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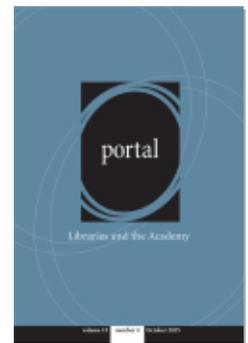
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## Capturing Qualitative Data: Northwestern University Special Libraries' Acknowledgments Database

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# Capturing Qualitative Data: Northwestern University Special Libraries' Acknowledgments Database

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Sara Stigberg, Michelle Guittar, and Geoffrey Morse

**abstract:** Assessment and supporting data have become of increasing interest in librarianship. In this paper, we describe the development and implementation of the Northwestern University Library Acknowledgments Database tool, which gathers and documents qualitative data, as well as its component reporting function. This collaborative project and resulting products demonstrate how librarians and library staff, who are generally not experts in programming and software development, can successfully produce practical and functional tools to achieve their assessment goals.

## Introduction

**E**specially over the last decade, assessment and supporting data have become an increasingly central focus across all areas of librarianship. An entirely new culture has grown up around this subject, known as the “library assessment movement.” The Association of Research Libraries (ARL) even sponsored an international conference on the topic.<sup>1</sup> Librarians have perceived the necessity of better measuring libraries’ impacts, and to carry this out, they have required new tools for capturing and reproducing a variety of data. For example, citation analysis formulae such as the *h*-index can approach a measure of the quality and quantity of scholarly output, and standardized tools can effectively record patron interactions in general. In addition, the

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StatsQUAL® suite of library assessment tools, under the leadership of the ARL, provides a variety of protocols for measuring organizational performance.

Specifically measuring the qualities and quantity of services libraries provide to their patrons, however, presents particular problems: how does one go about capturing qualitative information in a way that allows for some amount of quantitative analysis? How does one track and analyze acknowledgments of library work and impact beyond scholarly citations? And with a focus on special libraries, given their nature as singular or focused collections (accompanied by requisite specialized and focused services),<sup>2</sup> how does one assemble this often-unique information in a broad, yet quantifiable, manner?<sup>3</sup>

Recent literature has highlighted the growing popularity of qualitative methods for library assessment. Significantly, Carol H. Weiss has observed, "The most striking development in evaluation in recent years is the coming of age of qualitative methods. Where once they were viewed as aberrant and probably the refuge of those who had never studied statistics, now they are recognized as valuable additions to the evaluation repertoire."<sup>4</sup> Nonetheless, she adds, "There [remains] no single LIS [library and information science] methodology, and no set preference for qualitative or quantitative approaches."<sup>5</sup> Further, qualitative data remain primarily in a supporting position in overall library assessment, which continues to be dominated by quantitative data collection and analysis.<sup>6</sup>

Recently, Northwestern University Library (NU Library) Special Libraries Division set out to address this issue. Compelled by Northwestern University directives, NU Li-

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brary, in its 2012–2014 strategic plan status report, describes accomplishments that are not easily measured in a quantifiable manner.<sup>7</sup> To support further efforts along these lines, the report said, "The library has begun to look at . . . new forms of assessment, especially as related to systems and services . . . [The library is] seeking to adopt more qualitative measures that will link library performance with successful learning and research outcomes for students and faculty."<sup>8</sup> New forms of library assessment, particularly qualita-

tive assessment, can attempt to account for the value of qualities such as good service, outreach to the community, and scholarly impact in ways that evade traditional metrics such as clicks per use or gate counts.

Indeed, across the field, Elizabeth Yakel and Helen Tibbo say, "Archives and special collections lack a culture of assessment. [Further,] although archivists and curators may participate in larger library evaluation efforts . . . these measures are largely imposed by others with little attention to the unique nature of primary source materials or their management."<sup>9</sup> In Yakel and Tibbo's observation, "The administration and use of primary sources [in special libraries and archives] are sufficiently [specialized] that they deserve tools that appropriately measure service to users."<sup>10</sup>

Given this holistic need for a more tangible demonstration of NU Library's impact as seen through qualitative performance data, the Special Libraries Division (SL Division) undertook an innovative project to gather evidence, in a single location, on individual staff and departmental outputs and impacts. For this project, the division developed a custom-built database that allows for effective aggregation, reporting, and subsequent analysis of a range of information beyond the traditional citations or patron services statistical models. The project would attempt, instead, to collect qualitative data on the value of special collections and their librarians.<sup>11</sup>

The SL Division at NU Library is comprised of seven individual departments, all with specialized collections or unique functions within the library: the Melville J. Herskovits Library of African Studies, Art Collection, Music Library, Preservation, Charles Deering McCormick Library of Special Collections, Transportation Library, and University Archives.<sup>12</sup> Though all reside under a single divisional umbrella, each unit functions with some degree of autonomy under the direction of a curator or department head.

