
This study has, through crafting a list of competencies for catalogers, analyzing course offerings, and conducting a content analysis of syllabi, attempted to describe the current state of cataloging education in ALA accredited graduate programs for library and information science. A review of the literature has yielded a list of seventeen basic competencies in several different topical areas. Analyzing course offerings has shown that of the fourteen selected schools, all have at least two courses that contained cataloging content. The analysis of syllabi revealed that adequately addressed competencies include cataloging and classification standards, general knowledge of theory and tools, subject analysis, and the theory behind and format of authority records. However, courses do not properly address competencies in the areas of bibliographic utilities, understanding of library catalogs and integrated library systems, practical skills for authority work, an understanding of cooperative programs and groups in the field, and metadata instruction.

Headings:

Cataloging – Study and teaching

Technical services librarians – Education

Library education -- Evaluation
GRADUATE EDUCATION IN CATALOGING: WHAT COURSES AND
COMPETENCIES ARE BEING TAUGHT?

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Introduction

Among the first library catalogs were those of Ashurbanipal’s clay tablet libraries in 7th century B.C.E. Mesopotamia and Callimachus’ *Pinakes*, the 3rd century B.C.E. catalog of the library of Alexandria. Since these early beginnings, library catalogs have taken many forms; tablets, scrolls, loose leaf lists, and printed books all served as the medium for inventororing and organizing library collections. The card catalog, which has its roots in 1780’s revolutionary France, is still in use in some libraries today, but the predominant catalog form in North America is the online public access catalog (OPAC). While the implementation of OPACs in the 1970s and 1980s caused a shift in the way cataloging work was done, it did not change the fundamental purpose of catalogs or cataloging.

Library catalogs are central to the role of librarians and the purpose of libraries. Catalogs are a key tool for making library holdings accessible to patrons. They contain organized records of the library’s resources, and those records provide access points through a work’s author, title, subjects, call numbers, etc. so that patrons can find items of interest. The amount to which a catalog is a truly useful tool for description, organization, and access, depends a great deal on the quality of records it contains. The actual work of cataloging is as essential to the library profession as the catalog is to libraries.

Essential though it is, static it is not. With the changing of catalog formats and the developing and revising of cataloging rules over time, the skills needed and the tools
used when cataloging have changed. Currently, cataloging is in a period of turmoil and change. The ongoing push to universally implement the newest set of cataloging rules, Resource Description and Access (RDA), and the coming potential shift from Machine Readable Cataloging (MARC) standards to Resource Description Framework (RDF) standards of catalog record creation are sources of instability for catalogers. When considering the shifting cataloging landscape, the question of instruction for future catalogers arises. It is difficult to determine how cataloging instruction should move forward and change along with the profession unless the current state of affairs is understood.

**Literature Review**

*Cataloging Competencies*

The Federal Library and Information Center Committee (FLICC) defines competencies as "the knowledge, skills, and abilities that define and contribute to performance in a particular profession. They are described so that they can be observed, measured, and rated" (FLICC, 2008, p. 2). Individual competency statements can be combined to make evaluative frameworks which is why defining competencies is important on three levels. At the industry/field level, competencies can serve as aids to communication between organizations since they represent a shared understanding and viewpoint of the principles of the field. At the organizational level, competency statements may play a role in evaluating potential new hires and current employees, in training, in strategic planning, and many other areas. Finally, at the individual level, competency frameworks can help one evaluate one’s skill set and can serve a roadmaps
for career development plans (FLICC, 2008). A competency statement or framework is a useful evaluative tool for any field.

Despite their usefulness and being common in the library and information science field, there is not one single, authoritative, widely-accepted statement of cataloging competencies. Instead, cataloging competencies must be gleaned from the different lists provided by a wide variety of organizations and from the numerous studies that have analyzed cataloging and metadata job descriptions and job postings.

In 1995, the Association for Library Collections and Technical Services (ALCTS), an American Library Association (ALA) division, put out their “Educational Policy Statement.” This statement was one of the first attempts at defining competencies for technical services librarians but was so broadly focused that it contained little in the way of cataloging specifics. Nevertheless, in the “Intellectual Access and Information Organization” section of the statement, the following basic competencies are among those listed:

1. “knowledge of the theory of information organization and intellectual access including relevant national and international standards;

2. knowledge of the theory and methods for subject analysis, including thesaurus creation, indexing, and classification;

3. knowledge of the theory and methods for describing, identifying, and showing relationships among materials;

4. knowledge of cataloging tools and sources of bibliographic records and how to use them.

5. ability to evaluate information-retrieval systems in relation to user needs and information-seeking behaviors;” (ALCTS, 1995)
ALA echoed the sentiment of these competencies in its 2009 “Core Competencies of Librarianship,” stating a need for knowledge of “the systems of cataloging, metadata, indexing, and classification standards and methods used to organize recorded knowledge and information” (ALA, 2009, p.3).

The principles outlined in the ALCTS’ 1995 policy statement and the reinforcement of the importance of cataloging in the 2002 draft and 2009 final versions of ALA’s competencies list helped to serve as a backbone for a number of organizational level competencies statements and academic studies into cataloging competencies. Some of these, like the Library Support Staff (LSS) Certification’s cataloging and classification competency set from APA, ALA’s Allied Professional Association, (2012) and the Federal Library and Information Center Committee’s Federal Librarian Competencies (2008) mimicked ALCTS’ broad phrasing.

In a point-by-point comparison of ALCTS’ statement with those of APA and FLICC, there is a clear continuity in the broad categories of expected cataloging competencies over time.

1. *Information organization theory*
   a. FLICC: “Demonstrates ability to interpret and apply the theories, principles and techniques of information organization.”

2. *Subject analysis*
   a. FLICC: “Demonstrates ability to apply principles, standards and protocols for thesauri, taxonomies and ontologies.”
   b. LSS: “LSS understand the value of authority control and its basic principles, and can identify and apply appropriate access points for personal names, corporate bodies, series, and subjects.”

