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ABSTRACT

In order to measure the effectiveness of its libraries, the City of London Polytechnic Library and Learning Resources Service surveyed its users and compared the results with a study completed the previous year (1973). Tables and statistics have been provided for: number, type, status, and academic department of users; frequency of use; satisfaction and success in finding desired information; journal use; hours of library use; and use of materials. Major findings were basically that library effectiveness had not changed since the previous study, usage had dropped slightly, and the satisfaction level had risen. The study also raised the possibility that the libraries should invest more in lending stock and less in reference and other non-circulating materials, since lack of seating space has limited the use of in-house materials. (LS)

CITY OF
LONDON
POLYTECHNIC

LIBRARY
AND
LEARNING
RESOURCES
SERVICE

LIBRARY
EFFECTIVENESS 1974

A. PRITCHARD
M. AUCKLAND

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CITY OF LONDON POLYTECHNIC
LIBRARY AND LEARNING RESOURCES SERVICE

LIBRARY EFFECTIVENESS 1974

A. Pritchard
M. Auckland

U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

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1. SUMMARY

A library effectiveness survey, identical with that carried out in 1973, was carried out in February 1974. This report presents the results and, where possible, gives comparative figures. It was found that, in general, the effectiveness of the Polytechnic library service had not changed.

2. INTRODUCTION

- .1 The methodology of the survey and the objectives behind it remain the same as in 1973 and it is not intended to repeat these. They can be found in our previous report (ref. 1). One other objective has been added viz:

to provide comparative data with the previous study.

- .2 There are obviously two ways in which the effectiveness of a library can be compared:
 - a) with other libraries at an approximately similar instant of time.
 - b) with itself at a later time period.
- .3 Since there are no comparable data from other libraries, we have chosen the second approach. In our view, it is, in any case, more valid.

3. COMPARISONS WITH PREVIOUS DATA

- .1 We have tried to compare where possible but there are two major problem areas:
 - a) There has been some reorganisation of Departments within the Polytechnic within the past year so it is not always possible to make exact comparisons.
 - b) We have made the assumption that "random" factors (such as the number and distribution of people who would not fill in a questionnaire or the number who reshelfed their own books) have operated precisely as they did in the first survey.
- .2 In view of these problems strict attention must be paid to the terminology used when discussing the result of each table.

The words "significant" and "very significant" are used where we have been able to apply statistical significance tests and mean at the 5% and 1% level respectively.

The words "it seems likely that" mean that there is no comparability of data but there has been such a change in the results that some notice should be taken of them.

REFERENCES

1. Pritchard, A. and others. Library effectiveness study. City of London Polytechnic, 1973.

4. ABBREVIATIONS

Reasons (a - l)

- a Find and read material required for course
- b Use or read material not connected with course
- c Borrow library material for further reading
- d Do research for term papers or seminar papers
- e Do research for graduate exams or thesis
- f Do research for publishable paper or book
- g Get some material photocopied
- h Return materials to the library
- i Work with own books
- j Seek information which does not require borrowing of library materials (asking a question of library staff)
- k Any other reason
- l No reason or more than one reason

Libraries

- BS Business Studies
- CH Central House
- ST Science and Technology
- N Navigation

Time

- 1 - 5 Monday to Friday
- .1-.3 Morning, Afternoon and Evening.
- .1 9 a.m. to 1 p.m.
- .2 1 p.m. to 5 p.m.
- .3 5 p.m. to Closing Time*

*Closing Times

Business Studies	9 p.m. Monday to Friday
Central House	9 p.m. Monday to Thursday; 5.15 p.m. Friday
Navigation	9 p.m. Monday to Thursday; 5.00 p.m. Friday
Science and Technology	9 p.m. Monday to Thursday; 5.30 p.m. Friday (lending) 9.00 p.m. Friday (reference)

Departments A - Z

A	Accountancy and Taxation (formerly Banking, Commerce, Business Studies and Accountancy).
B	Economics and Banking (formerly Economics, Management and Marketing)
C	Modern Languages
D	Law (formerly Professional Studies)
E	Secretarial Studies
F	Transport and Insurance (formerly Shipping and Commercial Products)
G	Biological Sciences
H	Chemistry
I	Geology and Geography
J	Mathematics and Statistics
K	Metallurgy and Materials
L	Physics
M	Psychology
N	General Studies
P	Navigation
Q	Fine and Applied Arts
R	Silversmithing and Allied Crafts
S	Administration
T	Library
U	Other
X	Management, Marketing, Politics and Sociology
Y	Modular Degree and general Business Studies
Z	Modular Degree and general Science Studies

