Information Seeking Behavior of the Off-Campus Students at the University of Botswana: A Case of Two Satellite Centers

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ABSTRACT. *The focus of this study is on the information-seeking behavior of the off-campus students in 2 of the 7 satellite centers of the Centre for Continuing Education, the outreach arm of the University of Botswana. Although the university deeply committed itself to the project, the university library could not afford to establish branch libraries in all the off-campus centers. With the nearest university branch libraries located some 160 km and 200 km away from the centers of study and only branch offices of the public library available, the findings revealed that the library and information needs of the students were not significantly met. As printed sources were revealed as their preferred choice of information format, e-mail and the Internet sources were not given much priority, even though there was evidence that suggests the students were adequately equipped through the teaching of information skills. Questionnaire and interview tools were used.*

KEYWORDS continuing education, information needs, information seeking, information services, information skills, information sources, off-campus students

BACKGROUND

The Centre for Continuing Education (CCE), University of Botswana is a multidisciplinary and interfaculty outreach arm of the university. Being the only publicly funded university in the country for a long time (the second is just under construction and hopes to have its first cohort of admission in 2011), the University of Botswana has the mandate to engage in improving

the quality and quantity of the human resources needed for the development of Botswana. The establishment of the CCE, which came into being in 1987, is part of the effort to fulfill the mandate. Structured into two main departments (*Distance Education* and *Extra-Mural and Public Education*) the center offers credit and noncredit diploma and degree programs within the framework of lifelong learning. The center performs its task through distance education, part-time evening classes, professional development and training programs, as well as public education outreach and other extension activities. As the lead agency in part-time and distance education at tertiary level in the country, the center works in partnership with academic and support departments and units in the university as well as a variety of stakeholders within the country.

One major program that the Department of Extra-Mural and Public Education (DEPE) offers is diploma in accounting and business studies (DABS). Over the years this program, a 3-year part-time evening duration course, has gained a wide acceptance throughout the country. It has indeed assumed a dimension to the point that apart from Gaborone and Francistown campuses of the University of Botswana where it operates, the program also holds on hired premises of either Technical Colleges or Secondary schools in five other locations across the country. These include Lobatse, Jwaneng, Maun, Selebi Phikwe and Mahalapye. The study was on the last two centers. Though a project the university deeply committed itself, it is absolutely difficult if not impossible for the university library to establish its branch in every location where the CCE has its presence. The university library could therefore not put up any physical infrastructures that can be easily used to meet the information needs of its students in all the five satellite campuses including the two centers of this study. Public libraries are the only easily accessible resource or information center available for the students in the two locations. Every other effort exerted to go into coalition with other institutions to cater for the students in the satellite centers did not yield any positive results. With about 160 km, the nearest university branch library to Selebi Phikwe center is the CCE North Library at the Francistown campus of the university, while the main branch of the university library located some 200 km away is the nearest university library to Mahalapye.

The focus of this study was the information seeking behavior of the students in two of the off-campus centers of the CCE. Examining the concept of information seeking behavior, Lokman and Stephanie (2001) perceive it as a broad term, which encompasses the ways individuals articulate their information needs, seek, evaluate, select and use information. Similarly, Kingrey (2002) also sees information seeking as involving the search, retrieval, recognition and application of meaningful content. Wilson and Walsh (1996) probably explain it better in an earlier discourse when they note that at the root of the problem of information-seeking behavior is the concept of information need. With a branch of the public library in each

of the two centers as the only easily accessible library or resource center to the students, how were they able to meet their information needs? Were they adequately equipped with information skills to enable them to access library and information services with confidence? Did they have adequate access to appropriate information sources? As previously noted, all the endeavors of the university library to obtain assistance from other sources to cater for the information needs of their students in satellite centers seemed unfruitful. Having been so disadvantaged, the students' information needs may not have been adequately catered for. The consequence of this is that the students may be undergoing their three year diploma course of study in the off-campus (satellite) centers without having to use any library facilities or even receiving the assistance of the library.

