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Content, Media, and Carrier (336/337/338) Fields in the Public Display

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ABSTRACT

This study seeks to determine if libraries are displaying the content type, media type, carrier type (336/337/338) fields to the public in their library systems and if they are continuing to use (general material designator) GMDs in their records. It also examines how these new fields are labeled, what types of icons are used, and how specific these icons are. The largest 100 libraries in the United States are examined.

Introduction

When Resource Description and Access (RDA) became the cataloging standard for the Library of Congress in 2013, there was much discussion on whether the MAchine-Readable Cataloging (MARC) content type, media type, and carrier type (336/337/338) fields should appear in the public display of library systems. These three fields replaced the general material designator (GMD), which identified non-book formats (such as sound recordings and electronic resources), and no longer appeared in RDA catalog records. However, in the past couple of years, there has been little or no discussion on the matter. What has happened? Have libraries found they do not need these fields? Have vendors and libraries solved the problem? Or are libraries more concerned with the next generation of bibliographic description - linked data and Bibliographic Framework (BIBFRAME)?

The 336/337/338 fields were developed to deal with some problems with GMDs. With many new types of materials (particularly electronic), the GMD terms were no longer adequate. Some of the GMD terms were imprecise and only one GMD could be included in a record. For example, [videorecording] was used for both videocassettes and DVDs. And for streaming videos, what GMD would be used in the record—[videorecording] or [electronic resource]? In addition, some of the terms represented content (such as sound recording) and some media (such as microform).

To help solve these issues, the three 336/337/338 fields were designed with terms that would be more precise and repeatable.

Like GMDs, the 336/337/338 have a set list of controlled terms that should be used in each of these fields. For example, a book with a music cd would have multiple 336/337/338 fields to indicate both formats as follows:

336 text ‡b txt ‡2 rdacontent
336 performed music ‡b prm ‡2 rdacontent
337 unmediated ‡b n ‡2 rdamedia
337 audio ‡b s ‡2 rdamedia
338 volume ‡b nc ‡2 rdacarrier
338 audio disc ‡b sd ‡2 rdacarrier

However, whether to include these fields in the public display has been a matter of debate. Early discussions of these fields suggested that these new fields could be used instead to generate icons to convey the information they contain. Different icons could display for videocassettes and DVDs. Plus, unique icons could help determine if the item is online and accessible from home, or a physical item that needs to be requested. For instance, the University of Houston library uses different background colors for standard and blue-ray DVDs, and overlays a red "e" on e-resources icons.

In pre-RDA records, GMDs appeared in the title field (245) and thus the type of resource was located at or near the top of a record. Therefore, patrons were able to instantaneously identify the type of resource. But, what about the 336/337/338 fields? Can the information in these new fields sufficiently show the specific type of resource? And do these new 336/337/338 fields aid in the discovery of resources?

This study seeks to determine if libraries are displaying the 336/337/338 fields to the public in their library systems and if they are continuing to use GMDs in their records. It also examines how these new fields are labeled, what types of icons are used, and how specific these icons are. The largest 100 libraries in the United States were examined. The assumption is that large libraries would have the most resources and robust systems to offer the most useful public display for patrons and staff.

Literature review

A literature review was done on specifically how libraries dealt with the removal of the GMD and its replacement with the new 336/337/338 fields. The review found that most of the material on the subject was written before or shortly after the implementation of RDA by the Library of Congress. Some of the themes found were: consequences of the removal of

GMDs, problems with the GMDs, terminology of the 336/337/338 fields, public display of these new fields, use of icons to replace the GMDs in the public display, precision of format information, system changes needed, and consistency of standards in records.

Removal of the GMD

Some of the early literature on RDA expressed concern for the removal of the GMD as it was instant identifier for the type of resource. Keenan (2014) explained that users would no longer be able to scan a list of titles in a results display and quickly find the resource type. More recently, Kalwara, Dale, and Coleman (2017) determined that "GMDs remained essential to supporting resource discoverability" (p. 162). Therefore, they decided to retain GMDs in their library system to keep their data consistent and help patrons with the terms in the 336/337/338 fields (which they also display in their system). However, other literature did not see the removal of the GMD as an issue. According to Bloss (2011), library science students at Dominican University supported the replacement of GMD with the 336/337/338 fields, particularly for digital materials.

Problems with GMDs

In addition, several authors described problems with terms used in GMDs. Hanford (2014) pointed out that both their students and library staff found the terms used in GMDs were too general and sometimes confusing. Others such as Hider and Huthwaite (2006) and McCutcheon (2012) detailed how some of the terms in GMDs were content (such as cartographic material) and others were carrier (such as microform) terms.

Ou and Saxon (2014) also described how a single GMD term was often imprecise. That is, the GMD "electronic resource" could be a document available remotely on the World Wide Web or a resource that is available on CD-ROM. The problem is that both are accessed differently. Plus, McCutcheon (2012) and Ou and Saxon (2014) further mentioned that a single item could have more than one GMD applied to it. For example, a map issued on a CD-ROM could have either the "electronic resource" or "cartographic" GMD. Thus, a single GMD could not provide the specific format information users were seeking and the new 336/337/338 fields would be able to provide more precise information.

