Gender Impact on the information environment of open and distance learners (ODL) in Botswana

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0269

The Asian Conference on Society, Education and Technology2013

Official Conference Proceedings 2013

Abstract

Issues on gender have been the focal point of educational discourse over several years. Gender disparity in education and the need to address the imbalances have generated a lot of publicity among scholars. Open and Distance learning is known to have the capacity to take knowledge and training to the marginalized, isolated, underprivileged and the unreachable and consequently bridge disparity gap and redress imbalances. The study hints at the tenacity of distance learning and technology for gender mainstreaming. The study objectives aimed at identifying the information needs of distance learners in Botswana, determining how the information needs of distance learners are met, exploring the information resources and services available to distance learners in Botswana and identifying the challenges they faced. Four distance teaching institutions involved in the study were the University of Botswana (UB), the University of Derby (UBD), University of South Africa (UNISA), and the Management College of Southern Africa (MANCOSA). The study adopted both qualitative and quantitative research design and a survey method. The empirical element of the study was conducted via questionnaire, with 20% sample size randomly selected from two institutions having 500 or more students and census method applied to the other two, with 100 or fewer students in Botswana. Using IBM-SPSS programme, cross tabulations and chi-square, non-parametric statistical significance tests were developed to test the relationship of the gender grouping. Results revealed several gender differences in a number of areas for the attention of respective institutions of study to mainstream. Some recommendations were made.

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Background Information

Assié-Lumumba (2006) perceives gender inequality in higher education as a reflection of broader societal structural inequality. Jung and Fukuda (2013) observe that in Asia, the gender disparity is one of the serious issues in education. As if to address the seriousness of disparity in education, Jung and Fukuda affirm that distance education has expanded the opportunity for the under privileged or marginalized people - women and girls in particular - to access education. Quoting UNICEF (2009), the authors note that although a steady progress has been made in achieving some gender parity regarding secondary enrolment ratios, the situation is still far from satisfaction in Asia, and that while female enrolment in higher education has increased globally, it is not the case in most parts of Asia.

Highlighting some experiences and strategies on women and ICTs for open and distance learning (ODL) in the Commonwealth, Green and Trevor-Deutsch (2002) note that in Malaysia, 46% of the students at the Institute for Distance Education Universiti Putra Malaysia are women, in Pakistan, 43% of AIOU students are women; In India, the enrolment of women in Indira Gandhi National Open University (IGNOU) was 28.4% in 1998. Today in Asia, Jung and Fukuda report that female enrolment in most mega and dedicated distance teaching universities is over 50%. This statement seems to have received an endorsement when Green and Trevor note that the Sri Lanka report finds no gender disparity in women's enrolment in schools and tertiary educational institutions, and no apparent difference in trends between conventional universities and ODL institutions. According to them, women represent 60% of the students following external degree programmes.

Green and Trevor-Deutsch (2002) assert that men greatly outnumber women in most … learning programmes for which statistics were provided in Africa. However, Ngome (2003) observes that while there are some improvements in the enrolment of female students in some private higher education institutions, the female representation in public institutions is still low, with only about 30 per cent of total enrolments in the public universities. Assié-Lumumba (2006) asserts that higher education continues to be clearly identified with the male, especially in Science and Technology and in Management. Quoting the analysis of Pereira (2002:1) in the case of Nigeria, he notes that 'although university systems tend to be spoken of in gender neutral terms, the effects of their workings are far from gender neutral', as illustrated by the proportions of women among the academic staff in Nigerian universities in 1996/97: 9.2 per cent in Social Sciences; 12.8 per cent in Sciences, 14.7 per cent in Arts and 22.2 per cent in Education. Pereira (2002) also notes that the distribution of students in Science and Technology reflected the same pattern of male over-representation as illustrated by the 1996 National Universities Commission (NUC) data that revealed that of the students in Nigerian universities enrolled in Science, only 31.7 percent were women. The corresponding proportions in Social Sciences and Arts were 37.6 per cent and 44.6 per cent respectively. In Ghana, Kwapong (2008) notes that the University of Education, Winneba which began its ODL programme in 1998 has approximately 7000 students with 53% females and 46.5% males in its Level 300 for the 2006/7 school year. University of Cape Coast which began in

2001 has over 18,000 students of 49.7% females and 50.2 males in the Diploma in Education courses.