The central administrative office of the SL Division set out to develop, from readily available resources, a tool that could be used across the specialized departments under its umbrella. The result is the "Acknowledgments Database," which is successfully being used to track and report on information related to staff and department outputs and impacts across the division. The Acknowledgments Database requires no special training or software. Although it was originally developed for annual division-level reporting, its use has successfully extended to departmental annual reports and even to individual performance evaluations. This is the first step we have taken toward enhancing assessment using qualitative data in the SL Division at NU Library.

In this article, we will describe the development and implementation process for the Acknowledgments Database, as well as its component reporting function. We will additionally describe ongoing modifications and improvements, and offer our initial conclusions.

### Brief Literature Review

Elizabeth Yakel and Helen Tibbo remarked, "User-based evaluation in archives and special collections is in its infancy."<sup>13</sup> Yakel, Tibbo, and their colleagues developed the Archival Metrics Project, begun in the early 2000s. It offers focused, standardized instruments for measuring the particular needs of archives and special collections libraries, based on user surveys. However, our review discovered no literature on the subject or practice of internal reporting of output and impact based on qualitative information gathered in special libraries. Very little turned up on this activity in libraries in general. We found many allusions to the general importance of qualitative data, but none specifically related to the organized collection or use of the data, such as we have undertaken. While software for management and analysis of qualitative data does exist (for example, Ethnograph, HyperRESEARCH, General Inquirer, EZ-Text, ATLAS.ti, NVivo, and XSight), none of these matched our specific needs or uses.<sup>14</sup>

Several years ago, Blaise Cronin observed, "Unlike citations, acknowledgments cannot easily be aggregated and mapped . . . quantitative analysis of acknowledgments . . . requires manual effort."<sup>15</sup> As early as 1993, Cronin and Sherrill Weaver-Wozniak



proposed the development of an “online acknowledgment index” and suggested three approaches to creating such an index.<sup>16</sup> Essentially, we have created such an index, tailored to the specific needs of the SL Division at NU Library and enhanced by an added reporting function, which can then be used for off-line analysis.

Though the documentation of “acknowledgments” in assessment literature typically refers to statements of gratitude or collaborative authorship, our Acknowledgments

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**Our Acknowledgments Database includes not only traditional publication, citation, and acknowledgments records, but also less-typical records of presentations, awards, exhibits curated, social media contributions, and even verbal or electronic thank-you notes.**

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Database includes not only traditional publication, citation, and acknowledgments records, but also less-typical records of presentations, awards, exhibits curated, social media contributions, and even verbal or electronic thank-you notes, among other formats. We go beyond the documentations falling within Cronin and Weaver-Wozniak’s “Reward Triangle” of author-

ship, citedness, and acknowledgments to include these additional types of mentions and documentation, described later.<sup>17</sup>

### Development of the Acknowledgments Database

In line with the library’s strategic goal for adopting more qualitative measures for assessment, in February 2011 Jeff Garrett, then associate university librarian for special libraries, and Sara Stigberg, then divisional administrative assistant, entered the planning stage for this project. Their goal was to create an efficient system for collecting and analyzing output and impact information specifically related to the SL Division. Faced with the challenge of capturing this information in a more linear format that would also facilitate inclusion in divisional annual reports, Stigberg developed a plan to create a tracking and reporting system in consultation with Garrett, who initiated and directed the project.

Before the Acknowledgments Database was implemented, SL Division staff had personally notified Garrett of publications, mentions, acknowledgments, professional presentations, awards, or other notable accomplishments. They might report their achievements verbally; by submitting a physical item such as a photocopy, journal, or book; or by forwarding e-mail messages containing such information. These items were duly noted and acknowledged by the associate university librarian for special libraries, and copies were kept in departmental or individual personnel files. Of course, this practice did not allow for effective or efficient aggregation of staff or departmental accomplishments.