5. RESULTS AND OBSERVATIONS

3A

5.1 Overall library effectiveness

.1 The Rzasá equation (as used by us) is

$$E = \frac{m}{N} \left(1 + \frac{n}{N}\right) + \frac{r_2}{N} \left(1 + \frac{r_1}{N}\right) + \frac{S}{N^2}$$

where:

m = total number of items reshelved

N = total user population

n = total number who use the library

r₁ = total questions asked

r₂ = total questions satisfactorily answered

S = number of users studying with their own books or who are there for social purposes

The equivalent figures for this year and last year are:

	<u>1974</u>	<u>1973</u>	
m	3,905	4,000	
N	3,621.6	3,691.3	(Note 2)
n	1,135	1,178	(Note 1)
r ₁	43	41	
r ₂	39	28	
S	509	555	

Note 1: This is the number of visitors to the library - not the total number of visits.

Note 2: In view of the difficulty in obtaining accurate Full-Time Equivalent (FTE) figures, we have recalculated the equation on the basis of thousands of students hours. One thousand student hours does approximately equal an FTE. Correspondence courses have been excluded. The actual figures are:

	<u>1973</u>	<u>1974</u>
BS	1,774.6	1,891.9
ST	1,031.3	797.0
N	430.4	499.5
A	455.0	433.2
TOTAL	3,691.3	3,621.6

The actual figures for each element of the equation are:

	<u>1973</u>	<u>1974</u>	<u>Difference</u>
$\frac{m}{N} \left(1 + \frac{n}{N}\right)$	1.429446	1.416174	- 0.928%
$\frac{r_2}{N} \left(1 + \frac{r_1}{N}\right)$	0.007670	0.010897	+42.074%

	<u>1973</u>	<u>1974</u>	<u>Difference</u>
$\frac{S}{N^2}$	0.000041	0.000039	- 4.724%
TOTAL	1.437157	1.427110	- 0.699%

Given the probably large statistical error, we can assume that there has been no overall change in overall effectiveness.

There are some interesting trends when we look at student hours and questionnaires returned,

% differences 1973 and 1974 ✓

	<u>student hours (000s)</u>	<u>questionnaires returned</u>
	<u>%</u>	<u>%</u>
BS	+ 6.61	-15.43
ST	-22.72	-20.22
N	+16.05	+21.54
A	- 4.79	+ 8.53
TOTAL	- 1.89	- 3.65

Although several libraries have managed to hold their customers, these figures and the previous ones are disappointing, in that they do not show the growth in usage that we would have hoped for.

5.2 NOTES ON THE TABLES

- .1 A detailed index follows these notes.
- .2 Where tables are large, the percentage figures only are given.
- .3 All questionnaires were accepted for analysis. Of the 1,979 questionnaires, however, in some cases we were able to accept only some replies. E.g. if a questionnaire did not have answers to the 'satisfied' question, we could accept it for all other tables. This accounts for the variation in total answers to some questions.
- .4 In the 'time period' and 'time of day' tables the figures for Friday evening were drawn from the sample at BS and ST only. This accounts for the low number. In some cases they have been omitted, thus accounting for the variation in totals.

5.3 INDEX TO TABLES

<u>Table</u>	<u>Section</u>
Attendance	5.4.3
x day	5.30
x find it	5.7
x library	5.16
x reason	5.13
x satisfaction	5.6
x status	5.12
x time of day	5.29
x time period	5.28
 Date of journal	
x journal use	5.49
 Day	
x attendance	5.30
x department	5.45
x find it	5.33
x reason	5.39
x satisfaction	5.42
x status	5.36
 Department	5.4.6
x day	5.45
x find it	5.21
x journal use	5.48
x library	5.11
x reason	5.26
x satisfaction	5.24
x status	5.20
x time of day	5.44
x time period	5.43

Find it

- x attendance 5.4.4
- x day 5.7
- x department 5.33
- x library 5.21
- x reason 5.9
- x satisfaction 5.18
- x status 5.8
- x time of day 5.23
- x time period 5.32

Frequency of visit

5.31

Journal use

- x date of journal 5.5
- x department 5.49
- x library 5.48

Library

- x attendance 5.4.7
- x department 5.16
- x find it 5.11
- x journal use 5.9
- x reason 5.47
- x satisfaction 5.17
- x status 5.10
- x time period 5.15
- x use of material 5.27

