

Quo Vadis, Preservation Education?

A Study of Current Trends and Future Needs

Pt. 1: Academic Institutions

Karen F. Gracy, Ph.D.
Assistant Professor
School of Information Sciences
University of Pittsburgh
135 N. Bellefield Avenue, Room 657
Pittsburgh, Pennsylvania 15260
kgracy@pitt.edu

and

Jean Ann Croft, M.L.I.S.
Preservation Librarian
University Library Services
University of Pittsburgh
7500 Thomas Boulevard, Room 205
Pittsburgh, Pennsylvania 15260
jeanann@pitt.edu

Abstract

Quo Vadis, Preservation Education?

A Study of Current Trends and Future Needs

Pt. 1: Academic Institutions

In the last decade, the library and information science community has witnessed many changes in the goals and concerns of preservation education programs. This research study focuses on the assessment of preservation education as provided by academic institutions and continuing education providers in North America; part one of this report centers upon academic institutions, while part two will address continuing education providers. Educators teaching preservation in either graduate library and information science programs or field service programs were sent a survey, asking questions about the type and number of courses offered, content of preservation coursework, faculty resources, future plans for curricula, fieldwork/internship opportunities in preservation, and postgraduate employment data. The investigators hypothesize that current preservation education within traditional library and archival studies programs does not provide adequate preparation in the areas of technical and managerial expertise to deal with the preservation of digital collections, audiovisual media, or visual materials. This paper reviews the literature pertinent to study of preservation education, describes the research methodology employed in designing and conducting the survey, presents the resulting data, and analyzes the trends revealed by the data in order to understand more fully the goals and objectives of preservation education during the last decade and to gauge future directions of the field. This paper concludes by presenting plans for further research, which will expand upon initial findings of this survey.

Introduction

In the past twenty-five years, the field of preservation education has matured significantly from the watershed year of 1981, when the Conservation Education Program in the School of Library Service at Columbia University was established as the first conservation program to focus exclusively on library and archival materials. Since those early days there has been tremendous progress in integrating conservation and preservation issues into the curricula of library and information science programs. By 1994, Cloonan estimated that approximately thirty library schools in North America offered coursework in preservation. [1] This figure represented tremendous progress in the preservation education agenda, which, as articulated by Marcum in 1992, declared that the primary objective was to produce “a new generation of archivists and librarians who will enter the profession already understanding the centrality of preservation.” [2]

In the ten years since Cloonan surveyed the preservation education landscape, the LIS community has witnessed many changes in the goals and concerns of preservation programs. The first major transition was the increased emphasis placed on digital reformatting as a tool in preservation work, accompanied by steadily growing concerns about how these electronic resources thus created would be maintained. Digital preservation, a term not even in common parlance in 1992, entered the mainstream in the mid-1990’s as the new crisis to be met and conquered as the World Wide Web became integrated into the library and archival environments and produced ever-increasing numbers of digitized and born-digital resources.

While the brittle books crisis had rallied the troops in the 1980’s and 1990’s to discover solutions to the “slow fires” endangering paper-based library collections, the

preservation community has yet to be given a “magic bullet” solution to the dilemmas of digital preservation. Whereas the preservation of paper-based media favors an object-based approach, preservation professionals who wish to preserve digital materials must focus on the information contained within electronic objects rather than the media upon which the information is recorded. Because digital objects require a complex environment of hardware and software for their information to be accessed, and because that environment is susceptible to obsolescence in an alarming short period of time, the physical and chemical stability of electronic recording media is of less importance than the maintenance of access to the information itself. Electronic information is enmeshed within a web of format specifications, encryption systems, and compression algorithms; it is not easy to untangle information from this technical environment.

Digital preservation requires an entirely new skill set, involving the mastery of such concepts as:

- Understanding the process of digitization, i.e., how the information contained within analog objects is affected by the transformation to digital form, and how one may judge the quality of that transformation;
- Recognizing the need to represent information objects in an authentic manner through quality control and descriptive practices (metadata); and,
- Learning how to ensure the longevity of large quantities of digital material through strategies such as copying, reformatting, migration, and emulation.

These digital competencies are complex enough to demand a separate course, thus it is difficult to imagine them being integrated to a sufficient degree into already overstuffed introductory preservation courses. The continuing education community has made

attempts to address this gap by offering workshops in this area, but until recently its emphasis was primarily on the transformation of objects from analog to digital form rather than the maintenance of such material once digitized. [3] The preservation needs of born-digital material such as electronic records are still rarely discussed within continuing education workshops. [4] Finally, instructors have been hampered by the lack of case studies in the preservation of digital material. To the frustration of many librarians and archivists, digital preservation exists largely in a theoretical realm for most institutions at this time.

Another area of increasing concern for preservation administrators is the presence of what has often euphemistically been referred to as “non-book” materials in library and archival collections. This category encompasses everything from photographic images, architectural drawings, and maps to audiovisual material such as records, cassettes, reel-to-reel tapes, motion pictures, and videotapes. In 1999, the Association of Research Libraries reported that ARL members collectively held over sixty-four million objects that could be classified as visual materials (including photographs, pictures, maps, prints, slides, charts, posters, cartoons, engravings, and other graphic arts). In a recent study on audio collections in academic libraries, Smith et al. reported that a majority of ARL libraries have collections of recorded sound objects which number over 100,000, while most Oberlin libraries have collections which number over 50,000. [5] For moving images, similar collections in size and scope exist throughout United States research libraries and archives. [6]

Clearly, there is a significant amount of visual and audiovisual material held in major research libraries and archives, and many of these items warrant immediate attention as

the formats upon which they are recorded become obsolete and machines to play them back becomes scarce. But as with electronic materials, preservation educators often find that they cannot provide sufficient coverage of the preservation issues and challenges of these “non-book” media. Although some specialized programs have emerged to address the training needs of preservationists in these areas (particularly in the area of moving image preservation), and a number of workshops in these areas have been offered at professional conferences and by regional preservation field service programs, many libraries and archives still do not have easy access to such expertise. Yet, they will require preservation administrators who have more than a cursory understanding of the preservation challenges inherent in these media.

With the ever-increasing amount of knowledge being required of preservation professionals in the areas of electronic media, visual materials, sound recordings, and moving images, it is no surprise that the syllabi of preservation courses are becoming more and more populated with the kinds of topics that were covered only superficially ten to fifteen years ago. Yet, it is becoming more and more difficult to teach preservation courses, given the ever-increasing number of topics demanding attention.

Given the gaps addressed above, this study hypothesizes that current preservation education within traditional library and archival studies programs does not provide adequate preparation in the areas of technical and managerial expertise to deal with the preservation of digital collections, audiovisual media, or visual materials. The investigators approached these problems as issues worthy of research, in order to document the current situation and place these issues on the national LIS educational

agenda. Specifically, the investigators sought to address the following research questions:

1. What is the composition of the curricula at university-based degree programs and field service programs in preservation education? How has that curricula changed over the past decade?
2. How do educators plan to keep pace with new formats and technological advancements?
3. Do preservation educators provide students with the opportunity to put theory into practice? If so, how is this achieved?
4. What do preservation educators see as the key knowledge and values in preservation education? How are these values reflected in the curricula?

The following report summarizes the results of the research undertaken to find answers to the above questions.

Review of Relevant Literature

Cloonan recently queried whether preservation as a field is declining. In 2001, she noted that, “the loss of preservation programs in some Association of Research Libraries (ARL) libraries and schools of library and information studies suggest that the field is withering when it should be blossoming. [...] At the same time, there is a continuing recognition of the importance of preservation throughout archives, museums, and libraries. This broad spectrum of interest should assure that it does not wither. New modes of collaboration present many possibilities as to whither preservation might go.”

[7]

Cloonan's observations about the continuing importance of preservation provided the impetus for this study, which focuses on the current state and future directions of preservation education. This survey of the literature documents how education in the preservation field has changed during the last decade, reflecting trends and revealing how educational programs have adapted to address the issues and challenges introduced by technological and philosophical change, and how these modifications have affected training in traditional preservation techniques for books, paper, audiovisual, and electronic media.

In this study, the investigators make the assumption that the educational sphere forms a symbiotic relationship with the library and archival professions, as it both echoes and shapes the discourse and practices of libraries and archives. The development of preservation as a specialty within the library and archival professions provides a fascinating case study for examining this phenomenon, and thus it is appropriate to review chronologically a number of key events that contributed to the development of a model for preservation education and had long-lasting influence on the evolving preservation curriculum. [8]

Many conservation and preservation specialists cite one particular crisis of epic proportions as a watershed moment in library and archival preservation. In 1966, the Arno River flooded its banks in Florence, Italy, devastating the collections of local libraries, archives, and museums. Conservators, librarians, and volunteers from all over the world came to assist in the rescue of damaged books, documents, and works of art. During the recovery from this disaster, conservators developed and learned new techniques to care for the collections, including new methods for protecting and restoring

books such as mass deacidification and “phased conservation” (constructing enclosures for objects until time and resources could be found to embark upon needed treatment). [9] Baker explains, “whether the coming together of books conservators that occurred as a result of the Florence Flood in November 1966 marks the true beginning of the field, many regard it as a turning point toward greater professionalism, sharing of information, and implementation of standards.” [10] The brittle books crisis, precipitated by rising acquisitions by research libraries from the postwar years through the mid- to late 1970’s, represented another milestone and learning opportunity for librarians and archivists. The threat of losing millions of acidic, crumbling books and documents affected the preservation field in a number of ways, including: developing mass deacidification techniques; introducing standards for microfilm and photocopy reformatting; the petitioning of the publishing industry to use acid-free paper in the publication of hardcover library editions of books; and, reinforcing the need to emphasize control of the environment in which collections are stored as the best weapon to combat the acceleration of deterioration in paper-based media. [11]

Both the Florence Flood and the brittle books crisis communicated the urgent need for educational programs in preservation and conservation, but few librarians and archivists had expertise in these areas. Plans to initiate training programs started to take form as a result of this perceived deficiency. Following the Flood, a number of conservators who had firsthand experience from this disaster were inspired to introduce conservation principles into librarianship, including Paul Banks, one of the pioneers advocating the establishment of conservation as a specialty in graduate programs of librarianship. [12] As McCrank has noted, however, one of the stumbling blocks to

introducing conservation into LIS curricula was identifying a cadre of qualified educators to teach conservation in library schools during this period. The skills and knowledge required for preservation and conservation work were dispersed throughout different university departments among various disciplines, and were not found within the library science community prior to the 1970's. [13] Bringing these various types of expertise together under the umbrella of conservation administration required vision and determination.

