

A Comparison of the Information Seeking Pattern of Distance Learners in Botswana: A Case Study of Four Tertiary Institutions

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The study investigated the information seeking behaviour of two categories of distance learners in Botswana, comprising the cross-border students and those that registered with the University of Botswana. The return of 364 duly completed questionnaires recorded 70.1 percent response rate. Cross tabulation and chi-square were made to relate the independent variables to the findings and establish possible influence where appropriate. The study made recommendations that could assist the providers of distance education on the information milieu in which distance learners operate generally in Africa and Botswana in particular and also lead to the improvement of students' use of information resources.

KEYWORDS *distance education, cross-border education, information sources, information needs, information seeking, higher education*

INTRODUCTION

The institution of distance education has undoubtedly become a prominent feature on the universal landscape of higher education. It is therefore appropriate that a search is conducted on the information environment within which distance learners operate. This study is set to examine the distance learners' sources or channels of information, leading to their information seeking behavior as they live in remote, scattered locations and/or some distances away from their institutions.

Given the fact that the traditional library system only provides information support service to customers within the university campus, it is the interest of this study to establish how the information needs of the off-campus or distance learners are met. The study will therefore examine the distance learners' information behavior and/or the sources through which they obtain their information. This is particularly so that the distance learners are not confined to the campus like the conventional students. Interestingly, a sizeable number of these learners registered with distance teaching institutions outside Botswana. Their institutions are located several hundreds or even thousands of kilometers away with no physical library or information centers established for them within the borders of Botswana.

In Botswana, the history of higher education has, until recently, been exclusively dominated by the University of Botswana for two main reasons. First, it had been the only public funded university in the country. The second Government-owned University is at an advanced stage of opening. It is expected to admit its first cohort of students' in the year 2011. Second, there were no private higher institutions to compete with the University of Botswana until about five or six years ago when licenses were issued to some private individuals and organizations to establish their institutions. In this respect the options left for the citizens to enjoy higher education within the country were very limited.

Also, in the face of limited programmes in the distance education menu of the University of Botswana, the only viable choice available for people to meet their aspirations is to enroll for distance education with institutions outside the country in what is known as cross-border education.

LITERATURE REVIEW

Literature is replete with studies on information seeking behavior of the off-campus or distance learning students. In an exposition, Sharifabadi (1992) cited a survey conducted at the University of Wyoming (UW) in 1983 on off-campus students. The result showed that a large proportion of UW-Casper and extension (off-campus) respondents tended to use public libraries rather than academic libraries because they were more familiar or more convenient to obtain their information needs. Sharifabadi (1992) also provides an account of a survey carried out at the Deakin University in Australia in 1987. According to Sharifabadi, the findings of the survey showed that in terms of information usage or sources used, personal collection was the first option for external students. However, a majority of external students were frequent users of public libraries, using public libraries more frequently than any other type of library, including the student's own university library. The result also indicated that the lower the level of course, the greater the usage by external

students of public libraries, and the higher the level, the greater the usage of academic libraries.

In a survey by Sutherland (2000) on information use among distance learners associated with Western Colorado Graduate Center in the US, she found that a majority of the survey participants borrowed materials from local academic and local public libraries. The result also revealed that more than half of the students did not use the main campus (distance education provider) library. Response by 71 students revealed that 37% borrowed materials from distance education provider libraries, 69% used the local academic library, 73% used the local public library and 20% used other resources, such as a library consortia, professional library, or personal material and online resources. Reasons given for using what they used include: ease of use, location and resources, among others. In Botswana, public libraries are known to be many and more widespread than academic libraries as they are sited in several villages, towns and cities. It is another issue if these public libraries stock useful and relevant tertiary level materials that could be used by the distance learners found in various locations across the country.

Stasch (1994) conducted an investigation to establish the information seeking behavior of students involved in distance education for San Jose State University in the US. She advocates that if the information needs of distance education students are to be met, information practitioners/librarians must understand the way and manner students select a source for information when they do not have access to the main library of the sponsoring institution. It should however be noted that the inability of distance learners to have easy access to the main library of their institutions is seen as one of the major problems that gave rise to the current study.

In a study on distance learners at the University of Maryland University College (UMUC), Kelley and Orr (2003) observe that the findings of their survey confirm some other studies and observations suggesting that students prefer using online resources to physical library buildings and collections. In exploring some research questions about library and Web usage, Kelley and Orr found that students ranked full-text library databases and off-campus access to the library catalog as the most useful library services provided. Respondents also indicated a preference for Web-based delivery of library instruction over other methods of instruction, and found Web-based information about library services more useful than other formats.

Similarly, Moyo and Ellysa (2003) did another survey to discover the attitudes of distance learners on the quality and use of available information resources and services at Penn State World Campus. The survey results indicate, among other things, that students are interested in access to more online full-text resources along with speedy document delivery for materials not online full-text. In a related exercise at Texas A & M University (TAMU), USA, Liu and Zheng (2004) carried out a survey on factors influencing distance education graduate students' use of information sources. They found

that graduate distance education students preferred information sources that are fast and easy to use. Internet and electronic library resources were therefore preferred to traditional library resources by most respondents. Would distance learners in Botswana also have preference for the Internet and electronic library resources? This among other questions will be established by this study.