3. *Describing materials and relationships*
   a. FLICC: “Demonstrates ability to interpret and explain established cataloging, classification, metadata, and other content structuring standards and protocols.”
b. LSS: “LSS know and can apply the basics of classification and organization schemes for collections.”

4. Cataloging tools and sources
   a. FLICC: “Demonstrates ability to compare and select among multiple bibliographic databases and tools… Demonstrates ability to adapt and use state-of-the-art library content and document management structures and tools.”
   b. LSS: “LSS know and can use the basic cataloging and classification tools, both print and online, including bibliographic utilities and format standards.”

5. User-driven perspective
   a. FLICC: “Demonstrates ability to interpret and incorporate customer needs in library content descriptions and management structures” (FLICC, 2008, p.16).
   b. LSS: “LSS know and can explain the value and purpose of cataloging and classification to help users find the resources that they seek” (ALA, 2012).

A third, even more recent, set of librarian competencies was produced in 2014 by OCLC (Online Computer Library Center) WebJunction. The *Competency Index for the Library Field* is a compilation of twenty different national, state, and local competency sets. This document lists thirteen cataloging competencies in two different practical areas: cataloging and catalog management. While the content is similar in many ways to the FLICC and LSS competency sets, the competencies listed, like their divisions, are phrased more in practical terms, focusing mainly on concrete actions rather than “demonstrating ability,” “understanding,” or “knowing.” The table below lists the identified cataloging competencies by area (OCLC WebJunction, 2014).

<table>
<thead>
<tr>
<th>Catalogs all types of library materials according to relevant bibliographic control standards</th>
<th>Manages the catalog to ensure that library users have optimal access to the collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understands the general structure, relationships and importance of library catalog systems and software</td>
<td>Updates the catalog to reflect accurate bibliographic, holdings and item information</td>
</tr>
<tr>
<td>Applies appropriate bibliographic control</td>
<td>Pursues knowledge of current library</td>
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The fifth set of competencies produced by an organization comes from MAGERT, ALA’s Map and Geography Round Table. *Map, GIS and Cataloging / Metadata Librarian Core Competencies* includes a set of core competencies for map cataloging and metadata creation. The competencies outlined by MAGERT cover a wide range of topics, including, but not limited to, administrative awareness, communication and workflow issues, training and documentation, cataloging standards, cataloging resources, copy cataloging, original cataloging, and cataloging-specific technologies. The actual competencies themselves are even more specific and practical than those from the
previously mentioned standards. The following example illustrates the variety of ways in which elements of the same competency (the ability to perform original cataloging) is expressed in differing organizational competency sets.

**ALCTS**: knowledge of the theory and methods for describing, identifying, and showing relationships among materials (ALCTS, 1995)

**FLICC**: Demonstrates ability to create bibliographic and authority records (FLICC, 2014, p.16)

**Competency Index**: Understands and performs copy or original cataloging as needed, providing descriptive cataloging, classification and subject analysis appropriate to the content (OCLC WebJunction, p. 15)

**MAGERT**: Correctly identify the title proper when more than one title exists or when a single title can be read in multiple ways (MAGERT, 2008, p.16)

Some sets of competencies use broad, generic terminology covering many potential work activities in one statement, while others, such as MAGERT, are far more granular with individual tasks being named as competencies. There is no single accepted practice when it comes to how organizations develop competencies.

Organizational statements are not the only way in which cataloging competencies can be gleaned. Many studies have used practitioner and educator surveys or content analysis of job descriptions to determine what desired cataloging competencies are. Identified competencies tend to fall into one of six categories: cataloging and classification standards, bibliographic utilities, automated/integrated library systems, authority work, theoretical concepts, and metadata.
Knowledge of cataloging and classification standards is, perhaps unsurprisingly, one of the most commonly mentioned competencies. A wide range of phrasing is used to indicate desired skills in this category. Some employers list specific standards by name (e.g. AACR2 (Anglo American Cataloging Rules, Second Edition), RDA, MARC, DDC (Dewey Decimal Classification), LCC (Library of Congress Classification), etc.) (Park & Lu, 2009). Others make more general statements about descriptive cataloging, subject analysis, cataloging vocabulary, and bibliographic description in varied formats (Hall-Ellis, 2008; Joudrey, 2009; Park, 2008). A 2009 study by Park, Lu, and Marion found that cataloging and classification standards were mentioned in 69.9% of job ads as a required qualification, second only to interpersonal skills (75.6%).

Park, Lu, and Marion’s study (2009) also found that knowledge of proficiency with bibliographic utilities was the third most common required qualification with 54.4% of employers requiring it. A different study by Park and Lu (2009) of AUTOCAT job ads from 2003-2006 for metadata professionals, many of whom also were “catalogers” according to their job title, supported this finding. They found that bibliographic utilities/bibliographic control were mentioned in 43% of jobs studied. Both studies show that, when specifics are used, OCLC CONNEXION and RLIN (Research Libraries Information Network), which merged with OCLC in 2006, were the most commonly mentioned utilities.

These two studies also show that knowledge of integrated/automated library systems (ILS) is another desired competency. Study results showed that 33.5% of advertised cataloging positions and 24.3% of metadata positions required skills with ILS software. Job advertisements for both types of positions included general requirements
about automated library systems and integrated library systems, as well as mentioning specific software including Horizon, Innovative Interfaces, and INNOPAC. Unicorn software was mentioned in cataloging position advertisements but not metadata job advertisements (Park, Lu, & Marion, 2009; Park & Lu 2009). A third article, by Daniel Joudrey (2009), supports these findings by noting that “knowledge of automated library systems” is needed for entry level catalogers according to current practitioners.

The ability to perform authority work is the fourth competency area commonly identified in job advertisements and practitioner surveys. The three previously mentioned 2009 studies – Park, Lu, and Marion; Park and Lu; and Joudrey – all found named authority work to be a required or desired skill by employers. 23.5% of cataloging jobs mentioned requirements involving authority records, NACO (Name Authority Cooperative Program), or SACO (Subject Authority Cooperative Program). NACO and SACO standards are included in the “cataloging standards” category of Park and Lu’s study of metadata job advertisements. The exact percentage of employers that required skills specifically related to authority standards is unknown, but 60.7% required something from the study’s “cataloging standards” category.

