RDA Implementation and Training Issues across United States Academic Libraries: An In-Depth E-Mail Interview Study[1]

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This study aims at providing in-depth perspectives on the ways in which cataloging and metadata professionals have coped with RDA training and implementation through an e-mail interview method. Results show that the performance-based, "learn-as-you-go," peer learning method is found by practitioners to be most effective in acquiring and applying RDA knowledge and skills to real work situations. In terms of local RDA training resources, catalogers in research libraries have access to many special in-house training sessions. In contrast, those working in non-research libraries rely mostly on webinars and other online learning materials. The study shows that different versions of RDA instruction and training materials produced by the Library of Congress and other organizations have contributed to some confusion among practitioners. This indicates that it is critical for practitioners to access up-to-date, standard training materials that include concrete examples, best practices, and practical workbooks. The study also points out that there is currently a gap for practitioners between their day-to-day cataloging practices and RDA principles based on the FRBR framework. As RDA moves us to a Linked Data world, there will be a critical need to bridge this gap. The results also indicate that considerable efforts need to be made to provide more training materials in relatively "blank" areas, such as special, non-book formats, and foreign language materials.

Introduction

The year 2013 marked the start of a new era in the United States cataloging community as the Library of Congress (LC) moved ahead with full implementation of *RDA: Resource Description & Access* on March 31 (Library of Congress, 2012). The transition to RDA—the first new cataloging code in more than 30 years replacing *Anglo-American Cataloguing Rules*, 2nd edition (AACR2)—has since then proceeded steadily. The Program for Cooperative Cataloging (PCC), an international cooperative effort aimed at contributing high-quality cataloging records, announced its decision in December 2013 to cease creating original bibliographic records that are not fully RDA-compliant by the end of 2014 (Library of Congress, n.d.). Many specialist communities also have been working to update their guidelines and documentation for cataloging types of formats and materials that are of interest to their catalog users.

While RDA has been designed to provide a flexible and extensible bibliographic framework and well-formed metadata based on the FRBR (Functional Requirements for Bibliographic Records) conceptual model, it has raised a number of important questions in theory and prac-

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tice for the cataloging community. Questions include, but are not limited to, key areas of difference between RDA and AACR2, comparison with other metadata standards, impact on encoding standards such as limitations of Machine-Readable Cataloging (MARC) and the transition to a new post-MARC data model, end-user considerations, and practitioners' views on the new cataloging code (Tosaka & Park, 2013). However, to ensure a smooth transition to RDA during its initial implementation phase, the most critical question may be how practicing catalogers and paraprofessionals could best receive up-to-date training. This is to ensure that the work is getting done on a daily basis using the new cataloging code effectively.

As discussed below, a number of studies have been published—in many cases by national library organizations—to measure the current state of knowledge about RDA and examine training needs since the new cataloging code was officially released in June 2010. Data for these studies—conducted prior to full RDA implementation—have been collected through surveys from various stakeholder communities in several countries adopting the new standard. The primary purpose of the current study is to conduct an experiment using a different, qualitative research method—interviews—and to see how it may yield a more in-depth understanding of practitioners' views on RDA. The study also aims at examining their experiences with training and implementation processes in a period of transition subsequent to implementation of the new cataloging code.

Overview of Previous Studies on RDA Training

Surveys by National Library Organizations

In early 2009, the three United States national libraries—the LC, the National Agricultural Library, and the National Library of Medicine—announced a joint plan to test the content and functionality of RDA and evaluate its operational, technical, and economic implications. Following RDA's release in June 2010, official testers from 26 institutions produced test RDA records during the three-month period (October 1–December 31). The United States RDA test included an online survey for gathering both quantitative and qualitative information about their experience with the new cataloging code. Also, a separate online survey was created to solicit feedback from any interested parties, regardless of their actual RDA cataloging experience (United States RDA Test Coordinating Committee, 2011).

RDA training was not a focus in these surveys. While they did ask about training methods used by the participating institutions and individual testers, no survey question was included to draw conclusions about which training methods were preferred or the most effective. The final report and recommendations by the United States RDA Test Coordinating Committee only noted that a variety of methods for training should be made available, ranging from in-person workshops to webinars (United States RDA Test Coordinating Committee, 2011).

Prior to the United States RDA test, national library organizations in other English-speaking countries—Australia, New Zealand, Canada, and Great Britain—also conducted surveys to assess practitioners' views on the new cataloging code. These surveys each provided a little more light on catalogers' needs and preferred methods for training. These early surveys indicated limited levels of RDA knowledge among the respondents. They also indicated concerns about preparation for RDA implementation among catalogers and their staffs while at the same time meeting the daily demands of cataloging production and management.