RESEARCH METHODOLOGY

The study population comprised two categories of distance learning students in Botswana. The first group consists of the cross-border education students who live in Botswana but registered with distance teaching institutions outside Botswana. The second group of students in the study are distance learners who live in Botswana and are enrolled for their distance programmes with the University of Botswana (UB). The selected students for the former were those that registered with the University of Derby (UD), UK; The Management College of Southern Africa (MANCOSA) and University of South Africa (UNISA); whilst the target population of study for the 'home-based' comprised the students that registered for Business degree programme (BDP) at the University of Botswana.

Samples were selected for the study in each of the four identified institutions which had students and recognized agents within the borders of Botswana. All the institutions also organized occasional meetings with the students at some designated centers in the country. The researcher applied 20 percent of the population as sample size for the institutions (UB and UNISA) that had more than 500 students' population and the entire students for the institutions (MANCOSA and UD) that had about 100 students or less. With 364 analyzable copies of the questionnaire received, the study was able to obtain 70.1 percent response rate.

Data were abstracted from the questionnaires and entered into the Statistical Package for Social Sciences (SPSS) for computational analysis. Cross tabulation and chi-square (non-parametric) were made to relate the independent variables under demographic information to the findings and establish or measure possible influence where appropriate.

FINDINGS

The objective of this study was to determine the information seeking behaviors of distance learners. In addressing the issue a number of questions were raised and responded to. First, how did they obtain the information needed to prepare their assignment, test or examination, etc.? In their response, a majority of them (341) constituting 93.7% indicated that they used their

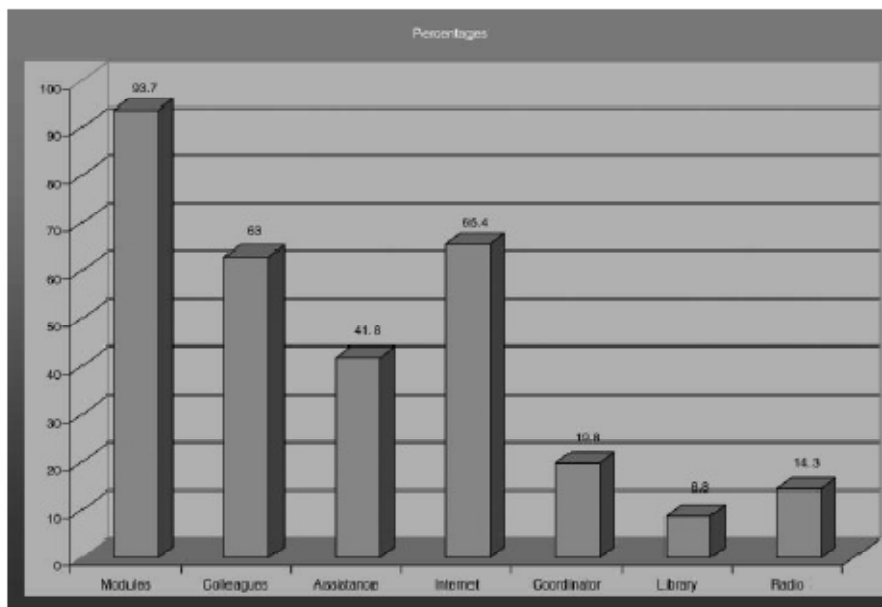


FIGURE 1 Meeting information needs.

modules and study packages. The use of the Internet came a distant second with 238 respondents (65.4%). This was followed by “I discuss with colleagues” option with 229 respondents (62.9 percent) subscribing to it. Other options used to obtain information needed to prepare their assignment, etc. include: asking for assistance from expert or knowledgeable people 41.8% ($n = 152$); approaching the coordinator or agent of the institution 19.8% ($n = 72$); listening to radio/television 14.3% ($n = 52$); and speaking to or writing subject librarian 8.8% ($n = 32$). While Figure 1 provides at a glance details of the responses, it is important to note that 8 respondents specified ‘Others’ in their responses. Five of them indicated they would borrow books from the library or from past and present students, 2 said they would buy prescribed books and 1 respondent said he/she obtained information needed “through email to and from the lecturer.”

Another question sought to know other sources they used to meet their information needs. It is however useful to note that though other information sources were suggested, some of the earlier mentioned sources were repeated for purposes of confirmation. Even though the Internet as an information source was re-presented, the majority of the respondents 281 (77.2%) indicated it was the most used information source to meet their needs. Earlier, Internet came second after the use of the module as information source. In an ascending order, other information sources used by respondents include: the radio/television 19% ($n = 69$)—least used;

TABLE 1 Relationship Between Gender and How Information Is Obtained: Information Sources

| Information sources | Chi-square | Df | Asymp. Sig. (2-sided) | Remark |
|----------------------|------------|----|-----------------------|-----------------|
| Internet | 2.569 | 1 | .109 | Not significant |
| Radio/Television | 2.309 | 1 | .129 | Not significant |
| Telephone | 1.798 | 1 | .180 | Not significant |
| Lecturer | .802 | 2 | .670 | Not significant |
| Email | 7.021 | 1 | .008 | Significant |
| Course Coordinator | 3.146 | 1 | .076 | Not significant |
| Web Search materials | 1.352 | 1 | .245 | Not Significant |
| Library Resources | .061 | 1 | .804 | Not Significant |

telephone 28.6% (n = 104); Coordinator 31.9% (n = 116); Email 46.2% (n = 168); Lecturer 49.4% (n = 180); Web search materials 57.1% (n = 208); and Library Resources 67% (n = 244). There were seven 'other' responses indicated as being used as sources. These include books (n = 3); CD and DVDs in subject areas (n = 2); fellow students (n = 1) and Newspapers, Govt. gazette (n = 1). At a glance, some details are provided in Figure 2.

