

2014

Transferring Cataloging Legacies into Descriptive Metadata Creation in Digital Projects: Catalogers' Perspective

Junli Diao
CUNY York College

Mirtha A. Hernández
Florida International University

[How does access to this work benefit you? Let us know!](#)

Follow this and additional works at: https://academicworks.cuny.edu/yc_pubs

 Part of the [Cataloging and Metadata Commons](#)

Recommended Citation

Diao, Junli and Hernández, Mirtha A., "Transferring Cataloging Legacies into Descriptive Metadata Creation in Digital Projects: Catalogers' Perspective" (2014). *CUNY Academic Works*.
https://academicworks.cuny.edu/yc_pubs/202

This Article is brought to you for free and open access by the York College at CUNY Academic Works. It has been accepted for inclusion in Publications and Research by an authorized administrator of CUNY Academic Works. For more information, please contact AcademicWorks@cuny.edu.

This pre-print manuscript was originally published in *Journal of Library Metadata*. 14(2) 2014: 130-145, by Diao, J. & Mirtha, M.A.

Transferring Cataloging Legacies into Descriptive Metadata Creation in Digital Projects: Catalogers' Perspective

Junli Diao

Institute for the Study of the Ancient World Library, New York University, New York, New York, USA

Mirtha A. Hernández

Green Library, Florida International University, Miami, Florida, USA

Abstract: With the emergence of digital collections in libraries, museums, and other cultural institutions, catalogers are redefining their roles by participating in digital projects, creating, maintaining, and developing non-traditional metadata records. This article provides a discussion on how catalogers are ensuring that the cataloging legacies of quality control, authority control, and creative cataloging become important components in the creation of descriptive metadata for digital projects.

Keywords: Metadata creation, digital project, metadata quality, quality control, authority control, controlled vocabulary, creative cataloging, creativity, cataloger

In the past decade, one phenomenal change in the landscape of the library community is the emergence of digital collections. Academic, research, and public libraries, museums, and other cultural institutions have been investing a great effort in digitizing, preserving and revitalizing their “hidden” collections (maps, pamphlets, correspondence, postcards, posters, images, plates and illustrations in rare books). These local and special materials were brought to the forefront and have become visible and accessible to local and global users. Consequently, this phenomenon has had a profound impact on the roles that cataloging librarians play in the libraries and museums. Catalogers have gradually evolved and redefined their roles by participating in digital projects and undertaking the responsibilities of creating, maintaining, and developing non-traditional metadata records.

Boydston and Leysen (2006) considered that “Metadata creation is a natural extension of the catalogers’ existing skills, abilities, and knowledge” (p. 4). The knowledge of traditional cataloging rules and standards is prominent in the job descriptions for metadata professionals in the digital environment and the essentials of traditional cataloging practices have been incorporated with the creation of metadata (Han and Hswe, 2009; Lopatin, 2010; Park and Lu,

2009). This article will present a discussion from the catalogers' perspectives of how cataloging legacies are carried forward and integrated into descriptive metadata creation in digital projects with regard to several aspects of metadata creation: quality control, authority control, and creative cataloging.

QUALITY CONTROL

Metadata Quality

Metadata standards are explained as the structured encoding mechanisms that describe the characteristics of information-bearing objects so that they can be locally organized, managed and preserved in the Integrated Library Systems (ILS) and globally accessed and retrieved by users from different localities (National Information Standard Organization, 2004; Smiraglia, 2005). In the past decades, with the advancement of information technology, a variety of metadata standards developed outside of the library community have been employed in library digital projects. Metadata quality control has become essential in building reliable and efficient digital collections. This is even more critical when metadata records are aggregated from a wide spectrum of libraries and other research/academic institutions. The emerging Semantic Web metadata ecosystem challenges information professionals' perception of metadata quality in this global networked environment with its increasing complexity and granularity (Sutton, 2008).

Charles Cutter in his book *Catalogue of the Library of the Boston Athenaeum. 1807-1871* stated that problems of quality for bibliographic records came from a lack of well-trained personnel and hasty work. Today, it seems that Cutter's assertion of quality cataloging practice is also echoed in the metadata creation in digital projects. Currier, Barton, O'Beirne and Ryan (2004) complained that "metadata creation is seen [by some technology and pedagogy experts], as a tedious chore rather than as a complex intellectual skill which is essential for unlocking access to resources" (p. 8). Boydston and Leysen (2006) stated that the emerging metadata records were possibly constructed by insufficiently trained professionals lacking support and adequate documentation to describe an increasingly complex range of resources. Park and Tosaka (2010) have argued that the mechanisms most commonly adopted to guarantee metadata quality in digital projects are the training of manual quality review, metadata creation guidelines, and metadata generation tools. All of these mechanisms can be seen as remedial actions to implement metadata quality control. However, it is the qualified metadata creators that can prevent metadata records at the very beginning from falling prey to "missing data, incorrect data, confusing data, and insufficient data" (Dushay and Hillman, 2003, p. 2-3). The deficiencies of metadata records could be invisible but substantial and they might hinder records from being discovered and accessed by users.