Before Banks founded the Columbia University conservation program in 1981, the educational efforts for conservators during the 1970's and early 1980's utilized the apprenticeship approach, concentrating on the craft and detailed treatments of objects. In the transitional period between 1966 and 1981, there were a number of precursors in the form of intensive workshops and seminars, which attempted to integrate conservation into library and archival education programs. In 1971, Banks taught the first course in conservation at the University of Illinois Graduate School of Library and Information Science. Conservation courses followed at the University of Rhode Island in 1974 (taught by George Cunha), the University of Chicago in 1976 (taught by Dick Smith), and Columbia University in 1978 and 1979 (taught by Banks). An experimental workshop offered at the University of Maryland in 1979-1980 attempted to teach document examination and appraisal methods, providing more insight into rational decision-making and management. [14] During this transitional period, the University of Denver sponsored an intensive three-week course spotlighting hands on conservation methods through the graduate History/Archives Program. [15] As educational pursuits garnered more support, academic institutions presented workshops and courses in

document conservation on a limited basis and professionals contributed their “how-to” descriptions and lecture notes for offering such programs.

By 1981, Banks had founded a training program specific to conservators at the School of Library Service at Columbia University. The successful establishment of this program helped to bring conservation and preservation efforts into the mainstream of the library and archival professions, and encouraged professionals to envision strategies for further integrating preservation into professional practice. [16] The conservation program at Columbia was strong enough to survive the demise of the library school in 1991, relocating to the University of Texas at Austin, as the Preservation and Conservation Studies Program (in 2004, this program became part of the William and Margaret Kilgarlin Center for Preservation of the Cultural Record). Commenting upon the clout of the Columbia program, Swartzburg stated, “The need for the graduates of its [Columbia University] Preservation Administration and Conservation programs was demonstrated, but its students were too few in number to carry a foundering school...Columbia’s graduates undoubtedly will play a leadership role in the library field in the years to come, as will the future graduates of such programs at Texas and elsewhere.” [17] Indeed, many of the graduates of the Columbia and Texas programs have contributed much to the profession.

Outside of a few specialized programs in LIS schools, however, preservation education has developed somewhat unevenly in the library and archival communities. While archival educators have long stressed the importance of preservation and conservation within their curricula, archival practitioners do not appear to be as vocal about its centrality to the archive field as one might expect. Seemingly, the library arena

experiences the reverse; library educators do not require preservation as part of their prospectus, but preservation professionals, particularly those working in academic library environments, actively promote continuing education efforts.

It is surprising that the library community commanded the spotlight in the preservation movement and cultivated their efforts into a recognized discipline, rather than the archival community, which has always made the responsibility to preserve a central part of its mission. In 1989, the United Nations Educational, Scientific and Cultural Organization (UNESCO) supported research to ascertain training needs in preservation and conservation, and this study concluded that while the archives community deemed such courses as mandatory within their curricula, library educators often viewed preservation and conservation as a “comparative luxury.” [18]

One may theorize that the emphasis on preservation in archival education emanated from its particular challenges, such as the multiplicity of formats and paper degradation, which are regularly encountered by archivists as part of the archival appraisal and processing procedures. Meanwhile, libraries struggle with the “tendency to concentrate on the whole of a question and use pre-established formulas to reach a single solution.” [19] In addition, the variety of formats and media inherent to archival collections pose significant preservation challenges, which are compounded by the paucity of standards, treatments, and educational opportunities, especially for electronic records, visual materials, and audiovisual materials. [20, 21] Kaplan and Banks state, “It is ironic that archivists have watched librarians capture the ‘preservation spotlight.’ It makes good sense for archivists to take a leadership role in preservation, because of the need to preserve unique materials, and because preservation is, after all, an expressly stated part

of the archival mission.” [22] Perhaps it was a matter of leadership by those librarians who collaborated to create standards and selection criteria in hopes of devising a national plan for preserving brittle materials, which had the ultimate result of helping to affirm the value of preservation and conservation as a specialty within the library profession? The inconsistencies in preservation terminology between the library and archival communities have compounded the dissonance between these two professions. Much work has been done, and continues to be done, to establish consensus in the preservation philosophy and vocabulary across the allied disciplines. [23]

Despite the strong influence of many practitioners on the development of the preservation profession, however, preservation education still does not form part of the core curricula for many library and information science programs. One theory that may explain the lack of integration of preservation into all LIS programs is that many academics view preservation more as a collection of practical information and skills rather than a discipline grounded in theoretical knowledge and research. These educators may also view preservation needs as being better served by continuing education providers, rather than within a graduate school curriculum. This premise will be explored in greater depth in part II of this research report, to be published separately in a future issue of this journal.

Audiovisual and Electronic Media

During the early 1990's, there was an ever-growing concern, especially amongst archivists, about the preservation of audiovisual materials and the necessary training to teach these specialized skills. Reminiscent of Paul Banks and his work in establishing conservation as a graduate level study, audiovisual archivists have long contended that

training and education should occur in institutions of higher education, as workshops and seminars cannot adequately convey the theoretical knowledge, technical expertise, or scientific methods needed for certain jobs. [24, 25] The lack of international standards and practices, as well as the lack of agreement on a core body of knowledge to guide the development of curricula, further compound the challenges in training audiovisual archivists and librarians. [26] With the establishment of the Association of Moving Image Archivists (AMIA) in 1991, these concerns coalesced into an international movement to foster graduate-level programs in moving image archiving and preservation. In the United States, the Library of Congress issued recommendations relating to film preservation which encouraged moving image community to “create a systematic graduate program for educating new film preservation professionals and continuing education opportunities for those already in the field.” [27] Within a decade, three programs in moving image archiving were established in the United States: the L. Jeffrey Selnick School of Film Preservation at the George Eastman House (1996), the Moving Image Archival Studies program at the University of California, Los Angeles (2002), and the Moving Image Archiving and Preservation program at New York University (2003). In 2002, the University of Pittsburgh also began to offer a concentration in moving image preservation through its Preservation Management program, which is a specialty within the School of Information Sciences’ MLIS curriculum.

While the development of moving image preservation education has matured significantly in the last decade, formal training in audio preservation lags far behind. A smattering of course offerings may be found in LIS programs and as occasional workshops at conferences such as the Society of American Archivists and the Association

of Recorded Sound Collections, however, the need for trained professionals in this area remains unmet. Recent reports from the Council on Library and Information Resources (CLIR) indicate that there is a need for more sound preservationists, however, the sound archiving community has not pushed to develop stand-alone graduate education programs as of yet. [28, 29]

Digital Dilemmas

In the 1990's, preservation again captured the spotlight in the LIS community as libraries and archives began to focus on the potential power of digitization as a reformatting option and its great potential to enhance access to collections. [30] Education in an information environment requires an understanding of digital and preservation resources, which will help provide insight for grappling with library services of the future. [31]

In an effort to rebrand themselves as "I-schools," many LIS programs have abandoned the word "library," removing it from their names and the degrees offered in an attempt to focus on "information science" or "information studies," promoting the emergence of new technologies and education into "the nature of information itself and its societal function." [32] This development is a matter of some concern, as professional education serves to define and communicate the values of the profession. [33] Unfortunately, this evolution seems to be happening at the expense of more traditional library offerings; courses teaching the "historical, technical, cultural and economic studies of the book and the methods of book production and supply, and the selection, arrangement, and storage of books in libraries" no longer constitute a primary component of the curricula. [34] Accreditation and professional aspirations further impact

conservation education, encouraging coursework concentrating on administration. [35] As evidence of the lower status of preservation in many of these retooled programs, adjunct professors, rather than full-time faculty, are the most likely people to teach preservation courses, and preservation plays a limited role in the core curriculum of most programs. [36] Another area of concern in preservation education is the lack of doctoral research undertaken in the preservation field resulting from the “predominantly practical approach to preservation.” [37]

The change in emphasis from providing grounding in specific institutional practice and service to particular constituencies, to the mastery of the management of “information,” in all its myriad forms, has many implications for preservation education. The demands of traditional paper and document preservation must be balanced with the now-pressing concerns to preserve audiovisual and electronic media. These new imperatives should stimulate the development of the preservation curriculum and the hiring of full-time faculty to support such a curriculum, however, the current focus on information science and technology in LIS programs and the “withering field” to which Cloonan alludes suggest otherwise.