Terminology of the 336/337/338 fields

However, most of the literature reviewed also found problems with the terminology used in the 336/337/338 fields. The terminology in these fields

was described as confusing, unintuitive, meaningless, and useless to patrons and public services staff. Most often discussed was the 337 (media) field and the use of term "unmediated."

Before RDA was released, Henry (2012) warned "Not surprisingly, the presence of the word "unmediated" was the biggest element of concern, as its meaning seems opaque and it could potentially confuse users" (p. 264). McCutcheon (2012) explained how the reference librarians at her university thought that the terms used in the 336/337/338 fields were not "intuitive." In particular, they mentioned that the terms "unmediated" in the 337 field and "volume" in the 338 field would not be meaningful to users. Caudle and Schmitz (2014) also singled out the term "volume" as not very specific; as it does not indicate whether the item is a book, journal, serial, etc. Panchyshyn (2014) found that "the terms most commonly used in media type, field 337, were either redundant or confusing to users" (p. 492). As a result of their survey, Ou and Saxon (2014) expressed concern that patrons would not understand the terms used in the 336/337/338 fields and that a couple of libraries specifically pointed out the term "unmediated" in their responses. And more recently, Archer-Capuzzo (2016) stated that unmediated "makes no sense to our patrons and can be distracting" (p. 22).

Interestingly, the literature reviewed did not offer any real solutions to fix the problems with the terminology. Or there did not seem to be suggestions to change the terminology in these fields. Therefore, some of the terminology problems described with GMDs still do not appear to be resolved.

Display of 336/337/338 fields

Whether or not to include these new 336/337/338 fields in the public display of library systems was frequently discussed in previous literature. Most of the discussion centered on choosing to not display the fields. Several articles explained their libraries reasons for suppressing them. Cronin (2011) plus Wacker and Han (2013) described how their libraries opted to suppress the 336/337/338 fields in their public display because the information in them did not seem particularly useful or critical for patrons. Parent (2014) detailed how her library decided not to show these fields because "public services staff had not been enthusiastic about the terms" (p. 786). Hanford (2014) found that library staff and patrons thought that the 336/337/338 fields were confusing and cluttered the record, so the 336/337/338 fields were suppressed from the public display.

However, Ou and Saxon (2014) pointed out that libraries do not have to display all three fields. In fact, McCutcheon (2012) suggested suppressing the media type (337) from the public display since reference librarians had concerns about the usefulness of the field. And Panchyshyn (2014) believed

that the text in the 338 (carrier) field was more easily understood by users and could be shown in the public display. However, Cross, Andrews, Grover, Oliver, and Riva (2014) discovered in their survey that libraries thought the information in the 336 (content) and 338 (carrier) fields needed to be displayed in a more user-friendly manner. Thus, there did not appear to be wide-spread consistency on whether libraries should display these new fields and if they should display all of them.

Of interest, Henry (2012) noted how the original intent of RDA was not to display these new 336/337/338 fields in public display, but instead to use them to generate text descriptions and icons. Furthermore, he warned that RDA is a "content standard" and does not give specific instructions on displaying information in library systems. Instead, Henry felt that vendors of commercial discovery systems would decide how these fields would display. Others including Archer-Capuzzo (2016) thought that each library must determine what is best for their patrons regarding the public display of the new RDA fields. With no clear-cut standard or guideline, it does appear that libraries have been left to decide for themselves if they should display the 336/337/338 fields or rather use icons (or other means) to represent the information included in these new fields.

Use of icons in the display

Like the display of the 336/337/338 fields, RDA does not offer any suggestions on the use of and display of icons in library systems. In fact, the literature review revealed some issues with generating icons in various library systems. Specifically, Wu, Guajardo, and Rodriguez (2016) described how their library needed to update their icons for new material types. They changed the text and background color of standard icons to differentiate icons that were used for more than one format such as different types of DVDs (standard vs. Blu-ray). The standard icons provided with their library system were not sufficient and required additional customization.

One of the promises of RDA was that the information in these new 336/337/338 fields could be used to provide more precise format information that GMDs could not. In particular, Archer-Capuzzo (2016) remarked that the information from the new fields could be used to display different icons (such as for DVDs and videocassettes), and to sort and narrow results.

Precise format information

But what precise format information are users seeking? Wacker and Han (2013) found that their users wanted specific information on the format of a resource (such as print vs. electronic), the way a resource is issued (such

as serial vs. integrating resource), and the specific type of resource (such as DVD vs. Blu-ray). Likewise, Caudle and Schmitz (2014) reported that their users were interested in knowing if a videorecording was a videocassette or a DVD, or if a musical recording was a CD, cassette, or vinyl record based on the quality and the technology they owned.

However, the question remains can libraries leverage the information in the 336/337/338 fields to provide this specific format information. The information included in these fields is more specific than the GMD terms, but it does not appear to be usable "as is." Instead, libraries may need to use additional information such as fixed fields or customize their systems.