In addition to these three studies, Hall-Ellis’ study (2008) of job descriptions and practitioner surveys also concluded that authority work is an important cataloging competency. She identified three specific aspects of authority work in which both entry-level catalogers and technical services managers were expected to be proficient: the MARC authority record format, the identification of credible/appropriate sources for authority records, and the creation of authority records for local use. Entry-level professionals were expected to be familiar with the MARC format by 58.3% of
employers while 100% of managers were expected to be familiar with it. The ability to identify sources and create records was expected by 21.4% and 91% of employers for entry-level and managerial professionals respectively.

The fifth competency area identified is theoretical knowledge. This is something of a nebulous category as it often blends with other categories. For example, in order to create authority records, it is necessary (or helpful at the very least) to be aware of the theory behind authority work and why it is important. This nebulousness results in a wide variety of ways for employers and practitioners to refer to this competency category. Joudrey’s 2009 article identifies the “theory and foundation of cataloging” as a desired knowledge set for catalogers. Hall-Ellis states that employers expect “broad-based theoretical knowledge” of cataloging standards, bibliographic description, formats, and metadata schemas (Joudrey, 2009, p. 64; Hall-Ellis, 2008, p. 309, 311-312).

A 1990 survey of practitioners and educators took a slightly different route to identify specific theoretical topics considered necessary for catalogers to understand. They were “theoretical bases for subject heading/indexing, classification, descriptive cataloging, bibliographic networks, Cutter’s objects, history of subject heading/indexing, and classification” (Park, 2008, p. 60). Turvey and Letarte’s more recent 2002 study also identified specific theoretical topics that educators and practitioners believe are key competencies for cataloging librarians. The identified competencies were as follows

(1) the ability to read and interpret a bibliographic record in an OPAC; (2) understanding the information-seeking behavior of users; (3) knowledge of the theory of information organization and intellectual access; (4) knowledge of the ways in which data structures affect precision and recall; (5) basic knowledge of cataloging tools; and (6) knowledge of the MARC format (p. 142).
The final competency category identified by employers and practitioners is metadata schemas. Hand in hand with the increasing importance of e-resources has come the increasing importance of non-MARC metadata schemas to cataloging librarians. Hall-Ellis (2008) noted that this was particularly evident in cataloging job advertisements for university libraries. Park, Lu, and Marion (2009) also noted the importance of metadata as they found that 23.5% of cataloging positions required knowledge of metadata standards, including Dublin Core, EAD (Encoded Archival Description), MODS (Metadata Object Description Schema), and other schemas.

*The Place of Cataloging and LIS Education*

There is an established theme in cataloging literature of reflecting on the place of cataloging education within the larger sphere of library and information science education. One of the most common threads of this reflective discussion is the fact that cataloging, which was once a central part of library and information science education, is holding a less and less prominent place in LIS curriculums.

Cataloging has historically been a major component of a librarians’ formal education. The curriculum of the very first library school, founded by Melvil Dewey, included training in cataloging and classification as part of the “library processes and routines” which comprised over 40% of the program (Saye, 2009, p. 121). Several decades later in 1923, Charles C. Williamson surveyed librarian education programs for the Carnegie Corporation. The *Williamson Report* concluded that the four core areas of library programs, generally taking up half a student's time, were book selection, reference, cataloging, and classification. Cataloging, classification, and subject heading
work represented approximately 27% of curriculums, with 15% of that comprised of cataloging alone (Saye, 2009).

The state of cataloging education in the 1960s and 1970s can be gleaned from Janet Swan Hill’s 2004 article in *Technicalities* in which she gave a brief historical overview of the field starting with her time as a student in the late 1960s. As a graduate student, she took three cataloging courses, and her school’s program offered even more. These courses were intended to prepare students well enough for cataloging jobs that they required very little in the way of on-the-job training. In the late 1970s-1980s, Hill, in her position as the head of a university cataloging department, saw a shift in entry-level catalogers take place. Job applicants went from having taken a “substantial concentration” of cataloging courses to having only had one or two resulting in their requiring a great deal of on-the-job training (p.10). Hill (2004) soon discovered that many LIS programs had limited cataloging course offerings to only one or two – if any at all. She states,

… it had become obvious to me that education for … bibliographic control, had indeed changed at a very basic level and not necessarily for the better. It seemed clear that we never could, never would, return to the days when library schools would offer pretty much everything that an employer might want them to offer or when the education a librarian got in school would last through her or his entire career (p. 10).

Hill is far from the only person to notice the changes that have taken place in LIS curricula and the education of future catalogers. A 1997 study by Sherry Vellucci, determined that 63% of schools studied required students to take a basic cataloging course. By 2002, Joudrey noted that this number had dropped to 47.5%. Jane Davis' 2006 study found that only 25.6% schools still required a basic cataloging course, and
only 82.9% of schools even offered basic cataloging courses (down 37.4% and 9.1% from Vellucci’s 1997 study, respectively) (Davis, 2008, p. 192).

Saye (2002) attributes some of this decline to the transition of many library science programs into library and information science programs. This transformation, he argues, while necessary for the preservation has triggered many changes and perhaps disproportionately affected cataloging. He states that

The necessity exists to provide a greater array of course content to a greater number of students who have a wider range of professional interests. One approach in a time of limited resources is to offer that which provides the greatest good for the greatest number of students. It is this that is believed to have had the greatest impact on cataloging instruction. Gone is the luxury of teaching a required cataloging course for a school populated by aspiring librarians. Today’s schools have many who seek no such professional goal. Their needs are wider than librarianship. Accordingly, one can see where it would be attractive to require an organization of information course for all students rather than a cataloging course (p. 138).