Effort was made to establish the relationships between gender and other sources used by distance learners to meet their information needs. The variables were cross-tabulated and chi-square tests performed. Table 1 indicates that gender was significantly related *only* to the use of email as an information source ($X^2 = 7.021$, $df = 1$, $p < .05$). No significant difference was found between male and female in the other information sources.

Table 2 shows the expected and observed counts in the cross-tabulation of gender and the use of email as an information source. The expected

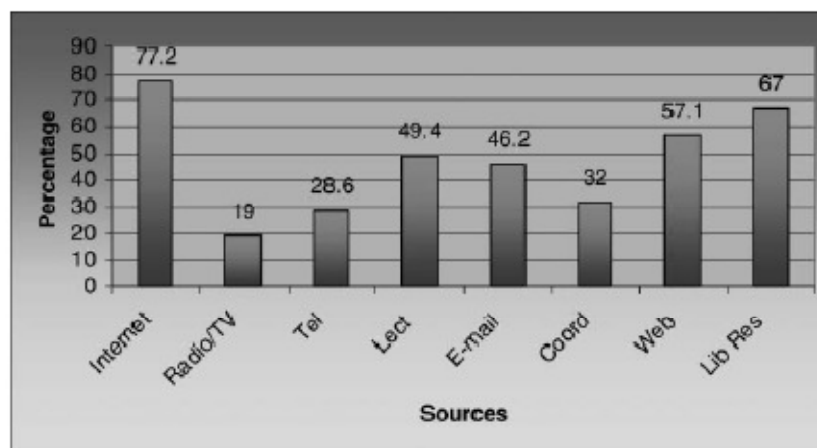


FIGURE 2 Other information sources used.

TABLE 2 Relationship Between Gender and Information Sources: Email

| | Crosstab Info sources—Email | | | |
|----------------|--------------------------------|---------------|-------|------------|
| | Yes | No | Total | % of Total |
| Gender | | | | |
| Male | | | | |
| Count | 84 (54.2%) | 71 (45.8%) | 155 | 42.6 |
| Expected Count | 71.5 (46.1%) | 83.5 (53.9%) | 155.0 | 42.6 |
| Female | | | | |
| Count | 84 (40.2%) | 125 (59.8%) | 209 | 57.4 |
| Expected Count | 96.5 (46.2%) | 112.5 (53.8%) | 209.0 | 57.4 |
| Total | | | | |
| Count | 168 (46.2%) | 196 (53.8%) | 364 | 100. |
| Expected Count | 168.0 (46.2%) | 196.0 (53.8%) | 364.0 | 100.0 |

counts in the cells of the table are based on the assumption that the row (Gender) and the column (Information source) variables do not depend on one another (i.e., have no relationships between them). Comparison of the observed with the expected counts indicates that the observed values are significantly different from the expected values, and that less female respondents than expected said 'yes' to email as an information source, while more males than expected said 'yes.' It is therefore concluded that a significant relationship exists between gender and use of email as an information source. The findings suggest that more males than females use emails.

The study also attempted to check if the location of distance learners has any relationship with how the respondents obtained information using such sources like modules, colleagues, experts, Internet, subject librarian, radio/television and coordinator. Respondents' locations and information sources were cross-tabulated and Chi-square tests were performed on the cross-tabulations. Table 3 shows that location was significantly related only to the use of the Internet as an information source ($X^2 = 10.052$, $df = 2$, $p < .05$). No significant difference was found between the location and the remaining information sources.

TABLE 3 Relationship Between Location and How Information Is Obtained by Respondents

| How information is obtained | Chi-square | Df | Asymp. Sig. (2-sided) | Remark |
|---------------------------------|------------|----|-----------------------|-----------------|
| I use my modules | .784 | 2 | .676 | Not significant |
| I discuss with colleagues | 1.004 | 2 | .605 | Not significant |
| Ask for assist from expert | .127 | 2 | .938 | Not significant |
| I use Internet | 10.052 | 2 | .007 | Significant |
| I speak/write subject librarian | 3.312 | 2 | .191 | Not significant |
| I listen to radio/television | .444 | 2 | .801 | Not significant |
| I approach coordinator | .118 | 2 | .943 | Not Significant |