System changes needed

Some of the early literature expressed concern about the system changes needed for RDA. Both Cronin (2011) and Hider and Huthwaite (2006) warned that moving to the RDA cataloging standard would be determined by libraries' systems and the libraries' resources. Furthermore, Cronin (2011) mentioned that some libraries may be dependent on system vendors to make the needed updates for RDA and Aburrow-Jones (2013) found in her survey that libraries wondered if RDA updates would be done by system vendors or locally. Additionally, Hunt (2012) cautioned that changes for RDA would need to be made to both the library catalog and discovery system. This could double the amount of work to be done, particularly if the library had to deal with two different system vendors.

Panchyshyn (2014) called for a "what is really needed for replacement of the GMD is a national best practice for effective display and use of 336, 337, and 338 tags that will cut across vendor platforms and library communities" (p. 502). Aburrow-Jones (2013) further stated that if the RDA changes were done locally, it would cause duplication of work, but libraries would have changes personalized to their needs. Thus, because RDA offers no guidelines on system implementation, the literature predicted that libraries would need to decide for themselves what system changes they would make and how they would implement them.

Consistency of records

The arrival of RDA left many libraries to question whether they would update all of their records to the new standard. In fact, many libraries had not updated all their records to the Anglo-American Cataloguing Rules (AACR2 standard). Several articles warned that libraries would probably not update all of their records. Willan (2011) felt that the cost and disruption would prevent many libraries from performing retrospective conversion of

their pre-RDA records. Additionally, Aburrow-Jones (2013) found in her survey of libraries contributing to the Serials Union Catalogue in the United Kingdom (SUNCAT) that most libraries would like to convert all of their records to RDA, but likely would not due to staff resources. Her survey predicted there could be many catalogs with a mix of RDA and AACR2 records. McCutcheon (2012) also forecasted a "bridge period" where RDA and AACR2 records would exist together in library catalogs for years. Plus, Bloss (2011) recommended teaching both RDA and AACR2 in cataloging courses at Dominican University's Graduate School of Library and Information Science since she thought that it would be "highly unlikely" that libraries would have the time to convert all of their AACR2 records to RDA and students would still need to be familiar with AACR2.

On the flip side, some libraries determined it was important to have a system with consistent records. Wu et al. (2016) described how their library updated of all of their records to RDA so they could have uniform access points and be ready for linked data. According to Park and Panchyshyn (2016), their library enhanced their non-RDA records with RDA elements (creating hybrid records) to make their data consistent and prepare for linked data initiatives. Caudle and Schmitz (2014) found that their library needed to add the 336/337/338 fields to all records to facilitate displaying format information in their library system. And Kalwara et al. (2017) detailed how their libraries decided to enrich their records with RDA elements, but also decided to retain the use of GMDs to have consistent metadata and help patrons.

Summary

The decision to remove from GMDs and add 336/337/338 fields to records does not appear to be consistent. Some of the literature described the need to keep GMDs, for identification and consistency, while others wanted to remove all GMDs and add the 336/337/338 fields to all records for precision and consistency. Table 1 summarizes the pros and cons of the GMDs and the 336/337/338 fields.

Table 1. Differences between GMDs and 336/337/338 fields.

Option	GMD	336/337/338 fields
Location	In title field, near top of record	In the middle of most records
Display	If in record, generally displayed	If in record, generally not displayed
Terminology	Uses common terminology but can be too general (i.e., videorecording for DVDs, videocassettes, laserdiscs, etc.).	Some of the terminology is not commonly used terms such as "unmediated."
Precision	Does not cover all types of materials and not very precise	Covers most types of materials and generally very precise
Repeat?	No	Yes

Additionally, the literature review revealed the change to the RDA cataloging standard could be challenging and that library systems might not be fully ready. With no clear-cut guidelines, libraries would need to decide for themselves if they were going to remove all GMDs, whether they are going to display the 336/337/338 fields, how they are going to implement icons, how precise format information are they going to present, and if they are going to upgrade all of their records to the RDA standard for consistency. These updates would be based on their patron needs, staff resources, cost, and their library system.

Methods

This study follows the research of Ou and Saxon (2014) who examined how libraries chose to display the 336/337/338 fields in their library systems. The library catalogs/discovery systems (referred to as "library systems" in this paper) of the largest 100 libraries in the United States were searched in the summer of 2017 for whether their records were coded in RDA, whether GMDs were still included, if and which of the 336/337/338 fields were shown in the public display, how the 336/337/338 fields were labeled, and if these new 336/337/338 fields were added to pre-RDA records. Thus, this study also examines whether format icons were included in library systems, where these icons were displayed (results and record pages), if multiple icons were included for multiple formats, and how specific these icons were. As noted in the literature review, these new 336/337/338 fields were expected to be used to generate icons and text descriptions for instant recognition in the public display. Ou and Saxon (2014) surveyed only Innovative libraries while this study involved several different types of library systems.

The MARC records were searched for multiple 336/337/338 fields, but the results were not considered in this study because the use of multiple fields was not consistent in the records. Some records had multiple fields while others did not in the same library's system. When searching for records in library systems, e-books and streaming media records were mostly ignored since they often come from outside vendors and are loaded with minimal changes. The results include information found on the libraries' standard sites. Searching was also done on a mobile device, but found that some libraries' mobile sites were stripped down and did not include all features. Additionally, the search was done on multiple browsers, multiple times. As libraries continue to update their sites, the results found changed and the results described are as of examination.