Metadata Quality Measurement

A number of studies regarding metadata quality measurement in digital projects have been actively undertaken in recent years (Guy, Powell, and Day, 2004; Hillmann, 2008; Park and Tosaka, 2010; Statistics Canada's Quality Assurance Framework, 2002; Stvilia and Gasser, 2008). Park (2009) reviewed the current research and practices published on metadata quality evaluation in the library community and extracted the three most common criteria that have a

significant impact on “the degree to which the metadata in question perform the core bibliographic functions of discovery, use, provenance, currency, authentication and administration” (p. 224). They are completeness, accuracy and consistency.

Completeness stresses the inclusion of metadata elements in coordination with resource type and metadata guidelines. It doesn't necessarily mean the adoption of all metadata elements of a specific scheme. Accuracy assures how truthfully and correctly the resource content is described and represented in digital collections. Consistency measures the degree to which the same data values are employed coherently at the semantic and structural level in the description of resources. Compared with accuracy, metadata records with inconsistency issues don't have any “wrongness” in them, but “difference”. Yasser (2011) summarized that “different values associated with an element may equally represent a characteristic of the resource, but they may be different enough in recorded form to undermine system functionality” (p. 60). Therefore, the degree to which resources can be effectively discovered and retrieved in digital libraries largely depends on the enforcement of these three criteria in metadata records creation.

Quality Control in the Library Community

Practicing quality control in the process of creating bibliographic and authority records has a long history in the library community. Cutter (1874) addressed two important aspects of the quality issues in bibliographic card records: accuracy and consistency. In 1901, the Library of Congress (LC) initiated the Cataloging Card Distribution Program (CCDP). Its success afterwards made LC the leader in the establishment and interpretation of cataloging rules and policies. In a few decades, LC records were viewed as quality records with accurately described bibliographic information, consistently applied cataloging rules and appropriately assigned access points. Aside from quality cataloging, the most prominent contribution that CCDP brought to library community is cataloging standardization. Standardization is also viewed as an effective approach to achieve interoperable and shareable metadata records with linked data in digital libraries. As Yee (2009) put it,

In a sense, the LC cards were interchangeable parts for libraries. Standardization made it possible for the smallest library in the country to have the same quality of cataloging as the largest research library. In this, the card distribution program was profoundly democratic. Every American citizen who used a public library could benefit from the expertise that went into creating the national bibliography in LC. (p. 74)

LC's card was made obsolete by computer technology and replaced by the establishment of the Online Computer Library Center (OCLC) in 1977. Millions of worldwide-contributed records in OCLC can be downloaded and customized into local library databases. This process eliminates duplicated cataloging efforts and advocates cataloging efficiency and effectiveness. The Online Data Quality Control Section (ODQCS), an OCLC's department, is mainly responsible for conducting all sorts of quality improvement projects: adding missing data, removing duplicates, and reviewing error reports. OCLC didn't just dwell on the effort to achieve good bibliographic records. It also devoted itself to bridging the gap between bibliographic records, online catalogs, end users' expectations and library professional perceptions of data quality for a big and holistic picture in the library community (Davis, 1990; Online Computer Library Center, 2009).

For individual catalogers, creating error-free, consistent, and comprehensive bibliographic records is one of the fundamental principles guiding their work. Accuracy, consistency and completeness have also been considered as the indicators of evaluating the effectiveness and success of traditional cataloging. As Bair (2005) stated it in the cataloging code of ethics,

To ensure that users find the information they need, catalogers gather and organize information and advise users in their choice of information by providing comprehensive, accurate encoding and access points; knowledgeable application and addition of subject headings and classification schemes; and accurate and complete description and notes. (p. 23)