In the light of the above and based on the observation from the literature, this study would test one main (H^m) and seven subhypotheses (SH). The hypotheses were drawn to enable us to provide the right and appropriate answers to the research questions raised for the study. All expressed in the null the hypotheses include:

- Main Hypothesis (H^m): The library and information needs of the students in satellite (off) campuses are not significantly adequately met.
- Subhypothesis 1 (SH^1): The satellite (off) campus students have no significantly preferred information format from print, electronic and audio–visual formats .
- Subhypothesis 2 (SH^2): There is no significant difference in the various information sources used to acquire information .
- Subhypothesis 3 (SH^3): There is no significant information source used by the respondents .
- Subhypothesis 4 (SH^4): There is no significant procedure for obtaining information needed .
- Subhypothesis 5 (SH^5): Students do not have adequate access to appropriate information sources.
- Subhypothesis 6 (SH^6): Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students.
- Subhypothesis 7 (SH^7): Students are not adequately equipped with information literacy skills to enable them to access library and information services with confidence.

RESEARCH METHODOLOGY

This study focused on the students of the outreach arm of the University of Botswana in Selebi Phikwe and Mahalapye, two of the seven centers of the CCE. It was assumed that the findings from the study would be representative

of the opinions of the off-campus students in all the five centers of the university where the university library does not have any physical presence. A social survey of a sample of the off-campus students in the two centers was carried out. Altogether, there were a total of 274 students in the two centers. Mahalapye had 124 students and Selebi Phikwe center had 150 students. For reasons of their experience in school, the students doing Levels 2 and 3 of their diploma program were given consideration in the survey. It was felt that the students in those levels, unlike their Level 1 counterparts, had written a number of assignments and tests, as well as more than two examinations. It was therefore assumed that the desirability or otherwise of library and information services would be better felt by levels two and three students than Level 1 students. In order to be able to compare results, the same number of students in each of the two centers was included on purpose. In this respect, a random sample of 50 students in Level 2 and Level 3 in each center was used for this study.

With the assistance of the course coordinator in each center, the researcher personally distributed a total of 100 copies of the questionnaire (50 copies for each center) to the students who were randomly selected from the list for each center. This figure constitutes about one third of the total population of the students in the two centers. A total of 80 analyzable responses were received. This represents 80% response rate.

Even though a questionnaire was used as the major data collection instrument, an interview was also carried out with some selected students from the two study centers. The purpose of the interview was to seek further clarification of any grey areas or the result of the analysis.

Data were abstracted from the questionnaires and entered into the Statistical Package for Social Sciences (SPSS) for computational analysis. Standard statistics were used, including frequency distributions and percentages, to carry out the analysis. Tables were developed from SPSS package to express the relevant data to the main and subhypotheses. Crosstabulation and chi-square were made to relate the independent variables under demographic information to the findings and establish or measure possible influence where appropriate. Being a nonparametric test of statistical significance for bivariate tabular analysis that chi-square is, it also helps to determine the degree of confidence to have in accepting or rejecting a hypothesis.

FINDINGS

Main Hypothesis (H^m): The library and information needs of the students in satellite (off) campuses are not significantly adequately met.

Table 1 presents the results of the inquiry to establish if the library and information needs of the students in the satellite centers were being adequately met or not. Within the limit of the materials or resources available

TABLE 1 Meeting Information Needs by Available Resources

	Frequency	%	χ^2	p
Valid				
All information needs met	1	1.3	103.500	0.001
Most information needs met	4	5.0		
Some information needs met	58	72.5		
No information needs met	17	21.3		
Total	80	100.0		

Note. $p < 0.05$.

for their use, including public library facilities, the students were asked to indicate whether *all, most, some* or *none* of their information needs were met by the resources available. A significant majority (72.5%) of respondents indicated that only some of their information needs were met. Only one respondent (1.3%) indicated that all his or her information needs were met, while another insignificant four respondents said that most of their information needs were met. As shown in Table 1, $\chi^2 = 103.500$; $p < 0.05$. Going by the established result, the considered view is that the library and information needs of the students in satellite campuses were not met. Hence, the hypothesis is accepted.

