class size influences outcomes.[74] However, the majority of the literature from the past 20 years has shown that larger classes negatively impact student learning,[75] and many educators agree that larger class sizes pose distinct challenges to student success. These challenges fall into one or more of the following general areas: negative impacts to student learning in the form of lower grades,[76] less active student involvement in learning,[77] lower levels of student engagement,[78] less interaction between students and between the student and the instructor,[79] lower ratings on course evaluations by students,[80] and lower retention rates, especially for first-year students.[81] As classes have continued to grow, the literature has expanded to include discussions of how course instructors can best alleviate some of the negative impacts that might result from large class sizes.

Studies from various academic disciplines have analyzed the impact of large classes on student grades.[82] Mixed results persist,[83] especially for demographically diverse student groups, who may be first-generation or nontraditional students or may struggle with a language barrier.[84] Among these groups of students, large classes have a negative impact on student performance.[85] Students' negative learning experience is borne out not only in their grades but also in unfavorable course evaluations.[86] Big classes result in lower retention rates,[87] especially for first-year students, who are often academically and socially underprepared for the massive introductory level classes at many institutions.[88]

Large class sizes also have a negative impact on social factors that influence student learning, including students' interaction with their peers and their dealings with instructors.[89] Big classes create a sense of anonymity among students, resulting in passivity, which can lead to poor attendance and lower levels of engagement, commitment, and motivation.[90] Students have also reported feelings of social isolation in large classes and perceptions of inadequate resources or support.[91] Many studies in the higher education literature focus on teaching tools, activities, or methods to alleviate the negative effects of large classes on student interaction and engagement. These approaches will be discussed in more detail later in this paper.

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Concerns have also been raised about the level or depth of student learning in large classes. Instructors of large classes often rely on lectures, which reinforce surface learning or low-level learning, rather than building critical thinking skills or deep learning.[92] The type of passive learning that happens during lectures not only leads to less retention of the information but also diminishes student engagement.[93] Additionally, course instructors may have to cover the material in less depth than they would in a smaller

class, thereby exacerbating a problem that is already more likely in large classes.[94] Some research has shown that students value both lectures and active learning when those approaches are combined,[95] but they perceive large classes in which instructors rely heavily on traditional lectures as impersonal and feel a sense of anonymity in the classroom.[96] The kind of instruction students receive during class may influence their work outside the classroom. An Australian study revealed that students model their study habits after the teaching style an instructor employs, so teaching that encourages passive, surface-level learning, such as extensive use of lectures, may inadvertently encourage superficial study habits, which may result in poorer student outcomes.[97] Some argue that the traditional lecture can still be effective as long as the instructor is engaging enough,[98] but many teachers favor active learning models.[99] They work to incorporate active learning techniques, collaborative assignments, a variety of assessment opportunities, and new technologies into their classrooms to improve not only student learning but also student engagement and performance.

Higher education literature tends to explain the steady growth in class sizes in one of two ways: as a result of increased access to higher education[100] or as a cost-saving measure on the part of institutions.[101] Much of the higher education literature cites a democratizing of higher education and the ensuing accessibility of higher education to a broader range of students as one of the main causes for the increase in class size.[102] Additionally, as student enrollment rises, many institutions have enlarged classes to meet demand rather than hiring additional faculty to teach more sections of a course because they see it as more cost-effective.[103] However, much of the literature questions whether increasing class size is a good way to save money when the evidence suggests that it results in lower retention rates,[104] negative faculty evaluations,[105] and lower grades;[106] and it negatively impacts students' learning experiences.[107]

What Qualifies as a Large Class?

There is no agreed upon definition of what qualifies as a large class in the higher education literature[108] nor in the archival literature. In higher education literature, a large class is widely defined as between 100 and 300 students,[109] but in at least one study from New Zealand, a big class was 1,000 students or more.[110] Higher education literature on large classes spans a wide variety of disciplines, which may explain the variance in definitions. In contrast, archival literature rarely discusses class size and tends to assume archival instruction will take place in smaller classes.[111] For archivists and special collections librarians, a class of 15 to 30 seems generally considered a standard size, 40 to 50 students is a stretch to accommodate, and anything over 50 students is assumed beyond the capacity of archives and special collections departments.[112] Only a few archivists have discussed doing archival instruction for classes larger than 50 students.[113]

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For this discussion, the author has adopted an approach proposed by David Hornsby, Ruksana Osman, and Jacqueline De Matos-Alta, educators from the United Kingdom, who define large classes not by the numbers but rather as any learning environment in which the quality of learning is negatively impacted by the number of students in the class.[114] This definition allows educators to determine what constitutes a large class according to their own local contexts. Despite the inherent differences between higher education and archival instruction, this definition also allows archivists to benefit from some of the takeaways provided by the higher education literature and might enable them to apply these techniques to their versions of a "large class."

Pedagogical Approaches to Large Classes in the Archival Literature

Archivists and special collections librarians' approaches to teaching large classes can be categorized in one of two ways: breaking the class up into smaller sections to make it artificially smaller or taking materials outside a special collections or archives department to teach in another instructional space.

Breaking a large class up into groups and then using the same pedagogical approaches one would normally use in a small class have been the primary ways that archivists seem to deal with large classes.[115] At the University of Colorado Boulder, Schmiesing and Hollis addressed space constraints with large classes by dividing the class into sections. The archivists assigned each student one of two days to visit Special Collections, and on the other day of class that week, students worked on an assigned reading. While breaking up classes allows faculty members to have more interaction with students and students to have more peer interaction with one another, both important for engaging in active learning assignments, this approach still puts strain on the reading room staff to accommodate so many visiting students.[116] Additionally, while this technique addresses the logistics of providing for large numbers of students, it does not put forth pedagogical approaches to teaching larger classes.

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A robust overview of this approach comes from UCLA's Los Angeles: The Cluster, a large lecture course of about 170 students. A special collections librarian was embedded in the course and worked closely with the teaching assistants who ran the discussion sections, hosting two special collections sessions with them. However, even this approach had limitations, in that only two sections of the course (40 students out of 170) participated in a primary source instruction session, and only a few students could go to Special Collections and view materials in person.[117]

A frequently cited approach for teaching to large classes is to hold archival instruction sessions in an alternate space, often a classroom or lecture hall. In her case study on this topic, Bahde outlines how she taught a session for a political science course with 120 students. The class was split into 30 groups of four, and each group was given a single

item to work with and a handout with discussion questions for the groups. The main challenges cited by Bahde were the concerns over the wear inflicted on the materials and their security.[118] In an SAA case study published in 2020, a special collections librarian spent one session conducting a traditional "show and tell" lecture and a second session facilitating small group work using one original letter per group to do a transcription exercise.[119] Marc Brodsky attempted to address the risks to the materials by having three members of the Special Collections staff present (including himself), as well as the instructor, to monitor the students' use of the items.[120] Again, this case study did not scale instructional approaches to fit the large class but rather found ways to make the class artificially smaller. Additionally, this approach took a great deal of staff time and energy, which may not be feasible for many institutions.