Catalogers' Roles in Metadata Creation

To see metadata creation as a tiresome and physically repetitive data entry task is a narrow view of the process. Like traditional cataloging, metadata creation in digital projects is also an intellectual and complex activity which opens the gateway to access information in networked environments through utilizing metacognitive skills, such as identifying and selecting, analyzing and synthesizing, abstracting and summarizing, organizing and classifying, and evaluating and critiquing. As well-trained professionals, catalogers have the skills of creating authentic and truthful descriptions and providing precise access to materials and information based on standards and principles. Besides, catalogers have already learned how to read, comprehend, and interpret comprehensive cataloging rules, such as Anglo-American Cataloging Rules 2 (AACR2), Resource Description and Access (RDA), and the Library of Congress Rule Interpretations (LCRI), and subject classification schemes like the Library of Congress Subject Headings (LCSH). The capability of understanding complex documentations will give catalogers the advantage of interpreting and executing metadata application guidelines to achieve accuracy, consistency and completeness in digital projects. DeZelar-Tiedman (2004) pointed out that catalogers can carry on their traditions and play a proactive role in this “nebulous and constantly changing” (p. 146) digital environment. She listed four credentials that catalogers should take pride in when participating in digital projects: “experience designing and populating databases; understanding of taxonomies and controlled vocabularies; an analytical and detail-oriented nature; and philosophical understanding of the importance of balancing the need for standards with the demands of interoperability” (p. 146).

Catalogers should recognize their expertise and take a leadership role by incorporating skills of traditional cataloging standards and practices into creating metadata records in digital projects. Through collaboration with other metadata professionals, catalogers may be able to turn metadata creation into a community practice with individual engagement at different professional levels. By so doing, metadata professionals may enhance the departmental awareness of metadata quality and related issues, and become involved in establishing the benchmarks to identify the common metadata problems occurring in their daily operational work. Catalogers' feedback can be used as a valuable reference source by digital collections managers to gain an overall picture of metadata management, to review and refine the implementation of metadata creation guidelines, and to examine the effectiveness of departmental workflow. Creating good quality metadata records requires an investment of time and effort from catalogers.

However, there are many benefits that catalogers can gain from making this investment. For instance, they will learn the pros and cons of non-MARC metadata schemes through participating in creating metadata records. As a two-way street, “understanding metadata creation can inspire a cataloger to take a look at traditional cataloging flows with a different eye” (Fields, 2011, p. 147). Ultimately this investment will be paid off by the increased resource discoverability by local and global end users.

AUTHORITY CONTROL

Evolution of Authority Control in the Library Community

Authority control, one of the key components of bibliographic control, is achieved by assigning a single and unique heading to represent its variations. If information retrieval in library catalogs can be compared to finding needles in a haystack, authority control functions as strings that can connect information bearing the same characteristics and sharing the same nature. This has been a tradition of the library community for more than a century, while its definition and scope have been evolving for years. In 1994, Arlene G. Taylor brought the significance of authority control out of traditional library practice into the context of the internet. Borbinha (2004) argued that in digital libraries, authority control is not only about rules and descriptions, but also about dealing with heterogeneity of genres of information artifacts through partnership between different information agencies. Niu (2013) proposed a revolutionary framework in which authorized name headings should be replaced by globally unique identifiers either in or outside of the library community. Myntti and Cothran (2013) brought Linked Data into authority control in digital repositories, which are usually coded in Extensible Mark-up Language (XML) or other standards. In this project, certain metadata fields in XML files were standardized and normalized in accordance with the Library of Congress Names Authority Files (LCNAF) and the LCSH. By so doing, a connection was built between institutional digital repositories and the Library of Congress’ Linked Data Service.

Issues Concerning Authority Control in Digital Projects

Despite the changing landscape of authority control, its core is still solid and unshakable in library information systems. It is a proven, effective and practical approach to enhance recall and precision of information retrieval by creating unique, consistent, and cross-referenced headings to eliminate their variations and ambiguities, and bring together the works of the same creator or about the same subject (Gorman, 2004). Without authority control, the challenge would be pushed off onto users to consider all the variations and possibilities of a single term to retrieve the desired information (Dragon, 2008). Synonymy, homographs and polysemy of a particular vocabulary are where the creativity and richness of the natural language originate. However, the situation is different in databases. Lack of a syndetic structure of references enabling navigation and an absence of social context in the mechanical information retrieval systems could be where the semantic ambiguities and misconceptions come from (Park, 2005). When the intelligent application that makes the intuitive connection between user input search terms and the intellectual content doesn’t exist, the downside will become very apparent: users will have difficulties in locating all the records that are relevant to their search terms.