In the Australian and New Zealand surveys, conducted by the Australian Committee on Cataloguing and the National Library of New Zealand using almost

identical questions, top topics suggested for future training were all concerned with practical cataloging questions, such as "cataloging with RDA," "changes from AACR," "MARC21 and RDA," and "use of the RDA online product." Many respondents "wanted the training to start with the basics and be practical" (Kiorgaard, 2010; Todd, Stretton, & Stewart, 2010). The Canadian survey, conducted by the Technical Services Interest Group of the Canadian Library Association, also showed that training was a primary area of concern within the cataloging community (TSIG RDA Training Needs Assessment Working Group, 2010). Similar results were found in the online survey conducted by the British Library and the Chartered Institute of Library and Information Professionals Cataloguing and Indexing Group to evaluate training and support needs for implementation (Danskin, 2010).

Another key issue was how much training time would be needed before professional catalogers and their staff could function confidently. This question was addressed in the Australian and New Zealand surveys, in which "up to 2 full days" was rated as the top choice as the acceptable training time for cataloging staff, with the next choices ranging between "up to 1 full day" and "up to 3 full days." Some responses indicated the desire for training to "last as long as necessary to cover the material." Also, both surveys indicated that the respondents preferred continuing follow-up and support over a long period, regardless of the methods used to deliver initial training (Kiorgaard, 2010; Todd, Stretton, & Stewart, 2010)[LB9].

These national-level surveys in general suggested that despite technological advances in online training, face-to-face training was not obsolete for working catalogers. The United States RDA Test Coordinating Committee (2011) only concluded that a variety of training methods should be made available. On the other hand, the other surveys showed that various types of face-to-face training were preferred choices for training methods, often supplemented by online training resources. By contrast, online training only, such as webinars and other self-study methods such as viewing PowerPoint slides or reading manuals on their own, was not rated as a popular option, a result that may illustrate the importance of hands-on training and interactive exercises in training experiences (Danskin, 2010; Kiorgaard, 2010; Todd *et al.*, 2010; TSIG RDA Training Needs Assessment Working Group, 2010).

However, it does not seem that these survey results were reflected in official RDA training plans. The Canadian report concluded, for example, that in-person training methods would be impractical due to their costs and accessibility. Instead, online training was recommended as a "key component of a Canadian training plan." In particular, webinars were identified as a "principal method" for delivering quality training with the current Web technology (TSIG RDA Training Needs Assessment Working Group, 2010).

Non-Official Surveys on RDA Training

The literature has also produced several published surveys that include some findings on RDA training needs and methods from sources other than national library organizations. Sanchez (2011) conducted a survey on cataloging librarians' attitudes toward the transition prior to RDA's official release in 2010. At that time, her survey found that only 30 percent of her respondents rated their RDA knowledge as above average. Some of the biggest concerns were related to learning and training issues, as well as implementation and practical impacts on the cataloging workflow and productivity.

Sanner (2012) surveyed cataloging managers in United States academic libraries participating in the Association of Research Libraries (ARL). The focus on ARL libraries was based on her underlying assumption that their experience should

foreshadow RDA training processes and challenges due to their leading position in the cataloging community. Sanner's survey, conducted in early 2011, showed that the most common types of training sessions that had occurred in these ARL libraries were webinars and in-house group training, followed by national association workshops/presentations and web-based courses.

The topics covered in the training received by the participants included major RDA topics, ranging from departures from AACR2 to FRAD (Functional Requirements for Authority Data). Departures from AACR2 were rated as the most helpful, followed by FRBR, and the different structure of RDA. Nearly all who received training reported an increase in their RDA understanding as a training outcome. Another brief online survey was conducted by Kidane (2013) in March 2012 to evaluate catalogers' and cataloging instructors' opinions on RDA. While the survey featured mostly limited questions about their awareness of RDA and its implementation, it did note that freely available documentation would be essential to RDA's universal implementation.

Lambert, Panchyshyn, and McClutcheon (2013) also conducted a local RDA survey among public library catalogers in Ohio. In contrast to Sanner's survey (2012), their study intended to investigate how public libraries were coping with the transition from AACR2 because significant new developments are often adopted later in public libraries. The survey results show rather surprisingly that "almost one-third of Ohio public library catalogers had never even heard of RDA at the time they were surveyed" (Lambert, Panchyshun, & McClutcheon, 2013, p. 189) RDA training also had been almost non-existent. Accordingly, training was rated as the most important need for successful transition, while it was also deemed important to make such training available at minimal or no costs due to the lack of training budgets or administrator support.