For ease of preparing information that would be collected with this new tool, we agreed that some kind of centralized electronic database would be ideal, where librarians could track their own acknowledgments and accomplishments. We also agreed that an efficient and flexible reporting function would be necessary, because the database would contain comprehensive information regarding the output and impact of our

staff and departments in a single place. We chose to refer to these records broadly as “acknowledgments,” though they could include any of the aforementioned publications, mentions, acknowledgments, professional presentations, awards, or other notable accomplishments. The elements initially selected for inclusion in the Acknowledgments Database were: Department, Date, Staff name(s), Publication, Type of Mention/Reference/Acknowledgment, Citation Source, and Notes. We determined that a collaborative approach to information collection and entry would make the system most efficient, with individual departments reporting their own associated data. This database would live on the NU Library shared drive, so backup and archiving of the database would occur through established procedures and software.

Exploratory development of an acknowledgments database began with a trial and review of EndNote bibliographic management software. EndNote was already in use in the Special Libraries Division office, and it is a fairly simple tool to use for tracking, organizing, and reporting citation information. More powerful than a simple Excel spreadsheet, EndNote allows the user to uniformly organize, format, and sort an entire library of items and associated metadata, and to export this information into various other programs for additional functionality. Shortly after beginning to work with divisional acknowledgment information in EndNote, however, it became apparent that this particular program would not be flexible enough for all of the demands we would put on it. EndNote is customizable to an extent, but the creation of subfields and drop-down menus for facilitating vocabulary control and standardizing data entry is not possible.

We decided that what this project really needed was a customized database with a simple front-facing form to facilitate data entry as well as features such as drop-down menus for vocabulary control. As a convenient platform for database construction, Microsoft Access was selected to create our tool. Access is a relational database program created for the Windows operating system and first released in late 1992.<sup>18</sup> At the time of its introduction, the program was considered revolutionary in the way it linked dynamic tables to queries and data, and how it provided developers with full control of the database, while at the same time being usable by novices.<sup>19</sup> Since its introduction, Access has become

an almost ubiquitous tool in a wide variety of library-related projects.<sup>20</sup> It allows far more customization in format and organization than offered by citation tracking software, and is readily available and relatively simple to use. Furthermore, it was already installed on all library machines and was in use throughout the library.

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Stigberg trained in the basic use of Access software, and with some expert coaching produced the prototype Acknowledgments Database. Once it was evident that the database required more elaborate relational design, however, she requested the advice and collaboration of Michelle Guittar, then an assistant in the Africana Library, who was more expert in the use of this software. Guittar improved the functions and efficiency of the database.

Microsoft Access, and later EndNote, were attractive options because, as mentioned earlier, they were already available to library staff. We considered Zotero as an alternative, but it was not as flexible for what we found to be the necessary customizations. Further, EndNote was already in use in the Special Libraries Division office and other departments, so training in a new program was not necessary. At this time, the library did not subscribe to any specialized assessment software. For instance, the Symplectic product Elements is able to gather information from a variety of sources to build research profiles, which could go a long way toward accomplishing the goals of this database project.<sup>21</sup> Digital Measures also offers software designed to help faculty report research and teaching activity, and it provides customized reporting options as well.<sup>22</sup> While both of these products are attractive, either would have required an evaluation and purchase (for which there was no guarantee) of the software. It seemed prudent to proceed with what was already available to us.

### Rollout of the Database

Once the database was ready for pilot data entry, Guittar and Stigberg presented their work to a group of SL Division staff members, one appointed from each of the seven departments in the division by his or her department head, and requested their feedback. To minimize data entry errors and maximize standardization, only one person from each department was selected and trained. Following implementation of the database, each of these representatives was charged with entering departmental and individual colleagues' information into the database. All Special Libraries staff members are responsible for giving citations of acknowledgments to their departmental representative, who then enters the information into the database. Staff members are encouraged to deliver data related to their activities to their departmental representative in a timely manner.

In August 2011, two of the seven departments, Africana and Archives, volunteered

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### Ongoing input and feedback have been essential for streamlining and strengthening the database in form and function.

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to serve as beta testers for the prototype database. Their representatives' valuable feedback allowed a number of further improvements to the database. We then held another brief forum for the representatives from each department, where Stigberg and Guittar solicited questions, comments, and concerns regarding the database. Once trained, staff added the database to their department's regular workflow. Some departments use it more frequently than others.