Even though many cultural institutions involved in digital projects have been awakening to the significance of authority control mechanisms in software which help them manage digital contents, unfortunately, this problem still remains mostly unsolved. Some software, such as CONTENTdm, has incorporated controlled vocabularies into its system; other software, like DigiTool, is neither intelligent nor sophisticated enough to handle authority issues. Quite a number of cultural institutions still rely on less sophisticated homegrown software to manage digital projects, which makes the authority control issue even more severe. Salo (2009) stressed that the imperfection of software design in authority control and the absence of a batch-editing function made metadata creators' work very problematic. On the one hand, uncontrolled names in cross-disciplinary institutional repositories provided users confusing and irrelevant information in the displayed name list; on the other hand, corrections had to be made manually one at a time when the same errors occurred in multiple records. Vellucci (2000) has already articulated that a friendly, controlled information operating environment will largely contribute to the success of authority control in the world of metadata. She pointed out that

If the organizational system is designed to implement the controlled vocabulary, uniform access points and syndetic structure created by the authority control process, then authority control can flourish in the metadata environment ... information specialists and catalogers will create metadata for only a small percentage of electronic resources, concentrating primarily on high quality and long-lasting documents. (p. 40)

Catalogers' Participation in Authority Control in Digital Projects

Despite the deficiency of software, the application of authority control has been successfully explored in a few digital projects. According to Dragon (2008), the Eastern North Carolina Postcard Collection held by East Carolina University (ECU) had catalogers actively involved, especially in authority control, in the creation of metadata for a digital project. Catalogers enriched the descriptive metadata supplied by the digital collection staff and overcame the challenges presented by the complexities in the subject analysis of local images with very narrow subject scopes. By assigning the name and subject headings complying with authority practices, they created a greater potential that those digital objects could be discovered and retrieved together with traditional library materials in next generation catalogs, in which federated searches can be simultaneously executed through multiple databases.

Authority control for unique art, cultural and historical materials in galleries, museums, and archives requires collaboration between organizers, curators, archivists and catalogers because catalogers and non-catalogers have different approaches to describe the same object. Baca and O'Keefe (2009) demonstrated this close "cross-community" (p. 59) collaboration in a digital project creating metadata records for Medieval and Renaissance materials at The Morgan Library & Museum. In this collaborative and cross-disciplinary digital project, catalogers learned to understand and respect curators' approaches to describing museum objects. Curators learned and accepted AACR2 as the standard to construct authoritative and standardized artists' names and title headings. Curators made very useful recommendations to catalogers creating authority records for artists, collectors, donors, and patrons for submission to the LCNAF. When LCSH did not cover the specific subject scope of Medieval and Renaissance manuscripts, curators and catalogers adopted the Index of Christian Art (ICA) subject headings for indexing art works and

The Art & Architecture Thesaurus (AAT) for object types and genres. The authority work done through the collective effort of cataloging librarians and museum curators provided users with an enriched, detailed and specific description of museum objects. Baca and O'Keefe concluded that

The participation of curators can be a critical factor in the description of unique, museum-type objects. This kind of contribution from curators and other subject experts can enhance the intellectual value of records, while helping to cut time and costs for creating high-quality descriptive metadata ... Information from non-cataloger subject experts could be routinely captured if there are effective methods for communication and collaboration between catalogers and curators. (p. 60)

In digital collections, authority control greatly relies on existing external authority files, such as LCSH, LCNAF, and The Union List of Artists Names (ULAN). However, narrow subject terms, local events, corporate bodies, and little-known persons fall outside of the parameters of current authority files, but they may have significant meaning to historians and genealogists. Under such circumstances, homegrown authority lists adhering to authority control practices can be a supplementary solution. Baca (2004) believed that the best strategy to enhance discoverability of the objects is to build the specific thesauri or indexes based on the collection itself. She noted that “a human being who both understands the collections and understands thesaurus construction and authority control has to do the work—that is, a person with skills, good judgment, experience, and knowledge of the materials being described” (p. 150). The Special Collections and the Bibliographic Services Departments at the University of Southern Mississippi (USM) created a local thesaurus which combines authorized terms from LCSH and unauthorized local subject and name terms for the African-American civil rights movement into a single abbreviated document. It provides a concise subject area keyword list to assist graduate students in the selection of appropriate and consistent headings regardless of their knowledge of the civil rights movement and Mississippi history (Graham and Ross, 2003). The Digital Collection Center at Florida International University Libraries prepared a spreadsheet thesaurus in 2012 for the Coral Gables Memories digital project. The thesaurus contains names of local places of interest, streets, gates, plazas, squares, and fountains. It also includes their current addresses and coordinates derived from the database of the U.S. Board on Geographical Names (BGN). In the future, once this digital collection is linked to the Geographical Information System (GIS) Department virtual project, this thesaurus could be possibly used to target locations of those places on a virtual map.