The authors' recent study (Tosaka and Park, 2014) has produced the most comprehensive survey so far on catalogers' current state of RDA knowledge and training needs. Focusing on United States academic libraries, the survey found that training activities have a positive correlation with catalogers' levels of knowledge about the new cataloging code. At the same time, reported levels of familiarity remain alarmingly low with a broad range of RDA topics even just a few months before RDA implementation in March 2013.

The most consistent finding in the above study was the presence of a substantial divide in professional preparation between practitioners in research universities and 4-year colleges and universities (Tosaka & Park, 2014). Such results highlighted the critical importance of developing effective training programs that would meet the needs of those working in smaller institutions, and of making the same training opportunities available regardless of their institutional affiliations and local resources. In terms of future training, the study found that practitioners' needs were focused on practical topics and questions such as RDA core elements, new and changed instructions in RDA, RDA vocabularies and concepts, and RDA in relation to MARC 21. The survey results also indicated that convenience, cost, or flexibility, were among the most important factors determining preferred modes of delivering professional training.

Research Questions and Methods

As shown in the overview above, the literature on RDA implementation and training has predominantly employed quantitative methods in the form of online surveys. Quantitative research has many virtues, such as the ability to enable researchers to gather a fairly large amount of structured numerical data and to identify broad, general patterns and relationships across many cases relatively quickly. However, even when supplemented with some open-end-

ed questions, quantitative approaches like surveys have some important weaknesses, including the inability to achieve in-depth understanding of underlying reasons and motivations through detailed examination of specific cases (see, for example, Ragin, 1994).

This study has been motivated by our interest in conducting an experiment on investigating RDA implementation and training issues and needs by employing a different, qualitative method. In order to provide richer, more substantive insights into the research subject, we planned to conduct small-scale interviews with the hope of bringing out aspects of the topic that might not have emerged readily from our online survey research (Tosaka & Park, 2014). Specifically, we aimed to address the following research questions in some greater depth:

1. How has the transition from AACR2 been handled in academic libraries during the first year following the LC's full RDA implementation?
2. What professional training have cataloging and metadata professionals received in preparation for RDA implementation? What are their general perceptions regarding the types of training programs and methods used?
3. What are the common problems and issues associated with RDA implementation in academic libraries? What are the perceptions of the cataloging community regarding the impact that RDA will have on library catalogs and the future of those catalogs?

Since our initial research plan had included using multiple methods to investigate practitioners' experiences with the new cataloging code, we had designed our previous online RDA survey (Tosaka & Park, 2014) to ask the respondents about their willingness to be contacted later for a follow-up interview study. Nearly 20 percent of the respondents who completed the online survey (82 out of 444) had provided their e-mail information to potentially volunteer in this separate study.

When we prepared to compile a list of potential volunteers for the interview study in early 2014, we decided to create two separate lists: one listing those working in large academic libraries and the other listing those working in four-year colleges and universities. The reason for creating the two separate lists was based on the key finding in our online survey that indicated a substantial divide in RDA preparation across these two types of academic libraries. Our key goal was therefore to elicit a greater depth of information about their different RDA experiences. Toward that end, the two separate lists were compiled on the basis of matching the e-mail addresses provided voluntarily against the roster of ARL libraries, which was used as a proxy for comprehensive, research libraries in the United States.

In contrast to quantitative survey research, qualitative methods like interviewing aim to achieve in-depth knowledge through rich raw material collected from a small number of cases. In planning the current study, we had to decide how many interviews would be needed to collect sufficient information and understand the commonalities across such cases. While there are few practical guidelines for determining the number of interviews needed, many studies have shown that a large number of cases are not often needed to achieve a desired research objective. For example, Guest, Bunce, and Johnson (2006) found that six to twelve interviews were enough to understand common perceptions and experiences, especially if a selected group was from a relatively homogeneous population.

Since our interviewees would be relatively homogeneous in the sense that they all were library professionals in charge of cataloging and metadata services in United States academic libraries, we decided to work from a randomly sampled initial roster of twelve potential interviewees (six each from the large research library

group and from the four-year college/university group). We also created a list of ten alternates (five for each group) in case contacted individuals declined to participate in the follow-up interview study. Among those who accepted our interview requests, the ARL libraries group included one interviewee working at a library that had participated in the 2010–2011 United States National Libraries RDA Test.

