An Empirical Citation Study of C&RL, JAL, and portal:

Most Often Cited Titles and Authors

John Budd, University of Missouri

Abstract

The present study examines citation characteristics of a selection of the literature on academic librarianship, drawing specifically from three source titles: *College & Research Libraries*, the *Journal of Academic Librarianship*, and *portal: Libraries and the Academy*. The analysis focuses on references in these journals' articles published from 2001 through 2008, as well as citations to those articles, most cited individuals, and the incorporation, or lack thereof, of literature outside the profession of librarianship. The limitations of empirical citation analysis are clearly stated, and the effects of those limitations on conclusions are described.

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This article addresses two questions central to the field of academic librarianship: What does a snapshot of the literature look like? And why should academic librarians care? The answer to the first question involves an empirical analysis. It can be found through a careful examination of publication trends, especially through citation analysis. Citation analysis is by no means a new empirical method; in fact, it has a substantial history across many fields. The method itself has been thoroughly described by Smith[1] and Cronin.[2] Although these works extend back in time, they are authoritative and pertinent. As does every research methodology, it has limitations, but it has been proven adequate to answer specific questions about communication practices. As to the matter of caring about a portrait of the literature, the answer tends to be (depending on one's point of view) either metaphysical or existential. The answer many might prefer has more to do with what is said in the field than with issues like the structural or formal aspects of publication. That said, the greatest limit of citation analysis concerns its use in considering the metaphysics (the reality or actual being) of professional communication. Its strength, however, is that citation analysis can offer pointers or indicators for further inquiry. The data and analysis related to what is cited and who cites what can lead to more complex study of the dynamics of communication. The objective of the present study is to provide some background on the literature of academic librarianship so that more complex examinations can follow

Its use in answering questions about the existential aspects of the discipline may be limited to individual focus, personal preference, or a perception that a literature is a fleeting thing, "real" only insofar as a scholar pays attention to it, or to any particular piece of it. Granted, any field's literature constitutes something real, something actual or quantifiable, unlike issues dealing with the epistemological character of a discipline. Yet all literature in a field is public, often communicated widely, made accessible to all, and is ostensibly retrievable and, because it is retrievable, it may exert some influence on the thoughts and actions of practitioners. In addition, citation analysis can address only the formal markers of acknowledgement, which represent an intellectual debt, a procedural requirement, or a political nod. In other words, citation analysis—usually unaccompanied by other means of examination—is empirical by nature; its usefulness relies on a researcher's observation of those formal markers. Used alone, citation analysis is essentially atheoretical; it concludes nothing about, among other things, the reasons for authors' citation methodologies or choices. Although the reasons for acknowledgement typically involve a combination of intellectual and psychological factors, a study of the existence of the citation itself does little to uncover authorial motivation. Nonetheless, citation analysis *can* provide is a record of what is formally incorporated into a discipline's literature and, by inference, what is not incorporated. What is presented here is the empirical examination of citation patterns in a selection of the literature of academic librarianship; granted, selectiveness limits the study; however, this article can serve as an initial step towards a more detailed analysis of communication behaviors in academic librarianship, as well as a template for such analysis in related fields.

The most recent attempt to paint a portrait of our professional literature is that by Odell and Gabbard.[3] Their discipline-wide analysis examined the entirety of the field, since the data for

their study were drawn from *Journal Citation Reports*, 1996 through 2004, using "Information Science and Library Science" as a broad subject category. Their broad limiters resulted in the retrieval of sixty-six journal titles, including titles from the LIS discipline, such as *Library Quarterly* and from journals in other related subject categories, such as *Computational Intelligence*.[4] Some journals straddled more than one subject category, so their examination of disciplinary citations was complicated by the limitations introduced by the kinds of classifications that citation indexes use. Odell and Gabbard had modeled their investigation on that conducted as part of an earlier study.[5] In two articles published a decade apart the authors deliberately attempted to gauge the extent to which library science publications cited published works outside of the field. In 2008, Odell and Gabbard released findings indicating that the proportion of citations in the literature coming from sources outside of the library and information science field remained almost constant over the twelve –year periods of the two studies (13.4% in 1996 and 13.7% in 2008).[6]

The Present Study

This study focuses on the literature of academic libraries and librarianship. The sources of data are three peer reviewed journals intended specifically for the academic librarian audience: *College & Research Libraries*, the *Journal of Academic Librarianship*, and *portal: Libraries and the Academy*. There are, of course, articles addressing academic libraries and academic librarianship that are published in other journals, but the stated purposes of these three journals are directed explicitly at this branch of the profession. This study is limited to the eight-year period between 2001 and 2008, since *portal* began publication in 2001. The contents of these journals provide a snapshot of recent citation trends in the discipline. Scopus, a database interface from Elsevier, was used to retrieve content. In addition to the time frame, the

examination was limited to those items categorized in Scopus as "articles," so editorials, book reviews, and other brief communications are excluded from this study. Finally, the issues of cited journals are not examined individually. A total of 716 articles are included in the study: 398 from the *Journal of Academic Librarianship* (JAL), 173 from *College & Research Libraries* (CRL), and 145 from *portal: Libraries and the Academy* (portal). The authors of the 716 articles cite a total of 17,880 items (9789 are cited in JAL, 4090 are cited in CRL, and 4001 are cited in portal).