The negative aspect of local-housed authority lists for the time being is that they could stay isolated. The function of cross reference and the hierarchical structure of authority records cannot be integrated into the software mechanism. Creating separate authority lists may not be the entire solution, but it can be a helpful and supplemental approach to assist users' information retrieval for now. However, its potential would be turned into reality when digital library systems become more advanced.

CREATIVE CATALOGING

Creativity in Cataloging

Cataloging has been stereotypically viewed as a profession that requires strict adherence and application of rules, principles, and standards, but little or no necessity for creativity. Catalogers are seen as professionals who spend all day behind computers counting pages and measuring books. It is true that cataloging as a profession attracts people who demonstrate a certain personality type, such as being good at operational work and paying attention to details (Williamson, Pemberton, and Lounsbury, 2008). But cataloging as a technique that brings order to chaos never denies nor rejects a cataloger's creativity, nor excludes creativity from a cataloger's job. There is always some room left among the rules, principles, and standards for catalogers' creativity to grow.

Cutter (1904) declared that "Cataloging is an art, not a science. No rules can take the place of experience and good judgment, but some of the results of experience may be best indicated by rules" (p. 6). Baia and Randall (1998) further elaborated Cutter's declaration that

Creativity assumes that the cataloger knows the rules and understands the principles behind them, carefully develops guidelines for adapting records in the local catalog, and adapts records to achieve better access to the collection. Creative cataloging is not a means simply to express oneself nor does it give license to break the rules arbitrarily. The creative cataloger appreciates the needs of the patron and makes necessary local adjustments to accommodate the requirements or vagaries of the local database. In many cases library administrators need to be educated to understand that in cataloging one size does not fit all". (p. 313)

Both Cutter and Baia and Randall's assertions have given light to many experienced catalogers commonly-shared feeling that catalogers should "think globally" but "act locally" (Beth, 2006, p. 3). Diao (2013) shared his point of view that cataloging can be local, creative, and personalized. He stated that all of the materials in local libraries cannot be completely covered by cataloging rules; gray or blank areas among rules need cataloger's judgment to decide what can be best adapted to the local environment and what can best serve users' needs. However, metadata creation in digital projects may be even more local and require much more creativity from its creators than traditional cataloging. In digital projects, metadata creators are free from the limitation of "the rule of three" and their capacities are not subject to the enframement of the space of 3 x 5 in. cataloging cards, which, in most cases, have been abandoned, but still shape the infrastructure of current ILS in some way. Under this rule, once more than three authors are responsible for the creation of a work, added entry is only given the first author and others are just omitted. Now, this rule has become obsolete and is replaced by "the rule of all" in RDA environment. This means that every creator sharing responsibility of a work could be traced, which best describes the working approach in a digital environment.

Why Does Metadata Creation Require Creativity?

What makes metadata creation in digital projects different from traditional cataloging? Why does metadata creation in digital projects require even more creativity than traditional cataloging? The answers are twofold. First, materials in digital projects are unique. In traditional cataloging, catalogers are most likely dealing with monographs and serials. They are publications that already have rich bibliographic information and standardized design and format associated with

them. Digital projects handle materials that are unique, special and rare, such as postcards, images, and manuscripts. These materials used to be “hidden” in the boxes of special collections of academic, research, or cultural institutions, incapable of being accessed and retrieved online prior to digitization. They may be fragile, incomplete, torn, and worn; or they might be damaged by insects and lack adequate sources of information to transcribe. Therefore, peripheral or marginalized information becomes very important to metadata creators, such as hand notes, seals, marks, signatures, and even postal stamps. Metadata creators’ judgment, knowledge, and creative research work should be exercised to decode and even interpret the information to create enriched and complete records for users. Second, unique materials require different working practices. Metadata creation in digital projects is not usually done in a shared, centralized, and collaborative bibliographic utility, such as the OCLC environment, with the involvement of different levels of well-trained professionals from national and global institutions. On the contrary, **it is most likely** accomplished in a loose, decentralized, and isolated single departmental environment with little help from external metadata professionals. It is safe to say that a great deal of metadata creation in digital projects relies on the individual metadata creator’s endeavor to craft the record, and it also requires original cataloging skills. These cultural and heritage items are unique and may be rare. If metadata records are not migrated from legacy records already in existence in the bibliographic utilities, they might have to be created from scratch. Under such circumstances, there will be no existing record that has been established by other institutions to consult. This process needs metadata creators to demonstrate the capabilities of being analytical and problem-solving, as well as the frequent exercise of good judgment.