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Pedagogical Approaches to Large Classes from Higher Education

Much recent literature has focused on how faculty and institutions can improve teaching and learning within large classes. The literature advocates better guidance and training for faculty teaching large classes,[121] relying on graduate-level teaching assistants to help manage big classes,[122] incorporating active learning techniques,[123] and "blended learning," which includes using Web-based tools and technology to enhance student engagement.[124]

Much of the higher education literature urges educators to reframe how they think about large classes.[125] Many instructors believe that a balance can be achieved between the traditional lecture and recent developments in pedagogy promoting active and experiential learning.[126] One interdisciplinary team at the University of Maryland in College Park created a large-class handbook with tips and resources for improving teaching. The team also developed a series of workshops and a newsletter to share ideas and best practices for teaching sizable classes.[127] This institution put considerable time, energy, and resources into improving the support for faculty teaching large classes at their institutions, which seemed relatively rare, as most literature focused on individuals' attempts to bring new approaches into their large classes. The literature also suggests reframing how student evaluations are weighted in big classes and recognizing the value of faculty who regularly teach large classes.[128]

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Many authors in higher education discuss strategies for the effective use of teaching assistants (TAs) to alleviate some of the challenges of large classes. While most institutions recruit TAs from graduate programs, some institutions have hired "professional" TAs on a part-time basis.[129] Instructors often use TAs for grading and supplying students with substantive, timely feedback, which would be difficult for

faculty instructors to provide on their own.[130] A smaller body of literature dealt with the use of TAs as the leaders of smaller discussion sections.[131] While TAs can alleviate a lack of feedback and provide a "small class feel,"[132] they, like faculty instructors, need tools and resources for effectively teaching large classes. A team of researchers in Australia developed a model to prepare TAs to successfully facilitate undergraduates' active and collaborative learning projects.[133] As the researchers point out, TAs are an integral part of instruction in large classes, and they should be provided with training and resources to be as effective as possible.[134]

Active learning in large classes poses challenges, but some instructors continue to pursue such techniques despite teaching sizable classes. A recent study on inquiry learning revealed that the highest levels of such learning occurred in classes of 50 students or fewer, but it took place to some degree in larger classes as well.[135] Successfully integrating active learning in large classes requires planning and should be scaled depending on the size of the class.[136] Active learning can take many forms and involve varying levels of commitment for both students and teachers. Examples of active learning activities that involve low commitment include brainstorming and think-pair-share activities, a strategy in which students have time to think about a problem individually, and then work in pairs to solve the problem and share their ideas

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with the class.[137] Higher commitment activities include student role-playing or group work. Including a variety of active learning activities may better address differences in learning styles, help to assuage students' hesitancy to participate in activities,[138] and increase student engagement.[139] Having instructions in writing is important in a large lecture hall where not all students may hear directions delivered orally. Kathy Lund Dean and Sarah Wright also suggest being transparent about learning outcomes and using the syllabus to make clear the connection between learning outcomes, in-class activities, and assessment. They recommend instructors go over the content they will cover, as well as any in-class activities they plan, at the beginning of class.[140] Some instructors have altered the way they assess students for active learning, such as focusing on a few distinct learning objectives[141] or determining whether students grasp and can apply a concept, rather than having memorized details.[142] Some recent research suggests that active learning techniques improve student engagement with course content and may even influence their behavior.[143]

One popular approach to enhancing large class instruction is the use of Web-based tools and technologies to increase student engagement. These tools can be used in a variety of ways, including allowing for active learning through a "blended learning model," increasing access to the professor or TAs, creating more opportunities for students to receive feedback, boosting student-to-student interaction through discussion posts, or applying a flipped classroom model, in which students study new content at home and use class time for projects and discussions.[144]

In studies on the impact of class size, students frequently reported that large classes impeded their access to their professor or TAs.[145] A related issue is student-perceived lack

of feedback from instructors in big classes, as many students receive only a few comments during a course, generally through exams or other heavily weighted assignments.[146] Early work in this area has found that learning management systems and other online tools can help to provide students with a sense of increased access to their instructors.[147] Even with such systems, however, improving contact with instructors and providing feedback to hundreds of students present challenges.[148] Some educators offer feedback to a select percentage of regular class discussion posts, gradually providing comments to every student throughout the semester, and having TAs supply observations on the remaining posts.[149] Premade online tutorials, which can be delivered through an LMS, have been used to provide additional feedback to students without placing additional burdens on instructors.[150] Some teachers have developed their own informal assessments, such as class surveys or quizzes administered through the LMS. These can be given in class with clickers, handheld devices students use to answer a question so that they can see the results in real time, or the quiz or survey can be given outside class, when

students will get immediate automatic feedback from them.[151] Giving students multiple attempts at these informal quizzes may help them to work through their mistakes and identify where they need to improve.[152] The instructor may use short podcasts to provide additional context and information about difficult assigned readings or other out-of-class work. This practice has been found to positively impact students' perceptions about instructor accessibility.[153] While a few studies have analyzed the use of social media platforms such as Twitter or Facebook in place of a traditional LMS,[154] the results have been mixed. Some studies show that social media increases student engagement and achievement,[155] while others find minimal or no evidence of this positive impact.[156] A learning management system is widely considered key to increasing student engagement in large classes, especially by enhancing accessibility to instructors and instructor feedback.[157]

> **A learning management system is widely considered key to increasing student engagement in large classes, especially by enhancing accessibility to instructors and instructor feedback.**

Another challenge that technologies like learning management systems can help to address is the lack of student-to-student interaction in large classes.[158] When in-class instruction is combined with online tools and assignments, it is called "blended learning."[160] A form of active learning that relies on new technologies and encourages students to work together, blended learning is frequently cited as a way to increase student engagement and integrate active learning into large classes.[160] Recent studies on blended and collaborative learning have shown that online collaborative assignments encourage student motivation as well as peer interaction and student engagement.[161] Discussion posts or collaborative research and writing assignments using Web-based tools such as learning management systems, wikis, or blogs increase students' interaction with their classmates and their engagement with the material.[162] A blended learning model can prove especially helpful for diverse student bodies, in which socioeconomic background, learning style, and language skills may pose additional challenges for students.[163]

Clickers are another tool frequently cited in the literature used to enhance the experience of students in large classes.[164] Students are asked to think critically and respond with their own answers to clicker questions, rather than listen to a traditional lecture in which an instructor simply delivers information.[165] The use of clickers in large classrooms has been found to increase student engagement[166] and even to result in higher test scores in two small-scale studies.[167] Recently, instructors have begun to adopt and study the use of Web-based learning platforms such as LectureTools,[168] which allow students to use their own mobile devices to answer questions embedded in the in-class lecture. While these tools are still in early stages of adoption, they may help to create a more active learning environment in large classes, leading to positive student outcomes.[169]

Integrating Higher Education Approaches into Archival Instruction for Large Classes

The higher education literature has much in common with the archival literature focused on instruction, namely an emphasis on active learning and cooperative or group learning. In contrast to the archival literature, however, which tends to focus on these activities with small classes, the higher education literature grapples with the challenges and opportunities of trying to re-create the feel of a small class in a large lecture hall.[170] Instructors in higher education spend an entire academic term with their classes, in contrast to archivists, who generally spend only one or a few class sessions with a group of students. Nevertheless, archivists could incorporate some approaches from the higher education literature into their instruction. These include working with TAs to facilitate group discussion and handling of materials within discussion sections, integrating more digital tools into archival instruction, and modeling the use of active learning in big classes.

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Some archivists have sections of a class come to the reading room in small groups.[171] Others might conduct a special collections instructional session during the discussion meetings led by the TAs. This approach would leverage the teaching infrastructure already in place (large lecture classes with smaller TA-led discussion sections) to enable archivists to teach primary source instruction as active learning, without putting undue stress on the physical materials or reading room staff. It could be especially beneficial for learning objectives that depend on students' interacting with primary source materials in large class settings, such as in Brodsky's case study of a class of 50 students[172] and Bahde's session of 120 students.[173]

Schmiesing and Hollis described a class of 75 students in which the special collections librarian delivered a lecture with presentation software in the classroom for the first of two sessions and then had students visit the reading room in small groups for a second session.[174] However, this approach put additional strain on reading room staff. Another example of this approach comes from UCLA's Los Angeles: The Cluster, a

yearlong lecture course of about 170 students. Special Collections Librarian Robert Montoya was embedded in the course and worked closely with the teaching assistants who ran the discussion sections. Montoya sat in on and sometimes contributed to the large lecture portion of the course. Through his collaboration with the teaching assistants, he successfully hosted sessions with two of the discussion groups, each of which included 20 students.[175] Montoya's pilot of this approach at UCLA faced some limitations. For example, he could not host small group discussions with all students enrolled in the course, reaching only 40 out of 170. Rather than bringing primary source materials to the discussion sections, Montoya instead deputized a select few students to visit Special Collections in person and act as "ambassadors" for the rest of the class.[176] Despite its limitations, this project does provide a useful pilot of a strategy for the delivery of archival instruction to large classes.