Elrod (2008) pointed out that “an opportunity was missed” to help prevent or reverse the decline of required cataloging courses. He stated that the revisions to the 1992 ALA accreditation standards for master's programs failed to include any mention [of] descriptive or subject cataloguing, classification, AACR/RDA, MARC, the use of bibliographic utilities, the use of cataloguing modules, the selection and adaptation of an ILS, OPAC configuration, or any of the other practical skills required in a single-professional or single-technical service professional library lacking on-the-job training … The inclusion in Standard 1.2.1 of "organization and description" of recorded information is far too vague. Objective, quantifiable, standards are needed in this area (p. 2-3).

Since cataloging instruction, as he defines it, is not explicitly required, there is no necessity for ALA accredited schools to make cataloging course offerings available to students.

The declining number of required cataloging courses has been exacerbated to a certain extent by some LIS students’ impressions of cataloging. Several scholars have
highlighted the image issue from which cataloging is currently suffering. Clack and Joudrey note that “‘Cataloging has not as yet been embraced by a large number of students as a favorite course of study’ - dullness, drudgery, and difficulty being cited as primary culprits” (Joudrey, 2009, p. 61). Articles by Riemer and Taylor echo these findings. Taylor also points out that practicing librarians sometimes will pass on information about their negative experiences with cataloging to LIS students, further biasing them against cataloging. This sentiment has existed among LIS students and librarians for some time as evidenced by Saye’s 1987 article in which he stated “the subject of cataloging and classification is perceived by all too many students as a rite of passage that must be endured” (Joudrey, 2009, p. 61).

While it is the general sentiment in the literature, it is worth noting that not everyone has a negative outlook on the place of cataloging in LIS curriculums. In a 2011 interview, Allyson Carlyle, a University of Washington iSchool professor, offered a somewhat more optimistic perspective. She acknowledges that, particularly in a combined library and information science degree, it is not practical to require cataloging classes in the place of, for example, an organization of information class. However, in her experience at the University of Washington, she has found that the majority of MLIS students are taking cataloging. Cataloging is part of a "librarian core" recommended to students interested in libraries, and the iSchool ends up teaching three cataloging courses a year to accommodate student interest (Parks, 2011, p. 118). While it is true that Carlyle’s remarks are based on her personal experiences at the University of Washington, her perspective does provide a hopeful counterpoint to the typical rhetoric exemplified by Saye when he said that “Our schools can’t, and likely won’t ever again, assume some of
the instructional responsibilities they once had for the preparation of catalogers. It is left to those in library practice to assume that role if future catalogers are to have the vital knowledge base needed to organize the wealth of information resources materials their users need” (Saye, 2009, p. 139).

Content of Cataloging Courses

There are three threads of interest in the discussion surrounding cataloging course content. First is the appropriate balance between teaching theory and teaching practical skills in the classroom. Second is the integration of metadata topics in cataloging courses. Third is the importance of providing instruction in cataloging e-resources and other non-book formats.

LIS literature often contains many, sometimes fierce, debates over what proportion of library and information science students’ educations should be theory and what proportion should be practical. The sub-category of cataloging literature is no exception to this. Carlyle pointed this out in an interview stating, “The changing focus of library education to a more general theory of information organization over the practical ins-and-outs of describing bibliographic resources for retrieval and access highlights potential tensions between educators and practitioners” (Parks, 2011, p. 116). Carlyle herself came down on the side of teaching theory over practical skills. She noted that due to the “volatile” state of the cataloging field, it is better to teach students how to think about cataloging so that they will be prepared for whatever the newest standards turn out to be instead of only being skilled in one or two potentially quickly outdated standards (Parks, 2011, p. 117).
While Carlyle’s position that theoretical knowledge is more important than practical knowledge has many proponents (93% of educators and 74% of practitioners according to a 1995 study), not everyone has quite the same opinion (Davis, 2008). Many librarians emphasize the necessity of practical experience and exercises alongside theoretical topics. In a 1999 article, Janet Swan Hill and Sheila Intner claimed that “When the library school curriculum provides no opportunity for every student to perform a certain amount of actual cataloging, many who might have loved the work will never apply for cataloging positions, and for those who fancied themselves as catalogers and were mistaken, it will fall to the employer to discover that their new employee is not well matched to the work” (Davis, 2008, p. 186). Davis agreed with Hill and Intner comparing cataloging to a foreign language with its own vocabulary and grammar. She stated that “We can be taught the rules of how the language works, we can even learn vocabulary and how basic thoughts are conveyed; but to be truly fluent, we must practice. To be a good cataloger, you must catalog” (emphasis mine) (Davis, 2008, p. 196).

In a 2002 article, Intner summed up the core issues at the heart of the back and forth debate over the proper proportion of theory to practice and illustrated why it so difficult, perhaps even impossible, for librarians to come to an agreement on this topic.

A direct relationship exists between the amount of hands-on cataloging done in the course through homework assignments and in-class exercises, and the ability of students to assimilate the factual material associated with cataloging practice and make it part of their personal knowledge. On the other hand, just memorizing the facts will not help these students function over the long run of their careers as rules, tools, methods, and technologies change. Only a thorough understanding of the principles that underlie cataloging rules can guide good decision-making in response to or in anticipation of changes occurring in the field. Yet, learning basic cataloging facts can be so time-consuming that no time is left for learning the underlying theory; and, similarly, learning the facts is so large a task for true neophytes … that both learning them and putting them all into a coherent framework can appear impossible, indeed (p. 18).
The second area of interest in the literature on course content is the discussion of metadata and its relationship to cataloging courses. Cataloging standards are in many ways being pitted against newer metadata schemas like Encoded Archival Description and Dublin Core to become the “go to” standard for the description of documents. Metadata schemas can be made discipline specific like EAD and are often relatively simple to adopt. Cataloging standards on the other hand are far more generalized and are well-known for their complexity. This has caused some scholars to suggest that cataloging must change in order to be competitive, while others claim that cataloging and metadata can be used together as complementary tools (Hsieh-Yee, 2003). Regardless of which position one takes, it is clear that cataloging educators must find a way to present metadata and cataloging to LIS students interested in information organization.

