An Analysis of the Research Areas of the Articles Published in *C&RL* and *JAL* between 1990 and 1999

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A total of 682 refereed articles from *College & Research Libraries* (*C&RL*) and *Journal of Academic Librarianship* (*JAL*) (376 and 306 articles, respectively) between 1990 and 1999 were analyzed with respect to the Research Agenda developed by the ACRL College Libraries Section (ACRL-CLS). The analysis finds that articles on collections, services, staffing, and the Internet have taken up the major portion of the peer-reviewed sections of *C&RL* and *JAL*. It also reveals that a wide variety of researchable questions remain to be studied and reported. This presents a challenge and an opportunity for academic librarians who wish to engage in research.

There has been ongoing interest in studying the published articles in librarianship research. Lois Buttlar pointed out that the periodical literature in the field of librarianship has been analyzed from several points of views.[1] These include: (1) the need to study the literature and to monitor trends and changes related to its characteristics and authors; (2) the profile of the literature (i.e., who publishes, where they publish, and what they publish); (3) the status of research and its subject focus or format; (4) research methodologies and the use of statistics; and (5) characteristics of the authors, such as affiliation, age, education, geographic distribution, occupation, and sex.[2] In Buttlar's 1991 article, the earliest citation on this subject was "A Century of Academic librarianship, as Reflected in Its Literature," written by David Kaser and published in 1976.[3]

In May 1999, Gregory A. Crawford published "The Research Literature of Academic Librarianship: A Comparison of *College & Research Libraries (C&RL)* and *Journal of Academic Librarianship (JAL)*."[4] This study evaluated the two journals on the basis of types of articles published, structure of the articles, types of statistics used, and data collection methods employed.[5] Crawford categorized the articles into eight types: Opinion; Empirical: Qualitative; Empirical: Quantitative; Empirical: Case Study; Review: Trend; Review: Policy; Review: Bibliographic; and Other.[6] In September 1998, Mickey Zemon and Alice Harrison Bahr's research analyzed the authorship of college librarians as published in *C&RL* and *JAL*.[7]

The current study is similar to the above-mentioned studies in that it also analyzes the articles in *C&RL* and *JAL* but is different from them in that it focuses on research areas. More specifically, the conceptual framework for this study is based on the research areas outlined in

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the Research Agenda developed by the ACRL College Libraries Section's (CLS) Research for College Librarianship Committee.[8] ACRL-CLS began to develop its Research Agenda in 1992 to "promote study, research, and publication relevant to college librarianship."[9] The Research Agenda outlines seven general areas: values and college librarianship; organizational structure in college libraries; staffing of college libraries; collections and services in college libraries; cooperation among college libraries; research and funding within college libraries; and standards, accreditation, and assessment of college libraries. It includes twenty-nine researchable questions for the seven areas. Although the agenda was developed with college libraries in mind, the author believes that it has similar implications for university libraries. In addition, the author included three research areas during the process of his investigation: the Internet and academic libraries; school of library and information sciences; and literature of academic librarianship.

The purpose of this study is to better understand how research publications reflect the Research Agenda outlined by ACRL-CLS. The significance of the analysis is to provide a systematic understanding of the research interests in academic librarianship between 1990 and 1999 and to illuminate pathways in librarianship for study in the new millennium.

Methods
The author agrees with the rationale provided by Zemon and Bahr for selecting

C&RL and *JAL*.[10] Their rationale states that (1) *C&RL* and *JAL* are "by common consensus … the major journals in academic librarianship" and (2) studies indicate that authors from academic libraries contribute heavily to both.[11, 12] Both journals publish peer-reviewed articles that are primarily research oriented. For this study, the author selected research articles published between 1990 and 1999 and excluded editorials, features, and book reviews.

A checklist was made of the researchable questions that span the ACRL-CLS Research Agenda. The wording "college library" was modified to "academic library" in order to include both college and university libraries. Each of the seven research areas and twenty-nine researchable questions was assigned a unique code. For example, "R1" stands for "research area 1" and "R1Q1" refers to the first researchable question listed under the first research area. If an article fits into R1 but does not fit into any of the researchable questions listed under R1, it is assigned the tag "R1Q9," which means "research area 1 and other questions under research area 1." Three additional research areas were added and coded R8, R9, and R10. If an article does not fit into any of the ten research areas, it is coded R99, which means "other."