Predictably, the study found that the most frequently cited journal titles tend to be from the field of librarianship and information science. It should be noted here that classification of journal titles in Scopus is subject to the same limitations that Odell and Garrard[7] experienced with Journal Citation Reports, including the fact that a number of titles are placed in multiple categories, so determination of a primary category is very difficult. For example, cited journals that may have some relation to information science, but appear to be more closely linked to computer science (such as *Communications of the ACM*) are not categorized as academic librarianship by Scopus. Table 1 presents the most frequently cited library and information science (LIS) titles, according to Scopus categorization.

Table 1

Most Frequently Cited LIS Titles

Title	Number
College & Research Libraries	377
Journal of Academic Librarianship	347
Library Trends	142
Journal of the American Society for Information Science & Technology	130
Research Strategies	114
Library Journal	112
Reference & User Services Quarterly	104
College & Research Libraries News	100
Reference Services Review	96
Reference Librarian	84
Journal of Library Administration	75
Library & Information Science Research	75
Library Quarterly	66
portal: Libraries and the Academy	59
American Libraries	55
Information Technology & Libraries	55
Journal of Documentation	55
Journal of the Medical Library Association	51
Library Resources & Technical Services	35

It is no surprise that CRL and JAL are at the top of the list. By the same token, portal is, as expected, less often cited, since its publishing history is brief (thus there are fewer articles that *could* be cited). Overall, the list contains titles that will be familiar to academic librarians, and most of these are journals since Scopus is journal-centric, designed to report on the contents, citations, and referencing activities that focus on journal literature. While the articles in the three journals do cite books, reports, web sites, and other types of materials, the "Source Title" results reported by Scopus are limited to journal titles. For this reason, what is reported here is a snapshot of the literature limited by those criteria.

Another way to examine the academic library literature is to perform a citation analysis of the journals that cite the three selected source titles. A total of 2,233 items cite articles from the three titles (1,025 cite articles in JAL, 795 in CRL, and 413 cite articles in portal). As is the case with items cited in articles appearing in the three journals for the eight-year time period, articles citing the three journals were likely from the LIS field. Table 2 presents the top journals citing articles in CRL, JAL, and portal.

Table 2

Titles Citing JAL, CRL, and portal

Title	Number
Journal of Academic Librarianship	225
portal: Libraries and the Academy	128
College & Research Libraries	111
Reference Services Review	80
Journal of the American Society of Information Science & Technology	68
Reference & User Services Quarterly	52
Library & Information Science Research	46
Research Strategies	43
Science & Technology Libraries	41
Journal of the Medical Library Association	39
New Library World	39
Library Trends	36
Electronic Library	32
Library Management	30
Library Resources & Technical Services	30

There is also the phenomenon of self-citing by journal title. While not exactly analogous to an individual's citing her own work, the titular self-citation indicates some potential (potential being the operative word) for parochialism. For example, 126 of the 1,025 citations to articles in JAL referenced previous articles published in JAL, which is roughly 12.3% of the total number of

citations. For portal, 50 of the 413 (a comparable 12.1% of the citations) were to articles published in portal. CRL exhibits nowhere near as much titular self-citation, as only 8.1% of the citations (64 of the 795) referenced previous CRL articles.

In addition to examining the journals that are cited in, and that cite, the three selected source titles, Scopus can be used to analyze trends in author citations (in the 716 articles). Citation analysis can also be used to determine which authors are most often cited in the professional literature. Blessinger and Frasier[8] examined a decade of academic librarianship literature (1994-2004) in order to determine which authors were most often cited. They examined a total of 28 journals included in the *Social Sciences Citation Index*, and also categorized as library and information science in *Ulrich's International Periodicals Directory*, resulting in a a list of the most cited individuals.[9] In a more limited study, Adkins and Budd[10] determined the citation status of faculty members at programs in the U.S. that are accredited by the American Library Association. The ten most frequently cited individuals in the three academic library-related journals, as determined from the Scopus database, are presented in Table 3.

Table 3

Most Frequently Cited Individuals

Name	Number
Colleen Cook	65
Bruce Thompson	64
Carol Tenopir	55
Peter Hernon	47
Fred Heath	41
Martha Kyrillidou	37
John Budd	29
Eugene Garfield	29
Charles McClure	26
Ronald Powell	22

Five individuals on the list in Table 3 also appear in the list compiled by Blessinger and Frasier: Carol Tenopir, Peter Hernon, Eugene Garfield, Charles McClure, and John Budd. Even though the the present study is more limited in scope due to the selection of three source journals, it reaffirms some of the findings made by Blessinger and Frasier. Specifically, the fact that half of the most cited authors in this study appear in Blessinger and Frasier is further proof that these individuals' work is persistently influential in the discipline.