The integration of metadata into LIS programs and, more narrowly, cataloging courses has sparked a great deal of discussion (Hsieh-Yee, 2004). Some cataloging educators, according to Hsieh-Yee (2003), see cataloging and metadata as the same thing and, therefore, do not believe much of anything needs to be done to integrate metadata principles into cataloging courses. However, a growing majority of educators, acknowledging that metadata has a much broader scope than cataloging, think that LIS students need education in both cataloging and metadata. Hsieh-Yee found that educators strongly agree that instruction on metadata and its relationship to cataloging should be included in cataloging courses. In particular, students “need to know that cataloging and metadata are not mutually exclusive. In fact, cataloging and metadata schema can be combined to organize information resources effectively” (Hsieh-Yee, 2003, p. 9-12).
Despite the professed support for integrating metadata into cataloging courses, Hsieh-Yee’s studies of cataloging and metadata education have found that there is not a particularly high degree of integration, especially in the introductory information organization courses that many programs rely on to introduce students to the basics of cataloging. According to Hsieh-Yee’s 2004 study, only three out of fifty-one surveyed educators said that they discuss the relationship between cataloging and metadata in introductory level organization courses. Cataloging courses as a whole fair better, especially when it comes to imparting theoretical knowledge. 71% of educators give a brief overview of metadata in cataloging courses, and 63% discuss the relationship between cataloging and metadata. Cataloging courses still fall far short though in offering students the chance to gain practical experience with metadata. Only 18% of educators have students practice creating Dublin Core records. A slightly higher 22% have students practice with metadata schemas other than Dublin Core. These statistics show that while educators may express a desire to incorporate metadata into cataloging instruction, reality is not yet reflecting their ambitions.

One of the reasons that the integration of metadata instruction into cataloging courses is considered to be so important is that understanding metadata is a key part of exercising bibliographic control over electronic resources (Hsieh-Yee, 2003). Since the 1960s, non-book cataloging has become an increasingly important skill. There are several reasons for this. First, there is a great deal of existing cataloging copy for books. Second, cataloging copy for books is relatively readily available from vendors and cooperative sources (e.g. OCLC). Far more copy exists and is being created for books than for non-book formats. Third, libraries are purchasing an increasing number of items that are not
printed books, meaning that the percentage of items needing original cataloging is increasingly of the non-book type. Finally, cataloging print books is something that almost every cataloger can do. For the vast majority of catalogers it was the first format they learned. This means that when libraries are looking for catalogers to help fill skill gaps, they are rarely, if ever, looking for someone who can only catalog books (Intner, 2009).

Hall-Ellis’s study (2008) of entry-level cataloging job advertisements prompted her to propose that the traditional order of formats (ie. monographs first) learned in cataloging courses be abandoned in favor of a focus on non-book materials, with electronic resources being the most crucial for LIS students to learn. As of 2002, only 51% of educators covered the cataloging of non-print, non-electronic resources, and 61% offered instruction in electronic resources cataloging (Hsieh-Yee, 2003). Hall-Ellis’s suggested learning order of “electronic resources, continuing resources, projected graphics, monographs, sound recordings, cartographic materials, scores, and [then] other (realia, special collections)” would help to increase those statistics (2004, p. 326).

Intner proposes something similar to Hall-Ellis when she, after examining and rejecting two other possible ways to teach cataloging students multiple formats, proposes that introductory level cataloging classes focus on electronic resources instead of monographs as the ‘gateway’ format. This, she argues, would not harm LIS students in any way because “since electronic resources are the most difficult materials to catalog, it is reasonable to believe that anyone who can catalog electronic resources can also catalog books or other kinds of material that require full original cataloging in a library” (2009, p. 22).
The difficulty with Hall-Ellis and Intner’s proposals (which Intner acknowledges) is that there is already a shortage of individuals trained to catalog electronic resources and other non-book formats, so finding suitable teachers may pose a problem for LIS programs. Additionally, Swan Hill (2004) pointed out that professors who teach electronic resources cataloging and metadata often have more of an affinity with information technology than bibliographic control. The high possibility of LIS students’ introduction to cataloging come from a non-cataloger would likely become a serious point of contention for some catalogers and may have lasting repercussions on the future of cataloging.

**Proposed Competencies Statement**

The first section of the literature review identified a wide range of cataloging competencies that were identified in organizational statements, through surveys of practitioners and educators, and through analysis of cataloging job descriptions. Using these competencies and methods of expression (ie. both general and specific statements), the author proposes the following cataloging competences statement. This statement is limited in scope in that it excludes competencies, such as the ability to communicate clearly and effectively in both verbal and written modes, which are not directly, specifically related to cataloging.

**General knowledge**

- Knowledge of and an ability to interpret and apply theories of information organization and information access
- Knowledge of the theoretical basis for describing, identifying, and showing relationships among materials
- Knowledge of cataloging tools and resources
- Knowledge of emerging trends in the field
- Knowledge of programs and cooperative efforts in the field (CONSER, PCC, etc.)

**Cataloging and classification standards**
- Knowledge of and an ability to interpret and apply established national and international standards for cataloging and classification to multiple formats (e.g. RDA, MARC, Dewey Decimal Classification, Library of Congress Classification, Library of Congress Subject Headings, National Library of Medicine Subject Headings, etc.)

**Bibliographic utilities**
- Knowledge of and the ability to use bibliographic utilities (e.g. OCLC and CONNEXION) to search for, select, edit, and create bibliographic records

**Integrated library systems and library catalogs**
- Knowledge of the functions and uses of integrated library systems and library catalogs
- Ability to use ILS software to perform cataloging, catalog maintenance, and other related duties

**Authority work**
- Knowledge of the theoretical basis for authority work
- Knowledge of the relevant programs and cooperative efforts in the field (e.g. NACO and SACO)
- Knowledge of the MARC authority record format
- Ability to search for, select, edit, and create name and subject authority records using appropriate tools and resources

**Subject analysis**
- Knowledge of the theory of subject analysis
- Ability to search for, select, and create subject headings according to both international standards and local practices

**Metadata**
- Knowledge and understanding of the relationship between cataloging and metadata, particularly with respect to electronic resources
- Knowledge of the variety of metadata schemas (e.g. Dublin Core, EAD, MODS)

**Research Questions**

As describing the “current state” of cataloging instruction in all the ALA-accredited schools would be an extraordinarily complex undertaking, a narrowed focus is required. This paper will describe cataloging instruction by addressing three questions.

