Issues in Science and Technology Librarianship

Reflections on ISTL

A Descriptive Review of ISTL: The Journal of the Science and Technology Section of ACRL

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Abstract

Issues in Science and Technology Librarianship (ISTL), a publication of the Science and Technology Section (STS) of the Association of College and Research Libraries (ACRL), was created as a web-based, open access journal in 1996. This article is a descriptive review of ISTL contributions during the last twenty-five years.

Keywords: STEM open access; Issues in Science and Technology Librarianship; Science and engineering information services; ACRL STS Section.

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Introduction

The creation of the World Wide Web occurred at CERN in 1989, but it entered the public domain only in April 1993. This action allowed for the creation of web-based journals, making the second half of the 1990s the beginning of the transformation of the academic scholarly world.

Crawford (2002), from The Research Libraries Group (RLG), in looking at the early development of open access publications, studied the success and endurance of free electronic journals from 1996 to 2001. In this work Crawford concluded: "Librarians have one long-standing success story: *Issues in Science and Technology Librarianship*,

sponsored by ACRL's Science & Technology Section" (Crawford, 2002, p. 119). Two other LIS journals are mentioned in this study: *MC Journal: The Journal of Academic Media Librarianship* and *LIBRES*. According to Crawford's study it is possible to conclude that ISTL is one of the first three academic web-based open access LIS journals in the world. The *MC Journal* started publication in 1998, *LIBRES* (as a web-based publication) in 1996.

The first issue of the web-based ISTL was the combined issue number 13 for Fall 96 - Winter 97, published in 1996. Therefore, with this celebratory issue number 99, the journal has published 87 issues in the last 25 years. Prior to 1996, ISTL had a humble beginning in 1991, it was an ASCII-based newsletter distributed by email to the members of the ACRL STS. A description of the origins of ISTL was presented by the author in the ISTL 15th anniversary issue (Osorio, 2011).

Issue number 13 (1996) had five "Board Accepted" articles, one "Book Review", one "Science and Technology Resources on the Internet" article, two "Conferences and Workshops" contributions, and one "From the Director's Chair" item. As in its humble beginnings in 1991, this 1996 issue did not have an editorial announcement of its new format, access, and coverage. The author understands this announcement was made in messages posted in the ISTL listserv.

More importantly, the first web-based issues had two articles discussing the status of digital journals at that time (Brown & Duda, 1996, 1997). In the first of these articles, the authors presented a summary of the state of online journals. Fourteen prominent STEM publishers are surveyed. In most cases, all or a partial number of their journals began online access during 1995, 1996, or 1997, and print subscriptions were combined with online access with or without additional fees. It was the beginning of significant changes in the scholarly publishing industry.

Purpose

The purpose of this article is to summarize the most significant productivity elements of ISTL.

Methods of Data Collection

In this descriptive analysis, bibliometric principles and practices such those presented in De Bellis (2009) are used. The following bibliographic data collections are used:

- Bibliographic information from every single issue and contribution (articles, columns, reviews, and others) were captured from the ISTL journal website.
- Searches in databases such as *Library Literature and Information Science* (EBSCO), *Scopus*, and *Inspec* were performed.
- Data from *Google Scholar* was used in *Publish or Perish*.
- As necessary, data were prepared in appropriate formats (text, CSV, and others).
- Finally, visualization capabilities from Excel were utilized.

Chronology of Sections and Columns

Through the years, sections and columns have been created, while others have been discontinued. This is not a complete chronology, rather a description of some of the changes that occurred.

Table 1. Major sections and columns of the journal

Section	Numbers	Starting Issue and Date	Ending Date
Refereed articles	177	# 27, 2000	Active (#98, 2021)
Board accepted articles	209	# 13, 1996	#80, 2015
Book reviews	121	# 13, 1996	#84, 2016
Science and technology resources in the Internet	67	# 13, 1996	Active (# 93, 2019)
Electronic resources reviews	57	# 27, 2000	Active (# 98, 2021)
Viewpoints	40	# 37, 2013	Active (# 96, 2020)
Tips from the experts	35	# 55, 2009	Active (# 98, 2021)
There's an app for that	17	#76, 2014	Active (#98, 2021)
Short communications	10	# 81, 2015	Active (#98, 2021)
Science librarianship & social justice	4	# 94, 2020	# 97, 2021
Webliographies	1	# 93, 2019	# 93, 2019
Sub total	738		
Others (see note below)	111		

Two important changes occurred: Board Accepted articles were discontinued after issue 80 (2015), and Book Reviews were published only until issue 84 (2016).