We initially had planned to interview the geographically dispersed research participants by way of telephone or synchronous online messaging. However, we eventually decided to conduct this study through e-mail interviewing instead. This shift was largely a serendipitous decision made after one participant requested to be interviewed via e-mail. This request prompted us to consider using asynchronous e-mail interviewing equally with all study participants as an alternative to conventional telephone interviewing or virtual online interviewing. This was in part due to the difficulties in setting up multiple telephone interviews because of schedule conflicts and time zone differences.

Many studies have found that the benefits of e-mail interviewing include, but are not limited to, the ability to allow the interviewees to find time in their schedule to provide more thoughtful, reflective responses to interview questions at any time of their convenience (Meho, 2006). The use of e-mail interviewing would offer a viable opportunity to collect trustworthy, in-depth, well-organized data about RDA training needs and experiences.

We originally planned to devise a coding/categorization scheme for structured data analysis. During this process, it was apparent that such coding scheme was not necessary owing to the small number of interview participants (n = 12) and questions (n = 8) which contain explicit keywords and phrases that can be used as broad classification keys for data analysis. This prompted us to analyze data following interview question by question without a special, formalized coding scheme.

This study is not without some important limitations. Most importantly, our interviews—while representing well-thought-out, expert perspectives on the new cataloging code from experienced catalogers—by their very nature do not capture the experiences and realities of RDA implementation processes for early-career catalogers and copy cataloging staff. The interview data also may suffer from the selection effect resulting from the method of collecting a non-random sample of interview candidates for this study. Since the study was intended to be a follow-up to our previous RDA survey, we decided to collect our interview data from an initial pool of the survey participants who had consented to be contacted for follow-up interviews. Technically, our interview data may have been affected due to this pre-screening of potential interviewees, although the actual interviewees did represent wide-ranging views on RDA implementation processes. Furthermore, the intended scope of this study itself excludes the perspectives of cataloging practitioners working outside research universities and other four-year academic institutions. Taking special care with the public, school, and special library communities will be an important future research avenue in evaluating RDA's impact on cataloging work.

Interview Results

RDA Implementation Status

The first question we asked concerned the status of RDA implementation across different academic libraries: *Has your library implemented RDA in creating original bibliographic records*? *If so, when did your library start implementing RDA*? It seems to be clear that LC implementation of RDA in March 2013 was a key milestone in its wide adoption for most institutions. The heavy usage of LC records for regular copy cataloging operations can be a major factor behind this transition.

Our interviews revealed some important variations in its implementation that had not been captured in our previous online survey. The ARL libraries group included an interviewee who worked for an institution that had begun implementing RDA as early as July 2010 as an official United States RDA test partner. The interviewee stated that her library never went back to cataloging with AACR2 even after the testing period was over. Two ARL libraries had transitioned during 2012, while two other ARL libraries started to catalog using the new code just prior to or at the time of LC RDA implementation.

We also found that one large ARL library has not formally transitioned to RDA fully in part due to the size of the library. The majority of its original monograph cataloging is performed by part-time, adjunct catalogers. They are expected to bring cataloging skills from the outside and thus have received no cataloging training at that institution. As such, some of them are still cataloging with AACR2 rules, while others are cataloging with the new cataloging code. Its full-time catalogers working with PCC programs have made the switch following the PCC RDA implementation guidelines and standards. But the remaining full-time catalogers specializing in non-book formats continued to create original cataloging with AACR2, following the lead of their specific cataloging communities.

On the other hand, the non-ARL libraries group included two early adopters. One library started their staff training in mid-2012, while another library had its Special Collections Department making the switch as early as January 2012. However, this group also included some holdouts, where no official transition had been made yet about a year after full LC RDA implementation. Even after having received some basic training, some catalogers and staff did not feel comfortable with cataloging in the new standard. As such, their experience had been often mostly limited to accepting and then enhancing newly imported RDA records in their catalogs as needed.

Overall Initial Impression

We also asked our interviewees about their initial impression of RDA: *What are your initial impressions of RDA*? Here we did not see much difference between the ARL and non-ARL libraries. Some positive responses highlighted RDA's transparency to users, as evident in its take-what-you-see principle in resource description, discontinuation of Latin words and abbreviations, as well as its flexibility in cataloging choices. RDA's more principled, FRBR-based approach and movement toward granular, well-formed metadata were also noted as potential strengths. Addition of new elements to name authority records for improved clarity was also noted as strength of the new cataloging code. Some practitioners welcomed the fact that there were few changes between AACR2 and RDA bibliographic records for average monographs under existing MARC 21 formats.