Several attempts were made to bridge the gap or eliminate the initial disparity across the world. For instance, UNICEF (2009) in a technical paper titled '*Towards gender equality in education: progress and challenges in the Asia-Pacific Region'* states that the United Nations Girls' Education Initiative (UNGEI) has been a part of the response to the call at the international level. Various national governments across the world have also been initiating action plans to meet the goals of universal participation of girls in primary education and moving forward to achieve gender equality at all levels of education and in all spheres of life. The Commonwealth of Learning in its contribution to creating greater awareness on gender issues for the public service organized a two-day meeting in London in July 2008. In its report, COL (2008) notes the proposal of Ms. Janet Jenkins in a paper that there is decreasing attention paid to the specific needs of female learners in ODL and affirm that since the turn of the century, there has apparently been a tapering off of initiatives with a specific gender perspective. COL asserts that Ms Jenkins reminded the delegates that the bedrock of ODL is its capacity to offer wider access to learning, particularly for those otherwise unable to participate, including women. Jung and Fukuda (2013) confirm the assertion when they declare that distance education has expanded the opportunity for the under privileged or marginalized people - women and girls in particular - to access education. Oladokun (2002) had earlier seen this when he asserts that one argument often stated by the advocates of distance education programmes for building "distance teaching" capacity is that the system takes knowledge and training to the marginalised, isolated, underprivileged and the unreachable.

The objectives of the study were aimed at identifying the information needs of distance learners in Botswana, determining how the information needs of distance learners are met, exploring the information resources and services available to distance learners in Botswana and identifying the challenges faced by distance learners in Botswana.

Methods of Study

Qualitative and quantitative research design and a survey method were used for this study. Data for the study were collected via questionnaires. A 20% sample size was randomly selected from University of Botswana (UB) and University of South Africa (UNISA) – the two institutions with 500 or more students, while census method was applied to University of Derby (UD) and Management College of Southern Africa (MANCOSA), which had 100 or fewer students in Botswana. 519 of 1,996 (the total population) became the sample size. From the 519 sample size that was sent the questionnaire, 364 copies (of the questionnaire) were returned duly completed, thus giving a response rate of 70.1%. Data abstracted were analysed using the IBM-*SPSS* programme. Cross-tabulations and chi-square, non-parametric statistical significance tests were developed to test the relationship of one variable to groupings of others.

Gender

Of the 364 respondents, 42.6% (n = 155) were males and 57.4% (n = 209) were females. The distribution of the respondents by gender according to institutions is captured in Table 1 below. In virtually all the institutions of study, female respondents outnumbered their male counterparts. This seems to suggest that more females were into tertiary level distance education programmes than males in Botswana.

Table 1: Institution and Gender Crosstabulation

University	**Gender**				**Total**	**% of Total**
	Male	%	Female	%		
UB	34	34.7	64	65.3	98	26.9
UNISA	70	44.3	88	55.7	158	43.4
MANCOSA	22	48.9	23	51.1	45	12.4
UD	29	46.0	34	54.0	63	17.3
TOTAL	**155**	**42.6**	**209**	**57.4**	**364**	**100.0**

In the crosstabulation of gender with programme of study, the results indicate that a higher number of female respondents were involved in either first or master's degree programme than the male respondents. For instance, 142 females (39%) registered for first degree as against 91 (25%) males and 67 females (18.4%) were in Master Degree programme as against 64 (17.6%) males. Table 2 gives the details.