Using technical tools in large classes is another approach that could prove effective in archival instruction. Leveraging institutional learning management systems and embedding digital lessons and resources within them could be used to integrate a "flipped classroom" model into archival instruction. In this model, the traditional lecture style of information is provided via videos or presentation software screencasts and assigned as homework, while class time is reserved for active learning.[177] While Schmiesing and Hollis note that "with the increased availability of 'smart' or electronic classrooms at American colleges and universi-

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ties, special collections librarians can take a lecture on the road," they do not actually discuss applied examples of such instruction.[178] Archivists at Brigham Young University in Provo, Utah, have already experimented with such technologies for training student workers by creating a series of instruction modules with videos and quizzes.[179] This model could easily be adapted for use in large classes. Archivists at the University of Illinois Urbana-Champaign have created and used an online tutorial called the "Primary Source Virtual Information Literacy Learning and Growing Environment (VILLAGE)" as a part of a flipped classroom model, though they were the only archivists found in this review to have utilized technology in this way.[180] Archivists teaching large sessions might consider creating a series of similar modules that could be embedded by the teaching faculty into the course's LMS. An LMS could also serve as the delivery system for packets of digitized primary sources or links to archival collection finding aids.

Archivists and special collections librarians could adapt active learning techniques to larger classes when the class size or structure prevents breaking the group into smaller sections. Faculty in higher education have demonstrated that active learning can be scaled according to class size and desired learning outcomes.[181] While archivists and special collections librarians often rely on a similar instructional activity regardless of class size,

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such as having small groups of students analyze an item or series of items and answer discussion questions, faculty in other areas of higher education have experimented with a variety of active learning activities that require varying degrees of commitment. When teaching large classes, archivists could include "low commitment" activities, such as short writing tasks, brainstorming, or think-pair-share activities,[182] in addition to higher commitment activities like student role-playing or group work.[183] Clickers and applications that allow students to use their phones or other devices in place of a clicker create opportunities for active student engagement in large lecture environments where other forms of active learning might be challenging.[184] In Brodsky's 2019 case study of a letter transcription exercise with approximately 50 students, he noted the difficulty the instructors faced in answering individual student questions with such a big group.[185] The use of clicker applications could alleviate this issue, allowing students to pose questions online, which could then be projected on a screen for the class. This way, the instructor could address questions that multiple students might share by responding once to the whole class, rather than visiting the desk of each student who raised a hand, as described in Brodsky's case study.[186] While the use of clickers is widespread in large lecture classes throughout higher education, the archival literature suggests that this approach has not yet been tested by those doing archival instruction. Bahde and Smedberg argued for the use of clickers in archival instruction as a technology to pursue, but such tools have not been widely adopted by archives and special collections.[187]

Use of digitized primary source collections may also be necessary to adapt active learning techniques to larger classes. Having students break into small groups to analyze or annotate a digitized primary source would allow archivists to use active learning approaches without putting undue stress on the physical materials or requiring additional staff to help monitor their use.[188] While many have advocated for increased use of digital collections in archival instruction,[189] interacting directly with original primary sources remains a key feature of much of the literature.[190] For example, Bahde recounts that the learning objectives the course instructor intended hinged on physical interaction with original materials, "something impossible to learn from a digital version on a screen."[191] Many of the learning objectives cited by those in the field rely heavily on interacting with the physical materials that are housed in archives and special collections, and this would be a limitation for the use of digital collections.

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Brodsky's case study on a letter transcription activity for a class of approximately 50 students was also limited in the ability to use digitized primary sources due to a focus on handling "original" primary sources. Although he reported concerns over the volume of physical materials used and the inability of the three instructors present to supervise the handling of items among so many students, Brodsky and the course instructor ultimately

used original documents. However, Special Collections staff scanned much of the collection to facilitate access to materials after class.[192] In this case, students had a chance to physically interact with primary sources during a single instruction session and then relied primarily on digitized copies throughout the remainder of the semester. Given that staff time and energy were spent to digitize many of these documents, a large class like this could rely on a selection of digitized documents in the future, which would minimize the burden on special collections staff.

Archivists might need to adjust their learning objectives or the scope of content they want to cover when teaching larger classes.[193] In his case study, Brodsky focused on a single learning objective—examining an original primary source—and that limited scope helped to make the session successful. Having each student work with an original primary source at the request of the course instructor, however, limited Brodsky's ability to incorporate group work as a form of active learning and excluded the use of digitized primary sources in lieu of originals.[194] Adjusting learning objectives may have the added benefit of encouraging a focus on emerging areas of primary source instruction, such as critical digital literacy and information literacy, skills that many undergraduates lack.[195]

Conclusion and Next Steps

Rethinking archival instruction for large classes will be a process of compromise, but the field can learn much from educators across the higher education spectrum. It is also important to acknowledge some of the inherent limitations of trying to meet the instructional needs of ever-expanding class sizes. In addition to space constraints, which have been widely discussed in the literature,[196] larger classes require more staff support from the classroom to the reading room.[197] The adoption of technology not traditionally used in archival instruction and a willingness to adapt learning objectives for big instruction sessions are two important steps archivists and special collections librarians could take to modify their instruction to accommodate larger classes.

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While the field of archives and special collections is adamant about the importance of interaction with physical objects rather than digital surrogates, digitized material may be the only option in some cases,[198] and instructors may need to adjust their expectations and learning objectives to acknowledge this reality.

Moving forward, archives and special collections departments should have conversations within their department about their instructional capacity. At what point does a class become too massive or demanding? While archivists and special collections librarians may feel compelled to do whatever they can to support a class with a desire for special collections instruction, some demands simply cannot be met. When departments encounter these capacity constraints, archival professionals might rethink what they consider to be instruction, just as many in higher education have had to adjust their

expectations and rewards structure for faculty teaching big classes.[199] If archives and special collections want to support larger class sizes without compromising security, space, or staff time, they must adapt. Archivists and special collections librarians might compile digital primary source packets, develop interactive online tutorials, or help course instructors create assignments focused on primary source literacy, in place of traditional archival instruction for classes that exceed a special collections department's capacity.

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Finally, archivists might consider creating and engaging with a community of practice to enhance their pedagogical approaches for teaching archival instruction to large classes. The sheer volume of articles and other professional resources focused on large class pedagogy in higher education and the respective dearth of discussion on the topic in the archival literature pose challenges to archivists trying to meet the needs of large classes. Instructors across higher education recognize the need for resources for those teaching big classes and have created a body of work and a community of practice around this issue. Just as archivists called for the creation of a community of practice focused on archival instruction many years ago[200] and have continued to push that community of practice to learn more about pedagogical approaches,[201] they should begin creating a substantial community of practice around archival instruction for large classes. This includes not only a sharing of ideas but also an acknowledgment that class size has a pedagogical impact, not just a logistical one. Class size should influence the structure of an instruction session, the learning objectives, and the assessment of the session, not only determining where it might be held or how damage to the materials can be avoided.

Adapting archival instruction to better suit large classes will require compromise on the part of archivists, special collections librarians, and course instructors. However, the rethinking of such instruction has potentially far-reaching implications. Adaptations to archival instruction would better serve large classes, many of which are outside the humanities, thus widening the reach of archives and special collections to disciplines that might not be traditional users of archival materials. Additionally, the pedagogical tools and approaches used by

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higher education for large classes could then be applied to online and distance learning courses, allowing archivists to reach an entirely new audience often overlooked by traditional archival instruction.

The COVID-19 pandemic has forced many in both higher education and in archives and special collections to rethink how they structure and deliver instruction. After the pandemic began in the spring of 2020, archival and library professionals had to quickly

adapt their instruction to go online, relying on digitized primary sources and Web-based instructional tools such as online tutorials, videos, and learning management systems. In some ways, the pandemic forced archivists and special collections librarians to adopt tools and practices they had earlier hesitated to employ. As a result, practitioners have begun to create a community of practice around online instruction, sharing resources through the development of LibGuides and related tools.[202] The profession has also begun to provide techniques for remote instruction through webinars such as "ACRL Presents: Pandemic Pedagogy: Resources for Library Instruction at a Distance"[203] and in conference presentations such as the pop-up session "Archival Out-reach in the New Normal: Using Digital Platforms to Teach Primary Sources" at the 2020 SAA virtual meeting.[204] Many of the approaches employed by practitioners in response to the COVID-19 pandemic could one day be adapted for large class instruction, espe-cially the use of online resources and learning objects. The process of adapting archival instruction to teaching during COVID-19 and the community of practice that formed as a result will aid in the development of tools and approaches that can be adapted and used for large classes even after on-campus teaching resumes.