Some other sections with the number of contributions are:

- Conference summaries / Conference reports / Conference and Workshops, 56
- Journal Reviews & Reports, 19
- Letters to the editor / Letters / Letters and Comments, 20
- Letter from the Editor, 8
- Announcements, 3
- Review / Other Reviews, 2
- Abstracts, 1

- Invited article, 1
- From the Director's Chair, 1.

Sub-total= 111. Therefore, a total of 849 contributions have been published from issue 13 (1996) to issue 98 (2021) for an average of 9.87 contributions per issue. In addition, the journal has published 30 issues with a designated theme.

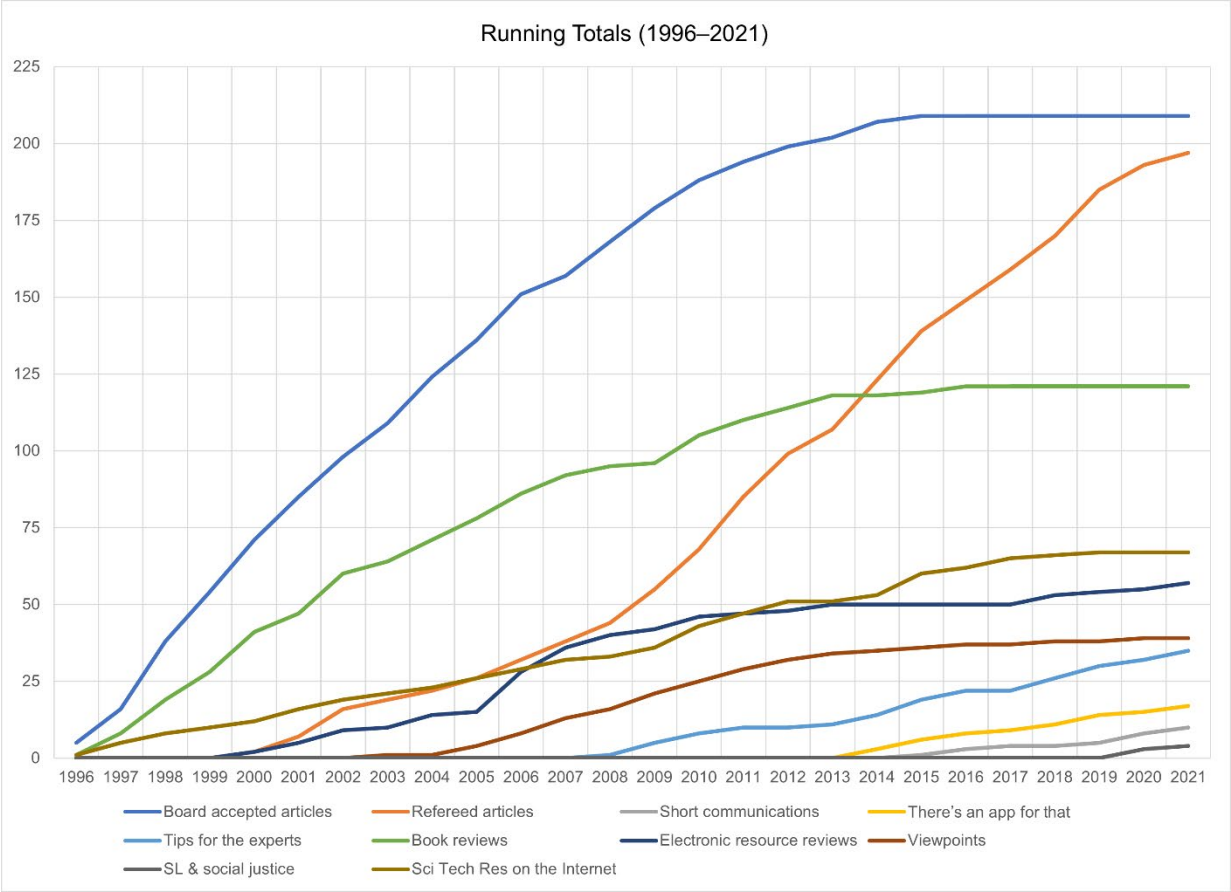

Figure 1. Growth of major sections of ISTL

Figure 1 shows the continuous growth of major sections of the journal; of particular interest is the increase in the number of Refereed articles.