Table 2: Gender and Programme of Study: Crosstabulation

		Programme					
		First Degree	%	Masters	%	Total	% of Total
Gender	Male	91	25.0	64	17.6	155	42.6
	Female	142	39.0	67	18.4	209	57.4
Total		233	64.0	131	36.0	364	100.0

Majority (225 or 61.8%) of the respondents lived in the city, 58 (15.9%) indicated they were living in town and 81 (22.3%) respondents said they lived in villages. A large majority of respondents living in urban centres enjoyed a much better and richer information environment than those living in rural locations where information environment cannot be favourably compared with those in urban areas. In crosstabulating gender with location, the result shows that more females were located in the city and town (considered as urban or metropolitan areas) as well as village (rural areas) than their male counterparts. Table 3 below provides further details.

Table 3: Gender and Location Distribution of Study Sample: Crosstabulation

			Location			
			City	**Town**	**Village**	**Total**
Gender	Male	Count	90(24.7%)	27(7.4%)	38(10.4%)	155(42.6%)
	Female	Count	135(37.1%)	31(8.5%)	43(11.8%)	209(57.4%)
Total		Count	225(61.8%)	58(15.9%	81(22.3%)	364(100.0%)

Gender and social roles

The relationships between gender and each of the major social roles of the respondents (parent, worker, community leader) were cross-tabulated and Chi-square tests performed on the cross-tabulations in order to determine the level of significance. Table 4 shows that gender was significantly related only to the social role of respondents as parents ($X^2 = 9.501$, df = 1, $p < .05$). No significant difference was found between male and female in the two other social roles.

Table 4: Relationship between Gender and different Social roles performed by respondents

Social role	**Chi-square**	**Df**	**Assym. Sig. (2-sided)**	**Remark**
As parent	9.501	1	.002	Significant
As worker	2.107	1	.147	Not significant
As community leader	0.111	1	.739	Not significant

Table 5 shows the expected and observed counts in the cross-tabulation of gender and the social role as parent. The expected counts in the cells of the table are based on the assumption that the row (Gender) and the column (Social role) variables are independent of one another (i.e. have no relationships between them). Comparison of the observed with the expected counts shows that the observed values are significantly different from the expected values, and that more female respondents than expected said 'Yes' to performing the social role of parent, while less males than expected said 'yes'. The conclusion, therefore, is that there is a significant relationship between gender and performance of the parent social role. The finding seems to corroborate the fact that females tend to play the role of parent (usually as single parents) more than males in the Botswana.

Table 5: Gender and Social role (Parent)

			Social Role - Parent			
			Yes	**No**	Total	% of Total
Gender	Male	Observed Count	72(46.5%)	83(53.5%)	155	42.6
		Expected Count	86.4(55.7%)	68.6(44.3%)	155.0	42.6
	Female	Observed Count	131(62.7%)	78(37.3%)	209	57.4
		Expected Count	116.6(55.8%)	92.4(44.2%)	209.0	57.4
Total		Observed Count	203(55.8%)	161(44.2%)	364	100.
		Expected Count	203.0(55.8%)	161.0(44.2%)	364.0	100.0

Findings in relation to the objectives: Information Needs

The first objective (1) of the study was to identify the information needs of distance learners in Botswana. As such, the objective generated the research question which asked: "*What are the information needs of distance learners in Botswana"*.

In addressing the question, a number of options were made available in the questionnaire for the respondents to choose from. From the reaction of respondents it is obvious but not surprising to note that 'subjects relating to their course of study' (Subj) was topmost in the area of their information needs. The option attracted a total of 273 (75%) respondents. The thirst to acquire greater skill in the use of information and communication technologies (ICT) e.g. the Internet was seen as the second priority area. A total of 218 (60%) respondents indicated this option as an information need area. The remaining Information need areas indicated by about half of respondents include information on Tests, examinations and residential sessions/periods (Tests) (51.6%) and the Development of information searching skills (Search skills) (50.8 percent).

In a descending order the information need areas that attracted less than half of the total respondents include: Access to a help line (41.2%), Making information-based decisions (Info Dec) (31.3%); and the Need for specialized information (Spec Info) was the least with 29.7 percent in its favour.