In this document, older records refer to those records likely created before the implementation of the RDA cataloging standard by the Library

of Congress in 2013 and newer records indicates those likely created after. Also, public display refers to the discovery interface and the actual catalog display. (In some systems, the two are integrated together and hard to distinguish.)

Results

The library systems in the largest 100 libraries in the United States (listed in Appendix) according to the American Library Association (ALA) Library Fact Sheet 22 (2012), were first searched for the cataloging standard used—all AACR2, all RDA, a mix of AACR2 and RDA records, or hybrid records (a mix of AACR2 and RDA elements). For example, hybrid records contained both a GMD and the 336/337/338 fields, or had a GMD and words such as pages spelled out (an RDA standard).

The search revealed that none of the 100 libraries were still exclusively using AACR2 cataloging standard. This number is no surprise since the Library of Congress started using RDA as their standard in 2013 and most libraries use a national bibliographic utility, such as OCLC, when cataloging their records. The largest percentage of libraries, 67, had both AACR2 and RDA records. This majority indicates that most libraries have not gone back and updated their older records to the RDA or hybrid standard. (Thus suggesting many libraries are not using the OCLC WorldShare Collection Manager service or similar service for updating records.) In fact, only 17 libraries have updated all of their records to the RDA standard at the time examined.

Fifteen libraries had hybrid records in their systems with some interesting differences. Many of these libraries had RDA looking records with GMDs or AACR2 looking records with the 336/337/338 fields in the regular display. Of these 15 hybrid libraries, 9 added the 336/337/338 fields to all records, 4 included GMDs in all records, and 1 library added the GMD in new records and the 336/337/338 fields in old records. Example 1 shows an older record with the 336/337/338 fields, while Example 2 shows a newer record with a GMD field.

Sample older record (Brigham Young University) with 336/337/338 fields

245 10 $a Jurassic Park/$c Universal Pictures presents an Amblin Entertainment production; produced by Kathleen Kennedy and Gerald R. Molen; directed by Steven Spielberg; screenplay by Michael Crichton and David Koepp.
250 $a Collector's ed.
260 $a Universal City, CA: $b Universal, $c ©2000.
300 $a 1 videodisc (127 min.): $b sd., col.; $c 4 3/4 in. + $e 1 leaflet.
336 $a two-dimensional moving image $2 rdacontent

337 $a video $2 rdamedia

338 $a videodisc $2 rdacarrier

   Sample newer record (LA County Library) with GMD

Title

Jurassic world. Fallen kingdom [DVD (videorecording)

Author

Bayona, J. A. (Juan Antonio),

Publisher

Universal Pictures Home Entertainment,

Pub date

[2018]

The remaining one library had RDA looking records in the standard display for older records with RDA changes such as pages being spelled out, but their librarian view did not—the records were in AACR2 format with elements such as pages not spelled out. Examples 3 and 4 show this library with RDA looking records in the standard display and AACR2 looking records in the marc view.

   Library with RDA in standard view (John Hopkins University)

Jurassic Park

Universal Pictures presents an Amblin Entertainment production; directed by Steven Spielberg; screenplay by Michael Crichton and David Koepp.

Universal City, CA: Universal, [2000]

Widescreen, collector's ed.

1 videodisc (127 min.): sound, colored; 4 3/4 in.

   Library with AACR2 in librarian view (John Hopkins University)

245 10 a| Jurassic Park h| [videorecording]/c| Universal Pictures presents an Amblin Entertainment production; directed by Steven Spielberg; screenplay by Michael Crichton and David Koepp.

250 a| Widescreen, collector's ed.

260 a| Universal City, CA: b| Universal, c| [2000]

300 a| 1 videodisc (127 min.): b| sd., col.; c| 4 3/4 in.

The records were then examined to see if they still include GMDs in them. The majority of libraries still had some records with GMDs, which follows the result that most libraries had a mix of RDA and AACR2 records. Forty-two libraries had GMDs in their older records in the standard public display. Only 28 libraries had no GMDs in their records, while five libraries had GMDs in all of their records in the standard public display. Most libraries provide access to the MARC display (some refer to

this display as librarian or staff view). In the MARC display, an additional 22 libraries included the GMD in older records and three had GMDs in all records. Of note, a few libraries had "created" GMDs, that are not the standard GMD terms. In these cases, terms such as [DVD] were included in the title field (245) of the records, such as the LA County Library example. This is of interest since OCLC has now removed GMDs from their master records. Therefore, it does indicate that some libraries still find value in GMDs and/or are looking for consistency in their records in their library system.

Likewise, the records were then checked to see if the RDA-equivalent 336/337/338 fields were included in the public display. Of the 100 examined libraries, only 10 libraries contained the 336/337/338 fields in the standard public display, with three libraries displaying them for all records and seven libraries displaying them in only new records. A few library systems have an added full record tab in their public display. On this full record tab, five libraries included the 336/337/338 fields for new records, while one library included them for all records.