Ongoing input and feedback from each department's data-entry representative have been essential for streamlining and strengthening the database in form and func-



tion for the entire division. Improvements based on our colleagues' feedback included standardization of terminology for vocabulary control and the addition of acknowledgment format categories specific to various departments.

Entry of acknowledgment information into the database satisfied only part of our ultimate goal, however. For our qualitative data to be useful, the information gathered had to be reported in an organized manner.

Facilitating the reporting function of this process brought us back to EndNote. The Access reports function could capture and sort the information needed, but then we could not export the information directly into a citation-style format as flexible and practical as EndNote's. To streamline this innovative application of EndNote, Guittar and Stigberg requested the additional collaboration

of Coordinator for Humanities and Social Sciences Geoff Morse, an EndNote expert.<sup>23</sup>

Though initially we rejected EndNote as our primary data entry and analysis tool, in the end, it answered our need for formatted reporting of measured output and impact in our work in the SL Division. A more detailed description of EndNote's role in the reporting process is provided in the section "The Reporting Function."

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### Further Development of the Database

As mentioned, the Africana and Archives departments first tested the pilot version of the database. They initially entered approximately sixty-five different entries, including acknowledgments of each department and its staff members in books and articles, librarian authorship of articles and conference presentations, and publication citations referring to special resources from the two collections.

This basic first iteration of the database did not compel referential integrity among the tables to ensure the ongoing integrity of data entered. It also failed to maximize the potential for the organization and manipulation of data. Guittar, who had previously worked with Access to categorize rare items in the Africana Library, helped to rebuild the database to enforce referential integrity.<sup>24</sup> Such measures minimized the potential for input errors, such as misspellings of staff names or departments, and maximized the database's ability to organize the information within the database.

Other changes made to the prototype included separating information about the publications in which an acknowledgment appears and the acknowledgment itself. The "Format" table stores the format of the acknowledgment, including information such as the physical format, year of publication, and NU Library staff authors. Physical formats include not only textual publications, such as books, book sections, citations, conference papers, and manuscripts, but also awards, broadcasts, exhibits, musical scores, performances, presentations, and social media.

The "Acknowledgment Type" table contains information about the acknowledgment and the relationship of the acknowledgment to the library and its staff. For example, an acknowledgment in a book, a thank-you letter, citation, and verbal acknowledgment are



included types. This list of publications and acknowledgment types captures the kind of nuanced staff acknowledgment that can frequently occur—an author may thank a staff member in an article, book, or presentation; cite the work of a staff member; or mention someone in a Facebook post. A staff member may publish an article or book, be featured on a local television program, be thanked in an e-mail or letter, present a lecture, or receive an award.

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member in an article, book, or presentation; cite the work of a staff member; or mention someone in a Facebook post. A staff member may publish an article or book, be featured on a local television program, be thanked in an e-mail or letter, present a lecture, or receive an award. To allow for vocabulary control between the fields,

the “Publications” table pulls data from each of the separate tables. Figure 1 diagrams the relationships between the tables in the database and demonstrates how the fields link the tables together.

