

**RELATIONSHIP BETWEEN LCSH AND LCC NOTATIONS IN CLASSES OF  
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The Author Acknowledges the Editorial Assistance of Milynn Tate.

# **RELATIONSHIP BETWEEN LCSH AND LCC NOTATIONS IN DIFFERENT CLASSES OF LCC**

## **ABSTRACT**

Association between Library of Congress Subject Readings (LCSHs) and their corresponding Library of Congress Class Notations (LCCNs) was measured in term of probability of having the identical LCCN for all occurrences of a given LCSH in a database consisting of 101,347 MARC records. The measurements were controlled with regard to main classes of the Library of Congress classification (LCC). The analysis was repeated for all LCC main classes to determine if there are significant variations in association between LCSHs and their corresponding LCCNs in various classes of LCC. The degree of association between LCSHs and their corresponding LCCNs was found to be statistically significant among different classes of LCC. Class 'T' (Technology) had the strongest degree of association and Class 'A' (General Works) had the weakest level of association.

## INTRODUCTION

Applications and limitations of the Library of Congress Subject Headings with respect to certain subject fields are discussed by many authors. Ladenson studied subject headings in Social Sciences.<sup>1</sup> Wang examined LCSHs for Chinese literature.<sup>2</sup> Marshall studied LCSHs applied to women.<sup>3</sup> Patersen did so for the field of arts.<sup>4</sup> Berman demonstrated objectionable subject headings related to race, religion, sex, and ethnic groups.<sup>5</sup> Clack examined adequacy of the Library of Congress Subject Headings to determine the extent to which subject headings were satisfactory for retrieval of black resources.<sup>6-7</sup> Harris and Clack studied treatment of people in the LCSH list.<sup>8</sup>

Also, the relationship between the Library of Congress Classification and Library of Congress Subject Headings has been investigated by several researchers in the field. Manheimer studied the relationship of classified Library of Congress Subject Headings to the Library of Congress Classification scheme in class GR (Folklore).<sup>9</sup> The author analyzed the relationship between LCSHs and LCCNs in science and technology monograph bibliographic records.<sup>10</sup>

What seems to be less discussed or investigated is the comparison of the relationship between LCSHS and LCCNs in various main classes of the Library of Congress Classification. This study attempts to find out if the degree of association between the Library of Congress Subject Headings and their corresponding Library of Congress Classification notations vary significantly with respect to the different classes of the Library of Congress Classification? To answer this question the following hypothesis was formulated for this study:

There is a statistically significant difference between the probability of having identical LCCNs for identical subject headings in bibliographic records for documents classed in different divisions of knowledge as determined by 21 main classes of the Library of Congress Classification. Subject headings in bibliographic records for science and technology documents, where there are more precise definitions for terms, are expected to have a greater degree of association with their class notations than those areas such as social sciences where many terms would have less precise definitions.

## **METHODOLOGY**

Library of Congress Subject Headings and their corresponding Library of Congress Classification notations of 101,347 bibliographic records on two LC MARC tapes were retrieved and alphabetically sorted. All retrieved subject headings and their corresponding class notations were alphabetically sorted to simulate a subject catalog. A more detailed description of the process can be found in the author's doctoral dissertation.<sup>11</sup> A computer program was developed to count all subject headings which had an occurrence of more than once and then count the frequency of the most frequent identical class notation corresponding to each subject heading. The process was repeated for all subject headings which had an occurrence of more than once, and the measurements were controlled with respect to all main classes of the Library of Congress Classification.