Attempt was also made to establish the relationships between gender and what the learners would consider as their information need areas. The variables were cross-tabulated and chi-square tests performed. Table 6 indicates that gender was significantly related ***only*** to "making information-based decisions" among other possible options that the distance learners would consider as information needs areas ($X^2 = 8.105$, df = 1, p

<.05). No significant difference was found between male and female in the other information needs areas.

Table 6: Relationship between Gender and Information needs areas

Information Needs Areas	Chi-square	Df	Asymp. Sig. (2-sided)	Remark
Subjects relating to their course of study	1.981	1	.159	Not significant
Development of information search skills	.222	1	.637	Not significant
Tests, examinations and residential sessions/periods	.740	1	.390	Not significant
Use of ICT	1.250	1	.263	Not significant
Need for specialized info	.866	1	.352	Not significant
Access to a help line	.790	1	.374	Not significant
Making info based decisions	8.105	1	.004	Significant
Others	2.079	2	.354	Not significant

Table 7 below shows the expected and observed counts in the cross-tabulation of gender and making information-based decision as an information need area are shown. The expected counts in the cells of the table are based on the assumption that the row (Gender) and the column (Information needs areas) 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. While fewer female respondents than expected responded in the affirmative (yes) to the information need area of making information-based decisions, more male respondents than expected said 'yes' - they would need information for making information-based decisions. The conclusion drawn is that there is a significant relationship between gender and information need area of making information-based decision. The finding implies that male distance learners tend to have greater need to making information-based decisions than females. The cross-tabulated Table 7 below shows the relationship between gender and making information-based decisions.

Table 7: Relationship between Gender and Making Information based decisions

Crosstab

			Information needs area - Making info based decisions			
			Yes	**No**	Total	% of Total
Gender	Male	Observed Count	**61**(39.4%)	**94**(60.6%)	155	42.6
		Expected Count	**48.5**(31.3%)	**106.5**(68.7%)	155.0	42.6
	Female	Observed Count	**53**(25.4%)	**156**(74.6%)	209	57.4
		Expected Count	**65.5**(31.3)	**143.5**(68.7%)	209.0	57.4
Total		Observed Count	**114**(31.3%)	**250**(68.7%)	364	100.
		Expected Count	**114.0**(31.3%)	**250.0**(68.7%)	364.0	100.0

Meeting the information needs of distance learners

The second objective of the study was set out to determine how the information needs of distance learners are met. Consequently, the second research question was formulated. *How do distance learners meet their information needs?* In addressing the question, a number of questions were raised.

In their response to how they obtained the information needed to prepare their assignment, test or examination etc, majority of the respondents (341) constituting 93.7% indicated that they used their 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). 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".

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 8 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 8: 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

In Table 9 below the expected and observed counts in the cross-tabulation of gender and the use of email as an information source. The expected 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). A 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 finding suggests that more males than females use emails.

Table 9: Relationship between gender and information sources: E-mail

Crosstab

			Info sources – E-mail			
			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

Information resources and services available to distance learners in Botswana

The third objective of the study aimed at exploring the information resources and services available to distance learners in Botswana. Thus the third research question "W*hat information resources and services are available to distance learners in Botswana?"* was raised to address the objective. In order to elicit information and respond to the issue, a number of questions were put across to the respondents. First, they were asked their preferred information format from three options of ***print***, ***electronic*** and ***audio visual*** that

were presented to them. The result showed that majority of them 216 (59.3%) would prefer print format, 123 respondents (33.7%) preferred electronic and 24 (6.6%) audio-visual. The findings here would hopefully shed light on the information format the distance learners desired. The cross-tabulation reveals that the significance level of X^2 value was 0.021 which is less than 0.05. Thus it means that the distance learners in Botswana, irrespective of gender, significantly have preferred information format from the three available choices (print, electronic and Audio-visual formats).