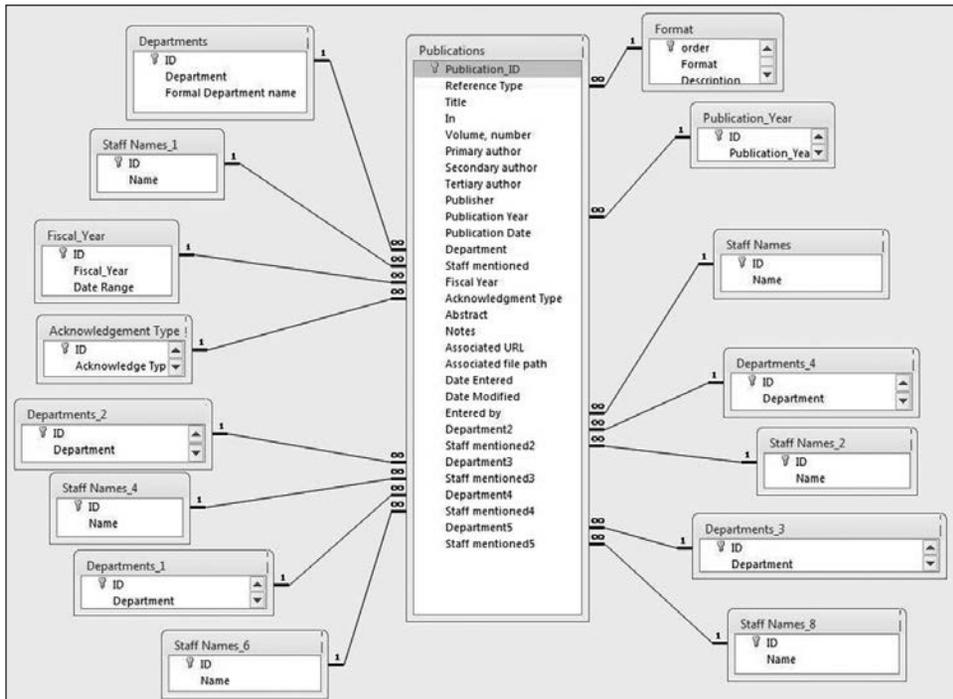


Figure 1. Relationships between the tables in the Acknowledgments Database and how the fields link the tables together



The one-to-many relationship that enforces the referential integrity among the fields is shown for each table. The main table that tracks both publications and acknowledgments is linked through look-up fields by primary key to the individual tables, allowing for vocabulary control in the input fields. Given that a single publication could mention several different departments and staff members (for example, scholars may use archival materials from both the Africana and Archives departments of the library), there are ten fields for noting which Northwestern University Library department and staff member is mentioned in the acknowledgment.

For easy data entry, new acknowledgments are entered onto the “Acknowledgments” form that is linked to the “Publications” table. This form is the equivalent of a portal for the database; it is the only part of the database that departmental data entry representatives use.

Acknowledgments			
Publisher	158	Format	Broadcast
	Acknowledgment Type		About staff or collections
Title	Northwestern Library Opens its Vault		
In	Chicago Tonight		
Volume, number		Abstract	“Because we’re a library and not a museum, many of our most treasured materials are stored away where people can’t see them,” said University Library staffer Nina Barrett, who created the exhibit, in a press release. “This is a way to showcase what makes the library such a rich, exciting intellectual resource.”
Primary author	Michael Lipkin	Notes	
Secondary author		URL	<a href="http://chicagotonight.wttw.com/2012/02/29/">http://chicagotonight.wttw.com/2012/02/29/</a>
Tertiary author		File path	
Place, Publisher	WTTW	Fiscal Year	FY2012
Publication Year	2012	Date Entered	4/4/2012
Publication Date	February 29	Date Modified	
Department	Africana	Entered by	Stigberg, Sara
Staff mentioned	Easterbrook, David		
Department2	Archives		
Staff mentioned2	Leonard, Kevin		
Department3	Music		
Staff mentioned3	Hoek, D.J.		
Department4	Special Collections		
Staff mentioned4			
Department5			
Staff mentioned5			

Figure 2. An example of an entry into the Acknowledgments Database



Figure 2 is an example of an entry in the database. "Northwestern Library Opens Its Vault" is the title of a broadcast segment that appeared on *Chicago Tonight*, a nightly news program on WTTW, Chicago's public television station, on February 29, 2012. This episode focused on the *Hidden Treasures* exhibit displayed at the library from February to March 2012. In the broadcast, three librarians from three different departments were interviewed, and all of them are noted in the record. There are also a URL field for recording the Web release and notes about the date entered and the fiscal year in which the broadcast occurred. Several different fields are controlled: the format, acknowledgment type, publication year, departments and staff members, fiscal year, and "entered by." The rest of the fields are free-text fields. Particularly valuable is the abstract field, which provides a place for the staff member to add more detailed description, such as a transcription of the acknowledgment. This form and its combination of controlled and free-text fields capture qualitative data in a standard, consistent manner.

As we proceeded with testing the database, it became clear that a number of additional improvements were needed to better categorize and organize our qualitative data for more quantitative reporting. To allow for a measure of top-level quantitative analysis of the broad set of information recorded in the database, a category of "Impact Rating" was introduced to the database. This additional category was added to make possible sorting of the variety of acknowledgments and to more clearly demonstrate the level of impact that staff or departments had on their fields and their users. To accomplish this, an additional table was created and linked to the Publications table. While this rating system remains imprecise and somewhat subjective, at least for now, it allows us to approach a measure of standardization.