How to be Creative in Metadata Creation?

Because of the reasons stated above, on the one hand metadata creators should have a very good knowledge of metadata application guidelines, which enable them to create consistent and interoperable records with adherence to metadata standards. On the other hand, metadata creators should act as collaborators to establish communication channels with the concerned specialists, such as curators, local historians, archivists, genealogists, and other significant users. The specialists might be better story tellers of a demolished church in a postcard or they might “know” who the person is standing next to the founding university president in an image. The expertise of these collaborators in certain subjects or life experiences and memories related to digital resources can be a valuable asset for metadata creators to construct very detailed descriptions and customized records that can better fit users’ needs, instead of creating brief records with little historical and factual information.

Building digital libraries is a collaborative enterprise. Collaboration with specialists inside and outside of the library is one way of encouraging metadata professionals to do creative cataloging in digital projects. Innovative research related to digital items done by metadata creators is another. If possible, catalogers should take some time away from their regular cataloging duties and spend it on research that would help them produce resourceful and enhanced metadata records. As an example, when metadata creators are describing an image with a rhetorical title “Swimming Pool in the Hotel”, a very “skeletal” DublinCore (DC) record can be created containing Title, Publisher, Place, Type, Format, Subjects and Identifier from what can be seen and obtained from the image. The result would be an objective and “good

enough” DC record. However, a curious mind and some research work would lead to a book titled *Miami in Vintage Postcards* by Patricia Kennedy, published in 2000. In this book, such background information can be discovered

The hotel, painted “Flagler yellow” with green grime, opened in January 1897 for the winter season. It had 350 rooms and 200 baths, a grand ballroom, and a dining room that accommodated over 500 people ... The hotel was declared a fire hazard and torn down in June of 1930, marking the end of an era. (p. 31)

Such information can be included in the DC Abstract field with an appropriately cited source. By doing so, metadata creators would be able to incorporate further in-depth elucidation for an easily overlooked item, thereby better meeting users’ expectations.

Creative cataloging means doing users’ work for users in advance. It means that users’ needs and expectations for information are prioritized in the operational work. In a research institution where librarians, curators, computer engineers, faculty, research scholars, and graduate students work in an intimate, open, and transparent working environment, users can no longer be seen as passive information consumers. They can be active participants in reviewing and commenting on bibliographic records from a different perspective, or linking data from multiple sources in the scholarly community and popular Web site. Their demands for high quality information resources might challenge the librarians’ perception of their own work.

Shiyali Ramamrita Ranganathan (1892-1972), a famous cataloging librarian, proposed his “Five laws of library science”, which have been accepted worldwide as the foundation of library science (Kabir, 2003). The fourth law is “Save the time of the reader” (Kabir, p. 454). This law advocates the use of bibliographical control tools, such as indexing, abstracting, and classifying, to help the library system function efficiently and effectively so that users can locate desired books with less effort. In contemporary libraries, saving users’ time means that more precise and relevant results should be achieved by the application of fewer search words in library catalogs. This law also suggests, recognizes and encourages catalogers, as individual professionals, to create bibliographic records that have “added value” through their willingness to walk extra miles to find information to describe a unique resource prior to users’ searches. Under such circumstances, bibliographic record creation becomes a channel of establishing the best connection between users and library materials in library systems that is based on users’ functions and expectations.

Concerns of Creative Cataloging in Departmental Environment

Creative cataloging can be expensive and difficult to achieve. Production and efficiency are always the top priority of digital collection centers or technical services departments, which are traditionally assessed by statistics, not by the intellectual input or creative effort embedded in the records. Creativity from metadata creators may be discouraged or prohibited by the departmental goals for productivity and efficiency. Therefore, metadata creators should maintain productivity to achieve departmental goals and, at the same time, conduct clear communication and negotiation with managers or supervisors to gain their support and understanding for a positive working environment. Department heads need to “encourage, value and appreciate the opinions,

ideas, and skills of its entire staff” (Oketunji, 2009, p. 17). A positive working environment encourages differences and curiosity but rejects conformity and routine. As Theimer (2012) concluded,

