TITLES OF LIS TEXTBOOKS AND RESEARCH ARTICLES: A BIBLIOMETRIC STUDY

Kiran Kaur
Lily Lee
Tiew Wai Sin
B. K. Sen
MLIS Programme
Faculty of Computer Science & Information Technology
University of Malaya
50603 Kuala Lumpur, Malaysia.
Email: bks@fsktm.um.edu.my

ABSTRACT

Studies the number of keywords in the titles of library and information science textbooks and research articles. Results indicate that on an average the number of keywords in the titles of research articles and textbooks are 7.7 and 5 respectively and prove the hypothesis that the number of keywords in textbook titles is less than that of the research article titles.

Keywords: Library and information science, research articles, textbooks, titles, words

INTRODUCTION

The titles of documents have always been an interesting field of study for the bibliometricians. However, the informativeness or the information content of titles has drawn maximum attention of the researchers inasmuch as about a dozen studies have so far been reported on the topic covering literature of such diverse areas as engineering (Bottle, 1970), prostaglandin (Ghosh, 1974), contracep-tion (Ghosh, 1977), science and tech-nology (Kazhideeva, 1977), library and information science (Peritz, 1984; Die-ner, 1984; Klasse, 1986) sociology, (Pe-ritz, 1984; Klasse, 1986), soil conser-vation (Deshmukh, 1986), law (Klasse, 1986), medicine, economics, and philo-sophy (Buxton, 1987), and medical poly-mers (Livshits 1991). Buxton (1977) studied the variation of information content of the titles of research papers with time in a number of disciplines such as chemistry, botany, physics, medicine, history, social sciences and philosophy published in English, German, and French periodicals. Bachir (1991) studied the information content of titles of sixteen different fields belonging to science and non-science basing both Arabic and English periodical articles The advent of KWIC index in 1959 made it more or less imperative for the research article titles to be more informative. To what extent the new development in a field influenced the title was studied by Souza

(1978) covering the literature of library and information science. How titles in relatively new subject such as counselling are becoming complex with the passage of time, has been the focus of a study by White (1991). The title length and its relationship to the number of authors has been the subject of three diferent studies (Kuch, 1978; White, 1991; Yitzhaki, 1994). Other studies conducted with titles are devoted to the subject content (Keller, 1992; Ro-driguez, 1996), syntactic and semantic structure (Umeno, 1989: Sano, 1993), relationship with text (Diodato, 1982; Pshenichnaya, 1985), word count (Bird, 1975), and teaching of the analysis of titles (Nahl-Jakobovits, 1987).

We have encountered no study where the title lengths of research articles have been compared with those of the textbooks in the same subject. Hence, this study was undertaken.

HYPOTHESIS

It has been generally observed that the titles of textbooks tend to be shorter compared to the titles of research articles inasmuch as the former deal with broad subjects generally expressible with a single or a few terms. Titles like *Bio-remediation, Polynomials, Glucokinase, Polyamines, Thermal desorption, Forest ecosystems, Sensory neuropathies* (Gene-ral catalogue, 1996) are not at all uncom-mon. On the other hand, in research, the study of the subject is always narrowed down to a specific topic relating to a broader field and involves various aspects touching on the research topic itself. Therefore, expressing that takes more words as the researcher tries to make sure that the title expresses its contents clearly and accurately. As a result such long titles as *A study of the impact of the medium of instruction at school level on the performance of individuals pursuing engineering and medical courses; A study of behavioural manifestations of sexual development of urban and rural adolescents in relation to their attitude towards sex;* etc. (Uni-versity News, 1997) are but quite com-mon. This study has been undertaken to find out to what extent our observation is true as far as library and information science (LIS) titles are concerned.

Our general experience about the titles of textbooks and research articles led us to the hypothesis that *"the number of keywords on an average in the title of research articles are more than the number of keywords in the title of textbooks."*

DEFINITION

Research article - A primary commu-nication which is based on systematic investigation and published in the form of a paper in a journal, conference pro-ceedings, and the like.

Textbook - A book that contains informa-tion about a subject that people study (Longman), a book of information for use in studying a subject (Oxford), a volume, as of some classical author, on which a teacher lectures or comments, hence any manual of instruction; a

schoolbook (Webster). Keeping in view these definitions we have considered such books are textbooks as are used by students for learning a subject and teachers for teaching a subject.