The LIS field seems to be placing undue emphasis on the creation and distribution of digital resources, subverting the original concerns and drives of the preservation agenda. The key document that illustrates the tension between the old and new attitudes toward preservation is the recent Association of Research Libraries (ARL) position paper, *Recognizing Digitization as a Preservation Reformatting Method*. [38] In this document, ARL put forth their endorsement of digitization as another preservation reformatting

technique, outlining the benefits of digital technology and providing a list of best practices in the field.

The preservation field appears divided and conflicted when contemplating this topic. Adverse reactions to the ARL recommendations include concerns about the economics and level of commitment that digitization requires, hesitations in moving forward without concrete, universally-accepted standards, comparisons of digitization projects specific for preservation purposes versus digitization for access and other purposes, and requests for more analysis from a risk perspective. [39, 40, 41, 42] At the same time, some leading preservationists commend ARL for taking these steps and offer praise and support in encouraging the library community to engage proactively in the digitization process, "... making sure that the creation of the virtual library will support the values of our profession and the value of the objects in our care." [43] Ellen Cunningham-Kruppa embraces the benefits that digital technology offers over microfilming, while Merrill-Oldham and Chapman view this "call to action" as an opportunity to make a concerted effort and commitment to promote standards and best practices. [44, 45] Although ARL clearly supports digitization as a preservation reformatting method, they do not claim that it should be the only method employed in preservation. [46] This debate highlights the centrality of digital preservation concerns in the field. As the library and archival professions grapple with preservation in the digital realm, education must keep students in the thick of the debate.

As we refocus our attention to recognize new challenges and new agendas, we build upon the impressive foundation of those ground-breaking preservationists and educators of the first generation. These innovators inspired the authors of this article to study the

more recent trends and concerns of preservation education, particularly as its curriculum continues to be rewritten to address the new imperative of electronic media preservation and more adequately address the concerns of audiovisual preservation. Thus, this research aims to thoroughly document current educational activities in the field of preservation, and give university and field service programs specific recommendations for directing educational endeavors into the next decade.

Methodology

This survey aimed to analyze the extent of offerings found in formal library and information science degree programs and in continuing education sponsored by field service programs and other regional or local networks. The survey also attempted to gauge the attitudes and views of preservation educators across the spectrum of preservation education in relation to topics such as breadth and depth of curricula, current resources to support teaching of preservation, and growth of the field.

Establishing a Working Population of Preservation Education Providers

This assessment of preservation education was directed toward academic institutions and continuing education providers in North America. [47] In part I of this report, investigators focused on the survey of academic institutions; those readers interested in the survey of continuing education providers should consult part II of this article, forthcoming in this journal. Recipients of the graduate education survey were identified in several ways. Initially, we relied upon the most recent list of schools accredited by the American Library Association. [48] It is important to note that this group did not include

those institutions offering conservation education offerings in museum studies programs, or other cognate fields. To make sure that we were not missing any potential recipients, a general call for participation was also sent out via several listservs: the Preservation Administration Discussion Group, or PADG; jESSE (a list devoted to discussion of library and information science education issues); and, the Forum for Archival Educators (a private listserv whose members are educators in archival studies programs). [49] We also set up a website for individuals involved in preservation education to request a survey. [50] Finally, our announcement was published in October 2003 issue of *The Abbey Newsletter*, a periodical devoted to current news and developments in library and archival preservation. We did run into one problem with our blanket approach to recruitment: occasionally, we received responses from more than one individual at a given institution (most often, this problem occurred when an adjunct instructor of a preservation course responded without contacting the appropriate faculty member of a given program). When we received “competing” surveys, we often had to compare their answers and make a determination about which information was more reliable.

To encourage participation, survey recipients were assured of the confidentiality of their responses—in no instance would any of their responses be reported in a manner which would allow readers of the final results to match responses with responders. This assurance is in accordance with the guidelines for human subject research provided by the University of Pittsburgh Institutional Review Board. Because of this requirement, the investigators were sometimes required to aggregate data in order to maintain the confidentiality of participants despite the small size of the working population and the sample taken from it.

Development of the Survey Instrument and Analysis of Resulting Data

Two versions of the survey were developed and implemented. [51] The first version was sent to academic institutions, usually to the dean or director of master's programs, but also to instructors of the courses themselves if they requested it from us. The second version of the survey was sent to field service providers, usually those individuals identified as being in charge of educational offerings. As stated above, we direct readers seeking further information about the results of the continuing education survey to part II of this report.

For university education providers, we asked questions dealing with the following topics:

- Type and number of courses offered
- Frequency of course offerings
- Enrollment statistics
- Presence or absence of preservation specialization as part of degree program
- Content of preservation coursework
- Incorporation of preservation into related coursework
- Faculty resources
- Future plans for curricula
- Fieldwork/internship opportunities in preservation
- Postgraduate employment data

To standardize coding and subsequent analysis of data, the surveys used checkboxes wherever possible, and refrained from open-ended questions as much as possible. Where

participants were asked to fill in answers (e.g., “list each preservation course offered”), the investigators created nominal coding categories to aggregate data.

To analyze the data, the investigators used a standard statistical analysis package, SPSS, for all survey data entry and analysis. The primary analysis used was frequency distribution; this data is presented in tabular form, with discussion accompanying each table.

Potential Sources of Bias

The authors see several potential sources of bias in this research. First, the data may be slanted toward those individuals who are predisposed to participate in surveys. With our academic survey, the response rate indicates that individuals from schools where preservation is actively supported were more likely to complete and return the survey than those from schools where preservation is infrequently or never taught.

Second, answers to certain questions about future plans in hiring and curriculum should be treated somewhat cautiously. Respondents who were not full-time employees of an institution or organization may not have had a complete understanding of the current situation vis-à-vis hiring or curriculum revision. Additionally, some institutions may be wary about revealing plans in this area (despite assurances of anonymity) for fear of being seen as making a firm commitment to the hire of new faculty/instructors, or offering new coursework.

The most significant potential bias of this research concerns truthfulness in reporting data. For the questions that asked respondents to provide hard numbers (such as enrollment figures over a five-year span, or the number of graduates who specialized in

preservation during that same period), several participants indicated that the numbers that they were providing were estimates or guesses since they had not kept good records of such data. Thus the authors exercised extreme caution in interpreting these statistics, with the understanding that they may not be exact representations of the phenomenon being measured.

Findings and Discussion

In total, 102 surveys were sent to potential participants; this list consisted of both educators identified through the initial compilation of the working population (as detailed above) as well as individuals who requested it via electronic mail. Sixty-four individuals received the survey created for graduate education providers, while thirty-eight individuals received the survey designed for continuing education providers. Recipients who did not respond to the call to participate were sent a reminder after six weeks; a second reminder was sent at twelve weeks after the initial contact for those who still had not responded. After three attempts at contact, we considered the data collection period to be closed.

We received a total of sixty-three completed surveys: forty-three from academic institutions and twenty from continuing education providers. Those numbers were reduced, however, due to the removal of duplicate responses; investigators accepted only one response from each institution or organization. Once duplicates were removed, we were left with fifty-nine useable surveys: forty-one from academic institutions and eighteen from continuing education providers. We calculate our response rate as follows (numbers do not include surveys removed for the reasons noted above): 71.9% for

academic institutions and 50% for continuing education providers. These rates offer some reassurance that we may rely on the results to be statistically accurate. The extremely small population size in question leads us to be extremely cautious, however, in interpreting results and their potential implications.

Survey Responses (Academic Institutions)

The following discussion concerns only the data received from academic institutions; once again, readers are directed to Part II of this report for information about continuing education providers. Please consult Appendix 2 to examine the survey instrument; the report uses the abbreviation “Q” followed by the question number to indicate from which question the data is drawn (e.g., Q1 refers to Question 1).

Types of Courses and Frequency of Course Offerings

Out of the forty-one institutions returning the survey, thirty-two of them (78%) indicated that they offer coursework on preservation and/or conservation of library and archival materials (Q1). This figure compares favorably to the figure cited by Cloonan in 1994, at which time she estimated that thirty schools offered one or more electives in preservation. [52] Of those thirty-two schools currently offering preservation, however, almost sixty percent of them offer only one course (usually an introductory survey course). Seven schools offer two courses, four schools offer three courses, and only two schools offer more than three courses (Q2). **[See Table 1].**

Educators were also asked to list each preservation course offered at their institution, providing the course title, the frequency with which it is offered, and the enrollment statistics over the last five years, 1999-2003 (Q3). For the purposes of making this data

more comprehensible, the researchers aggregated the data gathered in this section of the survey into the following categories:

- Introductory survey
- Preservation management
- Digital preservation
- Photograph/audiovisual preservation
- Conservation (“hands-on” courses)
- Other “advanced topics” in preservation [53]

The following table summarizes the frequency with which these courses are offered in LIS programs. [See **Table 2**].

As one might immediately surmise from this data, LIS masters programs focus primarily on offering a survey course once a year. Few schools give more advanced offerings in preservation, with a few notable exceptions. Preservation management and digital preservation are the most likely candidates to be offered as advanced electives; photograph and audiovisual preservation courses are beginning to be offered in a small number of schools, while comparatively few schools offer conservation courses (defined as having a laboratory component). The small number of conservation courses may be related to a lack of available laboratory facilities at many LIS programs.