The research topic of collections and services has the highest number of articles at 305 (44.7%).

The author photocopied the table of contents from each issue of *C&RL* and *JAL* published between 1990 and 1999. An article title listed in the table of contents usually reveals a great deal of information about the article's research topic. In addition, the author read each article to verify the consistency of its content and article title relative to the research area. The author then assigned a research area code and researchable question code next to the article title. Later, the codes were entered into SPSS Windows 9.0 software for statistical analyses.

TABLE 1
Research Areas Reported in *C&RL* and *JAL* (Total)

	C&RL		JAL		Total	
	N	%	N	%	N	%
R1. Values and academic librarianship	17	4.5	11	3.6	28	4.1
R2. Organizational structure	7	1.8	15	4.9	22	3.2
R3. Staffing	77	20.5	35	11.4	112	16.4
R4. Collections and services	158	42.0	147	48.1	305	44.7
R5. Cooperation among libraries	10	2.7	9	2.9	19	2.8
R6. Resources and funding	7	1.8	14	4.6	21	3.1
R7. Standards, accreditation, and assessment of libraries	9	2.4	8	2.6	17	2.5
R8. The Internet and academic libraries	42	11.2	43	14.1	85	12.5
R9. School of library and information sciences	3	0.8	5	1.6	8	1.2
R10. Literature of academic librarianship	27	7.2	5	1.6	32	4.7
Other	19	5.1	14	4.6	33	4.8
Total	**376**	**100**	**306**	**100**	**682**	**100**

The data were then analyzed to answer the following questions:

1. How do the articles in the peer-reviewed sections of *C&RL* and *JAL* reflect the seven research areas outlined in the Research Agenda developed by ACRL-CLS?

2. How do these articles reflect the twenty-nine researchable questions listed in the Research Agenda?

Results

A total of 682 articles were selected from *C&RL* and *JAL* between 1990 and 1999, with 376 (55.1%) from *C&RL* and 306 (44.9%) from *JAL*. Table 1 identifies the research areas reported in *C&RL* and *JAL* from a total-articles perspective. The research topic of collections and services has the highest number of articles at 305 (44.7%). Refined, the 305 articles consisted of 132 (21.7%) that addressed collections and acquisitions and 173 (23%) that studied services.

The research area of staffing has the second highest number of articles at 112 (16.4%). The research area of the Internet and academic libraries has the third highest number of articles at 85 (12.5%). The remaining research areas showed a sharp reduction in the number of articles:

• thirty-two (4.7%) for literature of academic librarianship;

• twenty-eight (4.1%) for values and academic librarianship;

• twenty-two (3.2%) for organizational structure;

• twenty-one (3.1%) for resources and funding;

• nineteen (2.8%) for cooperation among libraries;

• seventeen (2.5%) for standards, accreditation, and assessment of libraries;

• eight (1.2%) for school of library and information sciences.

Thirty-three articles (4.8%) did not fit into any of the above research areas. These articles dealt principally with book reviews, publishers, and other, similar topics.

Table 2 shows the count and percent of the articles within each research area as reported in *C&RL* and *JAL*. *C&RL* published more articles than *JAL* in the following research areas:

• values and academic librarianship: seventeen (60.7%) versus eleven (39.3%);

• staffing: seventy-seven (68.8%) versus thirty-five (31.2%);

• collections and services: 158 (51.8%) versus 147 (48.2%);

• cooperation among libraries: ten (52.6%) versus nine (47.4%);

• standards, accreditation, and assessment of libraries: nine (52.9%) versus eight (47.1%);

TABLE 2
Count and Percent of the Articles within Each Research Area
Reported in *C&RL* and *JAL*

	C&RL		JAL		Total	
	N	%	N	%	N	%
R1. Values and academic librarianship	17	60.7	11	39.3	28	100
R2. Organizational structure	7	31.8	15	68.2	22	100
R3. Staffing	77	68.8	35	31.2	112	100
R4. Collections and services	158	51.8	147	48.2	305	100
R5. Cooperation among libraries	10	52.6	9	47.4	19	100
R6. Resources and funding	7	33.3	14	66.7	21	100
R7. Standards, accreditation, and assessment of libraries	9	52.9	8	47.1	17	100
R8. The Internet and academic libraries	42	49.4	43	50.6	85	100
R9. School of library and information sciences	3	37.5	5	62.5	8	100
R10. Literature of academic librarianship	27	84.4	5	15.6	32	100
Other	19	57.6	14	42.4	33	100
Total	**376**	**55.1**	**306**	**44.9**	**682**	**100**

• literature of academic librarianship: twenty-seven (84.4%) versus five (15.6%).