TABLE 4 Location of Distance Learners * How Info Is Obtained—I Use Internet

| | Crosstab | | | |
|-----------------|-------------------------------------|---------------|-------|------------|
| | How info is obtained—I use Internet | | | |
| | Yes | No | Total | % of Total |
| Location | | | | |
| City | | | | |
| Observed Count | 157 (69.8%) | 68 (30.2%) | 225 | 61.8 |
| Expected Count | 147.1 (65.4%) | 77.9 (34.6%) | 225.0 | 61.8 |
| Town | | | | |
| Observed Count | 40 (69%) | 18 (31%) | 58 | 15.9 |
| Expected Count | 37.9 (65.3%) | 20.1 (34.7%) | 58.0 | 15.9 |
| Village | | | | |
| Observed Count | 41 (50.6%) | 40 (49.4%) | 81 | 22.3 |
| Expected Count | 53.0 (65.4%) | 28.0 (34.6%) | 81.0 | 22.3 |
| Total | | | | |
| Observed Count | 238 (65.4%) | 126 (34.6%) | 364 | 100 |
| Expected Count | 238.0 (65.4%) | 126.0 (34.6%) | 364.0 | 100.0 |

Table 4 shows the expected and observed counts in the cross-tabulation of Location and use of the Internet to obtain information. The expected counts in the cells of the table are based on the assumption that the row (Location) and the column (Information source: how I obtained information) variables do not depend on one another (i.e., have no relationships between them). Comparison of the observed with the expected counts indicates that the observed values are significantly different from the expected values, and that less respondents than expected said 'yes' to using the Internet in the village (rural areas), whereas in the city/town (urban areas) more respondents than expected said 'yes.' It is therefore concluded that a significant relationship exists between location and use of the Internet as a means of obtaining information. The finding confirms that urban dwellers use and have better access to the Internet than rural-based people.

In yet another bid to determine how distance learners meet and satisfy their information needs, another question raised was to determine which of the information sources used satisfied their information needs. From the reaction of the respondents, the information source that satisfied the majority of distance learners was the Internet (57.4%). This was followed by the University (of Botswana) Library (51.6%). Other information sources that satisfied them include Colleagues (37.1%); Email (31.9%); online databases/sources (28.8%); WebCT (27.7%); Public Library (27.5%); Coordinators (18.7%); Radio/TV (16.8%) and 'None' (those that indicated no information source satisfied their information needs) (6.1%). Other information sources which some respondents indicated satisfied their needs include books/modules/study guide ($n = 3$); tutors ($n = 1$) and past question papers ($n = 1$). Figure 3 gives further details.

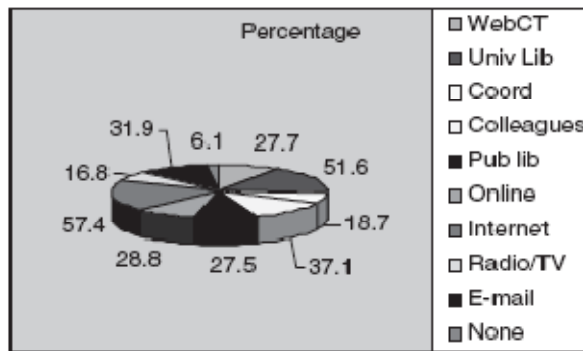


FIGURE 3 Satisfying information sources.

It has been said that distance learners are ubiquitous students. They are found both in the rural as well as urban areas. The relationships between these locations where they live and each of the information sources that satisfied their needs were cross-tabulated and Chi-square tests performed on the cross-tabulations. Table 5 shows that location was significantly related only to the University Library ($X^2 = 10.778$, $df = 2$, $p < .05$) and the Internet ($X^2 = 8.933$, $df = 2$, $p < .05$) as satisfying sources of information.

Tables 6 and 7 show the expected and observed counts in the cross-tabulation of Location and the use of the University Library and the Internet as sources of information that satisfy the information needs of distance learners in Botswana. The expected counts in the cells of the table are based on the assumption that the row (Location) and the column (Information sources that satisfy needs) variables do not depend on one another (i.e., are not associated with one another). Comparison of the observed with the expected counts indicates that the observed values are significantly different from the expected values, and that less respondents than expected in town and village

TABLE 5 Relationship Between Location and Information Sources Satisfying Needs of Respondents

| Info sources satisfying needs – | Chi-square | Df | Asymp. Sig. (2-sided) | Remark |
|---------------------------------|------------|----|-----------------------|-----------------|
| WebCT | .171 | 2 | .918 | Not Significant |
| Univ Library | 10.778 | 2 | .005 | Significant |
| Coordinator | .296 | 2 | .862 | Not significant |
| Colleagues | 1.112 | 2 | .573 | Not Significant |
| Public Library | 5.826 | 6 | .443 | Not Significant |
| Online databases/sources | 4.359 | 2 | .113 | Not significant |
| Internet | 8.933 | 2 | .011 | Significant |
| Radio/Tele vision | .764 | 2 | .683 | Not Significant |
| Email | 1.928 | 2 | .381 | Not significant |