Enrollment in Preservation Coursework

Enrollment in preservation courses in LIS programs shows some growth trends in the last five years, particularly in the areas of introductory courses, digital preservation, and photographic/audiovisual preservation ([See **Table 3**]):

The encouraging upward trends in preservation enrollment must be seen in the light of the larger picture, however, which is the overall enrollment in MLIS programs over the same period. The Association of Library and Information Science Education (ALISE) reports that between 1999 and 2003 enrollment in MLIS programs also rose significantly: 11,241 in 1999, 13,127 in 2000, 14,043 in 2001, 15,117 in 2002, and 16,876 in 2003. [55] Over a five-year period, MLIS enrollment increased fifty percent, while enrollment in basic preservation courses increased sixty-six percent, and the number of students in preservation management courses rose by 120 percent. Clearly, interest in preservation is easily keeping pace with the rise in the number of MLIS students.

Enrollment in electronic and audiovisual preservation courses shows steady increases over the five-year period, while the number of students enrolled in conservation has shown a small surge which was not maintained (we interpret these numbers as essentially showing no real growth). Enrollment in other advanced preservation coursework (which included courses such as those focusing on technology, reformatting, and current issues) has grown, but the number of courses and total number of students is so small that this data cannot be interpreted as an overall trend of the field.

The following table summarizes the number of preservation courses offered over the five-year period of 1999-2003 and gives the total number of students (both broken down by basic type of course). [See **Table 4**]. This table represents a different snapshot of the data, examining the average (mean) number of students enrolled in different courses. As one might expect, the average number of students enrolled in more advanced courses decreases significantly from the average of the introductory and management courses. Interestingly, only seven schools offer a separate course in preservation management,

however, it is suspected that many introductory preservation courses now emphasize a managerial approach and perspective. The mean number of students enrolled in conservation is quite low, however, the intensive hands-on nature of most conservation courses requires a small student-to-teacher ratio and is not a cause for concern.

The enrollment for digital preservation shows promising increase over the five-year period, showing that interest in this area is developing quickly. Yet, less than one percent of all MLIS students have had in-depth exposure to critical issues of digital preservation. The investigators consider the paucity of course offerings in digital preservation as a source of concern for all MLIS programs, as the field will need students to have a basic grounding in this area as they build and administer digital libraries and recordkeeping systems.

Preservation Specializations and Job Placement

Only five schools report that they offer a separate specialization in preservation management (Q4). [54] Over the past five years, forty-two students have graduated with specializations in this area (Q5). [See Table 5]. In the past two years, the number of such students has grown significantly, however, due to the revitalization of the preservation management program at one LIS program, and an increase in interest at other schools. Similarly, the investigators found that there were few opportunities for post-graduate Certificates of Advanced Study in preservation; only four schools offer this opportunity at this time, overlapping with the schools that offer MLIS study in preservation. The number of students completing a CAS has been small—twenty-nine students over the last five years, with one school graduating eighteen of those twenty-nine certificate recipients

(Q8, Q9). This data suggests that preservation is still seen largely as a niche to be filled by a few schools, rather than a specialization of wide appeal to all MLIS programs.

It would be very interesting to compare this data to information about job placement, i.e., how many of these graduates were placed in positions where their primary responsibility was in the area of preservation? Unfortunately, many of our survey respondents indicated that such data has not been collected at their schools, thus we are unable to determine how successful graduates have been in securing jobs in preservation management (Q30, Q31). Anecdotal evidence has suggested that employment opportunities in preservation administration are not plentiful, and those that are available tend to be at Association of Research Libraries (ARL) libraries in the Midwest and Eastern parts of the United States. We do not have the data to back up this assertion, however.

Despite the small number of opportunities for specializing in preservation, the study found that preservation is a key component of other areas of study. Out of thirty-two schools responding to the question, “Is preservation a required or recommended course for particular tracks or specializations (other than conservation or preservation)?” nineteen (59.4%) indicated that preservation was either required or recommended (Q6). **[See Table 6].** Archives and records management is the specialization most likely to require or recommend preservation (eight schools require preservation and four schools recommend it for their archives curriculum) (Q7). Preservation was also cited as a required or recommended course for specializations in academic libraries (one school recommends it), digital libraries (two schools require it), and rare books and special collections (two schools recommend it). Because preservation impacts the work of almost

every department in a library or archives, many schools recommend that students have some basic familiarity with preservation concepts. Students often do not realize the full importance of preservation knowledge until they are working in the field. Thus, many MLIS graduates seek out continuing education opportunities in preservation after entering the workforce. This topic will be covered in greater depth in the second part of our report.

Faculty Resources

By-and-large, preservation courses are taught by part-time faculty drawn from the ranks of the profession, i.e., preservation administrators and conservators who work in a local institution (most often within the library system of the university). As the data below shows, almost two-thirds of the preservation faculty consists of professionals teaching as adjuncts rather than full-time faculty members (Q17). [See **Table 7**]. The number of full-time tenure-track faculty who teach preservation is somewhat misleading, because many who teach in this area are also responsible for other areas such as archives, special collections, and technical services. One must conjecture that the number of faculty who consider preservation to be their primary teaching and research area is smaller than the reported number of eighteen. When asked, “Are your preservation courses usually taught by full-time or part-time (adjunct) faculty?” one can see that the reliance on part-time faculty is even more pronounced (Q16):

- Five schools use full time faculty exclusively (15.6%)
- Twenty schools use part-time faculty exclusively (62.5%)
- Seven schools use a combination of full- and part-time faculty (21.9%)

The investigators definitely see a connection between the number of full-time faculty members whose specialty is preservation and the number of schools that offer a specialization in preservation; clearly, the small number of preservation faculty directly correlates to the availability of preservation specializations, as part-time instructors are rarely given the opportunity to develop tracks within a curriculum.

Credentials of Preservation Educators

Preservation instructors are most likely to have a master's degree in LIS or a related field (Q18). Others may also possess a certificate of advanced study (in conservation or a related field) or a Ph.D. [See **Table 8**]. Other credentials mentioned include:

- Certified Archivist
- Certificate in Hand Bookbinding

As most instructors of preservation courses are part-time instructors drawn from the profession, it is not surprising that they are most likely to have professional credentials, rather than research credentials.

Hiring in Preservation Education

Only five schools out of forty-one surveyed (12.2%) reported that they had firm plans to hire additional faculty in the area of preservation (Q19). All five respondents indicated that they would like to hire full-time tenure-track faculty (other choices were: full-time non-tenure-track (lecturer/instructor), or part-time (adjunct) instructor (Q20). The other thirty-six schools that indicated that they had no immediate plans to make a hire in preservation chose the following reasons (some respondents chose more than one

response) (Q21). [See Table 9]. Those indicating “other reasons” explained their responses in the following ways:

- “We are looking at adding a course eventually using faculty now in place.”
- “We would like to hire another archives-related faculty who may have preservation expertise—but that wouldn’t necessarily be a priority.”
- “Another program in the city and yet another in the state cover this—we’re too small to repeat their work.”
- “The enrollment figures have increased considerably in the last three years. We are looking at increasing the resources in the area of Archives in general.”
- “We are redesigning our archives/records management/preservation courses and don’t know yet whether we will be adding faculty.”

Clearly, most LIS programs are not placing preservation as a high priority, or at least are unwilling to make a firm commitment to this area at this time. The investigators see an interesting parallel between the preservation area and the archives specialty, in terms of the reluctance to commit new resources to growing these areas. [56] While much of this hesitancy may be related to genuine concern over lack of resources, we also recognize the possibility that tracks in digital libraries and information technology are seen by many schools to be of the highest priority (particularly those schools that have rebranded themselves as “I-schools.”

The Preservation Curriculum

The survey asked respondents to indicate the content of their preservation courses by putting an “x” next to each topic listed on the survey (they could also write in topics not

listed) (Q10). The investigators found that most preservation courses are very ambitious in scope, as evidenced by the high number of affirmative responses to each topic. [See

Table 10]. Other topics mentioned included:

- Preservation research
- Preservation strategies
- Security
- Insurance coverage, risk management, and liability

Other formats mentioned included:

- “Electronic media preservation”
- Museum objects
- “Clay tablets, papyri, vellum, etc.”

Because of concerns about the length of the survey, the investigators did not ask respondents to indicate the depth of treatment afforded each topic. The data would seem to suggest that faculty are including an ever-expanding list of topics in their courses, in response no doubt to the ever-increasing number of formats for which librarians and archivists are responsible in their institutions. A comparison of this list of topics to the one compiled by Cloonan in 1994 shows that current preservation courses cover much more ground than those of just a decade ago. [57] While Cloonan’s list does not mention specific formats, the assumption that preservation administrators will be dealing primarily with paper-based media is evident in many of the topics, which mention such activities as “library binding and contracting for services,” “flattening paper,” and “deciphering faded documents.” Electronic media is clearly not an object of preservation, but is seen as a potential tool for reformatting. The preservation course of

today can no longer assume that their students will be working in a “book-and-paper” world, and its syllabus has swelled to contain these new media.