Citations Outside Library Literature

While most citations reference works within the field's literature, citation analysis reveals that some authors delve into the journal literatures of other disciplines, although such instances are limited and quite dispersed. Table 4 illustrates the ten most frequently cited journals from outside library and information science.

Table 4

Most Frequently Cited Journals Outside LIS

Title	**Number**
Chronicle of Higher Education	91
New York Times	25
Change	22
Nature	18
Washington Post	18
Educational Psychology	16
MIS Quarterly	16

Two of the six titles—the *Chronicle of Higher Education* and *Change*—are higher education titles. For the most part, non-librarianship related journals are cited infrequently; many receive

ten or fewer citations. A tentative conclusion that can be drawn from the examination of the citations to journals is that the literature of our profession forms the core of cited works. The conclusion gains strength when examination of journals that cite the three source titles is conducted. Only four journals cite the three titles with any frequency at all. They are: *Performance Measurement and Metrics* (15 citations), *Program* (11 citations), *Learned Publishing* (9 citations), and *First Monday* (8 citations). This is still a tentative conclusion because of a citation phenomenon that is rather difficult to analyze using Scopus.

Here, the use of Scopus further limits the analysis at hand since the database lists sources found most often in citations, but it does so according to the total number of citations, from greatest to least. So while a particular item may be cited 5,000 in Scopus database, it is difficult to ascertain how many times it is cited in the articles appearing in the three selected source titles. The difficulty of citation analysis using the Scopus database is further complicated by the structure of the database itself. In a results list, the initial column of items are labeled as "Document," while books are designated as "No title available." One must look under the "Source Title" column and infer if the item is a book, or some other type of item. It is evident that the articles published in the three source titles cite numerous books and other materials, but a detailed analysis would require the examination of all 716 articles, reference by reference, which is unwieldy, if not impossible.

Conclusions and Discussion

The limitations of citation analysis using Scopus are stated throughout this article. Even given those limitations, there are indications that the literature of academic librarianship is insular. Both the references included in the articles published in the three source journals studied, and the publications that cite articles from those three journals, invariably stem from the field of

academic librarianship. To reiterate, this empirical examination indicates little or nothing about the complex communicative actions in which authors engage. The empirical results do demonstrate that a set of journal titles comprises what could be called essential core literature, although I hesitate to use the word "core" since it could be interpreted as a literature preferred for its content, which these findings cannot affirm. These sources seem core only in that there are more instances of their being cited and referenced in the three selected periodicals under examination (See Tables 1 and 2 for the list of these most often cited titles). This analysis also suggests that there is an essential list of authors whose works are most often cited. This author list, however, could be coincidental, related to, or even dependent on, the list of titles most often cited, since it is possible that authors of the 716 articles under study could be standardizing their research to include the most often cited set of journals, and then may coincidentally select works that are written by the most cited authors (See Table 3)

Unfortunately, the conclusions presented here do not extend beyond the empirical character of the data. Nonetheless, future scholars can make use of such raw data by addressing question such as the apparent inward-looking aspect of academic librarianship literature. Such scholars may be able to grapple with the idea that this trend may be due to insularity or to a parochialism that ignores, or is ignorant of the field's relationship to ideas and theories from outside the field. While empirical data, such as what is offered here, cannot support an assertion that authors writing about academic librarianship *ought* to draw from the literatures of other disciplines, it may open the door for others who can, and perhaps should, address such an epistemological issue. It is hoped that this article's findings will lead to additional inquiry that will examine these issues, as well as seek to answer questions that are not addressed here. The

profession would benefit from a deeper understanding of the research and publishing habits in the field, and citation analysis, even of a strictly empirical nature, can offer a starting point.

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[1] Smith, L. C., "Citation Analysis," *Library Trends* 30, no. 1 (1981): 83-106.

[2] Cronin, B., *The Citation Process: The Role and Significance of Citations in Scientific Communication* (London: T. Graham, 1984).

[3] Odell, J. and Gabbard, R., "The Interdisciplinary Influence of Library and Information Science 1996-2004: A Journal-to-journal Citation Analysis," *College & Research Libraries* 69, no. 6 (2008): 546-64.

[4] Ibid.

[5] Meyer, T. and Spencer, J. S., "A Citation Analysis Study of Library Science: Who Cites Librarians?" *College & Research Libraries* 57, no.1 (1996): 23-33.

[6] Odell, J. and Gabbard, R., "The Interdisciplinary Influence of Library and Information Science 1996-2004: A Journal-to-journal Citation Analysis," *College & Research Libraries* 69, no. 6 (2008): 546-64.

[7] Ibid.

[8] Blessinger, K. and Frasier, M., "Analysis of a Decade in Library Literature: 1994-2004." *College & Research Libraries* 68, no. 2 (2007): 155-69.

[9] Ibid.

[10] Adkins, D. E. and Budd, J. M., "Scholarly Productivity of U.S. LIS Faculty," *Library & Information Science Research* 28, no. 3 (2006): 374-89.