The relationships between gender and the library and information services used in the past year were cross-tabulated and Chi-square tests were performed on the cross-tabulations. Table 10 shows that gender was significantly related only to Reference (X^2 = 12.909, df = 1, p <.05) and Journals (X^2 = 4.298, df = 1, p <.05) as library and information services. No significant difference was found between the gender and other library and information service.

Table 10: Relationship between Gender and Lib & Info services used in the past year

Lib & Info services used in the past year	Chi-square	Df	Assym. Sig. (2-sided)	Remark
Reference	12.909	1	.000	Significant
Check out materials	.294	1	.588	Not significant
Journals	4.298	1	.038	Significant
Inter library loans	1.528	1	.216	Not significant
Materials on reserve	1.304	1	.253	Not significant
Online d'base/catalogues	1.271	1	.260	Not significant
Microfiche/microfilm	.106	1	.745	Not significant
Web searches	1.771	1	.183	Not significant
Government publications	2.907	1	.088	Not significant
Photocopying	1.449	1	.229	Not significant

Tables 11 and 12 show the expected and observed counts in the cross-tabulation of gender and the information resources (listed above) used in the past year. Comparison of the observed with the expected counts shows that the observed values are significantly different from the expected values, and that in Table 11 more male than expected said 'yes' to using Reference as an information source in the past year, while less female than expected said 'yes'. The conclusion, therefore, is that there is a significant relationship between gender and library and information resources used. Similarly in Table 12, more male than expected said 'yes' to using Journals and less female than expected said 'yes'. The findings seem to suggest that men use those library and information facilities than women distance learners in Botswana.

Table 11: Gender and Info services used in the past year (Reference)

Crosstab

			Info services used in the past year - Reference			
			Yes	**No**	Total	% of Total
Gender	Male	Count	**77**(48.7%)	**78**(51.3%)	155	42.6
		Expected Count	**60.5**(39%)	**94.5**(61%)	155.0	42.6
	Female	Count	**65**(31.1%)	**144**(68.9%)	209	57.4
		Expected Count	**81.5**(39%)	**127.5**(61%)	209.0	57.4
Total		Count	**142**(39%)	**222**(61%)	364	100.
		Expected Count	**142.0**(39%)	**222.0**(61%)	364.0	100.0

Table 12: Gender and Info services used in the past year (Journals)

Crosstab

			Info services used in the past year - Journals			
			Yes	**No**	Total	% of Total
Gender	Male	Count	**86**(55.5%)	**69**(44.5%)	155	42.6
		Expected Count	**76.2**(49.2%)	**78.8**(50.8%)	155.0	42.6
	Female	Count	**93**(44.5%)	**116**(55.5%)	209	57.4
		Expected Count	**102.8**(49.2%)	**106.2**(50.8%)	209.0	57.4
Total		Count	**179**(49.2%)	**185**(50.8%)	364	100.
		Expected Count	**179.0**(49.2%)	**185.0**(50.8%)	364.0	100.0