Although *JAL* published seventy fewer articles than *C&RL* in total (306 versus 376), *JAL* published more articles than *C&RL* in the following research areas:

• organizational structure: fifteen (68.2%) versus seven (31.8%);

• resources and funding: fourteen (66.7%) versus seven (33.3%);

• the Internet and academic libraries: forty-three (50.6%) versus forty-two (49.4%);

• school of library and information sciences: five (62.5%) versus three (37.5%).

Table 3 shows the count and percent of articles as reported in each research area between 1990 and 1999. The distribution of articles in the following research areas is more or less even throughout the ten-year period:

• collections and services: 305 articles, ranging from fifty (16.4%) in 1998–1999 to seventy-four (24.3%) in 1994–1995;

• staffing: 112 articles, ranging from nineteen (17%) in 1998–1999 to twenty-five (22.3%) in 1992–1993;

• resources and funding: twenty-one articles, ranging from two (9.6%) in 1990–1991 to five (23.8%) in 1992–1993, 1994–1995, and 1998–1999;

• standards, accreditation, and assessment: seventeen articles, ranging from two (11.8%) in 1990–1991 to five (29.4%) in 1994—1995 and 1998–1999.

The distribution of articles on the following research areas appears to be uneven throughout the ten-year period:

• the Internet and academic libraries: eighty-five articles, ranging from six (7.1%) in 1992–1993 to twenty-one (24.7%) in 1998–1999 and twenty-five (29.4%) in 1994–1995 and 1996–1997;

• literature of academic librarianship: thirty-two articles, ranging from three (9.4%) in 1994–1995 to nine (28.1%) in 1998–1999 and ten (31.3%) in 1990—1991;

• values and academic librarianship: twenty-eight articles, ranging from three (10.7%) in 1994–1995 to eight (28.6%) in 1990–1991 and nine (32.1%) in 1998–1999;

• organizational structure: twenty-two articles, ranging from one (4.5%) in 1998–1999 to eight (36.4%) in 1992–1993;

• cooperation among libraries: nineteen articles, ranging from one (5.3%) in 1996–1997 and 1998–1999 to nine (47.3%) in 1992–1993;

• school of library and information sciences: eight articles, ranging from zero in 1992–1993 to four (50%) in 1998–1999.

TABLE 4 (continued)

R rch Areas	0– N	%	Art 1 N	%	T 3 N	%	rch Area N	%	8– N	9 %	Total N	%
R Valu	8	28.6	4	14.3	3	10.7	4	14.3	9	32.1	28	100
R g	4	18.2	8	36.4	3	13.6	6	27.3	1	4.5	22	100
R Staff	24	21.4	25	22.3	21	18.8	23	20.5	19	17.0	112	100
R	68	22.3	59	19.3	74	24.3	54	17.7	50	16.4	305	100
R	2	10.5	9	47.4	6	31.6	1	5.3	1	5.3	19	100
R	2	9.5	5	23.8	5	23.8	4	19.0	5	23.8	21	100
R t	2	11.8	3	17.6	5	29.4	2	11.8	5	29.4	17	100
R T	8	9.4	6	7.1	25	29.4	25	29.4	21	24.7	85	100
R	2	25.0	—	0	1	12.5	1	12.5	4	50.0	8	100
10.	10	31.3	5	15.6	3	9.4	5	15.6	9	28.1	32	100
O r	8	24.2	2	6.1	5	15.2	11	33.3	7	21.2	33	100
Total	**138**	**20.2**	**126**	**18.5**	**151**	**22.1**	**136**	**19.9**	**131**	**19.2**	**682**	**100**

Table 4 shows that very few articles match the researchable questions identified in the Research Agenda. Two researchable questions have eight articles from *C&RL*. Eight researchable questions have between two and five articles from either *C&RL* or *JAL*. Thirteen researchable questions have one article from either *C&RL* or *JAL*. Ten researchable questions have no article from either journal. The three researchable questions that have attracted nine and eight articles from *C&RL* and *JAL* combined are:

1.   What is the status of librarians in colleges and universities?
2.   How do undergraduates actually use their library collections and services?
3.   What are the criteria by which academic librarians make decisions regarding the acquisition and use of electronic and print resources?