However, an added 58 libraries provided the 336/337/338 fields in the MARC display. The majority (42) included these fields for new records while 16 libraries included them for all. But, access to MARC display (and the full record tab) requires at least one extra click. And on some sites the link to the MARC display was only found after digging around on the site looking for the link—something that a casual user is not likely to do. This leaves 26 libraries who did not display the 336/337/338 fields at all (but many library systems do not include links to the MARC display). As previously noted, most OCLC master records now include the 336/337/338 fields, further showing that most libraries are not updating records in their library systems. Table 2 summarizes the GMD and 336/337/338 display in the largest 100 libraries in the United States.

Of the 74 libraries that included these 336/337/338 fields in the standard and MARC display, 69 of them contained all of the fields. Only one library

Table 2. GMD and 336/337/338 display in the largest 100 U.S. libraries.

Use	Result	Number
Include GMDs	Older records—public view	42
	Older records—marc view only	22
	No records	28
	All records—public view	5
	All records—marc view only	3
Include 336/337/338 fields	Newer records—marc view only	42
	Newer records—public view	7
	Newer records—full record tab	5
	No records	26
	All records—marc view only	16
	All records—public view	3
	All records—full record tab	1

included just the 338 field (carrier type) while four included both the 336 field (content type) and the 338 field. Interestingly, in both options the 337 field (media type) was omitted. The Table 3 shows how these 74 libraries labeled the 336/337/338 fields in their library systems.

As can be seen from Table 3, most libraries chose not to label these fields. Possibly because the terms "Content type, Media type, Carrier type" do not mean anything to most patrons. Instead a few libraries used the more common terms "description" and "format" to describe the information in these fields. Note that a few libraries altered these labels slightly, such as changing the order to "type of" term, dropping type, labeling media to medium, and renaming carrier to format.

One of the promises of RDA was that the GMDs could be replaced by icons and the 336/337/338 fields were not necessarily meant to be included in public displays of library systems. Next, the library systems were searched to see if pubic displays included icons on the results and record pages. Both of these areas were searched since the results are sometimes in the discovery layer, while the catalog records are sometimes in the "catalog system." During the search, it was found that many libraries use icons and images in the display depending on the item and the system. In some cases, an image of an item was used when one was available and an icon when one was not. Or an icon appears on a results page and an image on a record page. Thus, for this study's purposes icons and images were counted together. Table 4 lists where icons/images appeared in library systems.

Ninety-five percent of libraries used icons/images to help identify the type of record—is it a book or a video? The majority (63) included these icons/images on both the results and record pages. This is especially helpful when there is only one result and the record page appears directly. Two libraries chose to include these only on the records page, which means patrons may have to scan through a long list of results. (This study also found that some items are missing the images and icons associated with them in some library systems.)

Table 3. How 336/337/338 fields are labeled in the systems of the largest 100 U.S. libraries.

Number of libraries	How 336/337/338 fields labeled
53	No labels
11	Content type, Media type, Carrier type
3	Format (1 with all fields, 1 with 336 and 338 fields, and 1 with 338 field only)
2	Content type, Format (both with 336 and 338 fields only)
1	Type of content, Type of media, Type of carrier
1	Content type, Media type, Format
1	Content type, Medium, Format
1	Content type, Carrier type (just 336 and 338 fields)
1	Description

Table 4. Where images and icons appeared in the systems of the largest 100 U.S. libraries.

Number of libraries	How and where were icons/images displayed
63	Icons/images on results and records pages
30	Icons/images on results pages only
4	Text only on results and records pages
2	Icons/images on records only
1	No icons, images, or text

Certain items come in multiple formats such as a book with an accompanying CD-ROM. The 336/337/338 fields were designed to be repeatable to handle this situation. However, this study found that 89 libraries included only one icon or image in the display, plus four libraries only had one text description. (And one library had neither icon, image, or text.) Unfortunately, only five libraries included multiple icons and one library had multiple text descriptions. Thus, indicating that most libraries has not solved one of the problems (showing an item having multiple formats) in AACR2 that the RDA standard promised.

Lastly, the records were examined to see if these icons/images were format descriptive. That is, does a video icon indicate if it is a DVD or VHS tape, is it a physical book or e-book, etc. Unfortunately, 47 of the libraries did not have descriptive icons/images. Only 23 libraries had descriptive icons/images with an additional 14 libraries had specific text descriptions. Plus, 15 libraries had some descriptive icons/images. (They might indicate print book vs. e-book, or DVD vs. VHS, but not all.) These results show that displaying descriptive icons/images/text has proven to be challenging for many libraries, even large ones.

As can be seen from these results, libraries have implemented these new 336/337/338 fields in various ways in their systems. Libraries may be limited by their library system (including their discovery systems) they use as many of the displays searched appear quite different. Plus, staff resources may affect how many of these updates (such as displaying multiple icons/images) libraries have been able to make when library systems do not include them.

Discussion

The results of this study and the research done by Ou and Saxon (2014) shows some similarities and some differences. Since then, all of the libraries in this survey have begun using the RDA cataloging standard. Thus, libraries are using the latest cataloging standard and not continuing to use AACR2 for new records. This indicates that large libraries have been able to retrain their staff since 2013 to use the RDA cataloging standard and are likely using national bibliographic utilities such as OCLC.