Reason

5.46

- x attendance 5.4.1
- x day 5.13
- x department 5.39
- x find it 5.26
- x library 5.18
- x satisfaction 5.17
- x status 5.19
- x time of day 5.14
- x time period 5.38

Satisfaction**8**

5.4.5

x attendance	5.6
x day	5.42
x department	5.24
x find it	5.8
x library	5.10
x reason	5.19
x status	5.25
x time of day	5.41
x time period	5.40

Status

5.4.2

x attendance	5.12
x day	5.36
x department	5.20
x find it	5.22
x library	5.15
x reason	5.14
x satisfaction	5.25
x time of day	5.35
x time period	5.34

Time of day

x attendance	5.29
x department	5.44
x find it	5.32
x reason	5.38
x satisfaction	5.41
x status	5.35

Time period

x attendance	5.28
x department	5.43
x find it	5.31
x library	5.27
x reason	5.37
x satisfaction	5.40
x status	5.34

Use of material

x library	5.46
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5.4 PERCENTAGE AND NUMBER OF USERS IN EACH CATEGORY ON THE QUESTIONNAIRE

.1 <u>Reason for visit to the library</u>	<u>1973</u>		<u>1974</u>	
	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>
a. Find and read material required for course	31	664	31	610
b. Use or read material not connected with course	8	161	9	177
c. Borrow library material for further reading	9	201	9	183
d. Do research for term papers or seminar paper	6	126	3	61
e. Do research for graduate exams or thesis	3	62	3	61
f. Do research for publishable paper or book	1	25	1	19
g. Get some material photocopied	3	54	4	76
h. Return materials to the library	3	74	5	100
i. Work with own books	20	424	21	420
j. Seek information which does not require borrowing of library material (asking a question of library staff)	2	41	2	43
k. Any other reason	6	131	4	89
l. No reason, or more than one reason	8	160	7	140
		<u>2,123</u>		<u>1,979</u>
.2 <u>Status of Users</u>				
Academic staff	15	314	14	286
Other staff	1	32	4	70
Postgraduate students	5	107	2	38
Students	79	1,670	80	1,585
		<u>2,123</u>		<u>1,979</u>
.3 <u>Attendance of Users</u>				
Full-time	89	1,883	89	1,756
Part-time	11	240	11	223
		<u>2,123</u>		<u>1,979</u>
.4 <u>Whether the users found what they came in for</u>				
Yes	79	1,658	84	1,637
No	21	444	16	321
		<u>2,102</u>		<u>1,958</u>

.5 Whether the users were satisfied with their visit

	1972	1974
	%	No.
Yes	82	1,729
No.	18	373
		<u>2,102</u>
		<u>1,958</u>

.6 Department of users

	1972	1974
	%	No.
A Accountancy and Taxation (formerly Banking, Commerce, Business Studies and Accountancy)	*22	461
B Economics and Banking (formerly Economics, Management and Marketing)	*12	253
C Modern Languages	1	13
D Law (formerly Professional Studies)	*14	295
E Secretarial Studies	2	43
F Transport and Insurance (formerly Shipping and Commercial products)	*1	31
G Biological Sciences	4	75
H Chemistry	2	40
I Geology and Geography	6	120
J Mathematics and Statistics	3	66
K Metallurgy and Materials	4	89
L Physics	2	50
M Psychology	5	115
N General Studies	<1	2
P Navigation	17	363
Q Fine and Applied Arts	1	21
R Silversmithing and Allied Crafts	1	31
S Administration	<1	5
T Library	<1	5
U Other	3	62
X Management, Marketing, Politics and Sociology		2
Y Modular Degree and general Business Studies		9
Z Modular Degree and general Science Studies		2
		<u>2,123</u>
		<u>1,979</u>

*Not precisely comparable



	<u>1973</u>		<u>1974</u>	
	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>
<u>.7 Number of visits to individual libraries</u>				
Business Studies Library	53	1,128	48	954
Navigation Library	18	376	23	457
Science and Technology Library	17	361	15	288
Central House Library	12	258	14	280
		<u>2,123</u>		<u>1,979</u>

.8 COMPARISONS WITH THE PREVIOUS YEAR

.0 In general we have a fairly consistent pattern emerging. The following sub-sections note any significant changes from 1973. We have applied a chi-squared test using as our expected value, the value from last year adjusted (i.e. multiplied by the ratio this year's total/last year's total) to take account of the lower questionnaire returns.