Discussion
Analysis of the data shows that the articles in the peer-reviewed sections of *C&RL* and *JAL* reflect unevenly the seven research areas identified in the Research Agenda developed by ARCL-CLS. The problems regarding services, collections, staffing, and Internet technology are of major research interest to both *C&RL* and *JAL* authors between 1990 and 1999. The number of articles on services, collections, and staff

TABLE 4
Reflection of Researchable Questions in *C&RL* and *JAL*

	C&RL N	*JAL* N
R1. Values and academic librarianship		
Q1. What is the relationship between the academic library and the development of students' lifelong learning skills?	2	
Q2. In what way are the values expressed in the mission statements of college libraries fundamentally different from those expressed in the mission statements of large academic libraries?	1	
Q3. How do academic libraries incorporate institutional missions into their services and operations?	1	
Q4. How are the new methods of communicating information redefining the role of academic libraries?	1	
R2. Organizational structure in academic libraries		
Q1. How and why are organizational structures within the academic library changing? Consider, for instance, changes in the structure of reference departments, flattening of organizational charts, and team management.	1	
Q2. What models of library and computer center organizations are emerging in colleges and universities, and what structures have been most effective?		1
R3. Staffing of academic libraries		
Q1. What are the qualifications, skills, and backgrounds of outstanding academic librarians?	1	
Q2. What are the career paths of academic library directors?	1	
Q3. What is the status of librarians in colleges and universities?	8	1
Q4. How is the role of support staff changing?	5	
Q5. What is the impact of collective bargaining on library organizations?	1	
Q6. What is the appropriate basis (e.g., collection size, user population) for determining the number of librarians needed in an academic library? What is the appropriate ratio of librarians to support staff?		
R4. Collections and services in academic libraries		
Q1. How are the expectations of a diverse student and faculty population affecting academic library services?		
Q2. How do undergraduates actually use their library collections and services?	5	3
Q3. Under what conditions do special collections at colleges and universities attract additional resources to the library or draw away resources from basic library services?	1	

TABLE 4 (continued)
Reflection of Researchable Questions in *C&RL* and *JAL*

	C&RL N	*JAL* N
Q4. What is the relationship between student and faculty satisfaction with the library and its collection size and/or services?	2	3
Q5. What are the criteria by which academic librarians make decisions regarding the acquisition and use of electronic and print resources?	8	
R5. Cooperation among academic libraries		
Q1. What resource-sharing arrangements are most effective for academic libraries?		
Q2. What impact has resource sharing had on institution budgets, borrowing privileges, interlibrary loan procedures, cooperative collection development agreements, and staffing?		
Q3. How is technology affecting cooperative arrangements for academic libraries?	1	
Q4. What is the extent of collection overlap among academic libraries, and how does this affect resource sharing?		
R6. Resources and funding within academic libraries		
Q1. In institutions where the proportion of the academic library's budget meets or exceeds six percent of the total educational and general expenditures, where does the money go and how well does the library support the mission of the institution?		
Q2. How do the levels of library expenditure relate to tuition rates, total educational and general expenditures, size of student body, extent of financial aid, and other institutional factors?		
Q3. How do academic library directors compete for institutional support and acquire external sources of funding?		
R7. Standards, accreditation, and assessment of academic libraries		
Q1. In what ways have regional accreditation association standards affected academic libraries?		1
Q2. How are accrediting agency expectations changing, and how have academic libraries responded?		
Q3. Is there a substantial difference in the level of service being offered by academic libraries that meet or exceed ACRL standards for budget and staffing and those that do not?		
Q4. What assessment and performance measures are being used to evaluate the impact of the academic library on the education of the student population?	2	2
Q5. How well are academic libraries meeting the needs of their users?	1	

remains relatively constant throughout the decade. Although the research area of the Internet and academic libraries was not on the ACRL-CLS 1992 Research Agenda, the number of articles in this area has jumped from single digits in 1990, 1991, 1992, and 1993 to double digits since 1994. This publication phenomenon mirrors the development and application of Internet technology in the academic library environment. This shows that both *C&RL* and *JAL* have attempted to publish articles that reflect current research interests. It also shows that more researchers have been engaged in studies concerning Internet applications in academic libraries.

