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Difference and Correlation of Circulation and In-library use of Materials in two Academic Libraries

**FELICIA E. ETIM &
ELIZABETH A. DANIEL**

UNIVERSITY OF UYO, NIGERIA.

ABSTRACT

The exposure of individuals to documents is the most important aspect of all public and University library objectives. Using two Nigerian Academic Institutions, this study investigated by what means and to what extent this exposure is achieved. The pick up method and circulation record were used to collect data on materials used within the library and materials borrowed out for home use. Pearson Moment and Multiple correlation were used to analyse data. The result of the study showed that there was no significant correlation of the subject groupings of books consulted and borrowed in the two academic libraries.

INTRODUCTION

“Recorded circulation transactions provide some document exposure data and have traditionally been used as an indicator of library activity” (Stockard, 1978). Every librarian however is conscious of the fact that a great deal of in-library use occurs that is not reflected in circulation records. In-Library use may occur in about three to six units of the library depending on the type of library and the level of resources available. Materials in all disciplines including newspapers and journals are utilized within the library. Borrowing of such materials are restricted or not allowed at all. Again it has been observed that a larger number of users spend a long time in the library but end up not borrowing books. Another group of users simply come into the library, borrow and go out. Yet another group consults a variety of materials over several hours but still borrow before leaving the library. This paper seeks to

find out by means of ratio statement how in-library use relates to circulation use with a view to suggesting adequate provision for library users according to their peculiar needs.

RESEARCH METHODOLOGY

The pick up method and the questionnaire along with circulation statistics were used to collect data. Books consulted in the library and left on tables for reshelving were collected and tallied by subjects. Circulation statistics were also surveyed by subject. The tally for in-library use was then compared in a ratio statement to the tally for circulation use for the study period. ANOVA, Pearson Moment Correlation and Multiple correlation were used to analyse data. The research hypotheses that guided this study were:

- (1) There is no significant difference in the ratio of materials used within the library materials borrowed out.

- (2) There is no significant correlation in the subject groupings of materials used within the library and materials borrowed out.

LITERATURE REVIEW

From a review of the literature, some work has been done to compare circulation and in-library use. Fussler and Simon (1961) were the first people to devote some attention to in-library use. Their study, which was part of a larger management study, was conducted in 1951 – 60 at the University of Chicago. Their goal was to establish the value of browsing to library users. A random sample of monographs and serials in physics and general history was equipped with questionnaire. In spite of low response, they found from their analysis that there were three to nine times as much browsing (which amounted to in-library use) as circulation use. In a published report generated by Operations Research Studies, Bush *et. al.* (1965) reported, on the basis of a questionnaire sample study, that there were ninety two (92) loans of periodicals and three hundred and sixty five (365) loans of books and reports. They also reported in-library use of two thousand and twenty two (2,022) periodicals and eight hundred and ninety nine (899) reports and books. The overall ratio of total in-library to circulation use was therefore 6.4: 1, with the rate for books being 2.5:1, and that for periodicals being 21.1:1.

Morse (1968) summarizing the Operations Research Investigation referred to an overall ratio of for in-library use to one circulation use (4:1)

for books. Morse also cited an unpublished paper by Elson, which demonstrated that half of the items used at tables were reshelved by users and therefore not included in the pick-up counts. Morse was of the opinion that as long as sampling showed this phenomenon to be constant the reliability of the pick up method was not affected. Smith (1970) in a study designed to determine what parts of the periodical in the children's library at Michigan could be stored, compared circulation use, in-library use and inter-library loan use. In-library use figures were derived from a count of items picked up three or four times a day when the tables were cleared. This study recorded circulation use of 632 against in-house use of 1,083, a ratio of 1.7:1. Seymour (1972), in an article devoted to reviewing research on collection weeding, refers to in-library use studies conducted by the Library Management Research Unit of University Libraries in Sussex and Bradford, England. Data was collected on books and periodicals for a period of two weeks each by means of both the pick-up method and questionnaire. At Sussex a ratio of 1.6:1 was determined for books and journals, while in the Engineering and Science Library at Bradford the ratio reached 11.2:1. This is a clear indication that there is more in-library use in the sciences than in other disciplines.