1. How many, and what kind of, courses are offered that include cataloging content?
2. What is being taught in cataloging courses?
3. How does the content of cataloging courses compare to identified cataloging competencies?

"Cataloging course" will be defined for the purposes of this paper as a course of which either of the following is true: it contains the word cataloging in its title or it
specifically mentions some aspect of cataloging as one of no more than two main topics in the course title or description (e.g. a course titled “Subject Analysis”). Courses that fail to meet either of those two requirements may still be considered courses with “cataloging content” for the purposes of research question one (e.g. an organization of information course in which cataloging is one of many topics covered).

**Methods**

**Overview**

The data sources for this study will be documents. Documents are defined for the purposes of research as "written sources … visual sources (pictures, artifacts) and even sounds (music) … Documents, as a form of data, include material obtained via the Internet. In a sense, the medium through which the document is obtained is not the issue… Websites … can be treated as documents in their own right" as well (Denscombe, 200, p. 227, 230). This study will use two types of documents. Course information webpages will be used to determine the number and type of cataloging courses offered (research question one). Syllabi, obtained either online or via email, will be used to gather information about the content of cataloging courses (research question two).

Qualitative content analysis will be used to analyze the collected syllabi. Qualitative content analysis is defined by Hsieh and Shannon (2005) as "a research method for the subjective interpretation of the content of text data through the systematic classification process of coding and identifying themes or patterns" (p. 1278). Hsieh and Shannon outline three approaches to qualitative content analysis: conventional, similar in many ways to grounded theory and used when there is limited research literature and/or
theory in a particular area; directed, in which previous research provides the initial variables and categories which are used in textual analysis; and summative, a method which begins with a quantitative approach of counting word usage but then goes on to include qualitative measures to interpret context and underlying meaning in the text (Hsieh and Shannon, 2005).

This study will utilize directed content analysis, taking key concepts, terms, and definitions from existing literature to create initial categories for analysis and coding. Directed content analysis is more structured than conventional analysis and has the benefit of potentially being able to support and expand on current theory. However, because the analysis is based in prior research, researchers are more likely to find evidence in support of their base theories than would be if they approach the study from the conventional approach (Hsieh and Shannon, 2005). One way to reduce the effect of researcher bias is by clearly documenting one's decision-making process through an audit trail, "a full record of your activities while carrying out the study … [including] your raw data … research journal … and details of your coding and data analysis" (Robson, 2002, p. 174-176).

Data Collection

The broad "population" that is of interest to this study is English-language, ALA-accredited schools in the United States and Canada. However, due to time constraints, a sample of fourteen schools, one quarter of the total number of schools, will be selected for analysis. These schools will be randomly selected from those schools whose syllabi are available online. The use of random sampling will help to increase the credibility of the study's results (Marshall & Rossman, 2006).
The websites of these fourteen schools will be searched for "course information," "course description," and other similar pages. The information on these pages will be used to collect data needed to answer research question one (the number and type of cataloging courses). Course descriptions will be assessed and assigned a label. Courses will either be labeled as "none," meaning they do not contain cataloging content, or they will be given a label (modeled after Joudrey and McGinnis’ 2014 "Types of Information Organization Courses" table) which will reflect the type of content in the course (organization of information, basic cataloging, advanced cataloging/non-book, classification, etc.). From the resulting list of courses, the most recent syllabus available on the school’s website for each course will be procured for analysis.

Data Analysis

When analyzing the course descriptions, a basic approach will be taken. The course titles and descriptions will be searched for key terms and phrases that may indicate cataloging content: examples include organization, catalog(ing), bibliographic, classification, subject, authority, MARC, FRBR (Functional Requirements for Bibliographic Records), RDA, AACR2, LCSH (Library of Congress Subject Headings), etc. This search will be conducted both by a simple reading of the course descriptions as well as the use of the "find" function in the Firefox browser. The use of automated searching is intended to help minimize the effect of human error as the author will be the only individual searching through course descriptions.

As previously stated, this study will use directed, qualitative content analysis with regard to the syllabi collected. A codebook will be created by the author that will be based on the existing relevant literature. Analytical categories will be created that are as
exhaustive and as mutually exclusive as possible in line with best practices for content analysis (Robson, 2002). During and after its creation, it will be tested and altered as necessary before being applied to the study sample.

There are three potential issues with this study that must be acknowledged. First, the author will be the sole individual searching course descriptions and coding the syllabi content. While steps such as automated searching and creating an audit trail will be employed, the risk of human error is higher and bias/subjectivity affecting results is high than it might be if additional individuals were involved with the study. Second, the sample of syllabi will be a convenience sample. It is possible that schools that place syllabi online may differ in some relevant, statistically significant way from schools that do not. Therefore, the results of this study will not be particularly generalizable. Third, the content of syllabi can vary widely from school to school and professor to professor. It is anticipated that some syllabi will contain very little information concerning course content while others will contain a great deal of highly detailed information. Thus, some syllabi for identified courses will not be able to be analyzed for content and others may be misleading or paint an incomplete picture of the course content they describe.

**Findings**

*Research Question One: What courses are being taught?*

Of the fourteen schools with syllabi available, all have at least two classes that contained cataloging content. The average number of classes per school is three. Nine schools (64.29%) teach a general course focused on information organization, although all schools have multiple courses with information organization content. All but two schools (85.71%) have a basic cataloging course; the schools that do not do include
cataloging as a component of their general information organization courses.

Additionally, nine schools (64.29%) have at least one advanced cataloging or special formats cataloging course, and three schools (21.43%) have a classification course.