> **Many of the approaches employed by practitioners in response to the COVID-19 pandemic could one day be adapted for large class instruction, especially the use of online resources and learning objects.**

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Notes

1. Jason Tomberlin and Matthew Turi, "Supporting Student Work: Some Thoughts about Special Collections Instruction," *Journal of Library Administration* 52: 3–4 (2012): 304–12.
2. "Event Schedule (Live Updating)—TPS [teaching with primary sources] Unconference 2019," https://docs.google.com/document/d/1_Wz65VrOkQpMSn1-n-p5r6dBaz-QGI6JKW_N0LLM-Zoc/edit.
3. Patricia Garcia, Joseph Lueck, and Elizabeth Yakel, "The Pedagogical Promise of Primary Sources: Research Trends, Persistent Gaps, and New Directions," *Journal of Academic Librarianship* 45, 2 (2019): 94–101.
4. Society of American Archivists (SAA), "Teaching with Primary Sources Bibliography," 2020, https://www2.archivists.org/groups/reference-access-and-outreach-section/teaching-with-primary-sources-bibliography.
5. SAA, *Case Studies on Teaching with Primary Sources (TWPS)*, 2020, https://www2.archivists.org/publications/epubs/Case-Studies-Teaching-With-Primary-Sources.
6. Alan Sánchez and Abhijeet Singh, "Accessing Higher Education in Developing Countries: Panel Data Analysis from India, Peru, and Vietnam," *World Development* 109 (2018): 261–78.
7. Philip G. Altbach, "Advancing the National and Global Knowledge Economy: The Role of Research Universities in Developing Countries," *Studies in Higher Education* 38, 3 (2013): 316–30.

8.   Peter Carini, "Archivists as Educators: Integrating Primary Sources into the Curriculum," *Journal of Archival Organization* 7, 1–2 (2009): 41–50; Sharon Anne Cook, "Connecting Archives and the Classroom," *Archivaria* 44 (1997): 102–17; Magia G. Krause, "Learning in the Archives: A Report on Instructional Practices," *Journal of Archival Organization* 6, 4 (2008): 233–68; Steven Escar Smith, "From 'Treasure Room' to 'School Room': Special Collections and Education," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 7, 1 (2006): 31–39.

9.   Ken Osborne, "Archives in the Classroom," *Archivaria* 23 (1986): 16–40.

10. Marcus C. Robyns, "The Archivist as Educator: Integrating Critical Thinking Skills into Historical Research Methods Instruction," *American Archivist* 64, 2 (2001): 363–84; Ann Schmiesing and Deborah R. Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching: A Case Study," *portal: Libraries and the Academy* 2, 3 (2002): 465–80.

11. Thomas J. Frusciano, "Bridging Generations: Undergraduate Research Opportunities on the History of Women at Rutgers University," *Journal of Archival Organization* 1, 2 (2002): 77–88; Xiaomu Zhou, "Student Archival Research Activity: An Exploratory Study," *American Archivist* 71, 2 (2008): 476–98; Benjamin Filene, "Helping Students Uncover Their Inner Archivist," *Journal for the Society of North Carolina Archivists* 6, 2 (2009): 46–54; Sammie Morris, Lawrence Mykytiuk, and Sharon Weiner, "Archival Literacy for History Students: Identifying Faculty Expectations of Archival Research Skills," *American Archivist* 77, 2 (2014): 394–424; Anne Bahde, "The History Labs: Integrating Primary Source Literacy Skills into a History Survey Course," *Journal of Archival Organization* 11, 3–4 (2013): 175–204.

12. Amanda H. Brown, Barbara Losoff, and Deborah Hollis, "Science Instruction through the Visual Arts in Special Collections," *portal: Libraries and the Academy* 14, 2 (2014): 197–216; Lindsay Anderberg, "STEM Undergraduates and Archival Instruction: A Case Study at NYU Polytechnic School of Engineering," *American Archivist* 78, 2 (2015): 548–66.

13. Robyns, "The Archivist as Educator."

14. Anne Bahde and Heather Smedberg, "Measuring the Magic: Assessment in the Special Collections and Archives Classroom," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 13, 2 (2012): 152–74.

15. Silvia Vong, "A Constructivist Approach for Introducing Undergraduate Students to Special Collections and Archival Research," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 17, 2 (2016): 148–70; Krause, "Learning in the Archives."

16. Magia G. Krause, "'It Makes History Alive for Them:' The Role of Archivists and Special Collections Librarians in Instructing Undergraduates," *Journal of Academic Librarianship* 36, 5 (2010): 401–11; Anne Bahde, "Taking the Show on the Road: Special Collections Instruction in the Campus Classroom," *RBM: A Journal of Rare Book, Manuscripts, and Cultural History* 12, 2 (2011): 75–88; Peter Carini, "Information Literacy for Archives and Special Collections: Defining Outcomes," *portal: Libraries and the Academy* 16, 1 (2016): 191–206.

17. Kelly E. Miller and Robert D. Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections," *Urban Library Journal* 19, 1 (2013): 1–11; Bahde, "The History Labs"; Christy Fic, "Working as an Embedded Archivist in an Undergraduate Course: Transforming Students into Scholars through an Archival Workshop Series," *American Archivist* 81, 2 (2018): 290–309.

18. Doris J. Malkmus, "Primary Source Research and the Undergraduate: A Transforming Landscape," *Journal of Archival Organization* 6, 1–2 (2008): 47–70; J. Gordon Daines and Cory L. Nimer, "In Search of Primary Source Literacy: Opportunities and Challenges," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 16, 1 (2015): 19–34; Bahde and Smedberg, "Measuring the Magic."

19. Elizabeth Yakel and Deborah Torres, "AI: Archival Intelligence and User Expertise," *American Archivist* 66, 1 (2003): 51–78.

20. Ibid.

21. Elizabeth Yakel, "Information Literacy for Primary Sources: Creating a New Paradigm for Archival Researcher Education," *OCLC Systems & Services* 20, 2 (2004): 61–64.

22. Bahde, "The History Labs"; Magia Krause, "Undergraduates in the Archives: Using an Assessment Rubric to Measure Learning," *American Archivist* 73, 2 (2010): 507–34; Merinda Kaye Hensley, Benjamin Murphy, and Ellen D. Swain, "Analyzing Archival Intelligence: A Collaboration between Library Instruction and Archives," *Communications in Information Literacy* 8, 1 (2014): 96–114; Morris, Mykytiuk, and Weiner, "Archival Literacy for History Students"; Carini, "Archivists as Educators"; Carini, "Information Literacy for Archives and Special Collections."

23. Carini, "Information Literacy for Archives and Special Collections."

24. Carini, "Archivists as Educators"; Morris, Mykytiuk, and Weiner, "Archival Literacy for History Students."

25. Carini, "Information Literacy for Archives and Special Collections."

26. SAA-ACRL/RBMS (Society of American Archivists-Association of College and Research Libraries/Rare Books and Manuscripts Section) Joint Task Force on the Development of Guidelines for Primary Source Literacy, "Guidelines for Primary Source Literacy," 2018, https://www2.archivists.org/sites/all/files/GuidelinesForPrimarySourceLiteracy-June2018.pdf.

27. Krause, "Learning in the Archives."

28. Ibid.

29. Bahde and Smedberg, "Measuring the Magic"; Carini, "Information Literacy for Archives and Special Collections."

30. Hensley, Murphy, and Swain, "Analyzing Archival Intelligence."

31. Krause, "Undergraduates in the Archives."

32. Wendy Duff and Joan Cherry, "Archival Orientation for Undergraduate Students: An Exploratory Study of Impact," *American Archivist* 71, 2 (2008): 499–529.

33. Ibid.

34. Bahde and Smedberg, "Measuring the Magic."

35. Elizabeth Yakel, Aprille McKay, Wendy Duff, Joan Cherry, and Helen Tibbo, "The Archival Metrics Toolkit: Development and Implementation," *Proceedings of the American Society for Information Science and Technology* 45, 1 (2008): 1–2.