Title – (i) The name of a particular book that figures on the title page. The explanatory part of the title, if any, has also been considered for the study. (ii) The name of a research paper that appears at the beginning of the paper.
Keywords – A word or a term comprising either a noun or an adjective-noun combination that can be used to retrieve information from a database.

OBJECTIVE

The present study aims to test the validity of the above hypothesis in the field of library and information science consi-dering English language titles only.

SCOPE

This study is confined to LIS textbooks and research articles published from any part of the world. Textbooks published in English language and available in the University of Malaya (UM) Library and research articles available in *LISA/ CRLISA PLUS* database on CD-ROM formed the basis of our study. All types of reference books were excluded from the purview of this study.

METHODOLOGY

The following steps were taken to con-duct the study:

i) Selection of 100 titles of LIS textbooks

One hundred titles of LIS textbooks as per the definition given above were taken and noted down at random from the OPAC of the UM Library [Appendix I]. While noting down the titles care was taken to see that the books were more or less recent since the pattern of titles undergo changes with the passage of time (White, 1991). The titles were selected from all the broad areas of LIS.

ii) Selection of 100 titles of LIS re-search articles

One hundred titles of LIS research articles as per the definition given above were selected from the *LISA/CRLISA PLUS* database. The first search was made with the subject descriptor research (su=research), and the second search with the key term in the tittle as research (kt=research). The first search resulted in 6817 records and the second search 5755 records. The records retrieved were in some way or the other related to research but most of them were not research arti-cles. Hence, abstracts of the records had to be checked one by one to find out the research articles. The research articles published in 1996 and 1995 were taken to make the total 100. In the case of non-English titles, the English translation of the titles as were given in the database was taken. [Appendix II]

iii) Identification of keywords in the titles of textbooks and research articles and their counting

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To ease identification, articles, preposi-tions, conjunctions, pronouns, etc. which form non-keywords were marked be-cause they were far less in number com-pared to keywords. Once the marking was over, the keywords were counted, totaled, and the mean score per title was determined. Hyphenated words, such as how-to-do-it have been considered as one word. Numerals such as second, three, etc. were considered non-keywords, whereas such numerals as twenty-first forming part of the phrase twenty-first century have been counted as keywords. Numerals indicative of the version of a particular software (e.g. dBase IV, Lotus 1-2-3) have been considered non-key-words. All abbreviations were counted as keywords. The non-keywords found in this study are: a, about, among, an, and, another, any, as, at, based, being, better, between, beyond, by, can, do, for, forward, from, further, going, how, in, into, its, of, on, or, other, our, second, so, some, the, their, them, they, three, through, to, too, toward, towards, us, via, we, with, your, and you're.

RESULTS

The number of keywords in 100 titles of LIS textbooks totaled exactly 500, and those in 100 research articles 770. The mean scores for the LIS textbooks and research articles were found to be 5.00 and 7.70. Thus, the results validate our hypothesis, an outcome of our day-to-day experience.

CONCLUSION

The procedure for titling a textbook and a research article is found to be the same in all languages in the world, hence it is expected that the hypothesis will hold good universally. More studies on the topic may reveal if there is any exception to this rule.
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ACKNOWLEDGMENT

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APPENDIX I

List of one hundred Library and Information Science Textbooks

	Titles	Call Number
1.	101 uses of dBase in libraries	Z 678.93 33One
2.	A new manual of classification	Z 696 A4Mar
3.	An introduction to computer-based library systems	Z 678.9 Ted
4.	Authority control: principles, applications, and instructions	Z 693.3 A88Cla