Authors and Institutions

A total of 952 names are found as authors or coauthors of the 849 contributions. Of those, 89 were in three or more articles, 38 were in four or more articles. Table 2 is the alphabetical list of the most productive authors; those with five or more contributions.

A total of 320 institutions were found for the 952 contributors. Most of these institutions are colleges and universities; other types are publishers, government agencies, public libraries, and research laboratories. Geographically there is a strong presence from the USA, followed by Canada and UK. Table 3 shows the most represented institutions.

Cited Articles and STS Metrics

A Search in *Publish or Perish* (12/22/21) by publication/journal name produced 754 results during the period from 1996 to 2021.

The most cited articles are shown in Table 4. Of the top ten, articles ranked first, fifth, ninth, and tenth are Board Accepted, while those ranked second, third, fourth, sixth, and eighth are Refereed articles, and the seventh ranked is an Invited article.

Table 5 shows bibliometric data created in Publish or Perish from data in Google Scholar. It is important to note the good reported values for the h-index of 32, and for the g-index of 54. For the definitions of these metrics the reader can consult Harzing (2011).

Table 5. ISTL metrics

Metrics
Publication years: 1996-2021
Citation years: 25 (1996-2021)
Papers: 754
Citations: 5074
Cites/year: 202.96
Cites/paper: 6.73
Cites/author: 4.55
Papers/author: 0.68
Authors/paper: 1.48
h-index: 32
g-index: 54
hI, norm: 28
hI, annual: 1.12

Subject Coverage

The subject coverage was obtained based on citations collected in *Library Literature and Information Science*, which produced 746 items for the period 1996-2021. The data was then converted into an Excel file. After deleting name of libraries, institutions, states, countries and other nonsignificant topical terms, Table 6 shows the descriptors with ten or more hits.

Conclusions

Issues in Science and Technology Librarianship is a successful contribution to the open access movement, particularly because it is run by volunteers, authors are not subject to publication fees, and without cost to the ACRL Science and Technology Division, it has been housed initially at the University of California, Santa Barbara and presently at the University of Alberta, Edmonton. In addition, it has a generous author copyright policy.

It has been a very productive twenty-five years. A well-defined purpose, and consistent cooperation among teams have made it possible for this publication to continue. For this project to proceed for the next quarter century, maintaining this focus and collegial spirit will be of great importance. Finally, it is also proper to recognize the leadership of ISTL general editor and founder Andrea Duda.

Acknowledgments

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Table 2. Authors with five or more contributions in alphabetical order by last name

Name of Author	Number of Contributions
Ayers, Meredith	6
Barsky, Eugene	6
Bussmann, Jeffra D.	5
Butkovich, Nancy J.	5
Duda, Andrea L.	7
Duffy, Jane C.	5
Flaxbart, David	14
Fosmire, Michael	10
Gelfand, Julia	12
Hughes, Janet	5
Jensen, Ann	6
Johnson, Bill	6
Lafferty, Meghan	5
Osorio, Nestor L.	7
Shrode, Flora	6

Table 3. Institutions with 10 or more contributions in alphabetical order

Name of Institution	Frequency
Cornell University	22
Georgia Institute of Technology, Atlanta	13
Indiana University Bloomington	11
Kansas State University, Manhattan	13
Northern Illinois University	17
Oregon State University, Corvallis	13
Pennsylvania State University, University Park	31
Purdue University, West Lafayette	25
University at Buffalo	15
University of California, Berkeley	29
University of California, Irvine	13
University of California, Santa Barbara	19
University of Colorado at Boulder	10
University of Florida, Gainesville	10
University of Illinois at Urbana-Champaign	14
University of Maryland, College Park	15
University of Minnesota, Minneapolis/ St. Paul	18
University of Saskatchewan	10
University of Tennessee, Knoxville	20
University of Texas at Austin	22
University of Washington	10
Wayne State University	10

