RDA Toolkit Instruction Identification

Over the past two years, the RDA Steering Committee (RSC) has led a focused development and enhancement project for RDA, known as the RDA Toolkit Restructure and Redesign (3R) Project. Aspects of the 3R Project include implementing the new IFLA Library Reference Model (IFLA LRM), providing greater flexibility and utility to the display of the instructions, and updating the look and feel of the RDA Toolkit, which is now available in a beta version at: http://beta.rdatoolkit.org/.

Two outcomes of the 3R Project are 1) the inclusion of internationalization as an objective of RDA, and 2) the evolution of the RDA Toolkit from being "a book on the web" to a website.

During the 3R Project, the RSC has taken a fresh look at long-standing problems that inhibit these outcomes. One of the primary issues has been maintaining and updating the instruction numbering used in the original Toolkit.

The static and hierarchical instruction numbering in the original Toolkit has caused several problems with each update of RDA from 2012-2017:

- Additions, deletions, or rearrangement of instructions required significant manual work in renumbering the affected instructions, all subsequent instructions that used the same base number, and all references to the renumbered instructions throughout RDA.
- Changes to instruction numbering had a ripple effect, requiring updates to policy statements and training documentation by each affected cataloguing agency.
- The elaborate nesting of instructions in the original Toolkit, which may have up to six layers of hierarchy, affected the display of the text and made the precise sub-instructions difficult to remember and cite correctly. For example, see 2.3.2.13.1.1: Identifying Manifestations and Items > Title > Title Proper > Major and Minor Changes in a Title Proper of Serials > Major Changes > Languages and Scripts That Divide Text into Words.

With the first of the above problems in mind, the RSC agreed to a temporary solution that was implemented in April 2015: introducing placeholder text into RDA for instructions that had been removed, rather than spending the time and effort on renumbering. For example, when the RSC generalized all of the instructions relating to Colour Content, the specific instructions relating to still images, moving images, three-dimensional forms, and resources designed for persons with visual impairments were no longer needed. These were all replaced with the text, "[This instruction has been deleted as a revision to RDA. For further information, see 6JSC/CILIP/4/Sec final.]" Continuing this approach is not sustainable, as the Toolkit would increasingly have more sections with deleted content placeholders, which decreases readability in both the web and print versions of RDA.

Solutions to the remaining instruction number issues were deferred to the 3R Project.

RDA Instruction Numbers Post-3R?

As part of implementing IFLA LRM in the new Toolkit, the RSC determined that all entities and elements need to be presented equally, to avoid implicit priority or importance. This has led to the creation of a regular structure that is used for all element pages in the new Toolkit, and an infrastructure that will support associating application profiles and policy statements with specific portions of RDA instructions and guidance.

Instruction Numbers *Original Toolkit Use Case*	*New Toolkit Approach*
Serve as the organizational structure, including conveying hierarchies and a logical order.	With all entities and elements presented equally, RDA no longer has a hierarchical structure. Cataloguer workflows can start at any point.
Visual shorthand to link to related instructions. For example: If the number of subunits cannot be stated succinctly, record the details in a note if considered important for identification or selection (see 3.21.2.11 RDA).	Links to related instructions still available but presented as element names rather than numbers. For example: If the number of subunits cannot be stated succinctly, record the details in a Manifestation: note on extent of manifestation if considered important for identification or selection.
One of the means for cataloguers to associate policy statements from cataloguing agencies with specific instructions. For example: BL PS for 2.4.1.4 Optional Omission	Policy statements will display in context, adjacent to the specific instruction or option to which they apply.
Short-hand reference for cataloguers to refer to a specific instruction either verbally or in print.	No numbering currently available. Using element names may suffice, since they are unique; note that U.S. catalogers have referred to "authorized access points" as "AAPs" for years.
Precise identification of an instruction or sub-instruction in RDA-related monographs, in RDA instructional settings, and in RDA supplemental documentation.	No numbering currently available. The new Toolkit does provide functionality to create bookmarks, to add notes, or to create a link to a specific part of an instruction.

The RSC agrees that the first three of these use cases are met sufficiently with the approaches offered in the new Toolkit.

It is more difficult to address the latter two use cases without some form of short hand. Members of the RSC reviewed the professional literature, including ISO guidance on standards preparation, and also examined other relevant standards, including the numbering system adopted by the IFLA LRM. The RSC has considered, and subsequently rejected, the following possibilities:

- Numbering based on a portion of the IRI used for the element in the RDA Registry

- o This only works for elements, and not for the guidance chapters.
  - o There are nearly 1800 elements; following this choice would require 8-digit character strings at a minimum.
  - o This solution does not address identifying a particular option presented in an element instruction.
  - o Numbering the options gives an implied order, and this is something the RSC wants to avoid.
- Creating an identification template of {element name}{recording method}{option group}{option "identifier"}
  - o This type of scheme would create the same kinds of problems that the numbering in the original Toolkit presents.
  - o The RSC's review of the beta Toolkit continues; we anticipate that some options will be relocated to other pages, and others will be collapsed. In addition, as RDA continues to develop, more options may be needed.
- Using a system similar to that used in IFLA LRM, such as LRM-E3-A6 for language of expression
  - o This numbering scheme is rooted in English (E=Entity; A=Attribute). The RSC seeks a solution that is not tied to any particular language or script, since the Toolkit is being translated into non-Roman scripts such as Arabic.
- Using the URL associated with various sections of the Toolkit's pages, or using a machine-based tag identifier
  - o These are designed for machines, not humans, and thus they are unwieldy.
- Relying on machine-generated numbering within a given page, along the lines of Microsoft Word's line numbering
  - o These numbers would change dynamically as RDA text is added and deleted; thus references to them would need to be updated with every modification of the text.
  - o These numbers would vary based on the language version of RDA being used and thus could not create a useful reference point for an international standard.

The RSC believes that the element label, which is unique within RDA (e.g., creator of work, name of person, etc.) serves to identify instructions with sufficient precision such that further numbering is generally not necessary. However, a few element pages have lengthy text and would benefit from identification of specific instructions within the element page. The RSC is reviewing these pages to tighten and clarify the language where possible.

The RSC is liaising with the Toolkit publishers to explore the automated generation of short, "randomized" identification codes within the Toolkit infrastructure to resolve these issues. To avoid such identifiers implying a particular order, they would not be assigned sequentially.

We welcome further suggestions from cataloguers about how to design a human-readable system to direct users to discrete sections of RDA instructions in the new Toolkit that avoids these various pitfalls. Any suggested solution must remain flexible, as the continuous development of RDA is expected to continue. For the conditions that must be met for a numbering system in the new Toolkit, see the 6 July 2018 "Statement on Instruction Numbering" on the RDA Toolkit blog: https://www.rdatoolkit.org/node/163.