Impact ratings range from 1 to 5, with 1 denoting lowest impact, and 5 the highest. Our scale of examples is as follows:

1. Thank-you notes or verbal comments from faculty or patrons
2. Departmental social media contributions, such as Facebook posts regarding newly acquired collection materials in a single department
3. Service awards granted to departments or staff
4. Publication resulting from use of collection materials; published reference or acknowledgment, specifically mentioning Northwestern Library staff or collections
5. Significant publication or exhibition directly resulting from primary use of collection materials; professional presentation by staff, directly related to NUL collections or staff.

The relative subjectivity of impact rankings has introduced some complications.

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**Ideally, and on average, the best, most impactful acknowledgments float to the top of the list.**

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For instance, a particularly prestigious staff award may have more impact with a certain user group than a publication; a thank-you note from a Nobel Prize winner could range in rank from a 2 to a 4. Ideally, and on average, the best, most impactful

acknowledgments float to the top of the list. This is one area in which we continue to focus on improvement.



Another addition to the database entry form that became necessary is the indication of required fields in the data entry form for Title and Publication Date. This requirement allows for greater standardization in organizing report data across the entire division and permits hierarchical arrangement by annual or fiscal year and by specific date. Reports may also be organized by Department, Staff name, and Publication title, or other categories, depending on the need.

In addition to impact rating and required fields, it became clear that imposing a stricter format for date entry within this required field would facilitate the sorting of entries for reports. Modeling our format on one that was already in use in the SL Division office, we began requiring entry of publication dates in a uniform manner: YearMoDy (for example, 20130712 for July 12, 2013).

### The Reporting Function

Two goals in creating the reporting function for the database were to facilitate the creation of reports by any staff member and to easily track departmental accomplishments. These reports can then be used to demonstrate the effectiveness and influence of a department or individual through manual analysis. As discussed, the reports available in Access did not suit our needs. Failing to find a simple workable solution for transferring our Access records to EndNote for formatting and easier reporting, Stigberg and Guittar requested the assistance of expert EndNote user Geoff Morse.

To be imported into EndNote, data must be converted into either a tagged format, which surrounds each piece of information with tags identifying how it should be handled, or a tab-delimited format, which uses tab characters as separators between fields. To do this, Morse exported the Access database into an XML file. He then used an XSLT script that transformed the XML file from Access into a tab-delimited file, developing the script with assistance from Karen Miller, a monographic cataloger and metadata specialist.

Once the file was successfully loaded into EndNote, it was necessary to create a customized output style that displayed all the database fields in a manner that could be inserted into a report. EndNote allows users to customize existing files or create new ones from scratch, which is one reason we chose it for the reporting component. Our custom Acknowledgments Database style was created by starting with the *Chicago Manual of Style* and making several modifications. These included placing the abstract below each reference, including the name of the department being acknowledged, the date of entry in the database, the name of each staff member acknowledged, and the impact number for each citation. Once loaded into EndNote, bibliographic entries could be formatted in a style that is easy to read and therefore readily usable in reports. An example of a formatted entry produced by the EndNote database is:

**Special Collections:** Author: Jason Nargis and Benn Joseph. "Comic Books: Superheroes of Special Collections." *ILA Reporter*. Vol. XXIX, Issue 3; June 1st, 2011. **Staff member(s) mentioned:** Jason Nargis. **Date of Acknowledgment:** June 1st, 2011. **Impact Number:** 3.

Jason Nargis and Benn Joseph coauthored this piece. It was a feature article on the role of comic books in Special Collections at NUL and the exhibit *From the Heroic to the De-*



*proved: Mainstream and Underground Comics* at the Charles Deering McCormick Library of Special Collections. The article was published in *ILA Reporter*, volume 29, issue 3 (June 2011), pages 8–12.

EndNote's searching features allow a user to search for citations by Department, Staff member, Fiscal year, or any other field included in the database. A user can simply copy a formatted reference into a word processing document, or the user can take advantage of EndNote's "Cite While You Write" features that work with Microsoft Word, Open Office, and Pages.

From the initial development of the Access database to fine-tuning the reporting functions in EndNote, the Acknowledgments Database took approximately five months to develop, with three staff members working part-time on the project. The building of the initial Access database took about two months, and soliciting feedback and making adjustments to the database took approximately another two months. Exporting the data and making the necessary adjustments to EndNote required about one additional month. Although there was some trial and error involved, after the initial development, entering data into the database and reporting through EndNote have proved to be a manageable, streamlined way to capture qualitative data that was otherwise difficult to assess.