Finally, half the schools have a metadata course with two of those courses being combined ‘cataloging and metadata’ courses. The following chart illustrates the courses offered by each chosen school.

<table>
<thead>
<tr>
<th>School</th>
<th>Information Organization</th>
<th>Cataloging</th>
<th>Advanced Cataloging/Special Formats</th>
<th>Classification</th>
<th>Metadata</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUNY Albany</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Arizona</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1, 1*</td>
<td></td>
</tr>
<tr>
<td>Dalhousie</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Hawaii at Manoa</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indiana U: Perdue U Indianapolis</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>U of Kentucky</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Louisiana State U</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Maryland</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Michigan</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of North Carolina at Chapel Hill</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pratt Institute</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>San Jose State U</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>U of Tennessee</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valdosta State U</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1*</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>9</strong></td>
<td><strong>12</strong></td>
<td><strong>12</strong></td>
<td><strong>3</strong></td>
<td><strong>7</strong></td>
</tr>
</tbody>
</table>

An asterisk (*) indicates that the course is part of a cataloging and metadata course also listed under either the Cataloging or Advanced Cataloging column.
Research Question Two: What is the content of cataloging courses?

Of the forty-three identified courses with cataloging content, twenty-four “cataloging courses” as defined in the research questions were identified and twenty of those were analyzed. Four courses’ syllabi were not analyzed because either no syllabus was available (1) or the syllabus was focused on course mechanics and did not contain sufficient information about the course content (3). Eleven of the syllabi analyzed were for basic cataloging courses (one of which was a cataloging and metadata class), seven for advanced cataloging (one advanced cataloging and metadata), and two were for courses on classification.

For each cataloging competency, a representation value of 0, .5, or 1 was recorded indicating that a competency was not represented, was partially represented, or was completely represented in the syllabus respectively. The results presented below are the sums of the representation values. For those values which do not include any partial representation values (i.e. .5), the sum also reflects the number of syllabi that addressed the given competency. For those values which do include partial scores, the total number of courses that addressed the competency is given in parentheses after the sum. As a point of reference, the total number of courses analyzed in each category is given at the top of each result chart.

<table>
<thead>
<tr>
<th>General knowledge</th>
<th>Cataloging (11)</th>
<th>Advanced Cat. (7)</th>
<th>Classification (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of and an ability to interpret and apply theories of information organization and information access</td>
<td>10</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Knowledge of the theoretical basis for describing, identifying, and showing relationships among materials</td>
<td>10</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Knowledge of cataloging tools and resources</td>
<td>9</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge of emerging trends in the field</td>
<td>9</td>
<td>7</td>
<td>1</td>
</tr>
<tr>
<td>Knowledge of programs and cooperative efforts in the field (CONSER, PCC, etc.)</td>
<td>2</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

**Cataloging and classification standards**

| Knowledge of and an ability to interpret and apply established national and international standards for cataloging and classification to multiple formats (e.g. RDA, MARC, Dewey Decimal Classification, Library of Congress Classification, Library of Congress Subject Headings, National Library of Medicine Subject Headings, etc.) | Cataloging (11) | Advanced Cat. (7) | Classification (2) |
| | 11 | 7 | 2 |

**Bibliographic utilities**

| Knowledge of and the ability to use bibliographic utilities (e.g. OCLC, RLIN, and CONNEXION) to search for, select, edit, and create bibliographic records | Cataloging (11) | Advanced Cat. (7) | Classification (2) |
| | 6 | 4 | 0 |

**Integrated library systems and library catalogs**

| Knowledge of the functions and uses of integrated library systems and library catalogs | Cataloging (11) | Advanced Cat. (7) | Classification (2) |
| | 4 (6 classes) | 3 (4 classes) | 0 |
| Ability to use ILS software to perform cataloging, catalog maintenance, and other related duties | 1 | 1 | 0 |

### Authority work

<table>
<thead>
<tr>
<th></th>
<th>Cataloging (11)</th>
<th>Advanced Cat. (7)</th>
<th>Classification (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the relevant programs and cooperative efforts in the field (e.g. NACO and SACO)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Knowledge of the theoretical basis for authority work</td>
<td>11</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Knowledge of the MARC authority record format</td>
<td>7</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Ability to search for, select, edit, and create name and subject authority records using appropriate tools and resources</td>
<td>3.5 (5 classes)</td>
<td>3 (5 classes)</td>
<td>0</td>
</tr>
</tbody>
</table>

### Subject analysis

<table>
<thead>
<tr>
<th></th>
<th>Cataloging (11)</th>
<th>Advanced Cat. (7)</th>
<th>Classification (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge of the theory of subject analysis</td>
<td>10</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Ability to search for, select, and create subject headings according to both international standards and local practices</td>
<td>7.5 (8 classes)</td>
<td>5 (6 classes)</td>
<td>1</td>
</tr>
</tbody>
</table>

### Metadata

<table>
<thead>
<tr>
<th></th>
<th>Cataloging (11)</th>
<th>Advanced Cat. (7)</th>
<th>Classification (2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge and understanding of the relationship between cataloging and metadata, particularly with respect to electronic resources</td>
<td>1.5 (2 classes)</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>
In general, there was not a great deal of difference between the topics covered in “basic” cataloging versus advanced cataloging. The difference between the two courses typically lay in the formats covered with basic cataloging usually focusing on monographs and perhaps serials or one other format. Advanced classes tended toward one of three options: focusing on descriptive cataloging of a wide range of formats, such as serials, music, visual resources, electronic resources, etc.; covering fewer theoretical topics (e.g. authority work or subject analysis) in more depth than the basic cataloging course; or focusing on electronic resources and metadata. The coverage of electronic resources and metadata was the single greatest different between the two types of general cataloging courses with 18.2% of basic cataloging courses and 71.4% of advanced courses covering them.