5.	Automated media management systems	Z 699.5 A9Kra
6.	Basic research methods for librarians: Information management, policy and services	Z 669.7 Pow
7.	Budgeting for the new school library in the 1990s	Z683 Tay
8.	Building influence for the school librarian	Z675 S3 Har
9.	Campus strategies for libraries and electronic information	Z 675 U5Cam
10.	Cataloging	Z 693 Hun
11.	Cataloging and classification: an introduction	Z 693 U6Cha
12.	Charging for information services to the private sector: a review of current practice	Z 683.2 G7Red
13.	Collection assessment and acquisitions budgets	Z 678 Col
14.	Collection management in the electronic age: a manual for creating community college collection	Z 675 J8Col
15.	Computer-related technologies in library operations	Z 678.9 Wri
16.	Computers for libraries	Z 678.9 Row
17.	Confronting the future university library in the next decade	Z 675 U5Xon
18.	Creative planning for library administration: leadership for the future	Z 678 Cre
19.	Designing and renovating school library media centers	Z679 Kla
20.	Designing information: new roles for librarians	Z 678.9 A4U6 Des
21.	Effective library and information centre management	Z678 Bry
22.	E-mail for libraries	Z 678.93 E44Pri
23.	Essential guide to dBase IV in libraries	Z 678 D33Bei
24.	Evaluation acquisitions and collection development	Z 687 Eva
25.	Foundations and issues in library and information science	Z 665 Shu
26.	Guide to the use of libraries and information sources	Z 710 Gat
27.	Helping teachers teach	Z 675 S3Tur
28.	How to use a law library: an introduction to legal skills	Z 615 L2Dan
29.	Human aspects of library automation	Z 678.9 Dye
30.	Indexing and abstracting in theory and practice	Z 695.9 Lan
31.	Information skills in academic libraries: teaching and learning role in higher education	Z 675 U5Blu
32.	Integrating library use skills into the general education curriculum	Z 711.2 Int
33.	Interfaces for information retrieval and online systems: the state of the art	Z699.35 U74Int
34.	Introduction to automation for librarians	Z 678.9 A4U6Saf
35.	Introduction to cataloging and classification	Z 693 Wyn
36.	Introduction to indexing and abstracting	Z 695.9 Cle
37.	Introduction to informetrics: quantitative methods in library, documentation, and information science	Z 669.8 Eqq
38.	Introduction to library public service	Z 711 Eva
39.	Introduction to library services	Z 665 Che
40.	Introduction to reference work	Z 711 Kat

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41.	Law for librarians	Z 675 L2Mac
42.	Law library preservation issue: an introduction to managing technology in law libraries	Z675 L2 Fit
43.	Libraries of the future: essays on the library in the twenty-first century	Z 665 Lib
44.	Library administration and management	Z678 Pan
45.	Library and information center management	Z 678 Stu
46.	Library and information science research: perspectives and strategies for improvement	Z 669.7 Lib
47.	Library classification - facts and analysis	Z696 A4Hus
48.	Library research models: a guide to classification, cataloging, and computers	Z 711 Man
49.	Library services for career planning, job searching and employment opportunities	Z 711.92 U53Lib
50.	Making a change for library and information services	Z 674.4 Web
51.	Managing library automation	Z 678.9 Cla
52.	Managing the new one person library	Z 678 St
53.	Manpower planning in university libraries	Z 675 U5Mur
54.	Measurement in information science	Z 669.8 Roy
55.	Measuring information: an information services perspective	Z 669.8 Tag1995
56.	Modern library technology and reference services	Z 675 U5Mod
57.	Moving your library	Z 679.5 Mac
58.	Naturalistic inquiry for library science: methods and applications for research, evaluation and teaching	Z 669.7 Mel
59.	Operational costs in acquisition	Z689 Ope
60.	Opportunities in library and information science careers	Z 682.2 U6Hei
61.	Organising knowledge	Z 699.35 M28Row
62.	Owning your numbers: an introduction to budgeting for special libraries	Z675 A2War
63.	Planning and designing libraries for children and young people	Z 718.1 Dew
64.	Planning for automation: how-to-do-it manual for librarians	Z 678.9 Coh
65.	Preparing a guide to your library and information service	Z 710 Web
66.	Preservation and the management of library collection	Z701 Fea
67.	Preservation in libraries - a reader	Z701 Har
68.	Reference and information services in the health science libraries	Z 675 M4Ref
69.	Research and evaluation for information professionals	Z 669.7 Los
70.	Research for school library media specialists	Z 675 S3Gus
71.	Research methods in library and information studies	Z 669.7 Sla
72.	School library media centers in the 21st century	Z 675 S3Cra
73.	So you're going to run a library: a library management primer	Z 678 Sut
74.	Space planning	Z 678.55 Fre
75.	Strategic planning for library and information service	Z678 Cor
76.	Strategic planning in higher education: implementing new roles for the academic library	Z 675 U5Str
77.	Subject cataloguing: a how-to-do-it workbook	Z 695 Fer