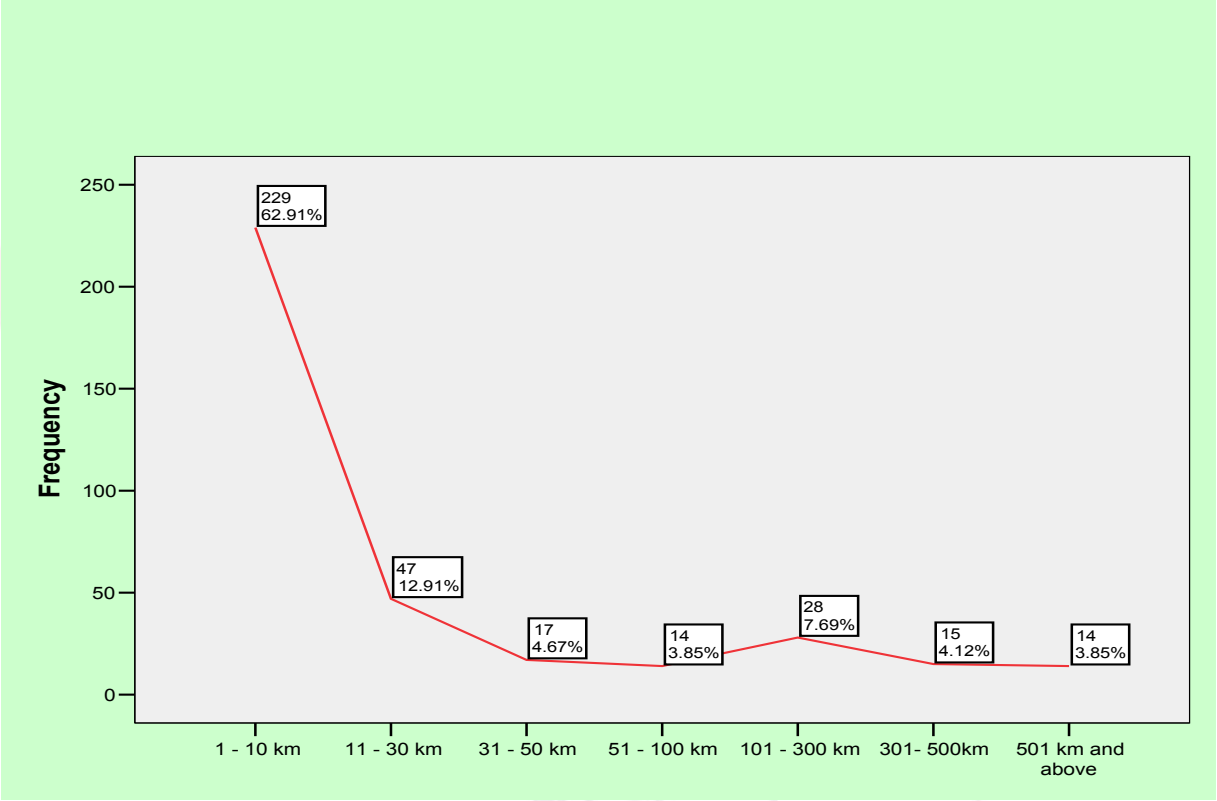
Challenges confronting distance learners in Botswana

Another objective of this study was aimed at identifying challenges faced by distance learners in Botswana. In examining the question, a number of probing issues were raised with the distance learners (respondents). These include the distance they had to travel before getting to the nearest University Library or information Centre, the source of light used where they lived, domestic study circumstances, their fears and the barriers that affect their use of information sources, among others.

With respect to the distance they had to travel to the nearest University Library or Information Centre to meet their information needs, 62.9% of them indicated they travelled between 1-10 kms, 12.9% lived at a distance of 11-30 kms, 4.1% would need to cover a distance that ranged from 301 to 500 kms and another 3.8% travelled a distance

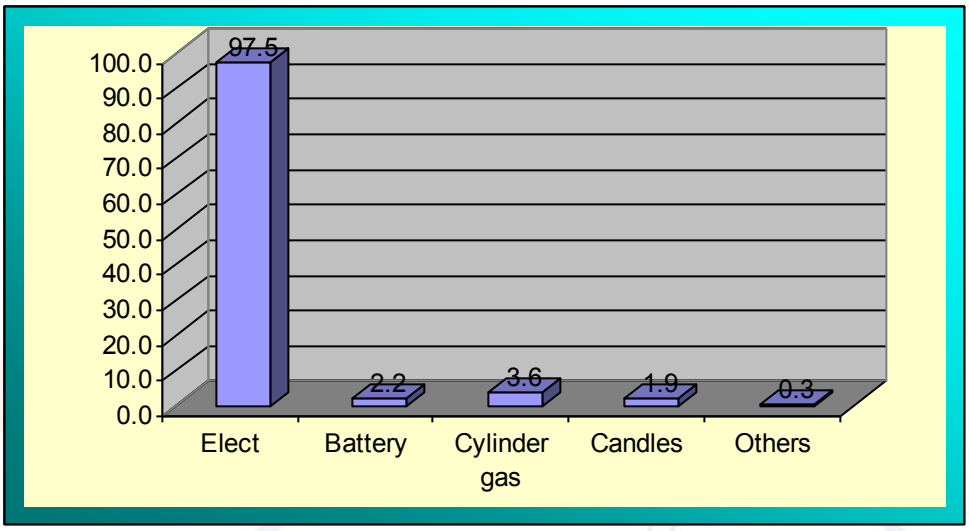
of 501 kilometres and above to get to the nearest university library and information centres to meet their information needs. Other details are as shown in Fig. 1 below