TABLE 6 Relationship Between Location of Respondents and Info Sources that Satisfy Their Needs—Univ Library

| | Crosstab | | | |
|----------------|---|---------------|-------|------------|
| | Info sources satisfying needs—Univ. Library | | | |
| | Yes | No | Total | % of Total |
| Location | | | | |
| City | | | | |
| Observed Count | 131 (58.2%) | 94 (41.8%) | 225 | 61.8 |
| Expected Count | 116.2 (51.6%) | 108.8 (48.4%) | 225.0 | 61.8 |
| Town | | | | |
| Observed Count | 26 (44.8%) | 32 (55.2%) | 58 | 15.9 |
| Expected Count | 30.0 (51.7%) | 28.0 (48.3%) | 58.0 | 15.9 |
| Village | | | | |
| Observed Count | 31 (38.3%) | 50 (61.7%) | 81 | 22.3 |
| Expected Count | 41.8 (51.6%) | 39.2 (48.4%) | 81.0 | 22.3 |
| Total | | | | |
| Observed Count | 188 (51.6%) | 176 (48.4%) | 364 | 100 |
| Expected Count | 188.0 (51.6%) | 176.0 (48.4%) | 364.0 | 100.0 |

said 'yes' to University Library as an information source was satisfying to their information needs. By contrast, more respondents than expected in the city said 'yes.' The conclusion therefore is that there is a significant relationship between location and use of the University Library as a satisfying information source. The finding seems to be in tandem with the reality that the university library has presence and effect in the two cities in Botswana where it is located and that the towns and villages feel the impact of the absence of the university library. The same impact is observed in the city as well as in

TABLE 7 Relationship Between Location of Respondents and Info Sources that Satisfy Their Needs—Internet

| | Crosstab | | | |
|----------------|--|---------------|-------|------------|
| | Info sources satisfying needs—Internet | | | |
| | Yes | No | Total | % of Total |
| Location | | | | |
| City | | | | |
| Observed Count | 142 (63.1%) | 83 (36.9%) | 225 | 61.8 |
| Expected Count | 129.2 (57.4%) | 95.8 (42.6%) | 225.0 | 61.8 |
| Town | | | | |
| Observed Count | 31 (53.4%) | 27 (43.4%) | 58 | 15.9 |
| Expected Count | 33.3 (57.4%) | 24.7 (42.6%) | 58.0 | 15.9 |
| Village | | | | |
| Observed Count | 36 (44.4%) | 45 (55.6%) | 81 | 22.3 |
| Expected Count | 46.5 (57.4%) | 34.5 (42.6%) | 81.0 | 22.3 |
| Total | | | | |
| Observed Count | 209 (57.4%) | 155 (42.6%) | 364 | 100 |
| Expected Count | 209.0 (57.4%) | 155.0 (42.6%) | 364.0 | 100.0 |

TABLE 8 Relationship Between Institutions and Information Sources Satisfying Needs of Respondents

| Info sources satisfying needs – | Chi-square | Df | Asymp.Sig. (2-sided) | Remark |
|---------------------------------|------------|----|----------------------|-----------------|
| WebCT | 58.962 | 3 | .000 | Significant |
| Univ Library | 4.246 | 3 | .236 | Not Significant |
| Coordinator | 7.771 | 3 | .051 | Not significant |
| Colleagues | 18.363 | 3 | .000 | Significant |
| Public Library | 16.577 | 9 | .056 | Not Significant |
| Online databases/sources | 26.231 | 3 | .000 | Significant |
| Internet | 40.544 | 3 | .000 | Significant |
| Radio/Television | 28.178 | 3 | .000 | Significant |
| Email | 1.880 | 3 | .598 | Not significant |

the towns and villages on the use of the Internet as a satisfying information source. It is noted in Table 7 that more respondents than expected in the city said 'yes' to the Internet as satisfying their information needs, while in town and village, less respondents than expected said 'yes.' This further confirms that Internet facilities are more available and possibly cheaper and easily accessible in the city than in town and village in Botswana.

Effort was made to establish the relationships between the Institution and information sources satisfying the needs of respondents. The relationships between the institutions and each of the information sources were cross-tabulated and Chi-square tests performed on the cross-tabulations. Table 8 shows that Institution was significantly related only to the WebCT ($X^2 = 58.962$, $df = 3$, $p < .05$); Colleagues ($X^2 = 18.363$, $df = 3$, $p < .05$); Online databases/sources ($X^2 = 26.231$, $df = 3$, $p < .05$); Internet ($X^2 = 40.544$, $df = 3$, $p < .05$); Radio/Television ($X^2 = 28.178$, $df = 3$, $p < .05$). No significant difference was found between the Institutions and other information sources.

Tables 9 to 13 show the observed and expected counts in the cross-tabulation of the institutions of study and the information sources satisfying needs of respondents. The expected counts in the cells of the table are based on the assumption that the row (Institution) and the column (Information sources satisfying needs) variables are not associated with one another (i.e., there are no relationships between them). Comparison of the observed with the expected counts shows that the observed values are significantly different from the expected values. In Table 9, it was only in the UB (home-based) that more respondents than expected indicated 'yes' WebCT was a satisfying information source; whereas in other institutions (mainly cross-border), less respondents than expected said 'yes' to WebCT as an information source satisfying needs. The finding seems to mark a significant difference between cross-border respondents and home-based distance learners. The finding suggests that only UB (respondents) used WebCT as an