### Conclusions

Since its initial implementation and testing by the Africana and Archives departments, a representative from each unit in the Special Libraries Division has been trained to use the Special Libraries Acknowledgments Database. The first round of training was a simple demonstration of the database and data entry form for representatives from each department. In the second, more extensive, phase, we provided a review of the data entry process, highlighted the newest updates, and demonstrated the tool's reporting function. At this training session, the staff received handbooks and quick-reference guides that allowed them to produce their own reports, with technical support provided by Morse.

With the development and implementation of the Access database and the associated EndNote reporting process, we achieved the primary goals that were laid out at the beginning of this project. Keeping with NU Library's ambitious goal for employing new forms of assessment that incorporate qualitative measures to link divisional and departmental outcomes for patrons,<sup>25</sup> we were able to demonstrate the SL Division's collective output and impact through qualitative data.

Our innovative system provides effective aggregation and reporting of a variety of

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**This resource for tracking and measuring divisional and departmental output and impact has become a great asset for the division and its constituent departments.**

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information beyond the traditional citations or patron services statistics models. The system also allows for subsequent manual analysis of the data. Furthermore, this resource for tracking and measuring divisional and departmental output and impact has become a great asset for the division and its constituent departments.

The staff can use the easily reproducible citation format we developed for individual performance reports, as well as departmen-



tal annual reports, with additional applications yet to be discovered. We plan to share this system for qualitative data collection and reporting with other divisions within NU Library, and we are confident that their additional expertise and input will further improve the capabilities and functionality of this assessment tool.

This project and the resulting database and its reporting function provide an example of how librarians and other library staff across the board, not generally experts in programming and software development, can produce tools to achieve their assessment goals. Further, it has been a rewarding experience in many ways and an excellent example of the cross-divisional collaboration possible within a large institution.

With an eye to the future of library assessment in analysis of qualitative data, we continue to adjust and improve the database and reporting functions, based on user input and feedback. As mentioned, we plan to extend this initiative to the rest of NU Library for further trial and refinement. The Library Technology Division or subject specialists in the Public Services Division would be ideal candidates to test a second module of the database, modified specifically for their use. We also plan to make this process and the functions behind it more transparent to facilitate training by staff other than ourselves and to allow for broader independent use.

### Acknowledgments

We extend special thanks to Jeff Garrett, retired associate university librarian for special libraries at Northwestern University Library, for his direction, support, and encouragement; to Karen Miller, monographic cataloger and metadata specialist at Northwestern, for her invaluable contributions on the reporting function; and to Devin Savage, assistant dean for assessment and scholarly communication at the Illinois Institute for Technology, for additional assessment input. Thanks also go to Scott Garton, head of branch and off-campus services; Jason Kruse, undergraduate services librarian; and Harriet Lightman, head of research and information services, all at Northwestern, for reviewing our manuscript.

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### Notes

1. Fred Heath, "Library Assessment: The Way We Have Grown," *Library Quarterly* 81, 1 (2011): 8.
2. Christian Dupont and Elizabeth Yakel, "'What's So Special about Special Collections?' or Assessing the Value Special Collections Bring to Academic Libraries," paper presented