Educators have cause for concern over how much time can possibly be spent on each individual topic—one could assume that some topics are only given lip service, whereas others are explored in more depth. For those who are interested in more information about the content and treatment of topics in preservation courses, we direct readers to another study by Jeannette Bastian and Elizabeth Yakel, which gives a better idea of how much time is spent on different topics. [58]

Preservation has been integrated into a number of other courses in LIS programs. We found that instructors teaching archives and manuscripts, collection development, or records management were most likely to have integrated preservation topics into their syllabi (Q11). [See **Table 11**]. Other courses mentioned as including preservation topics include:

- Management
- “Information in society”
- Government information resources
- Organization of information
- Individual study
- Film studies courses

The investigators were disturbed to see that only one-third of LIS schools responding to this question indicated that they integrate preservation into their foundational course, while three-quarters of archives and manuscript course offerings and one-half of collection management courses do so. These figures reinforce the trend discussed in the

review of the literature, which indicates that archival educators are more likely to emphasize the importance of preservation in archival courses than other LIS educators in other parts of the LIS curriculum.

Related Courses Which Encompass Preservation Issues

The survey asked respondents to list any related courses that include preservation as a significant component (defined as spending at least ten percent of class time discussing preservation issues) and estimate the percentage of time spent on preservation (Q12). Sixteen schools out of thirty-two respondents (50%) reported that they had courses with significant preservation content. The information has been summarized using the following categories. [See Table 12].

- Foundations of Librarianship/Information Studies
- Archives and Records Management
- Electronic Records Management
- Rare Books/Special Collections
- Technical Services
- Collection Development
- Digital Libraries
- Other Coursework (Doctoral-Level Seminar)

Although the data that was obtained for this question is interesting, we were disappointed to see the small number of schools that chose to answer this question. We hesitate to draw any conclusions given the insufficient number of responses.

The survey also asked about the availability of related courses in other schools and departments of the university that may pertain to preservation or conservation studies (Q13). Out of thirty-two responses, nine schools (28.1%) responded “yes,” twenty-one schools (65.6%) responded “no” or left the question unanswered, and two schools (6.3%) indicated that they were “not sure.” Of the nine schools that responded in the affirmative, they provided course titles (which have been summarized into disciplinary areas). [See **Table 13**]. The investigators find the results of this question to be of particular interest, as it would appear that a number of schools do not acknowledge the existence of other preservation-related courses outside of their school’s offering. It has been the experience of these investigators that many larger universities do, in fact, offer related coursework; it simply requires that one do a bit of research into the university’s course catalog to determine the presence of these other opportunities. Perhaps limitations on the number of outside credits that students may apply toward the degree have restricted LIS programs from doing so? Possibly, it is because it is often difficult to determine whether outside courses will be offered with any regularity, thus making it challenging to build a specialization that would rely heavily on other departments without establishing a joint degree program or other formal arrangements. Unfortunately, the potential for building preservation specializations using resources of other departments remains largely untapped.

Continuing Education Courses Offered Through LIS Programs

Six schools (19.4%) out of thirty-one respondents reported that they offer continuing education courses in preservation to working professionals in the field (Q14). Topics cited including the following (Q15):

- Book history
- Archives
- Conservation/Book repair
- Digitization and digital libraries
- Disaster planning
- Electronic records
- Library facilities
- Preservation management [See Table 14].

Given the data gathered by this survey, we do not see most LIS schools as being sources for continuing education in preservation at this time. Anecdotal evidence suggests that many continuing education workshops offered through universities have been either heavily reliant on grant funding or must be sustained through enrollment fees, which may partially explain why few universities regularly offer continuing education opportunities in this area. Readers are directed to part II of this study, in which continuing education offerings are examined in more depth.

Fieldwork and Internship Opportunities in Preservation

Out of forty-one responses to the question, “Do students have the opportunity to earn course credits for completing an internship or field placement in preservation work?” thirty-two schools (78%) indicated in the affirmative (Q25). For LIS programs which

offer a specialization in preservation, all five of them require practical experience through internships or fieldwork (Q26). The investigators see this requirement as an indication that in the field of preservation practical experience is seen as being a necessary prerequisite for obtaining an entry-level position.

Internal Internship Sites

Thirty-two (78%) out of forty-one schools report that their university's library system offers internship opportunities (Q27). Departments that often host interns include the following: [See Table 15]. It is strongly suspected that a number of the respondents misinterpreted this question to apply to all students and internship sites, rather than those focused specifically on preservation work (hence the reporting of the reference department and the large number of respondents who did not indicate a particular department). Thus, we are reluctant to draw any conclusions from this data other than to note that archives, special collections, and preservation departments are the most likely sites to welcome preservation students.

External Internship Sites

From our data, we surmise that internships are widely available outside the university library system. Forty-one schools responded to the question, "What type of sites (external to the institution) host preservation interns?" (Q28) [See Table 16].

Under the other category, respondents listed:

- "Combination archives/museum"
- Local public television station
- Corporate libraries/archives

For many LIS programs, it would appear that students interested in preservation are encouraged to continue their education through an internship, as most schools offer little in the way of advanced electives in this area. While the importance of learning skills and techniques in a practitioner environment is undeniable, practical skills must be balanced with a more theoretical orientation to the profession. Internships alone cannot provide this professional knowledge.

Remuneration

Internships and fieldwork are, by-and-large, unpaid. Out of forty responses to a question about the percentage of internship sites that offer remuneration, twenty-nine of them reported that none of the sites offered financial compensation (Q29). Two schools reported that 100% of their internship sites offer wages to students, with the other nine schools reporting anywhere from one percent to ninety-five percent. It is unclear from the responses, however, if respondents refer specifically to preservation internship sites or all internship sites. Thus, we are unable to draw any conclusions about the existence of compensated preservation internships.

Plans for the Future

Thirteen schools out of forty-one surveyed (31.7%) indicated a desire to enhance their current curriculum with additional offerings in the area of preservation (Q22). Subjects seen as potential new courses included the following (respondents could mark more than one choice):

- Introductory course in preservation history
- Collections conservation laboratory

- Reformatting
- Fieldwork/Internship
- Photographic media
- Digital Preservation (Q13) [See Table 17].

Other courses mentioned included the following:

- “Practicum work full-time in our conservation lab”
- Preservation ethics
- Management of cultural heritage collections

Reformatting and digital preservation seemed to generate the most interest, which is unsurprising given the current focus on building digital libraries both in the profession and as a growing trend in LIS education. Readers should note that although the survey asked respondents to indicate the year that they planned on offering such courses, few respondents actually did so, thus we are unable to report results on that part of the question.

The other twenty-eight schools (68.3%) showed no interest in adding additional coursework in the area of preservation (Q24). The reasons cited for not offering additional courses included the following (some respondents chose more than one response). [See Table 18]. Other reasons given included:

- “We are federated with a program that covers this—no need to duplicate.”
- “We plan to move slowly, will be looking at a digitization course, but may not be ready to add it in 1-3 years.”

Clearly, many schools feel that preservation is already sufficiently covered by current course offerings, while the lack of fiscal resources is the other main limitation (the lack of

available expertise may be closely related to the lack of fiscal resources as well). The investigators find the “already sufficiently discussed” reasoning to be curious, considering the high number of LIS schools that currently lack advanced electives in areas of need such as digital preservation.

Conclusion

Data from this study reveals tantalizing pieces of the preservation education landscape. While investigators noticed several potentially encouraging trends in this area, such as continued interest in preservation through steadily increasing enrollment figures, other data show that institutions, particularly in higher education, are not ready to make a commitment of resources (through new courses or faculty hires) to grow preservation beyond its current coverage in library schools. The authors suspect that continuing education is picking up much of the “slack” that LIS programs are creating, offering programs on multiple topics not given sufficient coverage at the graduate level. Preservation education in the areas of electronic resources, visual materials, and audiovisual resources appears to be in short supply at the graduate level.

The investigators found that the data generated from this study answered many of the questions raised about the “who, what, when, and where” of preservation education, but did not sufficiently capture the underlying explanations of certain phenomena. For example, why has the increased scope of preservation in the last decade not resulted in significantly increased course offerings and additional faculty resources? Why is preservation still not considered to be a core knowledge area by many LIS schools? Why has the development of preservation education stalled at the level of establishing basic

professional skills and competencies, while not addressing the need to develop a theoretical foundation to support research and scholarly agendas, which would sustain the field over the long term?

The investigators feel that these sorts of questions are best addressed using another methodological approach, ideally a qualitative one. Thus this study represents the first phase of a larger research project. Building upon the initial results of the survey, the investigators hope to follow up with in-depth interviewing of key informants involved in preservation education at selected sites. After analyzing the interview data and comparing those results to those of the survey, the investigators hope to have a more complete picture of the state of preservation education in North America, which we plan to use to create recommendations for directing preservation education in the next decade.

References

1. Michèle V. Cloonan, *Global Perspectives on Preservation Education* (Munich: Saur, 1994), 5.
2. Deanna B. Marcum, "Preservation Education," in *Advances in Preservation and Access*, vol. 1, ed. Barbra Buckner Higginbotham and Mary E. Jackson (Westport, Conn.: Meckler, 1992), 116.
3. One of the most well-known continuing education opportunities in digitization is Northeast Document Conservation Center's School for Scanning, which has been offered regularly since 1995. See the NEDCC website at <http://www.nedcc.org/> to view the description and agenda for its most recent iteration of the workshop.
4. Several of the field service programs (NEDCC, SOLINET, and Amigos) have begun to offer workshops in preserving digital objects, however, the preservation of born-digital electronic records is still somewhat neglected. An exception is the Society of American Archivist's workshop, "Archival Perspectives on Digital Preservation," offered regularly since 2002 at its national conference and through its traveling workshop series.
5. Abby Smith, David Randal Allen, and Karen Allen, *Survey of the State of Audio Collections in Academic Libraries* (Washington, D.C.: Council on Library and Information Resources, 2004), 31.
6. Stephen G. Nichols and Abby Smith, *The Evidence in Hand: Report of the Task Force on the Artifact in Library Collections* (Washington, D.C.: Council on Library and Information Resources, 2001), 100.