Subhypothesis 1 (SH^1): The satellite (off-campus) students have no significantly preferred information format from print, electronic and audio–visual formats

In establishing their most preferred information format from the three options of print, electronic, and audio–visual provided, it is clear from Table 2 that a significant majority (71.3%) of the respondents had preference for print format. The significance level of χ^2 value found was 0.001, which is less than 0.05. The subhypothesis that continuing education students have no significantly preferred information format from print, electronic and audio–visual formats is rejected. It is noted that the students have all their lives been used to print as an information format. Besides, print as an information format is more easily accessible than other formats. Further, the application of the other two formats involves the use of electricity, which may not be significantly available in the homes of some of the students. In addition, the cost

TABLE 2 Most Preferred Information Format

	Frequency	%	χ^2	p
Valid				
Print	57	71.3	51.775	.001
Electronic	12	15.0		
Audio Visual	11	13.8		
Total	80	100.0		

Note. $p < 0.05$.

TABLE 3 Most Preferred Information Format According to Level of Students

	Most preferred information				Level	
	Print	Electronic	Audio visual	Total	χ^2	p
Level						
Second level	30	7	4	41	3.234	.519
Third level	27	5	7	39		
Total	57	12	11	80		

of using electronic and audio–visual materials may not be affordable. This assertion was confirmed during the interview when some of the students disclosed that they were not working and therefore could not afford to buy electronic or computer mediated information systems. The results reveal that with the common use of electronic and audio–visual formats these days, things have not significantly changed with the students. Probably for reasons of background, cost, environment, poverty or location, print remains the information format of choice to most of the students.

The effort geared toward establishing whether the respondents' level (of study) had any influence on their choice of the most preferred information format showed that it had no significant influence ($\chi^2 = 3.234$: $p > 0.05$; see Table 3).

Similarly, the result of the crosstabulation and chi-square to check if location had any significant influence in the respondents' choice of the most preferred information format produced no significant association. As seen in Table 4, the value of χ^2 is not significant ($p > 0.05$). Thus, I reject the suggestion that either level of study or location had any significant influence on the choice. In other words, the choice of the most preferred information format by the respondents was independent of their location and level (of study).

Subhypothesis 2 (SH^2): There is no significant difference in the various information sources used to acquire information.

It is palpable that a significant number (90%) of respondents indicated their dependence on lecturer, followed by colleagues with 71% as their information sources used (see Table 5). In addition to these two information sources, the value of χ^2 in a number of areas including Internet, e-mail and

TABLE 4 Most Preferred Information Format by Location

	Most preferred information				Location	
	Print	Electronic	Audio visual	Total	χ^2	p
Location						
1*	28	7	8	43	2.186	.519
2*	29	5	3	37		
Total	57	12	11	80		

Note. 1* = Mahalapye; 2* = Selebi Phikwe.

TABLE 5 Sources Used to Acquire Information

	Frequency	%	χ^2	p
Valid				
Colleagues	57	71.3	14.450	.001
Lecturer	72	90.0	15.200	.001
Radio/TV	35	43.8	1.250	.264
Internet	20	25.0	20.000	.001
E-mail	8	10.0	51.200	.001
Telephone	13	16.3	36.450	.001
Reference text/books	47	58.8	2.450	.118
Library resources	40	50.0	.000	1.000
Other	1	1.3	76.050	.001

telephone is significant ($p < 0.05$). Of the information sources listed, the significantly least used ones are e-mail, Internet and telephone. The reason for this could be as a result of the cost involved in their use and location. Unlike the regular students who can easily walk to the university library to use e-mail and Internet facilities, students in satellite campuses do not have such provisions. Mass media like radio and television attracted greater attention than the Internet and e-mail. Evidence obtained from the interview showed that the students listened to radio or watched television to obtain information on jobs and other opportunities and for academic purposes per se. Essentially, the results obtained here reject the SH^2 postulation that there is no significant difference in the various information sources used to acquire information.

Even though the value of χ^2 in the three information sources discussed earlier lends credence to the subhypothesis, such areas where the value of χ^2 is greater than 0.05 include the use of mass media like radio and television, reference books and textbooks, and library resources. They are not significant enough to write off the rejection of the SH^2 that there is no significant difference in the various information sources used to acquire information. Those who used them were not significantly more than those who did not.