**Research Question Three: How does course content compare to competencies?**

There are four competency areas which are well covered in cataloging courses. The first, best-covered competency is cataloging and classification standards. Every class – basic, advanced, and classification – covered a range of standards, and with the exception of the classification courses, each class covered at least one of both cataloging and classification standards. Most commonly listed were MARC, AACR2, RDA, LCC, DDC, and LCSH. The general knowledge competencies group is the second well-covered area. Excluding the group’s last competency, knowledge of programs and cooperative efforts in the field, for which there was significantly less coverage, 91.4% of basic and
advanced cataloging courses covered these competencies. One or both of the classification courses covered these competencies as well.

The third competency area that is well represented in course content is subject analysis. Subject analysis was covered by 90.9% of cataloging courses, 71.4% of advanced courses, and 100% of classification courses. The practical side of subject analysis was covered by 72% of cataloging courses, 85.7% of advanced courses, and 50% of classification courses. Of the fifteen courses that address the practicalities of searching for, selecting, and creating subject headings, twelve, or 80%, covered all of these subtopics. The three courses that did not cover all of them generally did not list the skills of creating subject headings or using local practice (as opposed to national standards).

Finally, the fourth area with good coverage is a subset of the authority work competencies set. Every basic cataloging course and 85.7% of advanced courses covered the theoretical basis for authority work. Professors either specifically mentioned authority work or they included identifying and/or describing access points in their syllabi. Slightly less impressively, 63.6% of cataloging courses and 57.1% of advanced courses covered the MARC format for authority records. The fact that the classification courses did not cover authority work is no detriment here as it naturally lies outside the scope of the courses.

In addition to the competency areas that were well-covered in the analyzed courses, there were five areas that were less well represented. The first competency that was lacking is the knowledge of and ability to use bibliographic utilities. 54.6% of basic cataloging courses, 57.1% of advanced courses, and no classification courses mentioned the use of a bibliographic utility for class activities. Combined, these represent exactly
half of all courses analyzed. The utility mentioned was universally CONNEXION. Considering the importance of using bibliographic utilities in cataloging, as mentioned in the literature review 54.4% of cataloging jobs and 43% of cataloging and metadata jobs require it, it is troubling that only half of cataloging courses include instruction or practice in this area.

The second problematic area concerns competencies related to library catalogs and integrated library systems. Only 54.6% of basic cataloging courses and 57.1% of advanced cataloging courses included instruction on the functions and uses of library catalogs and integrated library systems. Four of the six cataloging and two of the four advanced classes included instruction only on library catalogs- nothing on ILS software. Additionally only one cataloging and one advanced class included content on actually using an ILS. Referring again to the literature review, studies have shown that approximately one third of cataloging jobs require skills with ILS software making it an important skill for cataloging students to learn.

Competencies centering on authority work make up the third area of concern. As previously mentioned, an understanding of theory and of MARC format in this area is fairly well covered in cataloging courses. However, only five cataloging and advanced cataloging courses included instruction in searching, selecting, editing, and creating name and subject authority records - 45.5% and 71.4% respectively. Only two cataloging courses and one advanced course covered all of these subtopics. Most courses covered only searching and selecting records for use. Almost one quarter of cataloging jobs require the applicant to have skills related to authority work marking these skills as important competencies.
The fourth area of concern relates to the understanding of programs and cooperative efforts in the cataloging field. PCC, the Program for Cooperative Cataloging, programs like CONSER (Cooperative Online Serials Program), BIBCO (Monographic Bibliographic Record Cooperative Program), NACO, and SACO, as well as other groups like ALCTS and ALA’s Library Information Technology Association. It is important that catalogers are familiar with these groups and what they do as they are often drivers of change, sponsor many continuing education opportunities (important in the current shifting landscape), and maintain the standards by which catalogers do their work. Only eight of the twenty courses analyzed, 40%, included some mention of these programs indicating that students may not be made properly aware of these groups.

The fifth and final area of concern is metadata instruction. Referring again to the literature review, almost one quarter of cataloging jobs (and this number is likely rising) require an understanding of metadata schemas beyond those of traditional cataloging, marking these skills as important competencies. Only 18.2% of basic cataloging courses and 71.4% of advanced courses covered metadata in some form beyond traditional cataloging language and structure standards (i.e. MARC, AACR2, and RDA). While the coverage of metadata, especially with regard to electronic resources cataloging, in advanced cataloging courses is not superb, it is fairly decent at nearly three-quarters of courses. However, basic cataloging courses, which are often the only courses students can or do take, cover metadata less than 20% of the time, and this coverage is often shallow and not a major portion of the class.
Considerations for Future Studies

Further studies are needed in order to more fully describe the current state of cataloging education. This study utilized a content analysis of syllabi to determine course content. However, there are drawbacks to this approach. As mentioned in the methods section of this paper, not all content that is taught is listed explicitly in the syllabus. For example, topics like cooperative efforts in the field may be discussed in introductory or concluding class sessions despite not appearing on the syllabus. A second potential concern is that professors may deviate from their posted syllabi leading to some topics being added and some being glossed over or not covered at all. Future studies should seek to ameliorate these issues through the use of additional or alternative measures of course content such as surveys, interviews, or in-class observation. These methods may help to compliment the data that can be collected from syllabi.

Concluding Summary of Findings

This study has, through crafting a list of competencies for catalogers, analyzing course offerings, and conducting a content analysis of syllabi, attempted to describe the current state of cataloging education in ALA accredited graduate programs for library and information science in a manner that will contribute useful information for those considering the future of cataloging education. A review of the literature has yielded a list of seventeen basic competencies in several different topical areas. Analyzing course offerings has shown that of the fourteen selected schools, all have at least two courses that contained cataloging content, but only ten of those schools (71.4%) have at least two courses where cataloging is one of no more than two main topics.
The content analysis of syllabi revealed that course content adequately addresses competencies in cataloging and classification standards, general knowledge of theory and tools, subject analysis, and the theory behind and format of authority records. However, courses do not properly address competencies with respect to the knowledge of and ability to use bibliographic utilities, the understanding of library catalogs and integrated library systems, practical skills for authority work, an understanding of cooperative programs and groups in the field, and metadata instruction (especially in basic cataloging classes).
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