TABLE 9 Relationship Between Institution of Respondents and Info Sources Satisfying Needs—WebCT

| | Crosstab | | | |
|------------------------|-------------------------------------|---------------|-------|------------|
| | Info sources satisfying needs—WebCT | | | |
| | Yes | No | Total | % of Total |
| Institution | | | | |
| UB (Home-based) | | | | |
| Count | 56 (57.1%) | 42 (42.9%) | 98 | 26.9 |
| Expected Count | 27.2 (27.8%) | 70.8 (72.2%) | 98.0 | 26.9 |
| UNISA (Cross-border) | | | | |
| Count | 24 (15.2%) | 134 (84.8%) | 158 | 43.4 |
| Expected Count | 43.8 (27.7%) | 114.2 (72.3%) | 158.0 | 43.4 |
| MANCOSA (Cross-border) | | | | |
| Count | 7 (15.6%) | 38 (84.4%) | 45 | 12.4 |
| Expected Count | 12.5 (27.8%) | 32.5 (72.2%) | 45.0 | 12.4 |
| UD (Cross-border) | | | | |
| Count | 14 (22.2%) | 49 (77.8%) | 63 | 17.3 |
| Expected Count | 17.5 (27.8%) | 45.5 (72.2%) | 63.0 | 17.3 |
| Total | | | | |
| Count | 101 (27.7%) | 263 (72.3%) | 364 | 100 |
| Expected Count | 101.0 (27.7%) | 263.0 (72.3%) | 364.0 | 100.0 |

information source or derived satisfaction in the source, others did not. Table 10 shows that from UB and MANCOSA more respondents than expected said 'yes' to colleagues as an information source satisfying their needs; whereas less respondents than expected from UNISA and UD indicated 'yes' to

TABLE 10 Relationship Between Institution of Respondents and Info Sources Satisfying Needs—Colleagues

| | Crosstab | | | |
|------------------------|--|---------------|-------|------------|
| | Info sources satisfying needs—Colleagues | | | |
| | Yes | No | Total | % of Total |
| Institution | | | | |
| UB (Home-based) | | | | |
| Count | 52 (53.1%) | 46 (46.9%) | 98 | 26.9 |
| Expected Count | 36.3 (37%) | 61.7 (63%) | 98.0 | 26.9 |
| UNISA (Cross-border) | | | | |
| Count | 42 (26.6%) | 116 (73.4%) | 158 | 43.4 |
| Expected Count | 58.6 (37.1%) | 99.4 (62.9%) | 158.0 | 43.4 |
| MANCOSA (Cross-border) | | | | |
| Count | 18 (40%) | 27 (60%) | 45 | 12.4 |
| Expected Count | 16.7 (37.1%) | 28.3 (62.9%) | 45.0 | 12.4 |
| UD (Cross-border) | | | | |
| Count | 23 (36.5%) | 40 (63.5%) | 63 | 17.3 |
| Expected Count | 23.4 (37.1%) | 39.6 (62.9%) | 63.0 | 17.3 |
| Total | | | | |
| Count | 135 (37.1%) | 229 (62.9%) | 364 | 100 |
| Expected Count | 135.0 (37.1%) | 229.0 (62.9%) | 364.0 | 100.0 |

TABLE 11 Relationship Between Institution of Respondents and Info Sources Satisfying Needs—Online Sources

| | Crosstab | | | |
|------------------------|--|---------------|-------|------------|
| | Info sources satisfying needs—Online sources | | | |
| | Yes | No | Total | % of Total |
| Institution | | | | |
| UB (Home-based) | | | | |
| Count | 14 (14.3%) | 84 (85.7%) | 98 | 26.9 |
| Expected Count | 28.3 (28.9%) | 69.7 (71.1%) | 98.0 | 26.9 |
| UNISA (Cross-border) | | | | |
| Count | 49 (31%) | 109 (69%) | 158 | 43.4 |
| Expected Count | 45.6 (28.9%) | 112.4 (71.1%) | 158.0 | 43.4 |
| MANCOSA (Cross-border) | | | | |
| Count | 10 (22.2%) | 35 (77.8%) | 45 | 12.4 |
| Expected Count | 13.0 (28.9%) | 32.0 (71.1%) | 45.0 | 12.4 |
| UD (Cross-border) | | | | |
| Count | 32 (50.8%) | 31 (49.2%) | 63 | 17.3 |
| Expected Count | 18.2 (28.9%) | 44.8 (71.1%) | 63.0 | 17.3 |
| Total | | | | |
| Count | 105 (28.8%) | 259 (71.2%) | 364 | 100 |
| Expected Count | 105.0 (28.8%) | 259.0 (71.2%) | 364.0 | 100.0 |

colleagues as a satisfying information source. This finding seems to suggest that respondents from UB and MANCOSA enjoyed interaction with fellow learners from respective institution and that there was hardly adequate or meaningful interaction among fellow distance learners of UNISA and UD in

TABLE 12 Relationship Between Institution of Respondents and Info Sources Satisfying Needs—Internet

| | Crosstab | | | |
|------------------------|--|---------------|-------|------------|
| | Info sources satisfying needs—Internet | | | |
| | Yes | No | Total | % of Total |
| Institution | | | | |
| UB (Home-based) | | | | |
| Count | 30 (30.6%) | 68 (69.4%) | 98 | 26.9 |
| Expected Count | 56.3 (57.4%) | 41.7 (42.6%) | 98.0 | 26.9 |
| UNISA (Cross-border) | | | | |
| Count | 104 (65.8%) | 54 (34.2%) | 158 | 43.4 |
| Expected Count | 90.7 (57.4%) | 67.3 (42.6%) | 158.0 | 43.4 |
| MANCOSA (Cross-border) | | | | |
| Count | 29 (64.4%) | 16 (35.6%) | 45 | 12.4 |
| Expected Count | 25.8 (57.3%) | 19.2 (42.7%) | 45.0 | 12.4 |
| UD (Cross-border) | | | | |
| Count | 46 (73%) | 17 (27%) | 63 | 17.3 |
| Expected Count | 36.2 (57.5%) | 26.8 (42.5%) | 63.0 | 17.3 |
| Total | | | | |
| Count | 209 (57.4%) | 155 (42.6%) | 364 | 100 |
| Expected Count | 209.0 (57.4%) | 155.0 (42.6%) | 364.0 | 100.0 |