Catalogers need to research creativity, and take the concrete steps in institutionalizing and recognizing it as a core competency for the organization. Just as it is harder for individuals to lose weight without the support of their family, it is hard for a creative individual to thrive without a support environment, but it is not impossible. No matter what environment you find yourself in, creativity is possible on an individual level. The search for better work through creative changes will eventually improve your work. (p. 901)

CONCLUSION

The roles that catalogers play in library systems are constantly evolving with the growth of information technologies. The tsunami of digital resources in libraries presents catalogers with challenges and opportunities that can transform their roles through their active involvement in the description, organization, and discovery of these resources in digital projects. This paper has sought to discuss and analyze the cataloging legacies—quality control, authority control, and creative cataloging that catalogers can bring forth to provide accurate, consistent and personalized description of information resources in digital projects. Meanwhile, advancing information technologies and shrinking library budgets put cataloging on the verge of becoming a deprofessionalized occupation. Being a cataloger not only means being a guardian of principles and standards, but also a knowledge organizer, collaborator, researcher, and innovative and curious life-long learner.

References

- Baca, M., & O'Keefe, E. (2009). Sharing standards and expertise in the early 21st century: Moving toward a collaborative, "cross-community" model for metadata creation. *International Cataloging & Bibliographic Control*, 38(4), 59-67.
- Baca, M. (2004). Fear of authority? Authority control and thesaurus building for art and material culture information. *Cataloging & Classification Quarterly*, 38(3-4), 143-151.
- Bair, S. (2005). Toward a code of ethics for cataloging. *Technical Services Quarterly*, 23(1), 13-26.
- Baia, W., & Randall, K. M. (1998). Creativity in serials cataloging: Heresy or necessity? *Cataloging & Classification Quarterly*, 34(3-4), 313-321.
- Beth, M. W. (2006). "Get it, catalog it, promote it": New challenges to providing access to special collections. *RBM : A Journal of Rare Books, Manuscripts, & Cultural Heritages*, 7(2), 121-133.
- Borbinha, J. (2004). Authority control in the world of metadata. *Cataloging & Classification Quarterly*, 38(3-4), 105-116.
- Boydston, J. M. K., & Leysen, J. M. (2006). Observation on the catalogers' role in descriptive metadata creation in academic libraries. *Cataloging & Classification Quarterly*, 43(2), 3-17.
- Currier, S., Barton, J., O'Beirne, R., & Ryan, B. (2004). Quality assurance for digital learning object repositories: Issues for the metadata creation process. *Research in Learning Technology*, 12(1) 5-20. Retrieved from <http://www.eric.ed.gov/PDFS/EJ821514.pdf>
- Cutter, C. A. (1874). *Catalogue of the library of the Boston Athenæum 1807-1871*. Boston: Boston Athenæum.
- Cutter, C. A. (1904). *Rules for a dictionary catalog* (4th ed.). Washington, DC: GPO.
- Davis, C. C. (1990). Results of a survey on record quality in the OCLC database. *Technical Services Quarterly*, 7(2), 43-53.
- DeZelar-Tiedman, C. (2004). Crashing the party: Catalogers as digital librarians. *OCLC Systems & Services*, 20(4), 145-147.
- Diao, J. (2013). Passion of a young cataloger. *Technicalities*, 33(4), 17-19.
- Dragon, P. M. (2008). Notes on operations: Name authority control in local digitization projects and the Eastern North Carolina Postcard Collection. *Library Resources & Technical Services*, 53(3), 185-196.
- Dushay, N., & Hillmann, D. (2003). Analyzing metadata for effective use and re-use. Retrieved from http://ecommons.library.cornell.edu/bitstream/1813/7896/1/501_Paper24-1.pdf
- Fields, L. M. (2011). Catalog and metadata librarian: A foot in both worlds. In E.R. Sanchez (Ed.), *Conversation with Catalogers in 21st Century* (pp. 147-158). Santa Barbara, Calif.: Libraries Unlimited.
- Gorman, M. (2004). Authority control in the context of bibliographic control in the electronic environment. *Cataloging & Classification Quarterly*, 38(3-4), 11-22.
- Graham, S. R., & Ross, D. D. (2003). Metadata authority control in the civil rights in Mississippi Digital Archive. *Journal of Internet Cataloging*, 6(1), 33-42.
- Guy, M., Powell, A., & Day, M. (2004). Improve the quality of metadata in E-print archives. Retrieved from <http://www.ariadne.ac.uk/issue38/guy>
- Han, M.-J., & Hswe, P. (2010). The evolving role of the metadata librarian: Competencies found in job descriptions. *Library Resources & Technical Services*, 54(3), 129-141.