7. Michèle V. Cloonan, "W(h)ither Preservation?" *Library Quarterly* 71, no. 2 (2001): 232.
8. For a more detailed chronology of key events, readers are directed to Appendix 1: Milestones in Preservation Education at the Graduate Level.
9. Susan G. Swartzburg, *Preserving Library Materials: A Manual* (Lanham, Md.: Scarecrow, 1995), 93.
10. Whitney Baker, "The Hybrid Conservator," *Library Resources and Technical Services* 48, no. 3 (2004): 188.
11. Abby Smith, *The Future of the Past: Preservation in American Research Libraries* (Washington, D.C.: Council on Library and Information Resources, 1999): 3.
12. Paul Banks, "Education for Conservators: A Proposal for Training Conservators of Library and Archival Materials," *Library Journal* 104, no. 9 (1976): 1013-17.
13. Lawrence J. McCrank, "Conservation and Collection Management: Educational Problems and Opportunities," *Journal of Education for Librarianship* 22, no.1-2 (1981): 21.
14. Lawrence J. McCrank. "Integrating Conservation and Collection Management: An Experimental Workshop Report," *Library & Archival Security* 6, no. 1 (1984): 23-48.
15. Enid T. Thompson, "Teaching a Basic Course in the Conservation of Documentary Materials," *Library & Archival Security* 4, no. 3 (1982): 1-8.
16. Sally A. Buchanan, "The Third Decade: Directions for Preservation Conservation," *Conservation Administration News* 33 (1988): 3.

17. Swartzburg, *Preserving Library Materials*, 20-21.
18. D.W.G. Clements, A.C. McIlvaine, A.C. Thurston, and S.A. Rudd, *Review of Training Needs in Preservation and Conservation* (Paris: UNESCO, 1989), 19.
19. Frederick J. Stielow, "New Archival and Preservation Scholarship: Communication and Literature in Transition: A Review Article," *Library Quarterly* 63, no. 1 (1993): 93.
20. James Turner, "Training for Audiovisual Archivists and Librarians," *IFLA Journal* 17, no. 3 (1991): 248-55.
21. Hilary A. Kaplan and Brenda S. Banks, "Archival Preservation: The Teaming of the Crew," *American Archivist* 53 (1990): 266-73.
22. *Ibid.*, 269.
23. Paul Conway, "Archival Preservation: Definitions for Improving Education and Training," *Restaurator* 10 (1989): 48.
24. Helen P. Harrison, "Training for Audiovisual Archivists," *Audiovisual Librarian* 16, no. 3 (1990): 121.
25. Ray Edmondson, *Audiovisual Archiving: Philosophy and Principles* (Paris: UNESCO, 2004), 11-12.
26. Turner, "Training for Audiovisual Archivists and Librarians," 248.
27. *Redefining Film Preservation: A National Plan* (Washington, D.C.: Library of Congress, 1994), 17.
28. *Folk Heritage Collections in Crisis* (Washington, D.C.: Council on Library and Information Resources, 2001), 51, 53.
29. Smith, Allen, and Allen, *Survey of the State of Audio Collections*, 23.

30. Graham Matthews and Stella Thebridge, "Preservation Management Training and Education: Developing a Sector-wide Approach," *New Library World* 102, no. 1170-1171 (2001): 443-51.
31. Deanna B. Marcum, "Research Questions for the Digital Era Library," *Library Trends* 51, no. 4 (2003): 641.
32. John Feather, *Guidelines for the Teaching of Preservation to Librarians, Archivists and Documentalists from a Joint Working Party of IFLA's Sections on Conservation and Education and Training* (Paris: International Federation of Library Associations and Institutions, 1990), 5. IFLA Professional Reports No. 18.
33. Jennifer A. Younger, "An Employer's Perspective on LIS Education," *Technical Services Quarterly* 15, no. 1-2 (1997): 111.
34. Feather, *Guidelines for the Teaching of Preservation*, 5.
35. Jonathan Rhys-Lewis, "A Current View of Education and Training in Archive Conservation," *Journal of the Society of Archivists* 18.2 (1997): 175-180.
36. Michèle Valerie Cloonan, "Preservation Without Borders," *Libri* 47, no. 3 (1997): 182.
37. Michèle Valerie Cloonan, *Global Perspectives on Preservation Education* (Munich: Saur, 1994), 26.
38. ARL Preservation of Research Library Materials Committee, *Recognizing Digitization as a Reformatting Method* (Washington, D.C.: Association of Research Libraries, 2004). Accessed: 1/31/2005.
http://www.arl.org/preserv/digit_final.html

39. Sheila A. McAlister and Gregor Trinkaus-Randall, "Wouldn't Be Prudent": Digitization as a Preservation Reformatting Method," *Microform & Imaging Review* 33, no. 4 (2004): 181-183.
40. "Digitization as a Preservation Method – Comments from the Netherlands," *Microfilm and Imaging Review* 33, no. 4 (2004): 191-194.
41. Hart, Andrew, "A Critique of "Recognizing Digitization as a Preservation Reformatting Method," *Microform & Imaging Review* 33, no. 4 (2004): 184-187.
42. David Adams et al., "Addressing a Risk Perspective when Considering Digitization as a Preservation Reformatting Method: A Response from 'Down Under,'" *Microform & Imaging Review* 33, no. 4 (2004): 188-189.
43. Jacob Nadal, "It's Time to Recognize the Technologies That Are In Place," *Microform & Imaging Review* 33, no. 4 (2004): 198.
44. Ellen Cunningham-Kruppa, "Digitization for Preservation: Far Too Many Benefits Over Microfilming," *Microfilm & Imaging Review* 33, no. 4 (2004): 201-203.
45. Jan Merrill-Oldham and Stephen Chapman, "Why the Preservation Community Should Support ARL's Call for Acceptance of Digitization as a Preservation Reformatting Method," *Microfilm & Imaging Review* 34, no. 4 (2004): 205.
46. ARL, *Recognizing Digitization*, 2.
47. For this study, we limited the scope of our survey to North America, but we hope to encompass the international scene (primarily Europe and Australia) in the future.

48. The ALA list of accredited graduate programs may be found at
<http://www.ala.org/ala/accreditation/lisdirb/lisdirectory.htm>
49. See <http://palimpsest.stanford.edu/byform/mailling-lists/padg/2003/09/msg00018.html> for the archived posting to PADG (posted on 9/23/03). See <http://listserv.utk.edu/cgi-bin/wa?A2=ind0309&L=jesse&P=R7807&I=-3> for the archived posting to jESSE (posted on 9/22/03). The Forum for Archival Educators (whose address is archive-educate@forums.nyu.edu) does not maintain archives online, however, the content of the posting is identical to that which appeared on jESSE.
50. This website may be found at:
http://www.sis.pitt.edu/~kgracy/Pres_Edu_Study.htm.
A list of RAP members may be found at: <http://www.rap-arcc.org/welcome/rarcc.htm>. The ALA Preservation Education directory may be found at:
<http://www.ala.org/ala/alctscontent/alctspubsbucket/webpublications/alctspreservation/presedir/home.htm>.
51. A copy of the survey of graduate educators is included in Appendix 2 of this article.
52. Cloonan, *Global Perspectives*, 5.
53. When it was not apparent into which category a class would fall, the investigators examined the course description on the institution's website, when available. The dividing line between introductory survey courses and more advanced management courses was the most difficult to draw; in cases where we were unsure, we erred on the side of coding it as an introductory course.

54. Also, it is important to note that these figures include only students focusing on preservation administration, not conservation training (which is a separate track and requires significantly more background in paper chemistry and materials science, and additional training in repair, binding, and treatments).
55. Data taken from the 2000, 2001, 2002, 2003, and 2004 editions of the *ALISE Statistical Report* (Table II-1-a-1). All of these reports may be found online at <http://ils.unc.edu/ALISE/>.
56. For data on future plans for hiring archival studies faculty, see Richard J. Cox et al., "Archival Education in North American Library and Information Science Schools," *Library Quarterly* 71, no. 2 (2001): 161-162.
57. Cloonan, *Global Perspectives*, 87.
58. Jeannette Bastian and Elizabeth Yakel, "'Are We There Yet?': Professionalism and the Development of an Archival Core Curriculum in the United States," *Journal of Education for Library and Information Science* 46, no. 2 (2005): 95-114.