TABLE 13 Relationship Between Institution of Respondents and Info Sources Satisfying Needs—Radio/TV

| | Crosstab | | | |
|------------------------|--|---------------|-------|------------|
| | Info sources satisfying needs—Radio/TV | | | |
| | Yes | No | Total | % of Total |
| Institution | | | | |
| UB (Home-based) | | | | |
| Count | 19 (19.4%) | 79 (80.6%) | 98 | 26.9 |
| Expected Count | 16.4 (16.7%) | 81.6 (83.3%) | 98.0 | 26.9 |
| UNISA (Cross-border) | | | | |
| Count | 18 (11.4%) | 140 (88.6%) | 158 | 43.4 |
| Expected Count | 26.5 (16.8%) | 131.5 (83.2%) | 158.0 | 43.4 |
| MANCOSA (Cross-border) | | | | |
| Count | 19 (42.2%) | 26 (57.8%) | 45 | 12.4 |
| Expected Count | 7.5 (16.7%) | 37.5 (83.3%) | 45.0 | 12.4 |
| UD (Cross-border) | | | | |
| Count | 5 (7.9%) | 58 (92.1%) | 63 | 17.3 |
| Expected Count | 10.6 (16.8%) | 52.4 (83.2%) | 63.0 | 17.3 |
| Total | | | | |
| Count | 61 (16.8%) | 303 (83.2%) | 364 | 100 |
| Expected Count | 61.0 (16.8%) | 303.0 (83.2%) | 364.0 | 100.0 |

Botswana. Table 11 shows more of UNISA and UD respondents than expected indicated 'yes' online sources satisfied their needs and less of UB and MANCOSA respondents than expected said 'yes' to online sources as satisfying their information needs. This finding seems to suggest that UNISA and UD students use online sources to obtain information than UB and MANCOSA students in Botswana. The finding has however underscored how the distance learners meet their information needs.

Table 12 reveals that more of UNISA, MANCOSA and UD (all cross-border) respondents than expected indicated 'yes' they found the Internet satisfying their information need; whereas less of UB (home-based) respondents than expected said 'yes' to the Internet as an information source satisfying their need. This finding seems to suggest poor use of the Internet by distance learners of UB; whereas the cross-border students seem not only to have proclivity for the use of the Internet, they derive pleasure and satisfaction in using it. In Table 13, again more of UB and MANCOSA respondents than expected said 'yes' for Radio/TV as a satisfying information source; whereas less respondents than expected from UNISA and UD indicated 'yes' to Radio/TV as a satisfying information source. This finding has shown the popularity or otherwise of Radio/TV as information sources to distance learners in Botswana.

DISCUSSION OF RESULTS

The findings showed three major information sources the learners used to prepare for their assignment, test or examination, etc. The sources

comprised: modules and study package, the Internet, and colleagues (indicated by 93.7%, 65.4% and 62.9% of respondents respectively). Other information sources used but which less than half of the respondents indicated include: asking for assistance from expert or knowledgeable people (41.8% of respondents), approaching the coordinator or agent of the institution (19.8%) and listening to the radio/television (14.3%). Speaking or writing to subject librarian to obtain information was an option indicated by only 8.8% respondents. The findings also showed that respondents used other sources to meet their information needs. When re-presented, the Internet was found as the most used information source by the majority of the respondents (77.2%). Earlier, the Internet came second after the module. Other information sources used include: Library resources (67%); Web search materials (57.1%); Lecturer (49.4%); Email (46.2%); Coordinator (31.9%); telephone 28.6% and Radio/television (19%). The study further found that with 57.4% of respondents, Internet was the information source that satisfied the majority of distance learners. The University (of Botswana) Library with 51.6% respondents became the second information source that satisfied distance learners in Botswana. Other information sources that satisfied them include Colleagues (37.1%); Email (31.9%); online databases/sources (28.8%); WebCT (27.7%); Public Library (27.5%); Coordinators (18.7%); and Radio/TV (16.8%). Surprisingly, some respondents (6.1%) indicated no ('none') information source satisfied their information needs.

Whilst the Internet was a very popular information source among tertiary level distance learners in Botswana, the issue of easy and unrestricted access to the information source is something to contend with. The findings show that majority of the learners had access to the Internet in their place of work. Whilst they would like to use fast resources like the Internet, the distance learners' location had some significant impact on their accessibility to the facility—hence, the traditional library types of services are predominantly still being used in Botswana.