- Hillmann, D. I. (2008). Metadata quality: From evaluation to augmentation. *Cataloging & Classification Quarterly*, 46(1), 65-80.
- Kabir, A. M. F. (2003). Ranganathan: A universal librarian. *Journal of Educational Media & Library Sciences*, 40(4), 453-459.
- Kennedy, P. (2000). *Miami in vintage postcards*. Charleston, SC: Arcadia Pub.
- LeiZeng, M., Lee, J., & Hayes, A. F. (2009). Metadata decisions for digital libraries: A survey report. *Journal of Library Metadata*, 9(3-4), 173-193.
- Lopatin, L. (2010). Metadata practices in academic and non-academic libraries for digital projects: A survey. *Cataloging & Classification Quarterly*, 48(8), 716-742.
- Myntti, J., & Cothran, N. (2013). Authority control in a digital repository: Preparing for Linked Data. *Journal of Library Metadata*, 13(2-3), 95-113.
- Niu, J. (2013). Evolving landscape in name authority control. *Cataloging & Classification Quarterly*, 51(4), 404-419.
- National Information Standard Organization (NISO). (2004). Understanding metadata. Retrieved from <http://www.niso.org/publications/press/UnderstandingMetadata.pdf>
- Online Computer Library Center (OCLC). (2009). Online catalogs: What users and librarians want: An OCLC report. Dublin, OH: OCLC. Retrieved from <https://oclc.org/reports/onlinecatalogs.en.html>
- Oketunji, I. (2009). Creativity in cataloging: Which way forward? In I.Oketunji (Ed.), *Information packaging in the era of ICT: Challenges facing cataloguers, classifiers and indexers: Proceedings of selected papers of the Cataloguing, Classification and Indexing Section of the Nigerian Library Association 2007-2008* (pp. 17-25). Abuja: Nigerian Library Association, Cataloguing, Classification and Indexing Section.
- Park, J.-R. (2005). Semantic interoperability across digital image collections: A pilot study on metadata mapping. Retrieved from http://www.cais-acsi.ca/proceedings/2005/park_J_2005.pdf
- Park, J.-R. (2009). Metadata quality in digital repositories: A survey of the current state of the art. *Cataloging & Classification Quarterly*, 47(3-4), 213-228.
- Park, J.-R., & Lu, C. (2009). Metadata professionals: Roles and competencies as reflected in job announcements, 2003-2006. *Cataloging & Classification Quarterly*, 47(2), 145-160.
- Park, J.-R., & Tosaka, Y. (2010). Metadata quality control in digital repositories and collections: Criteria, semantics, and mechanisms. *Cataloging & Classification Quarterly*, 48(8), 696-715.
- Salo, D. (2009). Name authority control in institutional repositories. *Cataloging & Classification Quarterly*, 47(3-4), 249-261.
- Smiraglia, R. P. (2005). Introducing metadata. *Cataloging & Classification Quarterly*, 40(3-4), 1-15.
- Statistics Canada, Minister of Industry. (2002). Statistics Canada's quality assurance framework. Retrieved from <http://www.statcan.gc.ca/pub/12-586-x/12-586-x2002001-eng.pdf>
- Stvilia, B., & Gasser, L. (2008). Value-based metadata quality assessment. *Library & Information Science Research*, 30(1), 67-74.
- Sutton, S. A. (2008). Metadata quality, utility and semantic web: The case of learning resources and achievement standards. *Cataloging & Classification Quarterly*, 46(1), 81-107.
- Taylor, A. G. (1994). The information universe: Will we have chaos or control? *American Libraries*, 25(7), 629-632.

- Theimer, S. (2012). A cataloger's resolution to become more creative: How and why. *Cataloging & Classification Quarterly* 50(8), 894-902.
- Vellucci, S. L. (2000) Metadata and authority control. *Library Resources and Technical Services*, 44(1) 33-43.
- Williamson, J. M., Pemberton, A. E., & Lounsbury, J. W. (2008). Personality traits of individuals in different specialties of librarianship. *Journal of Documentation*, 64(2), 273-286.
- Yasser, C. M. (2011). An analysis of problems in metadata records. *Journal of Library Metadata*, 11(2), 51-62.
- Yee, M. M. (2009). "Wholly Visionary": The American Library Association, the Library of Congress, and the Card Distribution Program. *Library Resources & Technical Services*, 53(2), 68-78.