.1 Reason

Very significant (chi-squared = 71). The major factors are a large fall in the numbers doing term paper research (e), a rise in numbers only returning material (h) and a rise in photocopying (g). This latter was hoped for following the introduction of new coin-operated machines last year.

.2 Status

Very significant. The total chi-square value (92) is almost entirely due to the rise in other staff use (53) and the fall in postgraduate use (38). The latter is particularly worrying. For further data see the other status tables.

.3 Attendance

Not significant.

.4 Find it

Very significant. Statistically the result is largely due to the drop in those who could not find material.

.5 Satisfaction

Very significant. Statistically the result is largely due to the drop in those who were unsatisfied.

.6 Departments

Because of the changes in Business Studies departments it is impossible to perform a test of significance. However, it is clear from an inspection of the table that there has been a large rise in the use by the School of Navigation.

.7 Libraries

Very significant. 59% of the chi-squared value is accounted for by the rise in use at Navigation. The remainder (falls at BS and ST and a rise at CH) are fairly evenly spread.

U

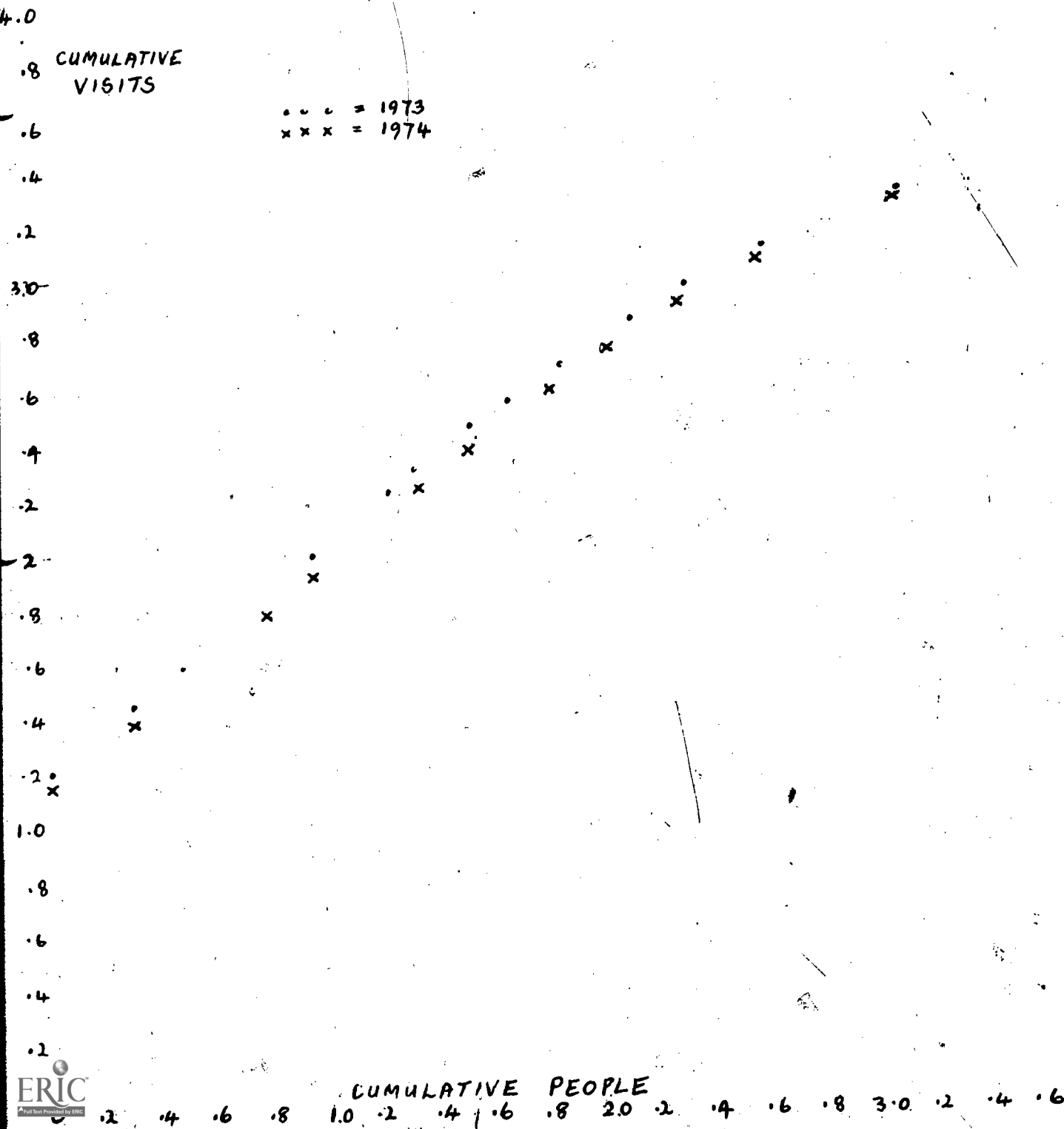
6

5.5 FREQUENCY OF VISIT

<u>.1</u> <u>Number of visits</u>	<u>Number of persons</u>
14	1
10	1
9	4
8	3
7	13
6	11
5	32
4	39
3	85
2	184
1	762
	<hr/>
	1,135
	<hr/>

Average number of visits = 1.7

- .2 Compared with last year we have a slightly lower number of identifiable users and a lower average number of visits. Statistically the minor differences in the distribution pattern are not significant.
- .3 It is interesting that a Bradford-Zipf curve of both years gives a very similar pattern which only gives a straight line approximation when both the cumulative visits and cumulative people are plotted logarithmically as the accompanying graph shows.



5.6 ATTENDANCE x SATISFACTION

.1	<u>Full-time</u>	<u>Part-time</u>	<u>Total</u>
Satisfied	1,504 (87%)	204 (92%)	1,708 (87%)
Not satisfied	232 (13%)	18 (8%)	250 (13%)
Total	1,736	222	1,958

- .2 The difference is significant at the 5% level (chi-square = 4.88). The significant cell in this table is the Part-time - Not Satisfied one which is lower than expected.