As noted in the earlier submission, the majority of distance learners (93.7%) had indicated that module/study package was used far more than the Internet as an information source. 'Colleagues' came third with 63% (see Figure 1) as an information source used after the Internet to prepare their assignments, test and examinations. Dependence on the information sources like module and colleagues at degree or higher degree level falls short of expectation and is considered inadequate. It possibly reflects dearth of other useful information sources for distance learners. Seeking assistance from expert and knowledgeable people (as indicated by 41.8% respondents) before they could write their assignments tends to be a sign of indolence on the part of distance learners or absence of adequate information resources to use. The use of subject librarian by a paltry of 8.8% respondents is evidence that distance learners did not have access to or know the importance of subject librarian. The University of Botswana Library as a national resource center, allows users to have access to all its resources and services including

services of its subject librarians. With less than 20% respondents, listening to radio/television has also been shown as an unpopular information source by distance learners in Botswana. Though about two-thirds (67%) of respondents indicated 'library resources' was being used as information source, the figure appears not good enough for distance learners at degree or higher degree level. It suggests that adequate library resources were not available to quite a sizeable number of distance learners, particularly those that live in villages. The email indicated by 46.2% of respondents as a used information source is indicative of its awareness and usefulness by a rising group of distance learners in Botswana. It is also significant however to note that quite a sizeable number of distance learners was probably not aware of the importance of email yet or that they did not have means to using it.

It is also observed with regret that more than a third (37.1%) of respondents still found their 'colleagues' most useful as an information source. It seems the students rely on colleagues for reasons of drought of appropriate information sources available to them. It is deplorable to also note that just over a quarter (27.5%) of respondents considered Public Library in Botswana useful. Even though they are more widespread than any other libraries, the implication of this is that Public Libraries never considered it their mandate to stock tertiary level materials. Another area of serious concern is the 6.1% respondents that indicated no ('none') information source satisfied their information needs. This seems to give a hint that good and appropriate information sources are not within the reach of all distance learners in the country.

It is curious to note that even though the Internet was indicated by 77.2% respondents as the most used information source, the resource nevertheless satisfied only 57.4% of distance learners. Notwithstanding, the Internet still remained on top of other information sources that satisfied the learners. This seems to suggest that the learners lack in-depth knowledge of how to effectively use the resource or that they did not have access to the right and appropriate sites. Of course some electronic resource sites, e.g., where full-text e-journal articles can be obtained, have to be subscribed to or paid for, in order to access them. The University of Botswana Library (UBL) being the second most satisfied information source is indicative that the library is playing its role as a national resource center to distance learners in the areas the institution (UB) is located. It however regrettably also suggests that even though respondents were drawn from 3 cross-border institutions, the UBL seems to become the surrogate library playing the role that those institutional libraries should play, whereas the students paid to their respective institutions and not the University of Botswana. For instance, the results of tests performed show that UD respondents said 'yes' to using UB main library and UNISA respondents said 'yes' to using the UB branch library. In other words, the findings confirm that most of the cross-border students of University of

Derby and University of South Africa consistently used either UB main or branch library.

CONCLUSION AND RECOMMENDATIONS

The study has brought into the spotlight not only the information seeking pattern of distance learners but also the seemingly elusive tertiary level cross-border aspect of distance education in Botswana. The findings have clearly provided hints to the providers of distance education on the information milieu in which distance learners operate generally in Africa and Botswana in particular. The study informs of pronounced existence of the information-rich and information-poor, technology-rich and technology-poor environments in which distance learners live that may significantly define the types of decision the distance learners make and information resources and services they use. In the light of the issues uncovered in this study, the following recommendations would be apposite:

The distance teaching institutions should take into cognizance the spread of their students in the country and create opportunities for them to access information resources and/or services. Such could include:

- Establishing study centers in a number of strategic places across the country and equipping them with appropriate facilities including computers with Internet connection, e-journals, books, etc.
- Creating effective collaborative partnership between and among institutions operating distance degree programmes in such a way that resources could be pooled together to enrich the information environment of their learners.
- Collaborating with institutions like public libraries, secondary schools, Technical Colleges and Education Centres, etc. across the country to serve the learners. Such arrangement may involve the need to pay for the services the institutions will render to the 'foreign' students.
- The researcher noted that almost everyone who registered for distance education programmes in all the institutions studied had a cellular phone, whilst the findings revealed that only 12 (3.3%) respondents indicated they used this communication technology, especially, the short message service (SMS) to contact the library/subject librarian. Greater use of mobile technology should be explored to provide service to distance learners.
- With the result showing a total of 287 (78.8 percent) respondents had access to computer with Internet facilities, distance teaching institutions/libraries can work out the possibility of applying the functionality of instant messaging (IM) and have live chats with distance learners. It

sounds disheartening to note that only 8.8 percent of the respondents contacted librarians for assistance. This can change with Live Chat.

- More efforts can be geared towards encouraging each of the distance learners to register for email address so that lines of communication can be opened between them and their institutions including the information resource center/library. This will raise the level of the current 46.2% of respondents that indicated they used email to a much higher level. With emailing system the library can also set up e-journal alerts in relevant areas for the students and also respond to their reference queries.
- The distance learners, like their conventional counterparts, should be given proper orientation and education on the use of the library and the services obtainable including the role of subject librarians.
- As a national resource center, the University of Botswana Library (UBL) will continue to play a major role in meeting the information needs of not only its primary clientele, but also members of the public including the students especially distance learners of other institutions within and outside the country. The UBL may initiate some convenient and workable arrangement with the institutions whose students use its facilities.

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