78.	Survey of resources and uses in higher education library	Z 675 U5Sum
79.	Systems analysis for librarians and information professionals	Z678 Osb
80.	Teaching the library research process	Z 711 Kuh
81.	The art of indexing	Z 695.9 Bon
82.	The basics of data management for information services	Z 678.9 Und
83.	The challenge of technology: action strategies for the school library media specialist	Z 675 S3Wri
84.	The design and evaluation of public library buildings	Z679 Lus
85.	The fee or free decision: legal, economic, political and ethical perspectives for public library	Z 683 Gia
86.	The impact of the special library on corporate decision-making	Z 675 C7Mar
87.	The integrated library: encouraging access to multimedia materials	Z 688 N6Wei
88.	The librarian, the scholar, and the future of the research library	Z 675 R45Smi
89.	The library book: creating a learning environment in your school library	Z 675 S3Shi
90.	The management of library and information studies education	Z 688 Man
91.	The myth of the electronic library: librarianship and social change in America	Z 678.9 A4U6Bir
92.	The online catalog: a critical examination of public use	Z699.35 C38Pet
93.	The reference library user: problem and solutions	Z 711.4 Ref
94.	The systems librarian: the role of the library systems manager	Z 678.9 Sys
95.	The use of bibliometric indicators for assessment	Z 669.8 Moe
96.	The use of technologies in Malaysian libraries: meeting challenges towards 21st century	Z 674.83 M4Shabj
97.	The virtual library: an SLA information kit	Z 675 A2 Vir
98.	The virtual school library: gateway to the information superhighway	Z675 S3 Vir
99.	Training and development for women	Z668.5 Mor
100	Using Lotus 1-2-3: a how-to-do-it manual for library applications	Z 678.93 L68Mac

APPENDIX II

List Of Research Articles Obtained From LISA/CRLISA Plus

Sr. No.	Title	Year
1	A bibliometric approach to social sciences. National research performance in selected social science areas, 1990-92	1996
2	A text filter for the automatic identification of empirical articles	1996
3	An analyst's desktop: integrated tool for research management	1996
4	An observational method for undertaking user needs studies	1996
5	ARL academic science and technology and libraries: report of a survey	1996
6	Art in the Web: the advanced information workstations a tool for art research	1996
7	Authorship in *College and Research Libraries* revisited: gender, institutional affiliation and	1996

	collaboration	
8	Book selection: another voice	1996
9	Case studies in opportunities for libraries in Europe(OPLES)	1996
10	Data security report	1996
11	Designing a probe to explore home information system in the United Kingdom	1996
12	Determining the quality of publications and research for tenure or promotion decisions: a preliminary checklist to assist	1996
13	Developing the flexible library and information workface: a new research project	1996
14	Dropping the mobile service results in a loss of readers: the mesh of the library network /-/ theory and research	1996
15	Ergonomics programs and activities in research libraries	1996
16	Evaluating interacting system in TREC	1996
17	Evaluation of BBC Scotland library services	1996
18	Experimentation with electronic document delivery in the BIBDEL Project in the University of Central Lancashire	1996
19	Faculty status for library professionals: its effect on job turnover and job satisfaction among university research library directors	1996
20	Feminism and linguistics: how technology can prove our point	1996
21	Findings from a research project: commercial CD titles in Italian university libraries	1996
22	Further education learning resources in the ascendant: education innovation or economic inconvenience	1996
23	Further research on dynamic time slice in ATM switch	1996
24	Getting beyond the dark side of distributed computing	1996
25	Growth of ARL member libraries 1962/63 to 1984/84	1996
26	Identification of patients treated with strong analgesics: an assessment of two Danish information systems with respect to epidemiological research	1996
27	Information and research needs of acute care clinical nurses	1996
28	Information centre users: how we see them, how they see us	1996
29	Information policy audit: a case study of an organizational analysis tool	1996
30	KPMG's UK 'Computer security review 1994"	1996
31	Learning to learn: research into an interventionist programme being piloted at the University of Humberside	1996
32	Lessons from higher education	1996
33	Library power for children	1996
34	Library systems: transaction log fever; analyzing patron searches can reveal solutions to increase search services	1996
35	Office of Research Studies copy cataloguing throughput time for CIP titles	1996
36	ORISIS (Osnabruck Intelligent Research Information System) - a hyperbase front end system for OPACs	1996
37	Periodicity in academic library circulation: a spectral analysis	1996
38	Positioning a CNRS Department in the scientific literature	1996
39	Protective electronic evidence: a second progress report on a research study and its	1996