- .3 The comparison with last year for this and for all the contingency tables following has been carried out on a column by column basis. The expected values are given by the column figures for 1973 multiplied by the adjustment factors 1974 column total/1973 column total.

Full-time results are very significant with a significant fall in the Full-time - not satisfied cell.

5.7 ATTENDANCE x FIND IT

<u>.1</u>	<u>Full-time</u>	<u>Part-time</u>	<u>Total</u>
Find it	1,445 (83%)	192 (86%)	1,637 (84%)
Not find it	291 (17%)	30 (14%)	321 (16%)
Total	1,736	222	1,958

- .2 This table is not significant (Chi-squared = 1.52).
- .3 Compared with last year the full-time column is very significant. The Full-time - not find it cell shows a significant fall.

5.8 SATISFACTION x FIND IT

<u>.1</u>	<u>Satisfied</u>	<u>Not satisfied</u>	<u>Total</u>
Find it	1,595 (93%)	42 (17%)	1,637 (84%)
Not find it	113 (7%)	208 (83%)	321 (16%)
Total	1,708	250	1,958

- .2 As one would expect the difference is highly significant
(Chi-squared = 933.18!)
- .3 There is significantly no difference in either column compared
with last year.

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5.9 LIBRARY x FIND IT

<u>.1</u>	<u>BS</u>	<u>N</u>	<u>ST</u>	<u>CH</u>	<u>TOTAL</u>
Find it	796 (84%)	409 (90%)	218 (78%)	214 (78%)	1,637 (84%)
Not find it	152 (16%)	44 (10%)	63 (22%)	62 (22%)	321 (16%)
Total	948	453	281	276	1,958

- .2 This table and Table 5.10 are again complementary. It is significant at the 1% level (Chi-squared = 29.7). The interesting cells here are ST and CH which have a higher level of not finding material and N which has a lower one.
- .3 Compared with last year all libraries have significantly improved the likelihood of finding material. ST has very significantly improved its position.

5.10 LIBRARY x SATISFACTION

<u>.1</u>	<u>BS</u>	<u>N</u>	<u>ST</u>	<u>CH</u>	<u>TOTAL</u>
Satisfied	805 (85%)	429 (95%)	240 (85%)	234 (85%)	1,708 (85%)
Not satisfied	143 (15%)	24 (5%)	41 (15%)	42 (15%)	250 (15%)
Total	948	453	281	276	1,958

- .2 This table is significant at the 1% level (Chi- squared = 29.59). As with table 5.9 N is low on dissatisfaction. BS, on the other hand, is higher on dissatisfaction than is to be expected.
- .3 Compared with last year N, ST & CH show very significant rises in satisfaction, whilst BS shows some rise but only between the 10% and 5% significance level.