The study made an attempt to establish whether location had any significant influence in the choice of sources. No relationship was found. Virtually

TABLE 6 Most Important Information Source

	Frequency	%	χ^2	p
Valid				
Books	36	45.0	32.700	.001
Lecturers	27	33.8		
Internet	0	0.0		
Friends and colleagues	2	2.5		
Lecture notes/handouts	15	18.8		
Others	0	0.0		
Total	80	100.0		

TABLE 7 Most Important Information Source by Level (of Study)

	Most important information source					Level	
	Books	Lecturers	Friends and colleagues	Lecture notes/handouts	Total	χ^2	p
Level							
Second level	15	15	2	9	41	6.805	.339
Third level	21	12	0	6	39		
Total	36	27	2	15	80		

all the variables tested showed that the value of χ^2 in each of them is not significant ($p > 0.05$). The result also rejects any idea that level (of study) could influence the choice of respondents because p is greater than 0.05. Neither location nor level was found to have any significant influence in the various information sources the respondents used to acquire information.

Subhypothesis 3 (SH^3): There is no significant information source used by the respondents.

As indicated in Table 6, the respondents' most important information source was "books." This further confirms the result of SH^2 where the majority of the respondents opted for print as their preferred information format. The χ^2 value is significant here in the sense that p is less than 0.05. Hence, the subhypothesis is rejected. Whether they were able to have access to the right and appropriate books was another question. With 33.8%, lecturers were rated as the second most important information source. Internet had no adherents yet among the respondents (see Table 6).

The crosstab and χ^2 examination of the possibility of level (of study) having any significant influence on the choice of the respondents' most important information source yielded no significant association ($\chi^2 = 6.805$: $p > 0.05$) (see Table 7). Similarly, with $\chi^2 = 2.006$ and significance level found to be .571, indicating that $p > 0.05$, the location of the respondents had no significant association in the respondents' choice of their most important information source (see Table 8).

The test conducted using crosstab and χ^2 to check if age had any influence in the respondents' choice of the most important information source

TABLE 8 Most Important Information Source by Location

	Most important information source					Location	
	Books	Lecturers	Friends and colleagues	Lecture notes/handout	Total	χ^2	p
Location code							
1	20	12	1	10	43	2.006	.571
2	16	15	1	5	37		
Total	36	27	2	15	80		

TABLE 9 Most Important Information Source by Age

Age	Most important information source				Total	Age	
	Books	Lecturers	Friends and colleagues	Lecture notes/handouts		χ^2	p
Under 20	1	2	0	0	3	19.270	.082
21–25	20	11	1	10	42		
26–30	7	10	0	4	21		
31–35	7	3	0	1	11		
36 and above	1	1	1	0	3		
Total	36	27	2	15	80		

also yielded no significant association—neither did gender. In each case, the value of χ^2 is not significant. For instance with Age $\chi^2 = 19.270$; $p > 0.05$ (see Table 9) and Gender $\chi^2 = 6.985$; $p > 0.05$ (see Table 10).

Subhypothesis 4 (SH^4): There is no significant procedure for obtaining information needed.

It is clearly indicated from Table 11 that a significant number (92.5%) of respondents would use their lecture notes to cater for their information needs or obtain the needed information. This was followed by the choice of discussion with colleagues (82.5%). Use of the Internet and listening to radio and television were the least used methods to obtain the needed information. On the whole the χ^2 value is significant: p is less than 0.05. As such, this result is at variance to the subhypothesis that there is no significant procedure for obtaining information needed; hence, the subhypothesis is rejected.

Subhypothesis 5 (SH^5): Students do not have adequate access to appropriate information sources.