Harris (1977) in "comparison of issues and in-library use of books", reported a study on the use of the bookstock at Newcastle – Upon-Tyne Polytechnic. The study was in two parts and attempted to compare circulation and in-library use of specific books. The first

Difference and Correlation of Circulation

study used 10% of the Stock. Reference works, periodicals, official documents and limited access collections were excluded. The pick up method was used, that is, books picked up by staff for reshelving. The result showed 0.4 in-library use to 1 circulation use. This is one of the few instances where circulation use exceeds in-library use. This is not surprising for the above study because those collections excluded from the survey actually generate more in-library use. The second study was designed based on a 25% sample in four selected subject areas. The hidden slip method was used and the result showed a ratio of 4.7 in-library use to 1 circulation use. (4.7:1).

The next focus of the study was to look at the subjects of materials used and borrowed in the two University Libraries to see if there is a distinct correlation between the subject groupings of materials used and borrowed in the two libraries. McGrath (1971) in "Correlating the subjects of books taken out and books used within

an open Stack Libraries", published his result based on studies done by the pick-up method for books at the University of South-Western Louisiana. As a follow up to Fussler and Simon, McGrath established that there was a distinct correlation between the subject groupings of books used within the library and the subject groupings of books loaned. To test this assumption it was hypothesised that no correlation exists between the subject groupings of materials taken out and those used within the library. Books charged out daily and books used within the library were counted at the end of each day and grouped by subjects. Two studies were undertaken. In the first study the overall correlation was .84. Correlation was high in both studies.

Because of the limitations of the above study this paper tried to include all academic disciplines. No research in this area of librarianship has been conducted in Nigeria. This study is therefore an attempt at this.

DIFFERENCES IN THE RATIO OF BOOK USED WITHIN THE LIBRARY TO BOOKS CONSULTED

TABLE 1: SUMMARY OF ANALYSIS OF VARIANCE

SOURCE OF VARIATION	'SUM OF SQUARES	df	'MEAN SQUARE	'F	LEVEL OF SIGNIFICANCE
BETWEEN GROUP	26534.4	3	848	0.048	0.05
WITHIN GROUPS	48453.2	216	1,812,179		
TOTAL	74987.6				

F Critical = 3.24

Analysis of data with F. ratio (ANOVA) showed that the calculated

value (0.048) was less than the table value (3.24) with 3 and 16 degrees of

freedom at 0.05 level of significance. The null hypothesis was not rejected and therefore there was no significant difference in the ratio of materials used within the Library and to materials borrowed out in the two academic libraries. This was indicated in the mean ratio of materials used and borrowed in the University of Calabar to ratio of materials used and borrowed in the University of Uyo – (3:5) and (87:3) respectively. Further interpretation of the data revealed that the mean ratio of materials used in the University of Uyo was higher than that of materials borrowed. The Research Division of the Library comprising Reference, Serials, Africana, Government Publications and Nyong Essien Library, where most of the in-library use occur, is

heavily used by students. Borrowing service is not well appreciated here as revealed by Danier (1998). In the University of Calabar with a ratio of (3:5), the difference between used and borrowed is not significant.

CORRELATION OF SUBJECT GROUPINGS

Because of the limitations of the earlier studies this paper tried to include all academic disciplines and all departments of the library. The study was undertaken at a time when the use of the library was at its peak. Correlation was done independently for each library using Pearson Moment Correlation while Multiple correlation was used to compare correlation of materials used and borrowed in the two libraries.

CORREOATION OF SUBJECT GROUPINGS OF MATERIALS USED WITHIN THE LIBRARY AND THE SUBJECT GROUPINGS OF MATERIALS BORROWED OUT OF THE UNIVERSITY OF UYO.