5.11 LIBRARY x DEPARTMENT

.1	<u>RS</u>	<u>N</u>	<u>ST</u>	<u>CH</u>
	N = 954	N = 457	N = 288	N = 280
A	37	0	0	0
B	10	0	<1	<1
C	1	0	0	<1
D	17	<1	0	0
E	3	0	0	0
F	5	<1	0	0
X	3	0	<1	0
Y	19	0	1	0
G	0	0	20	0
H	0	0	8	0
I	0	<1	31	0
J	0	<1	17	<1
K	0	0	<1	26
L	0	0	10	<1
M	<1	0	1	35
N	<1	0	0	0
Z	0	0	8	7
P	1	97	1	<1
Q	0	0	0	15
R	0	0	0	13
S	<1	0	0	0
T	1	2	<1	2
U	3	<1	1	2
TOTAL	100	99	98	98

.2 This table is significant at the 1% level (Chi-squared = 5,392!) which is only to be expected. One would expect very little cross use of libraries by departments other than those they immediately serve.

.3 Recasting this table slightly so that the departments are grouped by schools we obtain the following percentage table:

.1	<u>RS</u>	<u>N</u>	<u>ST</u>	<u>CH</u>
BS Departments	95	1	2	1
N "	1	97	1	1
ST "	<1	1	94	<1
CH "	<1	0	1	96
Other "	4	2	2	2

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4 If we again condense this table so that use of the various libraries is divided into its 'own' departments and 'other' departments we find there is no significant difference between libraries (Chi-squared = 3.98 when Chi-squared at even the 5% level is 7.8 for 3 degrees of freedom).

5.12 STATUS x ATTENDANCE

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.1	<u>Academic staff</u>	<u>Post- graduates</u>	<u>Other staff</u>	<u>Students</u>	<u>Total</u>
Full-time	270 (94%)	56 (80%)	36 (95%)	1,394 (88%)	1,756 (89%)
Part-time	16 (6%)	14 (20%)	2 (5%)	191 (12%)	223 (11%)
Total	286	70	38	1,585	1,979

- .2 As one would expect this table is significant at the 1% level (Chi-squared = 16.89). The number of part-time academic staff is lower and the number of part-time postgraduates is higher than would be expected.
- .3 There is no significant difference in any column between this year's and last year's results.

5.13 ATTENDANCE x REASON

.1	<u>Full-time</u>	<u>Part-time</u>	<u>Total</u>
a	539 (31%)	71 (32%)	610 (31%)
b	152 (9%)	25 (11%)	177 (9%)
c	151 (9%)	32 (14%)	183 (9%)
d	60 (3%)	1 (1%)	61 (3%)
e	56 (3%)	5 (2%)	61 (3%)
f	19 (1%)	0 (0%)	19 (1%)
g	72 (4%)	4 (2%)	76 (4%)
h	84 (5%)	16 (7%)	100 (5%)
i	384 (22%)	36 (16%)	420 (21%)
j	41 (2%)	2 (1%)	43 (2%)
k	80 (5%)	9 (4%)	89 (4%)
l	118 (7%)	22 (10%)	140 (7%)
Total	1,756	223	1,979

- .2 Chi-squared = 30.05 so that there is a significant difference (at the 1% level) in the reasons that full and part-time users come to the library. More part-time users come to the library to borrow material for further reading and for multiple reasons, whilst less come to do research for term papers.
- .3 There is a very significant difference between this year's and last year's results. In particular, far fewer full-time users came to the library to do research for a term paper this year than could have been expected.

5.14 STATUS x REASON (%)

.1	<u>Academic staff</u> N = 286	<u>Post-graduate</u> N = 70	<u>Other staff</u> N = 38	<u>Students</u> N = 1,585	<u>Total</u> N = 1,979
a	22	21	3	33	31
b	12	14	5	8	9
c	13	16		8	9
d	1	1		4	3
e	4	6		3	3
f	5	0	0	41	1
g	12	4	18	2	4
h	8	7	11	4	5
i	1	13	3	26	21
j	7	1	16	1	2
k	9	6	16	3	4
l	6	10	13	7	7
Total	100	99	101	99	99

.2 This table is very significant at the 1% level (Chi-squared = 374.79) and the significant elements are:

More academic staff do research for publishable books or papers (f)

More academic staff and other staff get material photocopied (g)

Fewer academic staff work with their own books (i)

More academic staff and other staff seek information from library staff (j)

.3 The difference between this year's results and those of last year are very significant. The main factors being: more other staff using the photocopier this year, more other staff seeking information from library staff, and fewer students doing research for term papers.