Appendix 1: Milestones in Graduate-Level Preservation Education, 1966-2005*

<u>Date</u>	<u>Event</u>
1966	Florence Flood
1971	First conservation course offered at University of Illinois, Urbana-Champaign (taught by Paul Banks)
1974	First conservation course offered at University of Rhode Island (taught by George Cunha)
1976	First conservation course offered at University of Chicago (taught by Dick Smith)
1980	Northeast Document Conservation Center collaborates with Simmons College to offer preservation courses as a regular part of its MLIS curriculum
1981	Columbia University establishes Conservation Education Program (offering graduate training in preservation administration and conservation)
1989	Association for Library and Information Science Education Preservation Education Special Interest Group established (organized by Michèle Cloonan)
1989	Commission on Preservation and Access establishes its Task Force on Preservation Education
1989-1990	University of Pittsburgh offers its first preservation courses, taught by Sally Buchanan
1990	CPA's Task Force on Preservation Education organizes the Preservation Institute for Library Educators (Wye Institute); issues Final Report of the Preservation Education Institute later that year
1992	Columbia's Conservation Education program moves to the University of Texas, Austin after the closure of Columbia's School of Library Service
1999	First "stand-alone" digital preservation course offered at University of Pittsburgh (taught by Elizabeth Yakel)†
2005	UT Austin receives IMLS grant to fund doctoral students in preservation

* Sources of Data:

Michèle Valerie Cloonan, "Preservation Education in American Library Schools: Recounting the Ways," *Journal of Education for Library and Information Science* 31, no. 3 (1991): 187-203.

Deanna B. Marcum, "Preservation Education," in *Advances in Preservation and Access*, vol. 1, ed. Barbra Buckner Higginbotham and Mary E. Jackson (Westport, Conn.: Meckler, 1992), 115-123.

† = Electronic records management courses, which have some overlapping content with digital preservation courses, were first offered in the early 1990's.

Appendix 2: Survey Instrument

Preservation Education Needs for the Next Generation of Information Professionals

Survey for Educators Teaching Preservation Coursework for College and University Degree Programs

Types of Courses/Frequency Offered

1. Does your institution offer coursework on preservation and/or conservation of library/archival materials?
 - Yes (go to next question)
 - No (go to question 19)

2. How many courses do you offer on preservation of library/archival materials? Do not include courses that merely incorporate preservation as part of a related topic (such as archives or collection development) unless preservation issues constitute at least one-third of the material covered.
 - 1
 - 2
 - 3
 - More than 3

3. List each preservation course offered, and indicate the regularity with which it is offered. Also indicate its enrollment over the last five years, broken down by years. Attach additional sheets as necessary.

<u>Course Title</u>	<u>Frequency</u>	Enrollment over the Last Five Years
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001:

		2000: 1999:
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:

Preservation and Specializations

4. Does your institution offer students a preservation track/specialization?

Yes (go to next question)

No (go to question 6)

5. If yes, how many students have elected to specialize in preservation in the last five years?

2003-2004 academic year: _____

2002-2003 academic year: _____

2001-2002 academic year: _____

2000-2001 academic year: _____

1999-2000 academic year: _____

6. Is preservation a required or recommended course for particular tracks or specializations (other than conservation or preservation)?

Yes (go to next question)

No (go to question 8)

7. If yes, please list specialization(s) where preservation coursework is recommended or required:

_____ Required? ___ Recommended? ___

_____ Required? ___ Recommended? ___

_____ Required? ___ Recommended? ___

8. Does your institution offer students a post-bachelor's or post-master's certificate in preservation?

___ Yes (go to next question)

___ No (go to question 10)

9. If yes, how many students have elected to obtain a certificate in preservation in the last five years?

2003: ____

2002: ____

2001: ____

2000: ____

1999: ____

Content of Preservation/Conservation Coursework

10. What issues are covered in preservation coursework? Check all that apply.

___ History and theory of conservation/preservation

___ Ethics of conservation/preservation

___ Conservation science (including materials deterioration)

Topics:

- Book repair and rebinding (including “hands-on” practice)
- Conservation treatments
- Enclosures and housing
- Reformatting options (microfilming, photocopying, digitization)
- Control of environmental conditions (temperature, relative humidity, air quality, pest management)
- Preservation assessment (surveying and policy recommendations)
- Management (personnel, fiscal, facilities)
- Emergency preparedness and disaster recovery
- Staff and user education
- Other: _____

Formats:

- Paper-based media (books and documents)
- Photographic media
- Audiovisual media (sound recordings and moving images)
- Magnetic and optical media (removable storage media)
- Electronic records
- Digital library objects (both digitized and “born digital”)
- Other: _____

Related Coursework

11. Into what other coursework do you incorporate preservation? Please check all that apply.

- Introduction to librarianship/information studies core course

- ___ Archives and manuscripts
- ___ Rare books librarianship
- ___ Map librarianship
- ___ Special collections
- ___ Collections management/development
- ___ Digital libraries
- ___ Records management (including electronic records management)
- ___ Technical services (including serials)
- ___ Other: _____

12. Please list any related courses that include preservation as a significant component (defined as spending at least 10% of class time discussing preservation issues).

<u>Course Title</u>	Percentage of Course Devoted to Preservation Issues

13. Are there any courses in other departments of the university that relate to preservation or conservation (such as chemistry, engineering, anthropology, archaeology, art, art history, film studies, architecture). Please list any relevant courses below.

Continuing Education

14. Do you offer any continuing education courses in preservation to working professionals in the field?

___ Yes (go to next question)

___ No (go to question 16)

15. Please list any continuing education courses offered in the area of preservation, and indicate the regularity with which they are offered. Also indicate enrollment over the last five years, broken down by years.

<u>Course Title</u>	<u>Frequency</u>	Enrollment over the Last Five Years
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:
		2003: 2002: 2001: 2000: 1999:

Faculty Resources

16. Are your preservation courses usually taught by full-time or part-time (adjunct) faculty?

- Full-time
- Part-time (adjunct)
- Combination of full-time and part-time faculty

17. Fill in the blanks with the number of instructors teaching in the area of preservation at your institution or organization. Do not include faculty who merely incorporate preservation as part of a related topic (such as archives or collection development).

- Full-time, tenure-track/tenured (assistant, associate, or full professor)
- Full-time, non-tenure-track (lecturer/instructor)
- Adjunct (part-time) instructor

18. How many faculty members noted in question 17 hold:

(Note: The total number of degrees reported here may be greater than the total number of faculty reported in question 17).

- A professional-level master's degree?
- A certificate of advanced study in conservation or preservation?
- A Ph.D. degree?
- Another degree or certification (please list types: _____)?

19. Do you have any plans to hire additional faculty in the area of preservation?

- Yes (go to next question)
- No (go to question 21)

20. If yes, what type of position would be offered?

___ Full-time, tenure-track/tenured position (assistant, associate, or full professor)

___ Full-time, non-tenure track position (lecturer/instructor)

___ Part-time instructor (adjunct)

Go to question 21.

21. If no, why not?

___ We are meeting our preservation education needs at this time with current staffing levels.

___ Preservation is not a “strength” of this program and we are not interesting in developing expertise in this area.

___ We would like to hire in the area of preservation, but fiscal resources do not allow a hire at this time.

___ Other: _____

Future Plans for Curricula

22. Does your institution plan to introduce new preservation coursework in the near future (1-3 years)?

___ Yes (go to next question)

___ No (go to question 24)

23. If yes, please indicate what type(s) of course(s) will be offered and when you hope to offer it (them):

Year Type of Course

___ Introductory course in preservation

___ Collections conservation laboratory (book repair, rebinding, deacidification, other treatments)

___ Reformatting (microfilming, copying, digitization)

___ Fieldwork/internship (placement in an archive, library, rare book collection, etc.)

Specialized preservation seminars in:

___ Photographic media

___ Visual materials (architectural drawings, maps, prints, etc.)

___ Audiovisual media (sound recordings, moving images)

___ Digital preservation (electronic records and other digital media)

___ Other: _____

Go to question 25.

24. If no, why not?

___ Preservation felt to be discussed sufficiently in core courses or elective courses on related topics (e.g., archives coursework)

___ Lack of perceived interest by students

___ Lack of available expertise of current faculty

___ Lack of fiscal resources

___ Other: _____

Fieldwork/Internship Opportunities

25. Do students have the opportunity to earn course credits for completing an internship or field placement in preservation work?

___ Yes

___ No

26. (Answer only if your school has a preservation specialization.) Is practical experience (obtained through internships or fieldwork) required for the specialization in preservation?

___ Yes

___ No

27. Does your institution provide internship opportunities within its own library system?

___ Yes (please list departments which host interns):

___ No

28. What types of sites (external to the institution) host preservation interns?

___ Libraries

___ Archives

___ Museums

___ Historical societies

___ Commercial vendors

___ Other: _____

29. Estimate the percentage of the internship sites provides some sort of remuneration (wage, stipend, etc.)? _____

Post-Graduate Employment

30. Do you track students seeking employment in the area of conservation and/or preservation management?

___ Yes (go to next question)

___ No (go to question 32)

31. If so, how many students of your program have been hired in preservation-related positions after graduation in the last five years (e.g., as preservation administrators)?

___ 2003

___ 2002

___ 2001

___ 2000

___ 1999

Please go on to the next page.

Future Participation in This Study of Preservation Education Needs

32. May the investigators of this study contact you or a representative of your institution again about participating in the next phase of this study? Please check the appropriate box below with your preference and include contact information if requested.

___ No, I am not interested in further participation. Please do not contact me again.

___ Yes, I (or a representative of my institution) would be interested in further participation. Please contact _____ at the following address, phone number, and/or e-mail:

Phone: _____

E-Mail: _____

Thank you for participating in this survey! Any further questions or comments may be directed to Dr. Karen F. Gracy (kgracy@pitt.edu) or Ms. Jean Ann Croft (jeanann@pitt.edu).