However, the percentage of libraries found displaying the 336/337/338 fields in the regular public display is lower than the Ou and Saxon survey. (The Ou and Saxon work does not mention the MARC display). This variation could be a result of the sample size (53), sample makeup (Innovative libraries only), and/or libraries deciding to remove these new fields from the public display. The literature review found that a couple of libraries included the 336/337/338 fields when they were part of the RDA test, but later removed them when they officially began using the RDA cataloging standard.

In both surveys, most libraries that include the 336/337/338 fields in their public display include all three of the fields. And if they skip a field, it is the 337 field. In fact, in both surveys, no library included just the 337 field. A few libraries omitted just the 337 field. One reason could be the use of the term "unmediated" or because the 337 field is not a core field in RDA. Table 5 compares the two studies regarding RDA adoption, and the display and inclusion of 336/337/338 fields.

It is important to mention the inclusion of the 336/337/338 fields in the MARC display. Since the Ou and Saxon (2014) research, libraries have had more time to update their records for consistency and OCLC is now adding the 336/337/338 fields to master records. The 336/337/338 fields can aid other features in the library system such as refining search results. This study not surprisingly found more libraries adding the 336/337/338 records than Ou and Saxon. Interesting though, the percentage of libraries including just the subset of 336/337/338 fields has dropped.

As noted, 67 percent of libraries have a mix of RDA and AACR2 records in their library systems and thus have not fully upgraded their records to RDA. This coincides with the *Report of the PCC Post-Implementation Hybrid Bibliographic Records Guidelines Task Group,* which instructs libraries to have an item in hand and to fully recatalog the item to RDA standards. It is not surprising that libraries have not had the time to recatalog or wanted to ignore these Program for Cooperative Cataloging (PCC, 2013) guidelines. Additionally, a large number of libraries still retain the GMDs

Table 5. Comparison to Ou and Saxon (2014) study.

Question	Author (2017)	Ou and Saxon (2014)
Using the RDA standard?	100%	98%
Display 336/337/338 fields?	10%—regular display	38%
	6%—full record display	
	58%—MARC record display	
Which 336/337/338 fields displayed?	69 of 74, 336/337/338	14 of 20, 336/337/338
	4 of 74, 336 and 338	4 of 20, 336 and 338
	1 of 74, 338 only	1 of 20, 336 only
	(includes MARC display)	1 of 20, 338 only
Add 336/337/338 fields to all records?	17 of 100, RDA	10 of 53 add new fields
	10 of 100, hybrid	

in their library systems, and therefore have followed the PCC suggestion that GMDs be maintained until the 336/337/338 fields are added to records and the data contained in these fields is used effectively by library systems. Also worth noting is that some of the libraries examined are part of a consortium and do not have complete control over how their records are updated and displayed.

In their survey, Ou and Saxon (2014) discovered that some libraries added the 336/337/338 fields to AACR2 records and others added the GMD to RDA records to provide consistency in their records. However, they recommended that if a library wanted to have consistency in their records it was a better choice to add the 336/337/338 fields (instead of the GMD). Their rationale was that OCLC would be adding the 336/337/338 fields to master records and removing the GMDs from master records (which has since happened). Ou and Saxon (2014) also summed up the issues: "Any effort expended to reconcile RDA and AACR2 records must be weighed against current workloads, the cost of performing the work, and the added value of doing the work." (p. 248).

The advantage of using the RDA cataloging standard (over AACR2) is that RDA is standard currently used by the Library of Congress and most libraries in the United States. Thus, records from OCLC and vendors are most likely to be in this standard. By using RDA, libraries will then be able to use these records and not have "recatalog" them. Additionally, BIBFRAME is being developed with the RDA cataloging standard in mind.

The results in this study also follows the results of a survey by Aburrow-Jones (2013). The SUNCAT libraries stated they would move to RDA when other national libraries such as the British Library and Library of Congress implemented RDA. Additionally, most libraries stated that they would not be displaying the 336/337/338 fields in their catalogs and felt that these fields "would be of more use in the future, as library systems and discovery layers develop" (p. 73). Aburrow-Jones also thought that the 336/337/338 fields would appear in the MARC record display but not in the public display. (As reported, this study found 74% of libraries included these fields in the MARC display but only 10 percent included them in the public display.) Like the results in this study, most libraries in the Aburrow-Jones survey indicated that they would stop adding GMDs to records once they moved to RDA and would not be converting all of their records to the RDA standard. Thus, the results of this study confirm Aburrow-Jones' predictions.

Likewise, the projections of Henry (2012) on how the original intent of RDA was not to display these new 336/337/338 fields in public display, but instead to use them to generate icons and text descriptions was also confirmed. As noted, most libraries are not displaying these fields but use

icons/images and text descriptions to identify the type of resource. Most likely libraries are not displaying these fields because the terminology used is not intuitive to patrons. Henry also thought that vendors of commercial discovery systems would decide how these fields would display. This follows the result that many library system displays look quite different and are using these fields to refine search results instead.