- at the 2010 Library Assessment Conference: Building Effective, Sustainable, Practical Assessment, Baltimore, MD, October 25–27, 2010.
3. See Peter Hernon, Robert E. Dugan, and Danuta A. Nitecki, *Engaging in Evaluation and Assessment Research* (Santa Barbara, CA: Libraries Unlimited, 2011), 160.
  4. Carol H. Weiss, *Evaluation: Methods for Studying Programs and Policies*, 2nd ed. (Upper Saddle River, NJ: Prentice Hall, 1998), 252.
  5. Hernon, Dugan, and Nitecki, *Engaging in Evaluation and Assessment Research*, 161–62.
  6. See Heath, "Library Assessment: The Way We Have Grown," 7–25.
  7. Northwestern University Library, "Northwestern University Library Strategic Plan, FY2012–14" (Evanston, IL: Northwestern University Library, 2012), 7.
  8. *Ibid.*, 12.
  9. Elizabeth Yakel and Helen Tibbo, "Standardized Survey Tools for Assessment in Archives and Special Collections," *Performance Measurement & Metrics* 11, 2 (2010): 212.
  10. *Ibid.*, 221.
  11. Hernon, Dugan, and Nitecki observe that there is "an increasing use of software to assist in the management and analysis of qualitative data." See Hernon, Dugan, and Nitecki, *Engaging in Evaluation and Assessment Research*, 160.
  12. In February 2011, Preservation took the place of Digital Collections, which was moved to a different division, but which had participated in the early stages of this project.
  13. "Standardized Survey Tools for Assessment in Archives and Special Collections," in *Proceedings of the Library Assessment Conference, Seattle, Washington, August 4-7, 2008*, ed. Steve Hiller, Martha Kyriellidou, and Jim Self (Washington, DC: Association of Research Libraries, 2008), 95; also see Yakel and Tibbo, "Standardized Survey Tools for Assessment in Archives and Special Collections," 211.
  14. See Hernon, Dugan, and Nitecki, *Engaging in Evaluation and Assessment Research*, 160.
  15. Blaise Cronin, "Acknowledgment Trends in the Research Literature of Information Science," *Journal of Documentation* 57, 3 (2001): 427.
  16. Blaise Cronin and Sherrill Weaver-Wozniak, "Online Access to Acknowledgments," in M. E. Williams, ed., *Proceedings of the 14th National Online Meeting, May 4–6, 1993* (New York: Learned Information, 1993): 96.
  17. See Cronin and Weaver-Wozniak, who called for tracking of acknowledgments in addition to traditional productivity (publication) and impact (citation) statistics in 1993. Cronin later (2001) confirmed that acknowledgment records became an "institutionalised [sic] element of the scholarly communication process, reflecting the growing cognitive and structural complexity of contemporary research"; Cronin, "Acknowledgement Trends in the Research Literature of Information Science", 427.
  18. Lee The, "Microsoft Unlocks Database Power," *Datamation* 38, 23 (1992): 107–8.
  19. Paul Litwin, "Microsoft's Accessible Database," *PC World* 10, 12 (1992).
  20. For some examples of library projects using Microsoft Access, please see Karen Reichardt, "Using Microsoft Access for Journal Collection Management," *Serials Librarian* 37, 4 (2000); Rosemary Spellman, "Using Microsoft Access 2007's 'Lending Library' Template to Create a Circulation Module for Microform Materials," *Technical Services Quarterly* 28, 4 (2011); Kathe Obrig, Yvonne Lee, Semhar Yohannes, Steven W. Brown, and Lionel Williams, "Conducting a Journal Assessment Using an Enhanced MS Access Database," *Journal of Electronic Resources in Medical Libraries* 8, 1 (2011).
  21. Symplectic, "Elements—Our Products—Symplectic," <http://symplectic.co.uk/products/elements/>.
  22. Digital Measures, "Streamline Reviews | Activity Insights | Digital Measures," <http://www.digitalmeasures.com/activity-insight/benefits/personnel-reviews.html>.
  23. At this point, we also explored the use of Zotero reference management software instead of EndNote for a variety of reasons. Zotero was first made available in 2006 and is known for its easy-to-use interface, the relatively short learning curve for new users, and the ease of sharing libraries with other users outside of a single community. Unlike EndNote,



Zotero, once installed, becomes part of the Firefox Internet browser, making it particularly easy to transfer sources from Web-based databases into Zotero. In addition, there are now versions of Zotero that can work with the Safari and Google Chrome browsers. Because of these advantages, and because it is open source, Zotero has developed a loyal following among academic users. However, although Zotero may be more flexible in some ways, this particular project required substantial customization of an output style, which for users without advanced technical skills is a simpler task in EndNote. EndNote contains a style editor that makes it easy to modify or create new styles, whereas in Zotero one needs to be familiar with citation style language (CSL) and be able to use a CSL editor. Two of the goals with this project were to keep it as simple as possible and to limit the amount of technical programming skills needed.

24. Referential Integrity refers to rules in the database that keep the different tables linked. For instance, in the Special Libraries database, referential integrity prevents a record for a librarian being deleted if there are records for that librarian's work in the database. If Referential Integrity were not enforced, then the database could have records for accomplishments with no record of who the librarian responsible for the work is. For a more detailed explanation of referential integrity, see Vijay Krishna Pallaw, *Database Management Systems*, 2nd ed. (New Delhi, India: Asian Books Private Ltd., 2010), 56–57.
25. See Northwestern University Library, "Northwestern University Library Strategic Plan, FY2012–14."