## ANALYSIS OF DATA

The analysis of the association between LCSHs and their corresponding LCCNs in various classes of the Library of Congress Classification indicated that classes 'F' (History of United States), 'G' (Geography, Anthropology, Recreation), 'L' (Education), 'R' (Medicine), 'S' (Agriculture), and 'T' (Technology) had probabilities over 80%, while classes 'A' (General Works), 'C' (Auxiliary Sciences of History), 'N' (Fine Arts), and 'P' (Language and Literature) had probabilities below 65%. The following table summarizes the results of data analysis:

Table 1

Comparison of Probability, Correlation between LC Subject Headings and LCC Notations in LCC Classes

LCC Main Classes	LCSH f	LCC f	p	r	s
A (General works)	127	53	0.42	0.93	.001
B (Philosophy/Religion)	2006	1481	0.74	0.61	.001
C (...Science of History)	214	137	0.64	0.60	.001
D (History: General)	1349	983	0.73	0.33	.001
E (History: America)	367	285	0.78	0.59	.001
F (History: United States)	395	339	0.86	0.41	.001
G (Geography...)	806	644	0.80	0.46	.001
H (Social Sciences)	3816	2832	0.74	0.49	.001
J (Political Sciences)	746	484	0.65	0.46	.001
K (Law)	1080	614	0.57	0.25	.001
L (Education)	678	543	0.80	0.65	.001
M (Music)	372	271	0.73	0.33	.001
N (Fine Arts)	579	370	0.64	0.83	.001
P (Literature)	2320	1482	0.64	0.29	.001
Q (Science)	2080	1645	0.79	0.59	.001
R (Medicine)	1782	1502	0.84	0.38	.001
S (Agriculture)	293	239	0.82	0.40	.001
T (Technology)	2109	1833	0.87	0.66	.001
U (Military Science)	120	91	0.76	0.82	.001
V (Naval Science)	64	44	0.69	0.80	.001
2 (Bibliography)	418	342	0.28	0.83	.001
ALL Classes	6142	5010	0.82	0.70	.001

To be able to compare frequency counts, frequencies of subject headings and their corresponding class notations in each main class were adjusted. There was a significant difference between adjusted values for different main classes. Class 'T' (Technology) with a probability of 0.87 had the highest probability and class 'A' (Generalities) with a probability of 0.43 had the lowest level of association. The results of chi square test of differences are given in table two.

Table 2

Chi Square Test of Differences for Adjusted Values of  
LCSH and LCC in LCC Main Classes

LCC Main Classes	LCSH f	LCC f	Adjusted LCSH	Observed LCC	Expected LCC	Rank
T (Technology)	2109	1833	1034	899	754	1
F (History: United States)	395	339	1034	887	754	2
R (Medicine)	1782	1502	1034	872	754	3
Z (Bibliography)	418	342	1034	846	754	4
S (Agriculture)	293	239	1034	843	754	5
G (Geography ...)	806	644	1034	828	754	6
L (Education)	678	543	1034	826	754	7
Q (Science)	2080	1645	1034	818	754	8
E (History: America)	367	285	1034	803	754	9
2 (Social Sciences)	3816	2832	1034	787	754	10
U (Military Science)	120	91	1034	784	754	11
B (Philosophy/Religion)	2006	1481	1034	763	754	12
D (History: General)	1349	983	1034	756	754	13
M (Music)	372	271	1034	753	754	14
V (Naval Science)	64	44	1034	711	754	15
3 (Political Science)	746	484	1034	671	754	16
C (...Science of History)	214	137	1034	662	754	17
N (Fine Arts)	579	370	1034	641	754	18
P (Literature)	2320	1482	1034	661	754	18
K (Law)	1080	614	1034	588	754	19
A (General works)	127	53	1034	432	754	20
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X <sup>2</sup> = 353.643	d f = 20		p < ,001			
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## **DISCUSSION**

The results indicated that in technology and medical science areas there was a higher degree of association between subject headings and class notations. This confirmed the authors earlier findings of a significant association between LCSHs and LCCNs in science and technology monographs.

## **CONCLUSION**

The question in this study was to determine if there was a statistically significant difference in the degree of association between LCSHs and their corresponding LCCNs indifferent classes of the Library of Congress Classification. There was a statistically significant difference between association measures for documents classified in various main classes of LCC. That is, the probability of having identical class notations for identical subject headings in bibliographic records far documents classed in different divisions of knowledge are not the same. This indicates that from this point of view the relationship between subject headings and their corresponding class notations have not received equal attention in all classes of LCC. This means that some classes may not be specific in using terms or instructions.

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