However, overall "disappointment" marked many interviewees' general attitudes. They felt that "RDA was not an improvement on AACR2" and was simply adding more "headaches" to their cataloging workflows. One interviewee called RDA "a big expensive waste" and "a bloated mess" for the lack of a "set of radically simplified instructions and concepts." Another pointed to gaps between the underlying FRBR theory and current cataloging practices. Despite its initial promises, the new cataloging code was difficult to implement fully in the current MARC environment and had been "backtracking toward more comfortable, yet less principled AACR2-like solutions." Problems noted included poorly written instructions (a major point identified in the United States RDA Test [United States RDA Test Coordinating Committee. (2011)]), inconsistency in its guidelines (e.g., continuing use of abbreviations

for U.S. states), the bias toward English language materials, and increased production time for name authority records due to new elements added.

RDA Transition—Training and Implementation Issues

Another key question in our e-mail interviews focused on how different libraries prepared for the transition: *What has your library done to prepare for the transition to RDA? Did you encounter any training issues, barriers or problems with RDA implementation?*

Overall, RDA transition did not cause major issues for our interviewees. This should come as little surprise because a key design feature of RDA was that instructions derived from AACR2 had been reworked to make the new cataloging code compatible with existing library catalogs using MARC 21 formats. Common problems reported included the fact that the training materials had included many details and blank areas that were still being ironed out, and the inability to properly accommodate some RDA elements and subelements in current OPACs.

Our interviewees were also asked about trainers and training materials: *Who has been responsible for training staff and copy catalogers on RDA cataloging? Did you have/encounter any problems or issues in training? Which RDA training materials and methods were most effective at your library?* Not surprisingly, department heads and original catalogers were commonly responsible for staff training. Through regular meetings, the staff discussed the issues dealing with the new content code and reviewed RDA records they created. Such peer learning was a fairly common local training method that was recognized as useful for making the staff more comfortable using RDA. This "learn-as-you-go" approach seemed to be a good reflection of the widespread view that "it is impossible to teach cataloging in the classroom" and that "important learning occurs as you apply the rules to situations you encounter" through hands-on practices.

At the same time, however, our interviews revealed some important differences between the two types of academic libraries examined for this study. Interviewees in the ARL libraries group were generally able to take advantage of many in-house local training opportunities, as well as various workshops, webinars, and free training materials available from the LC. The ARL libraries group sometimes had the benefit of having a nationally recognized RDA expert on staff who developed comprehensive training materials tailored for their professional and copy catalogers. On the other hand, the non-ARL library group reported relying mostly on webinars and individual self-paced online learning materials such as those on the LC Web site. Those online materials were typically found to be very effective, helpful learning tools, and were appreciated all the more for the "ability to view them at any time convenient." It seems, however, that some non-ARL libraries ended up implementing RDA without much training. A couple of interviewees admitted that they "basically just dove in" with "very little preparation for the transition" and were still working on training and procedures manuals for their departments.

Invested Amount of RDA Training Time

Our earlier survey had suggested that there were substantial differences in the amount of time invested on RDA training between catalogers in research universities, and four-year colleges and universities (Tosaka & Park, 2014). To seek a fuller understanding of the training contexts for the transition, we also asked our interviewees to estimate the time their libraries had spent on RDA training: *How much time did your library spend on RDA training for librarians and copy catalogers? Did your library spend more or less time for RDA training than originally expected?*

This time, our interviews did not reveal

much variation, except for one cataloging department in a four-year institution that basically jumped in with "very little preparation" for the transition and hence "virtually no time" spent on training for librarians and copy catalogers. This could be attributed to the fact that once cataloging departments decided to adopt the new cataloging code in response to LC implementation, most professional catalogers in the academic library community were ready to making a substantial commitment to develop competence and confidence in their skills necessary to assimilate RDA into their day-to-day cataloging workflows.

Specifically, the maximum amount of total personal time invested in RDA training was estimated to hit a 450 hours—as reported by an interviewee working at an ARL library that had participated in the United States National Libraries RDA Test. Since the summer of 2011, she had attended seven or eight training sessions given by various people, plus watched a number of webinars, and attended two years of monthly cataloging department discussions. A cataloger at a non-ARL library estimated "over 100 [hours] at least" just for completing descriptive cataloging modules offered by the PCC, not to mention additional training sessions through other specialist associations like the Music Library Association and Online Audiovisual Catalogers. Aside from formal classroom instruction, the interviewee stated 110 hours as the total amount of estimated time invested by catalogers in training activities including any follow-up discussion and meetings.

