EFFECTS OF VARIATIONS IN THE ORDER OF SUBJECT HEADINGS IN BIBLIOGRAPHIC RECORDS ON ASSOCIATION BETWEEN LCSH AND LOC

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ABSTRACT

Library of Congress Subject Headings (LCSHs) and their corresponding Library of Congress Class Notations (LCCNs) in 101,347 MARC records were analyzed to determine effects of variations in the order of subject headings in bibliographic records on association between subject headings and their corresponding class notations. The analysis revealed that LCSHs listed first had a significantly higher association with their corresponding LCCNs than the succeeding headings. The findings imply that in filing identical subject headings, it would be more logical to sub arrange entries by order of subject headings in bibliographic records.

INTRODUCTION

Each classification notation is a representation of one or several subject headings. Theoretically a book can be listed under several subject headings but generally only one class number is assigned to a book. Therefore, the former approach is multidimensional while the latter is unidimensional. The practice of the Library of Congress (LC) with respect to the order of subject tracings requires assigning "subject headings in the order of descending significance, i.e. according to the importance of each subject heading for the assignment of class number."[1] The policy statement also indicates that regardless of the number of subject headings assigned to a given document, the first subject heading should be the determinant for the choice of class notation.[2]

In addition to the general policy, there are certain cases in which LC has provided guidelines for assigning extra headings. Generally, LC uses two headings for parts of a heading which have equal significance.[3] For instance, additional subject headings are assigned to special categories of bibliographies.[4] In the case of Indians of North America, the Library of Congress assigns two subject headings to a document.[5] Similarly, for fiction LC assigns one subject heading for the form and another for the topic.[6]

Also, an alternative class notation is assigned to most of the bibliographies.[7] With respect to edition changes, as long as the content of later editions does not vary significantly, except for certain exceptions, LC requires that catalogers assign the headings and class notation of the original edition to the consecutive editions.[8]

The policy statement of the Library of Congress implies that for any bibliographic record the degree of association between the class notation and the first subject heading will be greater than the degree of association between it and the second, third or fourth subject heading. This study attempts to determine to what extent subject headings listed first in the bibliographic records are associated with their corresponding classification notations. Would the degree of association between LCSHs and their corresponding LCCNs differ whenever the order or the position of the same subject headings on the catalog cards varies? That is, is there any statistically significant difference between the Library of Congress Subject Headings and the Library of Congress Classification notations among groups of subject headings listed indifferent orders in bibliographic records?

The hypothesis formulated for this study states that there are significantly more agreements between LCCNs corresponding to LCSHs listed first in multiple-heading bibliographic records than the same subject headings when they are not listed first in bibliographic records. In other words, the closeness of subject headings with their corresponding class notations depends upon the order or the position in which they are listed in bibliographic records. As the order of the LCSHs in bibliographic records increases, the degree of association between LCSHs and their corresponding LCCNs decreases.

METHODOLOGY

Subject headings and their corresponding class notations of 101,347 bibliographic records on two LC MARC tapes were retrieved and alphabetically sorted. A more detailed description of

4

the process can be found in the author's doctoral dissertation[s] The subject headings (N = 131,263) were coded by the order in which they were listed in bibliographic records. A computer program was developed to count all subject headings which had an occurrence of more than once [LCSH(f)] and then count the frequency of the most frequent identical class notation [LCCN(fm) corresponding to each subject heading. The probability was defined as:

$$p = LCCN(fm)/LCSH(f)$$

Based on the order of subject headings listed, all headings were grouped into four categories. The data were analyzed for various orders of LCSHs and the frequency of identical LCSHs and their corresponding LCCNs were determined.

ANALYSIS OF DATA

The association between LCSHs and their corresponding LCCNs in subject headings listed first in the bibliographic records was higher than the association of LCSHs and their corresponding LCCNs in subject headings listed second, third, etc. While the probability for the LCSHs listed first was 752, it was 45% for subject headings listed second, 47% for headings listed third, and 56% for headings listed fourth or more in the bibliographic records. However, the correlation coefficient was 0.44 for the headings listed first, 0.71 for the headings listed second, 0.89 for those listed third, and 0.74 for the subject headings listed fourth or mare. The differences between observed and expected values in each group were statistically significant at the 0.001 level. The following table summarizes the results of data analysis:

5

Table 1

Probability, Correlation, and Chi Square test of Differences Between
LC Subject Headings and LCC Notations in Four Groups of Subject
Headings With Different Order of Listing in Bibliographic Records

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Order of LCSH	LCSH f	LCC f	p	r	s	Adjusted LCSH	Observed LCC	Expected LCC
Listed 1st	21754	16373	0.75	.44	.001	9092	5932	5070
Listed 2nd	10259	4649	0.45	.71	.001	9092	4426	5070
Listed 3rd	3429	1603	0.47	.89	.001	9092	3926	5070
Listed 4th	924	515	0.54	.74	.001	9092	4622	5070

ALL Orders 61766 27188 0.44 .0085 .113

$X^2 = 926.912$ df = 3 $p < .001$

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DISCUSSION

The results indicated that in all multiple-heading bibliographic records, there was a higher association between the Library of Congress Subject Headings and their corresponding Library of Congress Classification notations in subject headings listed first in bibliographic records than the same subject headings when they were listed second, etc. Regression analysis between frequency counts of the two variables indicated that there was no recognizable pattern of variations in LCCNs due to the variations in the order of LCSHs.

CONCLUSION

An alphabetical subject list simulating a subject catalog was used to test effects of the variations in the order of subject headings in bibliographic records on association between LCSHs and LCCNs. There was significantly more agreement between subject headings listed first in multiple-heading bibliographic records with their corresponding class notations than the same subject headings and their corresponding class notations when they were not listed first in bibliographic records.

Available filing rules are inconsiderate of order of subject headings. According to ALA Rules for Filing Catalog Cards identical subject headings are sub arranged by the main entries.[10] Similarly, ALA Filing Rules require sub arrangement of identical subject headings by author or main entry.[11] Also, Library of Congress Filing Rules direct that identical subject entries be sub arranged according to their subordinate fields, i.e. by main entry, title, etc.[12] The findings in this study imply that in filing subject headings in a subject catalog, it would be more logical to sub arrange identical subject headings by the order of the headings in the bibliographic records because subject headings listed first more likely will represent class notations which are assigned more often to those subject headings. Patrons more likely will be more satisfied when they are directed to a shelf area by a class notation corresponding to a subject heading if that class notation has more agreement with the subject heading it presents. Therefore, it makes much more sense to pay attention to the order of subject headings in the bibliographic records when filing subject entries in either a manual or an automated system.

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