Our first attempt at measuring the subhypothesis was to test respondents' accessibility to the Internet. From Table 12, only nine respondents said they had access to the Internet facilities; four (5%) had this access only at work on their own machine; three (3.8%) also at work but on a shared machine; while only two—2.5%—respondents had access to the Internet at home on their own machine. In this case, the χ^2 value is significant: p is less than 0.05. This result subscribes to the subhypothesis that students do

TABLE 10 Most Important Information Source by Gender

Gender	Most important information source				Total	Gender	
	Books	Lecturers	Friends and colleagues	Lecture notes/handouts		χ^2	p
Male	11	7	2	2	22	6.985	.072
Female	25	20	0	13	58		
Total	36	27	2	15	80		

TABLE 11 Catering for or Obtaining Information Needs

	Frequency	%	χ^2	p
Valid				
I use my lecture notes	74	92.5	57.800	0.001
I discuss with colleagues	66	82.5	33.800	0.001
I use the public library	42	52.5	.200	.655
I use the Internet café	12	15.0	39.200	0.001
I listen to radio/television	21	26.3	18.050	0.001
Other	3	3.8	68.450	0.001

Note. $p < 0.05$.

not have access to appropriate information source; hence, the hypothesis is accepted (see Table 12).

A total of 55 (68.8%) (of the 80 respondents) claimed that their attempt to meet their information needs took them to the library (see Table 13). As they indicated the library used, it is not surprising to note that a significant majority (94.5%) of the respondents who claimed to use the library at all actually patronized public library. Public library was the only (major) accessible library to the students in the satellite campuses. Only two (3.6%) respondents said they used UB main library, while another (one) respondent made use of a private library. More than 31% of the respondents, the results showed, did not use any library. As noticed in Table 13, the χ^2 value in this result is significant (p is less than 0.05). This result lends credence to the subhypothesis that students do not have adequate access to appropriate information source; hence, this subhypothesis is accepted. The result of the attempt to establish how often the respondents visited the library shows that a quarter of them visited the library only once a month, 27.5% visited once a week, whilst only 10% visited more than once a week. The students also confirmed during the interview that they were hesitant in going to the public library because most of the time they did not obtain what was needed there. Further examination on public library used by respondents is shown in SH^6. Table 1 under H^m further illustrates the insignificant number of respondents that indicated their information needs were met.

The crosstab and χ^2 result shows that gender had no significant association with the respondents' frequency of visit to the library. The χ^2 value shows that it is not significant: $p > 0.05$ (see Table 14).

TABLE 12 Access to Internet Facilities

	Frequency	%	χ^2	p
Valid				
No	71	88.8	45.000	0.001
Yes	9	11.3		
Total	80	100.0		

Note. $p < 0.05$.

TABLE 13 Library Used to Meet Information Needs

	Frequency	%	χ^2	p
Valid				
Public library	52	94.5	43.655	0.001
UB main library	2	3.6	47.291	0.001
UB branch library	0	0.0		
Other	1	1.8	51.073	0.001
Total	55	100.0		

Note. UB = University of Botswana. $p < 0.05$.

As would have been noticed in main hypothesis (H^m), of all information resources available to the respondents, only one respondent indicated that all his/her information needs were met; only four said most of their needs were met; whilst the majority of them (72.5%) said only some of their information needs were met (see Table 1).

Subhypothesis 6 (SH^6): Public libraries in towns and villages where satellite campuses are located are not significantly effective in meeting the library and information needs of students.

It is noted in the analysis of SH^5 that 52 out of 55 respondents that indicated they used library actually patronized the public library. During the interview conducted, a significant 16 of the 21 (76.2%) students interviewed indicated that they were not satisfied with services obtained in the public library, adding that they only patronized (the public library) because they did not have any other library to go. They complained the resources of the library were never useful either in writing any assignment or in preparing for test and examination. As also discussed under the main hypothesis (H^m), when asked to indicate whether all, most, some or none of their information needs were met by the resources available to them, a significant majority (72.5%) of respondents indicated that only some of their information needs were met. Only one respondent indicated that all his or her information needs were met, while another insignificant four respondents said that most of their information needs were met. Table 1 shows that $\chi^2 = 103.500$: $p < 0.05$. Since most of the respondents used the public library, this result gives support to the subhypothesis and is therefore accepted.

TABLE 14 Frequency of Visit to the Library by Gender

	Frequency of visit to the library					Gender	
Gender	Never	Once a month	Once a week	More than once a week	Total	χ^2	p
Male	2	5	7	3	17	.835	.841
Female	3	14	16	4	37		
Total	5	19	23	7	54		

TABLE 15 Information Skills Level Before Program/Training

	Frequency	%	χ^2	p
Valid				
Poor	37	46.3	33.800	0.001
Fair	27	33.8		
Good	13	16.3		
Excellent	3	3.8		
Total	80	100.0		

Subhypothesis 7 (SH^7): Students are not adequately equipped with information (literacy) skills to enable them to access library and information services with confidence.