Other interviewees had a hard time giving any specific hours calculated for total training time. As discussed earlier, however, initial hours of in-person or online training sessions were followed by months of continuing small-group study meetings to learn to integrate the new cataloging code into their daily work. Indeed, an interviewee at another ARL library stated that her department "spent a lot of time training catalog librarians and copy catalogers" and that the actual training time probably exceeded her department head's original expectations. However, time spent on training was "considered an investment" as "training time in the short run would provide long-term benefits, in terms of quality records" produced by trained, confident cataloging staff. Collectively, these interviews demonstrated a sincere dedication to the profession of cataloging and genuine care and concern among practicing catalogers for taking time to continually hone their skills in support of effective resource discovery and access in a rapidly evolving bibliographic control environment.

Impact of the RDA Transition on Local Cataloging Operations

How RDA implementation impacted local cataloging operations should be an important question for anyone interested in practical challenges arising from the new cataloging standard: *How has the transition to RDA impacted local cataloging operations?* Regardless of the type of academic library, most of our interviewees seemed to have taken the transition in stride, in large part because there has been no change in the data structure—MARC formats—underlying current bibliographic description. As a result, after some initial learning curve and productivity loss, changes to RDA seemed to be rather insignificant, a reflection of RDA's key design principle providing for its basic continuity with AACR2. However, this suggests that RDA's full potential as a new entity-relationship data model is not realized in current integrated library systems (ILS) using MARC formats with their flat-file record structure (Tosaka & Park, 2013). As discussed earlier, several interviewees said that they experienced few problems with RDA implementation because there were fundamentally no big differences between AACR2 and RDA records. In short, ease of transition from AACR2 was based on

the fact that RDA implementation has so far brought few significant changes to users and current cataloging systems. In the future, the existing centrality of MARC records will have clear implications about potential disruption that might arise due to the expected replacement of MARC by the new BIBFRAME data model that will create a much more radical departure from the current bibliographic environment (Library of Congress, 2015).

Despite the general, take-it-in-stride attitudes toward the transition however, there were still some remaining concerns about a number of practical issues for local cataloging workflows as well as for library users. One interviewee expressed that "we're concerned that our ILS does not yet offer searching capability for the 'new' (albeit, old) MARC fields (e.g., 33X, 34X, etc.)." "How to reconcile a split catalog or deal with all the legacy data" also would likely create a whole set of new workflow issues. The resulting lack of consistency in library catalogs could lead to unforeseen consequences for data quality control and customer service. From local workflow perspectives, there was also "much confusion" about "hybrid" bibliographic records—pre-RDA records to which RDA elements have been added. Not surprisingly, the resulting records that blend elements of older and new practices would create additional local staff training needs for editing and enhancing such "hybrid" records during the transition period.

RDA's Impact on Catalogers' Roles in the Future

Our interviews concluded with a broad question about RDA's impact on the cataloging community as a whole, what the new cataloging code would mean for catalogers and libraries in the foreseeable future: *What will RDA mean for catalogers and libraries in general? How will RDA impact the cataloger's role in the library of the future?* On the whole, our interviewees' responses indicated little variation across the academic library types, often exhibiting a mixture of hopeful expectations and uncertainty. While no one expected any notable impact on immediate cataloging practice in the current MARC environment, some expressed a sense of excitement that RDA rethinks the theoretical foundations underlying cataloging rules and has the potential to have significant, positive impact on the discovery experience for library users.

According to our interviewees' responses, such excitement was conditioned by the expected enhancements in library technology and data standards that would enable libraries to "fully use all the capability that is inherent in RDA" in the Semantic Web environment. At the same time, many felt that in a post-MARC, truly FRBR-ized catalog, RDA would make cataloging more efficient and less time-consuming by allowing catalogers to create records for a work and its expressions only once. RDA was expected to make the catalogers' work more relevant by enhancing their "power to impact the usage of the library because it allows for so much more information to be potentially presented to the user." There was a great hope that the new cataloging code would help users search and navigate through the bibliographic universe more effectively and consistently, and position more well-formed library metadata for a future, open metadata environment.

Interviews also displayed more cautious, wait-and-see attitudes. One interviewee felt that while the new cataloging code was supposed to represent a "whole new way of thinking" and provide a "bridge" to the "Linked Data" future, only time would tell if all its promises were not just overstated. There was also some concern about a "divide between those libraries who can afford to and have support to transition to RDA, and those that will not." One interviewee noted: "Catalogers used to AACR2 in public, school, and small academic libraries with tiny continuing education budgets" could "just flounder"

without the knowledge to cope with multiple cataloging codes and hybrid AACR2 records with some new RDA elements added.