36. Pablo Alvarez, "Introducing Rare Books into the Undergraduate Curriculum," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 7, 2 (2006): 94–104; David Mazella and Julie Grob, "Collaborations between Faculty and Special Collections Librarians in Inquiry-Driven Classes," *portal: Libraries and the Academy* 11, 1 (2011): 467–87; Krause, "'It Makes History Alive for Them'"; Cory L. Nimer and J. Gordon Daines III, "Teaching Undergraduates to Think Archivally," *Journal of Archival Organization* 10, 1 (2012): 4–44; Tomberlin and Turi, "Supporting Student Work."

37. Tomberlin and Turi, "Supporting Student Work."

38. Nimer and Daines, "Teaching Undergraduates to Think Archivally"; Tomberlin and Turi, "Supporting Student Work"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching"; Bahde, "Taking the Show on the Road"; Carini, "Information Literacy for Archives and Special Collections."

39. Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians."

40. Vong, "A Constructivist Approach for Introducing Undergraduate Students to Special Collections."

41. Ibid.

42. Brown, Losoff, and Hollis, "Science Instruction through the Visual Arts in Special Collections"; Bahde, "Taking the Show on the Road"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Barbara Rockenbach, "Archives, Undergraduates, and Inquiry-Based Learning: Case Studies from Yale University Library," *American Archivist* 74, 1 (2011): 297–311; Vong, "A Constructivist Approach for Introducing Undergraduate Students to Special Collections."

43. Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians."

44. Ibid.

45. Bahde, "The History Labs."

46. Frusciano, "Bridging Generations"; Susan M. Allen, "Rare Books and the College Library: Current Practices in Marrying Undergraduates to Special Collections," *Rare Books & Manuscripts Librarianship* 13, 2 (1999): 110–19; Filene, "Helping Students Uncover Their Inner Archivist"; Trevor James Bond and Todd Butler, "A Dialog on Teaching an Undergraduate Seminar in Special Collections," *Library Review* 58, 4 (2009): 310–16.

47. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Julia Gardner and David Pavelich, "Teaching with Ephemera," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 9, 1 (2008): 86–92; Vong, "A Constructivist Approach for Introducing Undergraduate Students to Special Collections"; Bahde, "Taking the Show on the Road."

48. Jonathan Sauceda, "Arranging 'The Library of Babel': Special Collections, Undergraduate Research, and Librarian Engagement," *portal: Libraries and the Academy* 18, 2 (2018): 391–408.

49. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Stephen Davison, "If We Build It, Will They Come? Strategies for Teaching and Research with Digital Special Collections," *RBM: A Journal of Rare Books, Manuscripts, and Cultural Heritage* 10, 1 (2009): 37–50.

50. Krause, "'It Makes History Alive for Them.'"

51. Bahde, "Taking the Show on the Road"; Krause, "'It Makes History Alive for Them'"; Brown, Losoff, and Hollis, "Science Instruction through the Visual Arts in Special Collections"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Todd Samuelson and Cait Coker, "Mind the Gap: Integrating Special Collections Teaching," *portal: Libraries and the Academy* 14, 1 (2014): 51–66; Morgan Daniels and Elizabeth Yakel, "Uncovering Impact: The Influence of Archives on Student Learning," *Journal of Academic Librarianship* 39, 5 (2013): 414–22.

52. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Bahde, "The History Labs"; Greg Johnson and Jennifer Ford, "Effective Archival Instruction When Embeddedness Won't Work," *Primary Source* 35, 1 (2018): 1–23.

53. Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians."

54. Ibid.

55. Krause, "'It Makes History Alive for Them'"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians."

56. Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Brown, Losoff, and Hollis, "Science Instruction through the Visual Arts in Special Collections."

57. Frusciano, "Bridging Generations"; Nimer and Daines, "Teaching Undergraduates to Think Archivally"; Bond and Butler, "A Dialog on Teaching an Undergraduate Seminar in Special Collections."

58. Derek Webb, "The Virtuous Circle of Student Research: Harnessing a Multicourse Collaborative Research Project to Enhance Archival Collections," *American Archivist* 82, 1 (2019): 155–64.

59. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Bahde, "The History Labs"; Fic, "Working as an Embedded Archivist in an Undergraduate Course."

60. Johnson and Ford, "Effective Archival Instruction When Embeddedness Won't Work."

61. Bahde, "Taking the Show on the Road."

62. Tomberlin and Turi, "Supporting Student Work," 307.

63. Bahde, "Taking the Show on the Road."

64. SAA, *Case Studies on Teaching with Primary Sources (TWPS)*.

65. Ibid.

66. Marc Brodsky, "Seeing through Risk in the Special Collections Classroom: A Case for Flexibility," case 9 in SAA, *Case Studies on Teaching with Primary Sources (TWPS)*.

67. Ibid.

68. Bahde, "Taking the Show on the Road."

69. Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching."

70. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections."

71. As cited in Wilbert J. McKeachie, "Class Size, Large Classes, and Multiple Sections," *Academe* 66, 1 (1980): 24–27.

72. Linda S. Toth and Linda G. Montagna, "Class Size and Achievement in Higher Education, a Summary of Current Research," *College Student Journal* 36, 2 (2002): 253–61; Catherine Mulryan-Kyne, "Teaching Large Classes at College and University Level: Challenges and Opportunities," *Teaching in Higher Education* 15, 2 (2010): 175–85.

73. Edward C. Kokkelenberg, Michael Dillon, and Sean M. Christy, "The Effects of Class Size on Student Grades at a Public University," *Economics of Education Review* 27, 2 (2008): 221–33; Kenneth A. Feldman, "Class Size and College Students' Evaluations of Teachers and Courses: A Closer Look," *Research in Higher Education* 21, 1 (1984): 45–116; Joakim Westerlund, "Class Size and Student Evaluations in Sweden," *Education Economics* 16, 1 (2008): 19–28; Benjamin N. Matta, Joseph M. Guzman, Sue K. Stockly, and Benjamin Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution," *Review of Black Political Economy* 42, 4 (2015): 443–57; Irenee R. Beattie and Megan Thiele, "Connecting in Class? College Class Size and Inequality in Academic Social Capital," *Journal of Higher Education* 87, 3 (2016): 332–62; Gael McDonald, "Does Size Matter? The Impact of Student-Staff Ratios," *Journal of Higher Education Policy and Management* 35, 6 (2013): 652–67; Joe Cuseo, "The Empirical Case against Large Class Size: Adverse Effects on the Teaching, Learning, and Retention of First-Year Students," *Journal of Faculty Development* 21, 1 (2007): 5–21; James Monks and Robert M. Schmidt, "The Impact of Class Size on Outcomes in Higher Education," *B.E.* [Berkeley Electronic] *Journal of Economic Analysis & Policy* 11, 1 (2011): 1–17; Iryna Y. Johnson, "Class Size and Student Performance at a Public Research University: A Cross-Classified Model," *Research in Higher Education* 51, 8 (2010): 701–23.

74. David D. Williams, Paul F. Cook, Bill Quinn, and Randall P. Jensen, "University Class Size: Is Smaller Better?" *Research in Higher Education* 23, 3 (1985): 307–18; Terri L. Towner, "Class Size and Academic Achievement in Introductory Political Science Courses," *Journal of Political Science Education* 12, 4 (2016): 420–36; Faruk Guder, Mary Malliaris, and Anahita Jalilvand, "Changing the Culture of a School: The Effect of Larger Class Size on Instructor and Student Performance," *American Journal of Business Education* 2, 9 (2009): 83–89; Leah Renée Creech and Ryan D. Sweeder, "Analysis of Student Performance in Large-Enrollment Life Science Courses," *CBE—Life Sciences Education* 11, 4 (2012): 386–91.

75. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Henry J. Raimondo, Louis Esposito, and Irving Gershenberg, "Introductory Class Size and Student Performance in Intermediate Theory Courses," *Journal of Economic Education* 21, 4 (1990): 369–82; Felix Maringe and Nevensha Sing, "Teaching Large Classes in an Increasingly Internationalising Higher Education Environment: Pedagogical, Quality and Equity Issues," *Higher Education* 67, 6 (2014): 761–82; Cuseo, "The Empirical Case against Large Class Size"; Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution"; William A. Ellegood, Jill Bernard Bracy, Donald C. Sweeney II, Mimi Duncan, and Kathleen Burns, "Measuring the Impacts of Administrative Policies on Student Performance in Higher Education," *Journal of Further and Higher Education* 43, 3 (2019): 418–33.

76. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Cissy J. Ballen, Stepfanie M. Aguillon, Rebecca Brunelli, Abby Grace Drake, Deena Wassenberg, Stacey L. Weiss, Kelly R. Zamudio, and Sehoya Cotner, "Do Small Classes in Higher Education Reduce Performance Gaps in STEM?" *BioScience* 68, 8 (2018): 593–600; Reynol Junco, Greg Heiberger, and Eric Loken, "The Effect of Twitter on College Student Engagement and Grades," *Journal of Computer Assisted Learning* 27, 2 (2011): 119–32; Raimondo, Esposito, and Gershenberg, "Introductory Class Size and Student Performance in Intermediate Theory Courses"; Johnson, "Class Size and Student Performance at a Public Research University."

77. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Daniel J. Exeter, Shanthi Ameratunga, Matiu Ratima, Susan Morton, Martin Dickson, Dennis Hsu, and Rod Jackson, "Student Engagement in Very Large Classes: The Teachers' Perspective," *Studies in Higher Education* 35, 7 (2010): 761–75; Cuseo, "The Empirical Case against Large Class Size."

78. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Exeter, Ameratunga, Ratima, Morton, Dickson, Hsu, and Jackson, "Student Engagement in Very Large Classes."

79. Beattie and Thiele, "Connecting in Class?"; Cuseo, "The Empirical Case against Large Class Size."

80. Feldman, "Class Size and College Students' Evaluations of Teachers and Courses"; Westerlund, "Class Size and Student Evaluations in Sweden"; Kelly Bedard and Peter Kuhn, "Where Class Size Really Matters: Class Size and Student Ratings of Instructor Effectiveness," *Economics of Education Review* 27, 3 (2008): 253–65.

81. Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution"; Cuseo, "The Empirical Case against Large Class Size"; Meghan Millea, R. Wills, Anastasia Elder, and Danielle Molina, "What Matters in College Student Success? Determinants of College Retention and Graduation Rates," *Education* 138, 4 (2018): 309–22.

82. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Ballen, Aguillon, Brunelli, Drake, Wassenberg, Weiss, Zamudio, and Cotner, "Do Small Classes in Higher Education Reduce Performance Gaps in STEM?"; Junco, Heiberger, and Loken, "The Effect of Twitter on College Student Engagement and Grades"; Raimondo, Esposito, and Gershenberg, "Introductory Class Size and Student Performance in Intermediate Theory Courses."

83. Williams, Cook, Quinn, and Jensen, "University Class Size."

84. Clive Hunt, "Learning in Large Learning Spaces: The Academic Engagement of a Diverse Group of Students," *Research in Post-Compulsory Education* 17, 2 (2012): 195–205; Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution."

85. Beattie and Thiele, "Connecting in Class?"; Ballen, Aguillon, Brunelli, Drake, Wassenberg, Weiss, Zamudio, and Cotner, "Do Small Classes in Higher Education Reduce Performance Gaps in STEM?"; Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution."

86. Bedard and Kuhn, "Where Class Size Really Matters"; Feldman, "Class Size and College Students' Evaluations of Teachers and Courses"; Westerlund, "Class Size and Student Evaluations in Sweden"; Deanne Gannaway, Teegan Green, and Patricie Mertova, "So How Big Is Big? Investigating the Impact of Class Size on Ratings in Student Evaluation," *Assessment & Evaluation in Higher Education* 43, 2 (2018): 175–84; Cuseo, "The Empirical Case against Large Class Size."

87. Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution"; Cuseo, "The Empirical Case against Large Class Size"; Millea, Wills, Elder, and Molina, "What Matters in College Student Success?"; Eric P. Bettinger and Bridget Terry Long, "Mass Instruction or Higher Learning? The Impact of College Class Size on Student Retention and Graduation," *Education Finance and Policy* 13, 1 (2018): 97–118.

88. Cuseo, "The Empirical Case against Large Class Size."

89. Beattie and Thiele, "Connecting in Class?"; Cuseo, "The Empirical Case against Large Class Size"; Jerie Shaw, Sofiya Kominko, and Jenepher Lennox Terrion, "Using LectureTools to Enhance Student-Instructor Relations and Student Engagement in the Large Class," *Research in Learning Technology* 23 (2015): 1–14.

90. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Ceilidh Barlow Cash, Jessa Letargo, Steffen P. Graether, and Shoshanah R. Jacobs, "An Analysis of the Perceptions and Resources of Large University Classes," *CBE—Life Sciences Education* 16, 2 (2017): 1–12.

91. Mulryan-Kyne, "Teaching Large Classes at College and University Level."

92. David J. Hornsby and Ruksana Osman, "Massification in Higher Education: Large Classes and Student Learning," *Higher Education* 67, 6 (2014): 711–19; Maringe and Sing, "Teaching Large Classes in an Increasingly Internationalising Higher Education Environment"; Carmel Herington and Scott Weaven, "Action Research and Reflection on Student Approaches to Learning in Large First Year University Classes," *Australian Educational Researcher* 35, 3 (2008): 111–34.

93. Annette Mills-Jones, "Active Learning in IS [information systems] Education: Choosing Effective Strategies for Teaching Large Classes in Higher Education," in *Proceedings of the 10th Australasian Conference on Information Systems* (Wellington, New Zealand: Australasian Conference on Information Systems, 1999): 622–33; Jeff Baldwin, "Sustainability Education through Active-Learning in Large Lecture Settings: Evaluation of Four Out-of-Class Exercises," *European Journal of Educational Sciences* 3, 4 (2016): 57–80.

94. Maringe and Sing, "Teaching Large Classes in an Increasingly Internationalising Higher Education Environment."

95. Patricia L. Machemer and Pat Crawford, "Student Perceptions of Active Learning in a Large Cross-Disciplinary Classroom," *Active Learning in Higher Education* 8, 1 (2007): 9–30.

96. Rosealie P. Lynch and Eric Pappas, "A Model for Teaching Large Classes: Facilitating a 'Small Class Feel,'" *International Journal of Higher Education* 6, 2 (2017): 199–212; Mulryan-Kyne, "Teaching Large Classes at College and University Level."

97. Michael Prosser and Keith Trigwell, "Qualitative Variation in Approaches to University Teaching and Learning in Large First-Year Classes," *Higher Education* 67, 6 (2014): 783–95.

98. Amy DeRogatis, Kenneth Honerkamp, Justin McDaniel, Carolyn Medine, Vivian-Lee Nyitray, and Thomas Pearson, "Teaching *Very* Large Classes," *Teaching Theology & Religion* 17, 4 (2014): 352–68.

99. Kristen Lee Hourigan, "Increasing Student Engagement in Large Classes: The ARC Model of Application, Response, and Collaboration," *Teaching Sociology* 41, 4 (2013): 353–59; Wade Jarvis, Wade Halvorson, Saalem Sadeque, and Shannon Johnston, "A Large Class Engagement (LCE) Model Based on Service-Dominant Logic (SDL) and Flipped Classrooms," *Education Research and Perspectives* 41, 1 (2014): 1–24; Lynch and Pappas, "A Model for Teaching Large Classes."

100. Stephanie Allais, "A Critical Perspective on Large Class Teaching: The Political Economy of Massification and the Sociology of Knowledge," *Higher Education* 67, 6 (2014): 721–34; Maringe and Sing, "Teaching Large Classes in an Increasingly Internationalising Higher Education Environment."

101. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Westerlund, "Class Size and Student Evaluations in Sweden"; Cuseo, "The Empirical Case against Large Class Size"; Ellegood, Bracy, Sweeney, Duncan, and Burns, "Measuring the Impacts of Administrative Policies on Student Performance in Higher Education."

102. Allais, "A Critical Perspective on Large Class Teaching"; Lauren Chapman and Larry Ludlow, "Can Downsizing College Class Sizes Augment Student Outcomes? An Investigation of the Effects of Class Size on Student Learning," *Journal of General Education* 59, 2 (2010): 105–23; Hornsby and Osman, "Massification in Higher Education"; James

Arvanitakis, "Massification and the Large Lecture Theatre: From Panic to Excitement," *Higher Education* 67, 6 (2014): 735–45.

103. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Westerlund, "Class Size and Student Evaluations in Sweden"; McDonald, "Does Size Matter?"; Elisa Carbone and James Greenberg, "Teaching Large Classes: Unpacking the Problem and Responding Creatively," *To Improve the Academy* 17, 1 (1998): 311–26; Cuseo, "The Empirical Case against Large Class Size."

104. Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution"; Cuseo, "The Empirical Case against Large Class Size"; Millea, Wills, Elder, and Molina, "What Matters in College Student Success?"

105. Feldman, "Class Size and College Students' Evaluations of Teachers and Courses"; Westerlund, "Class Size and Student Evaluations in Sweden"; Monks and Schmidt, "The Impact of Class Size on Outcomes in Higher Education."

106. Kokkelenberg, Dillon, and Christy, "The Effects of Class Size on Student Grades at a Public University"; Ballen, Aguillon, Brunelli, Drake, Wassenberg, Weiss, Zamudio, and Cotner, "Do Small Classes in Higher Education Reduce Performance Gaps in STEM?"; Matta, Guzman, Stockly, and Widner, "Class Size Effects on Student Performance in a Hispanic-Serving Institution"; Raimondo, Esposito, and Gershenberg, "Introductory Class Size and Student Performance in Intermediate Theory Courses."

107. McDonald, "Does Size Matter?"; Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Carbone and Greenberg, "Teaching Large Classes."

108. Kathy Lund Dean and Sarah Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes," *Higher Education* 74, 4 (2017): 651–68; Maringe and Sing, "Teaching Large Classes in an Increasingly Internationalising Higher Education Environment"; Hornsby and Osman, "Massification in Higher Education."

109. DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very Large Classes*"; David J. Nicol and James T. Boyle, "Peer Instruction versus Class-Wide Discussion in Large Classes: A Comparison of Two Interaction Methods in the Wired Classroom," *Studies in Higher Education* 28, 4 (2003): 457–73.

110. Exeter, Ameratunga, Ratima, Morton, Dickson, Hsu, and Jackson, "Student Engagement in Very Large Classes."

111. Bahde, "Taking the Show on the Road."

112. Ibid.

113. Ibid.; Brodsky, "Seeing through Risk in the Special Collections Classroom;" Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching;" Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections."

114. David J. Hornsby, Ruksana Osman, and Jacqueline De Matos-Ala, *Teaching Large Classes: Interdisciplinary Perspectives for Quality Tertiary Education* (Stellenbosch, South Africa: SUN Media, 2013); Hornsby and Osman, "Massification in Higher Education."

115. Michelle Visser, "Inviting in the Rabble: Changing Approaches to Public Service and Access in Special Collections," *Public Services Quarterly* 1, 4 (2003): 29–41; Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching."

116. Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching."

117. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections."

118. Bahde, "Taking the Show on the Road."

119. Brodsky, "Seeing through Risk in the Special Collections Classroom."

120. Ibid.

121. Carbone and Greenberg. "Teaching Large Classes."

122. Lloyd J. Rieber, "Using Professional Teaching Assistants to Support Large Group Business Communication Classes," *Journal of Education for Business* 79, 3 (2004): 176–78; Lynch and Pappas, "A Model for Teaching Large Classes"; Coral L. Murrant, "Creative Teaching Assistant Organization to Maintain an Integrative Physiology Course with 440 Students," *Advances in Physiology Education* 31, 2 (2007): 180–85.

123. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Mills-Jones, "Active Learning in IS Education"; Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

124. Jarvis, Halvorson, Sadeque, and Johnston, "A Large Class Engagement (LCE) Model Based on Service-Dominant Logic (SDL)"; Dan Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification: Strategies and Approaches for Teaching Large First-Year Courses," *Australian Journal of Political Science* 51, 3 (2016): 568–82; Raymond W. Francis, "Engaged: Making Large Classes Feel Small through Blended Learning Instructional Strategies That Promote Increased Student Performance," *Journal of College Teaching & Learning* 9, 2 (2012): 147–52; J. D. Snowball, "Using Interactive Content and Online Activities to Accommodate Diversity in a Large First Year Class," *Higher Education* 67, 6 (2014): 823–38; Sydney E. Brown, Sarah Thomas Karle, and Brian Kelly, "An Evaluation of Applying Blended Practices to Employ Studio-Based Learning in a Large-Enrollment Design Thinking Course," *Contemporary Educational Technology* 6, 4 (2015): 260–80; Nan Yang, Patrizia Ghislandi, and Sara Dellantonio, "Online Collaboration in a Large University Class Supports Quality Teaching," *Educational Technology Research and Development* 66, 3 (2018): 671–91.

125. Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

126. Ibid.; Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification"; Ingrid le Roux, "New Large Class Pedagogy: Developing Students' Whole Brain Thinking Skills," *Procedia—Social and Behavioral Sciences* 15 (2011): 426–35.

127. Carbone and Greenberg, "Teaching Large Classes."

128. Ibid.

129. Rieber, "Using Professional Teaching Assistants to Support Large Group Business Communication Classes."

130. Ibid.; Lynch and Pappas, "A Model for Teaching Large Classes"; Murrant, "Creative Teaching Assistant Organization to Maintain an Integrative Physiology Course with 440 Students."

131. Exeter, Ameratunga, Ratima, Morton, Dickson, Hsu, and Jackson, "Student Engagement in Very Large Classes"; Lynch and Pappas, "A Model for Teaching Large Classes."

132. Lynch and Pappas, "A Model for Teaching Large Classes."

133. Leisa D. Sargent, Belinda C. Allen, Jennifer A. Frahm, and Gayle Morris, "Enhancing the Experience of Student Teams in Large Classes: Training Teaching Assistants to Be Coaches," *Journal of Management Education* 33, 5 (2009): 526–52.

134. Ibid.

135. Susan Vajoczki, Susan Watt, Michelle M. Vine, and Rose Liao, "Inquiry Learning: Level, Discipline, Class Size, What Matters?" *International Journal for the Scholarship of Teaching and Learning* 5, 1 (2011): 1–11.

136. Ibid.

137. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Mills-Jones, "Active Learning in IS Education"; Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

138. Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Le Roux, "New Large Class Pedagogy."

139. Holly E. Long and Jeffrey T. Coldren, "Interpersonal Influences in Large Lecture-Based Classes: A Socioinstructional Perspective," *College Teaching* 54, 2 (2006): 237–43.

140. Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

141. Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Le Roux, "New Large Class Pedagogy."

142. Arvanitakis, "Massification and the Large Lecture Theatre."

143. Baldwin, "Sustainability Education through Active-Learning in Large Lecture Settings."

144. Jarvis, Halvorson, Sadeque, and Johnston, "A Large Class Engagement (LCE) Model Based on Service-Dominant Logic (SDL)"; Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification."

145. Carbone and Greenberg, "Teaching Large Classes"; Chapman and Ludlow, "Can Downsizing College Class Sizes Augment Student Outcomes?"; Susanne Voelkel, "Combining the Formative with the Summative: The Development of a Two Stage Online Test to Encourage Engagement and Provide Personal Feedback in Large Classes," *Research in Learning Technology* 21, 1 (2013): 1–18; Cash, Letargo, Graether, and Jacobs, "An Analysis of the Perceptions and Resources of Large University Classes."

146. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Ballen, Aguillon, Brunelli, Drake, Wassenberg, Weiss, Zamudio, and Cotner, "Do Small Classes in Higher Education Reduce Performance Gaps in STEM?"; Voelkel, "Combining the Formative with the Summative."

147. Jim Gleason, "Using Technology-Assisted Instruction and Assessment to Reduce the Effect of Class Size on Student Outcomes in Undergraduate Mathematics Courses," *College Teaching* 60, 3 (2012): 87–94.

148. Carl Evans and John Gardener, "What Universities Might Learn from Professional Associations in Marking Large Undergraduate Modules," *Quality Assurance in Education* 26, 3 (2018): 343–48.

149. Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

150. Lisa Goldacre, Susan Bolt, and Michael Lambiris, "Designed for Learning: A Case Study in Rethinking Teaching and Learning for a Large First Year Class," *Journal of the Scholarship of Teaching and Learning* 13, 1 (2013): 24–44.

151. Francis, "Engaged."

152. Voelkel, "Combining the Formative with the Summative."

153. Lucy Taylor, Susan McGrath-Champ, and Henriikka Clarkeburn, "Supporting Student Self-Study: The Educational Design of Podcasts in a Collaborative Learning Context," *Active Learning in Higher Education* 13, 1 (2012): 77–90.

154. Benjamin Dyson, Kristin Vickers, John Turtle, Sara Cowan, and Adrianna Tassone, "Evaluating the Use of Facebook to Increase Student Engagement and Understanding in Lecture-Based Classes," *Higher Education* 69, 2 (2015): 303–13; Junco, Heiberger, and Loken, "The Effect of Twitter on College Student Engagement and Grades."

155. Junco, Heiberger, and Loken, "The Effect of Twitter on College Student Engagement and Grades."

156. Dyson, Vickers, Turtle, Cowan, and Tassone, "Evaluating the Use of Facebook to Increase Student Engagement and Understanding in Lecture-Based Classes."

157. Chapman and Ludlow, "Can Downsizing College Class Sizes Augment Student Outcomes?"; Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes"; Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification"; Voelkel, "Combining the Formative with the Summative."

158. Beattie and Thiele, "Connecting in Class?"

159. Francis, "Engaged."

160. Ibid.; Snowball, "Using Interactive Content and Online Activities to Accommodate Diversity in a Large First Year Class"; Brown, Karle, and Kelly, "An Evaluation of Applying Blended Practices to Employ Studio-Based Learning in a Large-Enrollment Design Thinking Course."

161. Yang, Ghislandi, and Dellantonio, "Online Collaboration in a Large University Class Supports Quality Teaching"; Snowball, "Using Interactive Content and Online Activities to Accommodate Diversity in a Large First Year Class."

162. Yang, Ghislandi, and Dellantonio, "Online Collaboration in a Large University Class Supports Quality Teaching"; Raúl de Arriba, "Participation and Collaborative Learning in Large Class Sizes: Wiki, Can You Help Me?" *Innovations in Education and Teaching International* 54, 4 (2017): 364–73; Francis, "Engaged."

163. Snowball, "Using Interactive Content and Online Activities to Accommodate Diversity in a Large First Year Class."

164. DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Tom Van Daele, Carolien Frijns, and Jeroen Lievens, "How Do Students and Lecturers Experience the Interactive Use of Handheld Technology in Large Enrolment Courses?" *British Journal of Educational Technology* 48, 6 (2017): 1318–29; Francis, "Engaged"; Su Boatright-Horowitz, "Useful Pedagogies or Financial Hardships? Interactive Response Technology (Clickers) in the Large College Classroom," *International Journal of Teaching and Learning in Higher Education* 21, 3 (2009): 295–98; Johnny El-Rady, "To Click or Not to Click: That's the Question," *Innovate: Journal of Online Education* 2, 4 (2006): 1–5; Denise Stanley, "Can Technology Improve Large Class Learning? The Case of an Upper-Division Business Core Class," *Journal of Education for Business* 88, 5 (2013): 265–70; Goldacre, Bolt, and Lambiris, "Designed for Learning."

165. Shaw, Kominko, and Terrion, "Using LectureTools to Enhance Student-Instructor Relations and Student Engagement in the Large Class."

166. Ibid.; Boatright-Horowitz, "Useful Pedagogies or Financial Hardships?"

167. El-Rady, "To Click or Not to Click"; Stanley, "Can Technology Improve Large Class Learning?"

168. Shaw, Kominko, and Terrion, "Using LectureTools to Enhance Student-Instructor Relations and Student Engagement in the Large Class."

169. Ibid.; Van Daele, Frijns, and Lievens, "How Do Students and Lecturers Experience the Interactive Use of Handheld Technology in Large Enrolment Courses?"

170. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Chapman and Ludlow, "Can Downsizing College Class Sizes Augment Student Outcomes?"; Mills-Jones, "Active Learning in IS Education."

171. Bahde, "Taking the Show on the Road."

172. Brodsky, "Seeing through Risk in the Special Collections Classroom."

173. Bahde, "Taking the Show on the Road."

174. Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching."

175. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections."

176. Ibid.

177. Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification."

178. Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching."

179. Cory L. Nimer and J. Gordon Daines III, "Developing Online Tutorials in Special Collections and Archives: A Case Study," *Journal of Library Innovation* 6, 1 (2015): 75–91.

180. Hensley, Murphy, and Swain, "Analyzing Archival Intelligence."

181. Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Le Roux, "New Large Class Pedagogy."

182. Mulryan-Kyne, "Teaching Large Classes at College and University Level"; Mills-Jones, "Active Learning in IS Education"; Dean and Wright, "Embedding Engaged Learning in High Enrollment Lecture-Based Classes."

183. Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Le Roux, "New Large Class Pedagogy."

184. DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Van Daele, Frijns, and Lievens, "How Do Students and Lecturers Experience the Interactive Use of Handheld Technology in Large Enrolment Courses?"; Shaw, Kominko, and Terrion, "Using LectureTools to Enhance Student-Instructor Relations and Student Engagement in the Large Class"; Francis, "Engaged"; Boatright-Horowitz, "Useful Pedagogies or Financial Hardships?"; El-Rady, "To Click or Not to Click"; Stanley, "Can Technology Improve Large Class Learning?"; Goldacre, Bolt, and Lambiris, "Designed for Learning."

185. Brodsky, "Seeing through Risk in the Special Collections Classroom."

186. Ibid.

187. Bahde and Smedberg, "Measuring the Magic."

188. Bahde, "Taking the Show on the Road"; Brodsky, "Seeing through Risk in the Special Collections Classroom."

189. Miller and Montoya, "Teaching and Learning Los Angeles through Engagement with UCLA Library Special Collections"; Davison, "If We Build It, Will They Come?"

190. Samuelson and Coker, "Mind the Gap"; Bahde, "Taking the Show on the Road."

191. Bahde, "Taking the Show on the Road," 81.

192. Brodsky, "Seeing through Risk in the Special Collections Classroom."

193. Mills-Jones, "Active Learning in IS Education"; DeRogatis, Honerkamp, McDaniel, Medine, Nyitray, and Pearson, "Teaching *Very* Large Classes"; Le Roux, "New Large Class Pedagogy."

194. Brodsky, "Seeing through Risk in the Special Collections Classroom."

195. Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification"; Mazella and Grob, "Collaborations between Faculty and Special Collections Librarians"; Melissa A. Hubbard and Megan Lotts, "Special Collections, Primary Resources, and Information Literacy Pedagogy," *Communications in Information Literacy* 7, 1 (2013): 24–38; Elizabeth Yakel, "Information Literacy for Primary Sources."

196. Bahde, "Taking the Show on the Road"; Krause, "'It Makes History Alive for Them.'"

197. Halvorson, "Engaging Students and Maintaining Quality in the Era of Massification"; Schmiesing and Hollis, "The Role of Special Collections Departments in Humanities Undergraduate and Graduate Teaching"; Bahde, "Taking the Show on the Road"; Brodsky, "Seeing through Risk in the Special Collections Classroom."

198. Samuelson and Coker, "Mind the Gap"; Krause, "'It Makes History Alive for Them.'"

199. Carbone and Greenberg, "Teaching Large Classes."

200. Malkmus, "Primary Source Research and the Undergraduate."

201. Vong, "A Constructivist Approach for Introducing Undergraduate Students to Special Collections."

202. Brown University Library, "Teaching with Primary Sources" LibGuide, 2020, https://libguides.brown.edu/primarysources.

203. Jennifer Kelley, "ACRL (Association of College and Research Libraries) Presents: Pandemic Pedagogy: Resources for Library Instruction at a Distance," March 18, 2020, https://www.youtube.com/watch?v=gu8kyE2Q_Qc&feature=youtu.be.

204. SAA, "2020 Joint Annual Meeting Pop-Up Session Selection," https://www2.archivists.org/am2020/program/pop-up-session-selection.