This study examined the biggest libraries in the United States assuming they would most likely have the resources to make changes to their systems or have a more "sophisticated" system. However, it found that library systems consist of a mix of AACR2 and RDA records, still include legacy data, have specific icons and text for only some items, and require scanning through lists of records or further refining the search results to locate the desired format. What does this mean for other libraries? Smaller libraries are likely to have smaller staffs and less robust systems. So, is it less likely that could retrofit their systems for RDA? Or would changes be easier to make with less records? And should librarians specify the same requirements for all systems? All of these questions should be considered before libraries implement any other big change to the way of handling bibliographic data.

Conclusions

Now several years after the move to the RDA standard by the Library of Congress, there is inconsistency in the way libraries handled the new 336/337/338 fields in their library systems. RDA is a cataloging code and it does not specify implementation. So libraries and system vendors have handled the changes differently.

When RDA was being developed, discovery systems were in their infancy. Thus, libraries have had the challenge of not only implementing RDA in their "catalog" system but also their discovery system, especially if the two systems are not fully integrated. In addition, many library systems have discrepancies in their records due to RDA cataloger judgement, legacy data, and the fact that most libraries accept records from other sources, such as e-book and streaming media, and bulk process these items. With inconsistent data, it may be difficult to for libraries to make wide-spread changes. Legacy data can be time-consuming and costly to make consistent with new standards.

It appears that implementing icons and text to replace the GMD has also not been easy. This could be due to system limitations, inconsistency in records, system assistance for additional icons, and the general lack of guidelines. Plus, libraries may be unwilling to add these extra icons since they may need to add them in both their discovery interface and their

catalog system. And if a library hopes to migrate to a new system, they will need to customize the new system again to include this information.

Furthermore, some libraries do not include icons/images in their mobile display. These libraries should consider adding them in the mobile display since icons/images let users quickly identity what type of resource the item is and possibly if it is an online or physical item. Without icons and GMDs, users may have a difficult time instantly identifying the type of resource listed.

Instead, some library systems have used these new fields to develop categories of material types to allow patrons to further refine the results. However, this of course requires extra steps for the patrons, as they have to further limit the results. Plus, long-standing users may need to be "retrained" to use these categories and not rely on fields such as the GMDs to identify the resource type.

Tillett (2016) stated "Just as AACR2 provided a transition from the card catalog to the online catalog, so it is with RDA. We will have a transition or "bridge" period for a few years as we move from the current practices and formats and systems to the next generation of systems" (p. 14). This study found that we are still in this so-called bridge period and it will likely continue for a while longer as libraries wait for BIBFRAME and linked data to become the new bibliographic standard.

Disclosure statement

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References

Aburrow-Jones, N. (2013). RDA: Analysing the impact of a new cataloguing standard on SUNCAT, the UK's Serials Union Catalogue. *Alexandria*, *24*(2), 63–81. doi:10.7227/ALX.0009

American Library Association. (2012, October). The nation's largest libraries: A listing by volumes held. *ALA Library Fact Sheet 22*. Retrieved from http://www.ala.org/tools/libfact-sheets/alalibraryfactsheet22

Archer-Capuzzo, S. (2016). Why should I care? RDA and your library. *North Carolina Libraries*, *74*(1), 21–24.

Bloss, M. E. (2011). Testing RDA at Dominican University's Graduate School of Library and Information Science: The students' perspectives. *Cataloging & Classification Quarterly*, *49*(7/8), 582–599. doi:10.1080/01639374.2011.616264

Caudle, D. M., & Schmitz, C. (2014). Keep it simple: Using RDA's content, media, and carrier type fields to simplify format display issues. *Journal of Library Metadata*, *14*(3–4), 222–238. doi:10.1080/19386389.2014.984572

Cronin, C. (2011). From testing to implementation: Managing full scale RDA adoption at the University of Chicago. *Cataloging & Classification Quarterly*, *49*(7/8), 626–646. doi:10.1080/01639374.2011.616263

Cross, E., Andrews, S., Grover, T., Oliver, C., & Riva, P. (2014). In the company of my peers: Implementation of RDA in Canada. *Cataloging & Classification Quarterly*, *52*(6/7), 747–774. doi:10.1080/01639374.2014.899535

Hanford, D. (2014). A look at how we got here: RDA implementation at Central Connecticut State University. *Journal of Library Metadata*, *14*(3–4), 152–165. doi: 10.1080/19386389.2014.977725

Henry, S. (2012). RDA and music reference services: What to expect and what to do next. *Fontes Artis Musicae*, *59*(3), 257–269.

Hider, P., & Huthwaite, A. (2006). *The Potential Impact of RDA on OPAC Displays*. Retrieved from www.nla.gov.au/sites/default/files/hider_huthwaite.doc

Hunt, S. (2012). RDA in your ILS. *Catalogue & Index*, *169*, 22–24.

Kalwara, J., Dale, M., & Coleman, M. (2017). GMD or no GMD: RDA implementation for a consortial catalog. *Library Resources & Technical Services*, *61*(3), 162–169. doi:10.5860/lrts.61n3.162

Keenan, T. M. (2014). Resource description and access: Cataloging standards affect reference service. *Reference Services Review*, *42*(3), 446–466.