In addition, other catalogers regretted that RDA had to be implemented before a new data format was created and adopted universally, which "will be a bigger adjustment to catalogers than RDA." They also expected that the transition to RDA would push the cataloging community to play a more visible role in working with systems people and vendors to become "advocates" for library catalogs to "catch up to RDA's potential" and bridge a future transition to a post-MARC environment for our users.

At the most pessimistic end of the spectrum, our interviews also held a highly negative, critical outlook on RDA's promise as a cataloging standard designed for the digital environment in the twenty-first century. "I think," one interviewer stated, "it represents a big flop on the part of the library community." He felt that RDA's development and implementation had been mired in the old library-specific tradition of devising complex, elaborate cataloging instructions and explanations. In that sense, RDA was practically dead on arrival, as its designers were unable to develop a new metadata framework that was written in the "simple, clear tech language of the 21st century." Another cataloger also stated that it was difficult to justify the time and efforts to adopt and implement RDA and get library administrators' support before new ILS's were available to show tangible benefits for users from all the changes introduced in RDA data.

Implications and Conclusion

The goal of this study was to use a less commonly used, non-quantitative method to gain richer perspectives on RDA implementation and training issues. We used e-mail interviewing for the current study to allow interviewees to provide in-depth, reflective responses at times of their choosing. Following up on our previous survey conducted on the eve of the LC's RDA implementation (Tosaka & Park, 2014), we wanted to look into the local realities of RDA implementation processes in academic libraries and the types of professional training their catalogers had received, as well as their perceptions about the new cataloging code and its impact on library catalogs. We were also interested to find out if there remained significant variation in various aspects of RDA experiences between the two major academic library types—those affiliated with research universities and four-year colleges and universities.

Our interviews again found some important variations in RDA implementation processes, although differences across the types of academic libraries were more nuanced than those found in our previous survey (Tosaka & Park, 2014). While the LC's implementation was understandably the main driving force for the wide adoption of RDA across the academic library community, the current study found some differences in RDA implementation schedules. Non-research libraries included cataloging departments that still harbored resistance to the new cataloging code among their staff. The performance-based, "learn-as-you-go" peer learning was almost universally found by cataloging practitioners as the most effective professional training method to acquire and apply RDA knowledge and skills to real work situations. However, local RDA training environments often varied significantly.

Catalogers in research libraries had access to many special in-house training sessions. In contrast, those working in non-research libraries relied mostly on webinars and other online learning materials. Consequently, the real effectiveness of those online resources may need further review and investigation, although they provided high levels of reported satisfaction as training tools, particularly for the convenience they offered. In light of the preference for face-to-face training found

in our previous survey (Tosaka & Park, 2014), it would be interesting to see how their evaluation of online training resources might change if the same opportunities were available to participate in such training sessions regardless of their institutional affiliations.

Regardless of our interviewees' institutional affiliations, their opinions on RDA and its impact ranged widely from a positive, hopeful endorsement to a harsh criticism. Given the LC's predominant position in the cataloging marketplace, however, it seems that once it announced its schedule for full implementation of RDA, almost all practitioners simply fell in line and accepted the new cataloging code with little grumbling. While the relatively smooth transition was largely the logical outcome expected from RDA's compatibility with the previous AACR2 rules in the current MARC environment, it may also raise broader questions about the entire trajectory of RDA implementation processes.

As revealed in our interviews, if RDA training time needed for the transition was conservatively estimated at minimum 100 hours, its monetary cost could easily exceed $10,000 per librarian depending on how each institution calculates the total direct and overhead costs for its employees—which not unusually makes actual costs more than double the nominal salaries and wages (see, for example, Drexel University, Office of Research, n.d). Needless to say, such training time is needed in addition to continuing professional development in any other work-related topics that a professional could reasonably be expected to do in any given year. While RDA is a key step in the future directions of library metadata approaches, however, most of the apparent initial changes in RDA records have been mostly cosmetic, as RDA has been designed to minimize immediate impact on cataloging practice, especially within the existing MARC environment (Tosaka & Park, 2013). Because there may be at least 8,000 original catalogers in the United States academic market alone (Fischer & Lugg, 2009), this means that RDA implementation costs could have run up to $100 million and even more for training original catalogers across academic libraries alone, not to mention all costs associated with staff training, updating training and workflow documentation, and preparing ILS's to accommodate RDA data.