TABLE 2:

VARIABLE	N	'X	'Y	XY	X ²	'Y ²	'CALCULATED	'CRITI	df	DECISION AT 0.05
USED	18	7797		651472	6156089	77749	0.43	0.456	16	HO NOT REJECTED
BORROWED	18		773							

Analysis of data indicated that the 'r' calculated value 0.43 was less than the table value of 0.456 with 16 degrees of freedom at 0.05 level of significance. Thus there was no significant correlation of subject groupings of books used within the

library and books borrowed out of the University of Uyo Library. This was because some subjects like pharmacy, medicine, general knowledge, engineering and law are strictly for use within the library.

CORRELATION OF SUBJECT GROUPINGS OF BOOKS USED WITHIN AND BOOKS BORROWED OUT OF UNICAL LIBRARY.

TABLE 3:

VARIABLE	'N	'X	'Y'	XY	X ²	'Y ²	'r' Calculated	'r' CRITI	df	DECISION AT 0.05
USED	18	1036	427	19110	173382	30840	0.42	0.458	16	HO NOT
BORROWED	18									REJECTED

Analysis of data on Table .3 indicated that the 'r' calculated value of 0.42 was less than the table value of 0.458 with 16 degrees of freedom at 0.05 level of significance. Therefore the null hypothesis was upheld (not

rejected). Thus there was no significant correlation between the subject groupings of books used within the library and the subject groupings of books borrowed out in the University of Calabar Library.

MULTIPLE CORRELATION OF SUBJECT GROUPINGS MATERIALS USED BORROWED OUT OF THE TWO UNIVRSITY LIBRARIES.

TABLE. 4:

	'UNIUYO	'UNICAL	'	'	'	'
N	Correlation of used and borrowed	Correlation of used and borrowed	'r' calculated	'r' criti	df	Decision at 0.05
18	0.43	0.42	0.461	0.456	16	Ho Rejected

The table above represents the result of multiple correlation of data on subject groupings of books used and borrowed out of the two university libraries. The calculated (multiple) correlation value of 0.461 was greater than the table value of 0.456 with 16 degrees of freedom at 0.05 level of significance. Hence the null hypothesis was rejected. Thus there was significant correlation between the subject groupings of books used and borrowed out of the two librarians. This means that the

different subject groups were significantly represented in students' use of the libraries. It can therefore be confirmed that students rely heavily on the resources of the libraries for their academic needs. The subjects greatly used in UNIYO are the same subjects that students in UNICAL pay much attention to. Libraries should therefore try to find out those subjects that encourage greater use of the library and pay greater attention to them especially in their acquisition policy. Hypothesis in this case was rejected; there was

significant correlation in the subject groupings of books used and borrowed in the two libraries.

SUMMARY AND CONCLUSION:

This study was undertaken to compare correlation of subject groupings of materials used and borrowed in two academic libraries, as well as the ratio of books consulted in the two libraries under survey. Frequency, percentages, mean, simple ratio, Pearson moment correlation and multiple correlation were used to analyse data.

The result of the study showed that there was no significant difference in the ratio of materials used within the library to materials borrowed out of the two University Libraries.

There was no significant correlation between the subject groupings materials used within the libraries and materials used within the libraries and materials borrowed out from each of the two libraries. However when a comparison was made between the two libraries significant correlation occurred.

This study served as a preliminary step in establishing the ratio of in-library use to circulation use for the two participating libraries. Even though the figures represent only a small part and not the totality of in-library use of all materials available to students, the ratios provide quotable and more nearly accurate measurement of the use of the Library. Although this modest study is clearly a positive step in the process of measuring library services,

it confirms that henceforth no discussion of Library use is complete without consideration of the in-library use component of that use. Since students obviously find the use of library materials satisfactory and relevant to their needs, everything should be done to encourage that use by acquiring relevant materials and improving existing facilities. More research on library use is encouraged especially in Nigeria in order to highlight current problems in this area such as reorganization of Library instruction orientation.

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