McCutcheon, S. (2012). RDA and the reference librarian: What to expect from the new cataloging standard. *The Reference Librarian*, *53*(2), 123–137. doi:10.1080/02763877.2011.607409

Ou, C., & Saxon, S. (2014). Displaying content, media, and carrier types in the OPAC: Questions and considerations. *Journal of Library Metadata*, *14*(3–4), 239–254. doi: 10.1080/19386389.2014.990846

Panchyshyn, R. S. (2014). RDA display and the general material designation: An Innovative solution. *Cataloging & Classification Quarterly*, *52*(5), 487–505. doi:10.1080/01639374.2014.902893

Parent, M. (2014). Implementing RDA in a time of change: RDA and system migration at RMIT University. *Cataloging & Classification Quarterly*, *52*(6/7), 775–796. doi:10.1080/01639374.2014.889058

Park, A. M., & Panchyshyn, R. S. (2016). The path to an RDA hybridized catalog: Lessons from the Kent State University Libraries' RDA enrichment project. *Cataloging & Classification Quarterly*, *54*(1), 39–59. doi:10.1080/01639374.2015.1105897

Program for Cooperative Cataloging. (2013). February *Report of the PCC Post-Implementation Hybrid Bibliographic Records Guidelines Task Group*. Retrieved from http://www.loc.gov/aba/pcc/rda/RDA%20Task%20groups%20and%20charges/PCC-Hybrid-Bib-Rec-Guidelines-TG-Report.docx

Tillett, B. B. (2016). RDA, or, the long journey of the catalog to the digital age. *JLIS.it, Italian Journal of Library and Information Science*, *7*(2), 7–24.

Wacker, M., & Han, M. J. (2013). RDA planning, implementation and use: A comparison of two academic libraries. *Alexandria*, *24*(2), 27–48. doi:10.7227/ALX.0007

Willan, T. (2011). RDA in the library system: Implementation and beyond. *Catalogue & Index*, *163*, 14–17.

Wu, A., Guajardo, R., & Rodriguez, S. (2016). Large-scale RDA enrichment of legacy data at the University of Houston System Libraries. *Cataloging & Classification Quarterly*, *54*(3), 159–178. doi:10.1080/01639374.2016.1138419

Appendix

The following list of the 100 largest libraries in the United States was used in this study and was taken from ALA Library Fact Sheet 22, available from http://www.ala.org/tools/libfactsheets/alalibraryfactsheet22.

Table A1. List of the 100 largest libraries in the U.S.

Number	Library Name
1	Library of Congress
2	Boston Public Library (Branches and Research Collections)
3	Harvard University
4	New York Public Library (Branches and Research Collections)
5	University of Illinois, Urbana-Champaign
6	Yale University
7	University of California, Berkeley
8	Columbia University
9	University of Michigan
10	University of Texas, Austin
11	University of Chicago
12	University of California, Los Angeles
13	Public Library of Cincinnati & Hamilton County
14	Indiana University
15	Stanford University
16	University of Wisconsin, Madison
17	Cornell University
18	Princeton University
19	University of Washington
20	University of Minnesota
21	Detroit Public Library
22	University of North Carolina, Chapel Hill
23	County of Los Angeles Public Library
24	Queens Borough Public Library
25	Los Angeles Public Library
26	University of Pennsylvania
27	Duke University
28	Ohio State University
29	University of Pittsburgh
30	University of Arizona
31	Chicago Public Library
32	University of Oklahoma
33	Michigan State University
34	University of Virginia
35	San Diego Public Library
36	University of Iowa
37	Pennsylvania State University
38	New York University
39	Northwestern University
40	Free Library of Philadelphia
41	Dallas Public Library
42	Hennepin County Library
43	University of Georgia
44	Rutgers University
45	University of Colorado
46	Texas A&M University
47	Arizona State University
48	University of Florida
49	University of Cincinnati
50	North Carolina State University
51	Washington University, St. Louis
52	University of Kansas

Table A1. Continued.

Number	Library Name
53	Brigham Young University
54	Cleveland Public Library
55	Brooklyn Public Library
56	Brown University
57	University of Southern California
58	University of California, Davis
59	Tulane University
60	Louisiana State University
61	University of Connecticut
62	King County Library System
63	State University of New York, Buffalo
64	Temple University
65	University of South Carolina
66	University of Maryland
67	University of Kentucky
68	University of California, San Diego
69	University of Rochester
70	Hawaii State Public Library System
71	Johns Hopkins University
72	University of Massachusetts, Amherst
73	Miami-Dade Public Library System
74	University of Notre Dame
75	Wayne State University
76	Emory University
77	University of Hawaii
78	University of Missouri, Columbia
79	University of Alabama
80	Vanderbilt University
81	University of Nebraska, Lincoln
82	Broward County Libraries Division
83	Auburn University
84	Oklahoma State University
85	Georgetown University
86	University of Utah
87	University of New Mexico
88	Mid-Continent Public Library
89	Allen County Public Library
90	Saint Louis Public Library
91	University of Miami
92	University of Tennessee, Knoxville
93	Syracuse University
94	Cuyahoga County Public Library
95	University of California, Irvine
96	Buffalo & Erie County Public Library
97	Southern Illinois University, Carbondale
98	MIT/Massachusetts Institute of Technology
99	University of California, Riverside
100	Houston Public Library