Computing and information (literacy) skills is a mandatory credit earning course for all the students of the University of Botswana especially during their first year of study. The students had been taught their courses on computing and information skills before the questionnaire was administered. As seen in Table 15, a significant majority (80%) of respondents were either poor or fair in the information skills component of the course before they received training, whilst only 20% said they were either good or excellent. After undergoing the training/courses, those who were now good or excellent had significantly risen to 66% (see Table 16); while those who were still poor after the course had significantly reduced from 46% to 7.5%. Investigation during the interview revealed that some of those who were still poor could not, for one reason or the other, attend the practical sessions of the course; while some also claimed they did not have anywhere to practice what was learnt and were therefore not sure of the depth of the skills acquired. It is however gratifying to note that most of the respondents showed they now had the skill if there was somewhere to practice it. The χ^2 value, as seen in Tables 15 and 16, is significant: p is less than 0.05. The respondents clearly fall into significantly positively different levels of knowledge and understanding of information (literacy) skills. With these results the subhypothesis that students are not adequately equipped with information skills to enable them to access library and information services with confidence is re-

TABLE 16 Information Skills Level Now

	Frequency	%	χ^2	p
Valid				
Poor	6	7.5	35.100	0.001
Fair	21	26.3		
Good	41	51.3		
Excellent	12	15.0		
Total	80	100.0		

TABLE 17 Computer and Information Skills Level before Program

	Computer and information skills level before program					Level	
Level	Poor	Fair	Good	Excellent	Total	χ^2	p
Second level	15	17	6	3	41	10.833	.094
Third level	22	10	7	0	39		
Total	37	27	13	3	80		

jected. A crosstabulation and χ^2 exercise to test whether the level (of study) of respondents had some significant influence on the findings either before or after the training of computing and information skills course showed no significant association. Either way, the value of χ^2 is not significant ($p > 0.05$) (see Tables 17 and 18).

DISCUSSION

Devadason and Lingam (1996) affirm that lack of self-sufficiency constitutes information needs in day to day work. These information needs, the duo maintain, represent gaps in the current knowledge of the user. There is sufficient evidence in the study as seen in Table 1 that the information needs of the students were significantly unmet. Wilson (1999) in his model, shows that part of the information-seeking behavior may involve other people through information exchange and that information perceived as useful may be passed to other people, as well as being used (or instead of being used) by the person himself or herself. Ellis (1993) in his behavioral model of information seeking strategies also argues that communication with other people is a key component in the initial search for information. The "other people" (the off-campus students) were communicating with were not the subject or extension librarians but their fellow classmates or colleagues (second to lecturer and using lecture notes) as seen in Table 5 and Table 11. The students' information-seeking behavior only revolved mostly around their colleagues, lecturers and, or lecture notes. It does not sound desirable for the tertiary level students to depend on lecture notes or discuss

TABLE 18 Computer and Information Skills Level after Training

	Computer and information skills level after training					Level	
Level	Poor	Fair	Good	Excellent	Total	χ^2	p
Second level	3	6	25	7	41	11.220	.082
Third level	3	15	16	5	39		
Total	6	21	41	12	80		

with colleagues in order to write assignment, test and examination or obtain the needed information. Other options like using the Internet or the library should be more viable. All this is an indication that the respondents did not have access to appropriate information sources.

The study found that the respondents significantly preferred information format was print as 71% of respondents indicated in Table 2. Only a relatively insignificant 15% would have preferred electronic and another 14% audio–visual. This of course is not surprising. Understandably, the students seemed not to be in any haste to change from what they had been used to. Besides for reasons of circumstances surrounding their studies and location, print remains an unbeatable option as information format to them.