Table 1
How Many Preservation Courses Are Offered by LIS Programs? (N=32)

Number of courses	Number of schools	Percentage of Total
1 course	19	59.4%
2 courses	7	21.9%
3 courses	4	12.5%
More than 3 courses	2	6.3%

Table 2
Frequency of Preservation Courses Offered by LIS Schools (By Topic) (N varies) [1]

Type of course	Annually	Biannually	More than once a year	Irregular or unspecified frequency	Total number of schools (N)
Introductory survey	17	5	2	3	27
Preservation management	4	1	2	0	7
Digital preservation	5	0	0	2	7
Photograph/audiovisual preservation	4	0	1	0	5
Conservation (“hands-on” courses)	0	0	3	0	3
Advanced topics in preservation	2	0	1	0	3

[1] Data represents number of schools offering a type of preservation course with a particular frequency.

Table 3
Enrollment Statistics in Preservation Courses, 1999-2003 (broken down by year, N varies)

Type of course	1999	2000	2001	2002	2003	Total (1999-2003)
Introductory courses (N= 27)	300	404	366	422	502	1,994
Preservation management (N=7)	87	137	117	195	192	728
Digital preservation/electronic records management (N=7)	52	85	90	88	134	449
Photograph/audiovisual preservation (N=5)	0	17	39	23	79	158
Conservation (“hands- on” courses) (N=3)	62	82	98	67	72	381
Advanced topics in preservation (N=3)	6	6	17	34	45	108
(Total Preservation Enrollment, By Year)	507	731	727	829	1,024	3,818

Table 4
Number of Preservation Course Offerings, 1999-2003 (N varies)

Type of course	Total number of courses offered, 1999-2003	Total number of students enrolled, 1999-2003	Mean # of Students Per Course
Introductory courses (N=27)	81	1,994	24.6
Preservation management (N=7)	27	728	27.0
Digital preservation (N=7)	22	449	20.4
Photograph/audiovisual preservation (N=5)	10	158	15.8
Conservation (“hands-on” courses) (N=3)	56	381	6.8
Advanced topics in preservation (N=3)	10	108	10.8
(Total)	164	3,818	23.3

Table 5
Number of Students Specializing in Preservation, 1999-2003

Academic year	Number of preservation students
1999-2000	6
2000-2001	6
2001-2002	5
2002-2003	10
2003-2004	15
(Total)	42

Table 6
Specializations that require or recommend preservation?

Type of Specialization	Number of Schools Requiring Preservation	Number of Schools Recommending Preservation	Number of Schools Not Specifying Required or Recommended	Total
Academic Libraries	0	1	0	1
Archival Studies degree/certificate programs	4	1	1	6
Archival Studies specializations	4	3	1	8
Digital Libraries/Electronic Information	2	0	0	2
MLIS degree programs (when school offers multiple information-related degrees)	0	2	0	2
Rare Books/Special Collections	0	2	0	2
(Total)				21

Table 7
Preservation Faculty (broken down by rank) (N=32)

Type of faculty	Number of faculty	Percentage of total number of faculty
Full-time tenure-track	18	27.7%
Full-time non-tenure-track	5	7.7%
Adjunct (part-time)	42	64.6%
(Total)	65	100%

Table 8
Credentials Held by Preservation Faculty in LIS Programs (N=32)

Type of credential	Number of faculty holding credential
Master's degrees	38
Certificates of advanced study in preservation administration or conservation	13
Ph.D.'s	23
Other degrees	3

Table 9
Reasons for Not Hiring Faculty in Preservation

Reason	Number of Respondents
Meeting preservation needs at this time with current staffing	16 (44.4%)
Preservation is not a strength of this program	8 (22.2%)
Fiscal resources do not allow a hire	10 (27.8%)
Other reasons for not hiring	7 (19.4%)

Table 10
Topics Covered in Preservation Courses (N=32)

Topic or Format Covered?	Yes	No
History and theory of conservation/preservation	30 (93.8%)	2 (6.3%)
Ethics of conservation/preservation	28 (87.5%)	4 (12.5%)
Conservation science (including materials deterioration)	26 (81.3%)	6 (18.8%)
Book repair and rebinding (including “hands-on” practice)	22 (68.8%)	10 (31.3%)
Conservation treatments	29 (90.6%)	3 (9.4%)
Enclosures and housing	28 (87.5%)	4 (12.5%)
Reformatting options (microfilming, photocopying, digitization)	29 (90.6%)	3 (9.4%)
Control of environmental conditions (temperature, relative humidity, air quality, pest management)	30 (93.8%)	2 (6.3%)
Preservation assessment (surveying and policy recommendations)	29 (90.6%)	3 (9.4%)
Management (personnel, fiscal, facilities)	27 (84.4%)	5 (15.6%)
Emergency preparedness and disaster recovery	30 (93.8%)	2 (6.3%)
Staff and user education	25 (78.1%)	7 (21.9%)
Other topics	3 (9.4%)	29 (90.6%)
Paper-based media (books and documents)	32 (100%)	0
Photographic media	29 (90.6%)	3 (9.4%)
Audiovisual media (sound recordings and moving images)	27 (84.4%)	5 (15.6%)
Magnetic and optical media (removable storage media)	24 (75%)	8 (25%)
Electronic records	26 (81.3%)	6 (18.8%)
Digital library objects (both digitized and “born digital”)	23 (71.9%)	9 (28.1%)
Other formats	2 (6.3%)	30 (93.8%)

Table 11
Preservation Integrated into Other Courses? (N=32)

Other Courses	Number of Schools Integrating Preservation into Course
Introduction to librarianship/information studies core course	10 (31.3%)
Archives and manuscripts	24 (75%)
Rare books librarianship	9 (28.1%)
Map librarianship	1 (3.1%)
Special collections	10 (31.3%)
Collections management/development	16 (50%)
Digital libraries	14 (43.8%)
Records management (including electronic records management)	17 (53.1%)
Technical services (including serials)	5 (15.6%)
Other	3 (9.4%)

Table 12
Related Courses Which Incorporate Preservation Topics (N varies)

Type of Course	Schools Reporting Preservation as Part of Related Coursework (N)	Average Percentage of Time (Mean) Spent on Preservation Topics
Foundations of Librarianship/Information Studies	2	16%
Archives and Records Management	11	14.2%
Electronic Records Management	3	21.67%
Rare Books/Special Collections	3	11.67%
Technical Services	3	10.67%
Collection Development	1	10%
Digital Libraries	2	10%
Other Coursework (doctoral-level seminar)	1	15%

Table 13
Preservation-Related Courses in Other Schools and Departments (N varies)

Department	Number of Schools Reporting Courses (N)
Art History/Art Conservation	4
Anthropology	2
Bookbinding	2
Cultural studies/Ethnic studies	2
Human ecology (including textile conservation)	2
Museum studies	2
Multimedia production	1
Art History/Art Conservation	4
Anthropology	2
Bookbinding	2

Table 14
Continuing Education Courses in Preservation Offered Through LIS Programs
(N=6)

Topic of Courses	Number of Schools offering Topic	Frequency	Enrollment in Courses on This Topic, 1999-2003
Book history	1	More than once a year	55 [1]
Archives	1	More than once a year	50 [2]
Conservation/Book repair	3	More than once a year (2 schools); Not specified (1)	161
Digitization and digital libraries	3	Not specified	65 [3]
Disaster planning	1	Every other year	25 [4]
Electronic records	1	Not specified	33 [5]
Library facilities	1	Not specified	29 [6]
Preservation management	1	Every other year	53 [7]

[1] Missing 2003 figures.

[2] 2003 figures only.

[3] Figures for 2001, 2002, and 2003 only.

[4] Figures for 2000 and 2002 only.

[5] Figures for 2000 and 2002 only.

[6] Figures for 2000 and 2003 only.

[7] Figures for 1999, 2001, and 2003 only.

Table 15
University Library System Departments That Host Preservation Interns (N=32)

University Library Department	Number of Schools Reporting
Archives	11 (34.4%)
Rare books/special collections	13 (40.6%)
Digitization/digital library	3 (9.4%)
Preservation/conservation/book repair	10 (31.3%)
Reference	1 (3.1%)
Remote storage facility	1 (3.1%)
Technical services	4 (12.5%)
No department specified	13 (40.6%)

Table 16
External Preservation Internship Sites (N=41)

Types of Sites	Number and Percentage of Institutions Indicating Internships Available to Preservation Students
Libraries	30 (73.2%)
Archives	32 (78%)
Museums	17 (41.5%)
Historical societies	15 (36.6%)
Commercial vendors	3 (7.3%)
Other sites	3 (7.3%)

Table 17
Interest in Expanding Preservation Curricula (N=13)

Course Topic	Number of Respondents
Introductory course in preservation history	3 (27.3%)
Collections conservation laboratory	3 (27.3%)
Reformatting	4 (36.4%)
Fieldwork/internship	4 (36.4%)
Photographic media	1 (9.1%)
Digital preservation	6 (54.5%)
Other courses	4 (36.4%)

Table 18
Reasons for Not Offering More Courses in Preservation (N=28)

Reason	Number of Respondents
Preservation discussed sufficiently in other courses	15 (53.6%)
Lack of perceived interest by students	2 (7.1%)
Lack of available expertise of current faculty	5 (17.9%)
Lack of fiscal resources	10 (35.7%)
Other reasons	3 (10.7%)