Moreover, as feared in by interview participants, the new cataloging code could leave behind a much larger pool of public and school libraries as well as small academic libraries that cannot afford all the transition costs, particularly without seeing visible returns on the investment. A good business case can be made, therefore, that the gradual approaches to the RDA transition might have driven more resistance to its full adoption without being accompanied by other innovations that would unleash the improvement of resource discovery in ways that have not been possible with the earlier, proven combination of AACR2 and the MARC formats.

At the same time, our interviews seem to have identified several important areas that need to be addressed to make continuous adjustments in RDA transition processes, particularly as the library community works toward a post-MARC cataloging environment. For one thing, it appears that there is a clear gap for many practitioners between their day-to-day cataloging practice and RDA principles based on the FRBR framework. As RDA moves us to a Linked Data world, there will be a critical need to bridge this gap in the cataloger's work and professional training.

For RDA training, it appears that different versions of RDA instruction/training materials produced by the LC and other organizations have contributed to some confusion among practitioners. It seems important that such confusion should be resolved in ways that will produce up-to-date, standard training materials through concrete examples, best practices, and practical workbooks, as suggested by

some of our interviewees. In addition, considerable efforts need to be made to provide training materials in relatively "blank" areas, such as special, non-book formats, and foreign language materials. RDA's impact will also continue in terms of local guidelines, procedures, and handbooks that will be required to handle and document changes in departmental workflows.

Finally, it cannot be emphasized enough that the main thrust of our interviews was related to maximizing RDA's full potential and benefits for library users, cataloging and metadata professionals, and their institutions. Toward that end, more work needs to be done to evaluate RDA's impact on public services librarians including those in reference and circulation, as well as its benefits for library users. While RDA implementation appears to have been met mostly with silence from the general public or public services staff, as was much the case with the previous transition to AACR2 (Hopkins & Edens, 1986), RDA training materials for public services librarians are needed to provide essential information and public education about the positive aspects of new developments and changes in cataloging standards.

ILS features and user interface also will need continuous enhancements to take advantage of all RDA elements more fully. Presumably, these will become more important as Linked Data approaches are implemented in library catalogs and RDA's impact makes itself felt more fully in a future post-MARC environment. The cataloging and metadata communities will likely confront greater challenges ahead as it falls upon them to manage another major, even bigger transition: sorting out RDA's relations to a new BIBFRAME model.

This study is not without some important limitations. Most importantly, our interviews—while representing well-thought-out, expert perspectives on the new cataloging code from experienced catalogers—by their very nature do not capture the experiences and realities of RDA implementation processes for early-career catalogers and copy cataloging staff. The interview data also may suffer from the selection effect resulting from the method of collecting a non-random sample of interview candidates for this study. Since the study was intended to be a follow-up to our previous RDA survey, we decided to collect our interview data from an initial pool of the survey participants who had consented to be contacted for follow-up interviews.

Technically, our interview data may have been affected due to this pre-screening of potential interviewees, although the actual interviewees did represent wide-ranging views on RDA implementation processes. Furthermore, the intended scope of this study itself excludes the perspectives of cataloging practitioners working outside research universities and other four-year academic institutions. Taking special care with the public, school, and special library communities will be an important future research avenue in evaluating RDA's impact on cataloging work.

Education for librarianship and other information professions does not end upon receiving the degrees for their credentials. It is critical that information professionals continue to educate themselves and adapt in this digital environment. Transition to the new cataloging code is not merely learning and adopting some new practices. While professional development is a part of Library and Information Science (LIS) education, the new cataloging code represents a fundamental re-examination of cataloging theory and practice that demands significant training and professional development from information professionals and LIS educators. Despite the above-mentioned limitations, the current study provides some in-depth perspectives on the ways in which cataloging/metadata professionals have coped with RDA training and implementation across the United States academic library sector. Our study also elucidates the crucial issues and chal-

lenges that the cataloging and metadata communities including LIS educators will have to tackle as RDA moves to a far more disruptive post-MARC bibliographic future.

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Appendix: Focus Group Interview Questions

- Has your library implemented RDA in creating original bibliographic records? If so, when did your library start implementing RDA?
- What are your initial impressions of RDA?
- What has your library done to prepare for the transition to RDA? Did you encounter any training issues, barriers or problems with RDA implementation?
- Who has been responsible for training staff and copy catalogers on RDA cata-

loging? Did you have/encounter any problems or issues in training?
- Which RDA training materials and methods were most effective at your library?
- How much time did your library spend on RDA training for librarians and copy catalogers? Did your library spend more or less time for RDA training than originally expected?
- How has the transition to RDA impacted local cataloging operations?
- What will RDA mean for catalogers and libraries in general? How will RDA impact the cataloger's role in the library of the future?