One way of equipping students for lifelong learning and to enable them to appropriately use the modern information and communication technology (ICT) to obtain the needed information is the training in computing and information skills. Computing and information skills courses are made compulsory for all the students of the university including the learners in satellite centers. At the time the questionnaire was administered all the students had been taught the two required courses GEC 121 and 122 of computing and information skills. The study revealed that respondents were adequately equipped with information skills to enable them to access library and information services with confidence. For instance, before the commencement of their diploma program 46% of respondents said they were poor in information skills, but after receiving training only 7.5% claimed they were poor, while the number of those who were good had risen from 16% before the training to 51% after the training (see Tables 15 and 18). With training received, the problem foreseen is where and how they were going to practice the knowledge gained. Information obtained during the interview suggests that some of those who were still poor after the training missed some practical sessions, whilst some others who attended all the training were not sure of their knowledge as they did not have a place to practice the knowledge acquired.

In his second model on information seeking behavior, Wilson's (1981) had a proposition that in the effort to discover information to satisfy a need, the enquirer is likely to meet with barriers (intervening variables) of different kinds. Some questions were raised on this with respondents. Part of the barriers the students indicated were confronting them in their endeavor to satisfy their needs include lack of (adequate) library which constituted the greatest pain to respondents as 55% of them considered it a barrier; lack of time and lack/cost of equipment were regarded as barriers by 50% respondents respectively, while isolation and lack of technological skills were considered barriers by only 15% and 17% of respondents respectively. Possibly for reasons of the training received on computing and information skills, lack of technological skill was not so much regarded a barrier by majority of respondents.

CONCLUSION AND RECOMMENDATIONS

The results of the study showed that the respondents' demographic information including the age, location and level (of study) had no significant impact, influence or association on the results of various findings discussed. The findings revealed that the information needs of the students were largely unmet; possibly for reasons of their background, cost, location or poverty, students have preference for print as information format. In the absence of the right and reliable sources of information to use, the students regrettably survived either on their colleagues or the lecture notes dictated to them in the class as their major sources of information. There was the absence or near absence of library and electronic information sources like the Internet and e-mail facilities were not easily accessible even though there was evidence to show that the students were taught computing and information literacy skills. Coupled with the above was a barrage of other factors militating against the students' endeavor to satisfy their information needs. Among these include isolation, lack of time, lack and/or cost of equipment as well as lack of technological skill.

In the light of the above inadequacies, and in order to be better assisted, the respondents in their own words offered the following proposals:

- "The University of Botswana Library should ask for a space in the local Public Library, a Secondary School or any school library to keep some materials for our use"
- "The University should negotiate access to and/or install computers with Internet facilities for them in a local library"
- "The University Library or its branch should run mobile library that would visit the satellite centers occasionally"
- "The University bookshop should be mobile and visit all University of Botswana locations at specific periods and sell books to off-campus students"

In addition, the following recommendations are worth considering:

- It is observed that virtually all the hired school premises used for the face-to-face teaching of the students have computing laboratories with Internet facilities. The current arrangement, which limits the use of the laboratories to teaching the students the computing and information skills course only, should be pursued further. A more serious, vigorous and solid arrangement with the institutions should be pursued by the university library so that its students could have access not only to computer and Internet facilities in the hired premises, but also the use of the libraries of the institutions. Understandably, the institutions might not have relevant materials for the university students; it would not pose any difficulty to make provision of

relevant materials that can be housed and used on hired premises by the students.

- The mobile library service of some branches of the public library is still in force. Partnering with the public library in the country would therefore be a useful idea if the information needs of the university's ubiquitous students are to be satisfied.
- The study showed that only an insignificant number of students used e-mail facilities. Encouragement should be given to the students to register for e-mail services. If the university e-mail facility cannot be extended to the off-campus students, there are many free e-mail facilities that are available. Once registered, the extension service librarian should compile the students' listserv for purposes of easier and mutual communication not only between the students and the librarian, but also among the students themselves.
- It is noted that the lecturers and coordinators in various centers are closer to the students. In this respect, it is recommended that a more dynamic relationship should be established between the university library and the lecturers and coordinators in those centers. The relationship would ensure that not only the information needs of the lecturers are well taken care of, but that through them, advance knowledge on the information needs of the students can be obtained and conscious effort made to satisfy the needs.

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