Table 4. Most cited articles

Rank	Cites	Authors	Title	Year
1	150	AB Wagner	Open access citation advantage: An annotated bibliography	2010
2	149	I Lawal	Scholarly communication: The use and non-use of e-print archives for the dissemination of scientific information	2002
3	144	AM Gooden	Citation analysis of chemistry doctoral dissertations: An Ohio State University case study	2001
4	136	DH Morse, WA Clintworth	Comparing patterns of print and electronic journal use in an academic health science library	2000
5	133	EM Corrado	The importance of open access, open source, and open standards for libraries	2005
6	128	R Gilmour, L Cobus-Kuo	Reference management software: A comparative analysis of four products	2011
7	126	RE Luce	E-prints intersect the digital library: inside the Los Alamos arrive	2001
8	126	JA Sears	Chat reference service: An analysis of one semester's data	2001
9	97	S Hiller	How different are they? A comparison by academic area of library use, priorities, and information needs at the University of Washington	2002
10	93	LS Mercer	Measuring the use and value of electronic journals and books	2000
11	91	K Hoffmann, F Antwi-Nsiah, V Feng, M Stanley	Library research skills: A needs assessment for graduate student workshops	2008
12	83	S Fingerman	Web of Science and Scopus: Current features and capabilities.	2006
13	80	HG Rempel, JR Davidson	Providing information literacy instruction to graduate students through literature review workshops	2008
14	61	VF Scalfani, J Sahib	A model for managing 3D printing services in academic libraries	2013
15	57	D Dietrich, T Adamus, A Miner, G Steinhart	De-mystifying the data management requirements of research funders	2012
16	57	JR Garritano, JR Carlson	A subject librarian's guide to collaborating on e-science projects	2009
17	57	NL Osorio	Web sites of science–engineering libraries: An analysis of content and design	2001

18	56	HM Dess	Scopus	2006
19	51	M Strutin	Making research guides more useful and more well used	2008
20	49	VH Resh	Science and communication: An author/editor/user's perspective on the transition from paper to electronic publishing	1998
21	48	C Hightower, C Caldwell	Shifting sands: science researchers on Google Scholar, Web of Science, and PubMed, with implications for library collections budgets	2010
22	45	M Fosmire, S Yu	Free scholarly electronic journals: How good are they	2000
23	42	C Gabaldón, J Repplinger	GIS and the academic library: a survey of libraries offering GIS services in two consortia	2006
24	41	J Arendt	Are article influence scores comparable across scientific fields	2010
25	40	M Burright	Google Scholar—Science & technology	2006

Table 6. Top descriptors obtained from *Library Literature and Information Science*

Descriptor	Frequency	Descriptor	Frequency
Websites -- Directories	151	Academic library collection development	16
Databases	74	Bibliography (Documentation)	16
Information literacy	72	Academic libraries & faculty	15
Librarians	69	Publications	15
Academic librarians	63	National Center for Biotechnology Information (U.S.)	14
Academic libraries	61	Chemistry	13
Science & technology libraries	56	Computer network resources	13
Library science	49	Data libraries	13
Electronic journals	40	Information science	13
Websites	40	Information sharing	13
Engineering	35	Learning	13
Open access publishing	35	Science students	13
Electronic books	34	Continuing education	12
Library orientation for engineering students	34	Information science -- Computer network resources	12
Science & technology librarians	28	Library orientation	12
Electronic information resources	27	Library outreach programs	12
Data management	26	Research libraries	12
Information literacy research	25	Sciences	12
Science	25	Bibliographical citations	11
Geographic information systems	23	Data quality	11
Citation analysis	22	Management of library collection development	11
Institutional repositories	20	Medicine -- Computer network resources	11
Mobile apps	20	Bibliography (Documentation) -- Software	10
Academic library research	19	Collection development in libraries	10

Library orientation for biology students	19	Consumer preferences	10
Library resources	19	Library materials	10
Scholarly sources	19	Plagiarism	10
Medical libraries	18	United States. Patent & Trademark Office	10
Research	17		

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