	methodology	
40	Qualitative research in information studies: A Malawian study	1996
41	Quantitative measurement of public opinions on new technologies: an application of SEM methodology to the analysis of beliefs and values toward new human application of genetic engineering	1996
42	Research and development of an international network for promoting grey literature: a case study involving the use of Internet	1996
43	Research brief: rates for return to citation	1996
44	Research in public libraries: a project to find a way forward	1996
45	Research knowledge and activities of special librarian: results of a survey	1996
46	Some users and screens at the Bibliotheque Publique d'Informations	1996
47	Students perception of the library service at the University of Sussex: practical quantitative and qualitative research in an academic library	1996
48	Support for research and publishing in Tennessee's academic libraries: a survey of college and university librarians	1996
49	The advantages and problems encountered in the use of longitudinal survey	1996
50	The CATRIONA Project: feasibility study and outcomes	1996
51	The growth and development of research in the field of ecology as measured by dissertation title analysis	1996
52	The Internet and information professionals - a preliminary research	1996
53	The networking university: a study of the Swedish university using institutional co-authorship as an indicator	1996
54	The role of information services in the research centres in Congo	1996
55	The use of an algorithmic approach for the assessment of research quality	1996
56	Theoretical sensitivity in the ground theory style of qualitative research	1996
57	Towards discovery support system: a replication, reexamination, and extension of Swanson's work on literature-based discovery of a connection between Raynaud's and fish oil	1996
58	Type of empirical research reports as an explanatory factor in citation performance of psychiatric research	1996
59	Work on the integration and language at the University of Torino	1996
60	A decade of changes for library and information journals	1995
61	A method for taking a reliable statistical sample of reference enquiries in a New Zealand public library system	1995
62	A methodology for researching AARNet use	1995
63	A study of the application of appropriate research techniques in Masters' theses and dissertations in the Library and information science: a case study of A. B. U. Zaria	1995
64	A survey of mass deacidification processes	1995
65	An evaluation of classification and subject cataloging in entry level cataloging copy. Implication for access and instruction	1995
66	An index to measure the international collaboration in developing countries based on the participation of national institutions: the case of Latin America.	1995
67	An investigation of the use of an online catalog user characteristics and transaction log analysis	1995
68	Analysing the research articles published in three periodicals of medical librarianship.	1995

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69	Assessing the impact of information on policy formation in the Carribean	1995
70	Beliefs among computer-mediated information services among college students; an exploratory study	1995
71	Bibliometric analysis of primary periodicals of Publications and Information Directorate	1995
72	British library and information science journals: a study of quality control	1995
73	Building a better fit: revising expectation about how organisations use online information resources	1995
74	By any other name: accounting for failure in the naming of subject categories	1995
75	Can computer conferencing be effective for information policy formulation?	1995
76	Children's searching behavior on browsing and keyword online catalogs: the Science Library Catalog Project	1995
77	Chinese communication studies: a citation analysis of Chinese communication research in English language journals	1995
78	CIDE/REDUC case study	1995
79	Citation to journal articles as 'delayed indicators' of the impact of agricultural research.	1995
80	Clio in Cyberspace	1995
81	Content -based image retrieval from large databases: the Brunei approach	1995
82	Cooperative collection development in Finnish research libraries	1995
83	Critical factors in information supply to humanitarian aid agencies	1995
84	Critical issues in evaluating the impact of IT on information activity in academic research: developing a qualitative research solution	1995
85	DECIMAL: knowledge for better decision making	1995
86	Delivery of library services to distance education students: the BIBDEL Research Project at Dublin City University Library	1995
87	Design strategies and knowledge in object-oriented programming: effects of experience	1995
88	Development of bibliometric indicators for utility of research to users in society: measurement of external knowledge transfer via publications in trade journals	1995
89	Do workstations work too well? An investigation into library workstation popularity and the principle of least effort	1995
90	Document use during a research project: a longitudinal study	1995
91	Effects of air pollutants on the accelerated aging of cellulose-based materials	1995
92	Electronic health and safety information in the oil and gas industry	1995
93	Electronic reference option: tracking the changes	1995
94	Encouraging research through electronic mentoring: a case study	1995
95	End user search behaviors and their relationship to search effectiveness	1995
96	Evaluation of the economic effects of Brite-Euram programmes on the European industry	1995
97	Exploratory study of the information needs in the Kwa-Ngwanese (Natal) and Qumb (Transka) communities in South Africa	1995
98	Federal research impact assessment: axioms. approaches, applications	1995
99	German government department experience of RT & D programme evaluation and methodology	1995
100	Group activity users as a method of solving the imbalance between production and use of information	1995