Among the research areas on the ACRL-CLS 1992 Research Agenda, *C&RL* published significantly more articles than *JAL* on values and academic librarianship and on staffing. In contrast, *JAL* published significantly more articles than *C&RL* on organizational structure and on resources and funding. Both journals published a similar number of articles on cooperation among libraries and on standards, accreditation, and assessment of libraries. Among the three research areas not listed on the ACRL-CLS 1992 Research Agenda, *C&RL* published significantly more articles than *JAL* on the literature of academic librarianship. In contrast, *JAL* published significantly more articles than *C&RL* on the Internet and academic libraries and on school of library and information sciences. This comparison shows that both *C&RL* and *JAL* may have their special emphasis for publishing articles in certain research areas.

Neither journal appears to evidence a tendency or trend to publish articles of different research areas throughout the decade other than the research area of the Internet and academic libraries. Since 1994, this area of interest has surged forward with published articles. The research areas of collections and services, cooperation among libraries, resources and funding, and standards, accreditation, and assessment of academic libraries are more or less constant in the number of published articles throughout the decade. The research

areas of values and academic librarianship and of literature of academic librarianship have more articles in 1990–1991 and 1998–1999, but many fewer articles in the middle of the decade between 1992 and 1997. Eight articles on organizational structure were published in 1992–1993, but only one in 1998–1999. The research area of school of library and information sciences has the fewest published articles in both *C&RL* and *JAL*, with zero articles published in 1992–1993 and four in 1998–1999.

Very few published articles reflect the researchable questions as illustrated in the ACRL-CLS 1992 Research Agenda. The following reasons may explain this:

- The questions are too specific and are meant to serve as examples only.
- The questions are of no interest to authors.
- The questions are not on the "radar" of potential authors.
- Authors tend to conduct research on topics of their own interest.

Conclusion

Articles on the research areas of collections and services, staffing, and the Internet occupy the major portion of the peer-reviewed sections of *C&RL* and *JAL*. A possible reason is that many authors may have submitted their articles on these research areas so that the two journals have an inventory from which to select high-quality articles for publication. The findings of this study also reveal that each of the journals may have its special emphases for certain research topics. There appears to be no obvious pattern or trend in the shifting of research interests throughout the decade except that Internet technology has received strong interest among researchers since 1994. The findings also reveal that authors did not address some research areas identified in the ACRL-CLS 1992 Research Agenda. Further, the findings reveal that a wide variety of researchable questions remain to be studied and reported. This presents a challenge and opportunity for academic librarians who wish to engage in research.

The limitation of this study is that some articles cannot be easily classified into a single research area. Likewise, some articles may touch on only the border of a research area. To address this, the author made the judgment to classify each article into a single research area. To facilitate this task, the author created an "other" category for articles that obviously did not fit into any of the identified research areas.

Notes

1. Lois Buttlar, "Analyzing the Library Periodical Literature: Content and Authorship," *College & Research Libraries* 52 (Jan. 1991): 38–53.

2. Ibid., 39.

3. David Kaser, "Century of Academic librarianship, as Reflected in Its Literature," *College & Research Libraries* 37 (Mar. 1976): 110–27.

4. Gregory A. Crawford, "The Research Literature of Academic librarianship: A Comparison of *College & Research Libraries* and *Journal of Academic Librarianship*," *College & Research Libraries* 60 (May 1999): 224–30.

5. Ibid., 224.

6. Ibid., 227.

7. Mickey Zemon and Alice Harrison Bahr, "Analysis of Articles by College Librarians," *College & Research Libraries* 59 (Sept. 1998): 422–32.

8. ACRL College Libraries Section's Research for College Librarianship Committee, "Research Agenda for College Librarianship," *College & Research Libraries News* 56 (July/Aug. 1995): 470–71, 485.

9. Ibid., 470.

10. Zemon and Bahr, "Analysis of Articles by College Librarians," 424.

11. Mary K. Sellen, "Bibliometrics in Information Science: A Citation Analysis of Two Academic Library Journals," *College & Research Libraries* 45 (Mar. 1984): 129.

12. Paula D. Watson, "Production of Scholarly Articles by Academic Librarians and Library School Faculty," *College & Research Libraries* 46 (July 1985): 336; Sylvia C. Krausse and Janice F. Sieburth, "Patterns of Authorship in Library Journals by Academic Librarians," *Serials Librarian* 9 (spring 1985): 132–33.