Fig. 1: Distance travelled to nearest University Library and Info. Centre



Since distance education is a self-directed learning and not face-to-face of the conventional system, it was considered necessary to probe into the source of light used by respondents in their homes and invariably to study as they self-direct their studies. The type of light used might have some impact on their accessibility to and use of information resources and services for their studies. As seen in Fig. 2 the findings to this query indicate that majority of them (97.5%) used permanent electricity supply; only 3.6% claimed they used cylinder gas; 2.2% used battery power and 1.9% specified using candles and/or paraffin lamps. Only 1 respondent ticked 'other' as source of light without clearly specifying it.

Fig. 2 Source of light used by distance learners at home



The relationships between gender and each of the major barriers affecting the respondents' use of information sources were cross-tabulated and Chi-square tests performed on the cross-tabulations. Table 13 shows that gender was significantly related only to lack of well equipped library ($X^2 = 7.541$, df = 1, $p < .05$) and lack and cost of equipment ($X^2 = 4.372$, df = 1, $p < .05$) as barriers to using information sources. No significant difference was found between male and female in the remaining barriers.

Table 13: Relationship between Gender and Barriers affecting distance learners use of Information sources

Barriers	**Chi-square**	**Df**	**Assym. Sig. (2-sided)**	**Remark**
Lack of time	.774	1	.379	Not significant
Dearth of useful materials	1.304	1	.253	Not significant
Isolation	1.971	1	.160	Not significant
Lack of well equipped library	7.541	1	.006	Significant
Lack and cost of equipment	4.372	1	.037	Significant
Lack of technological skill	.035	1	.851	Not significant

In Tables 14 and 15 the expected and observed counts in the cross-tabulation of gender and lack of well equipped library; as well as lack and cost of equipment being barriers affecting the use of information sources by the respondents. Comparison of the observed with the expected counts shows that the observed values are significantly different from the expected values, and that more male respondents than expected said 'yes' – they had the barriers of 'lack of well equipped library' and lack/cost of equipment, while less females than expected said 'yes'. The conclusion here is that there is a significant relationship between gender and 'lack of well equipped library and lack/cost of equipment as barriers. The finding shows that more females were in locations where they could access well equipped library than males.

Table 14: Gender and Barriers affecting use of information sources (Lack of well equipped library)

Crosstab

			What barriers affect your use of information sources? - Lack of well equipped library			
			Yes	**No**	Total	% of Total
Gender	Male	Count	**70**(45.2%)	**85**(54.8%)	155	42.6
		Expected Count	**57.5**(37.1%)	**97.5**(62.9%)	155.0	42.6
	Female	Count	**65**(31.1%)	**144**(68.9%)	209	57.4
		Expected Count	**77.5**(37.1%)	**131.5**(62.9%)	209.0	57.4
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 15: Gender and Barriers affecting use of information sources (Lack and cost of equipment)

Crosstab

			What barriers affect your use of information sources? - Lack and cost of equipment			
			Yes	**No**	Total	% of Total
Gender	Male	Count	**45**(29.0%)	**110**(71.0%)	155	42.6
		Expected Count	**36.6**(23.6%)	**118.4**(76.4%)	155.0	42.6
	Female	Count	**41**(19.6%)	**168**(80.4%)	209	57.4
		Expected Count	**49.4**(23.6%)	**159.6**(76.4%)	209.0	57.4
Total		Count	**86**(23.6%)	**278**(76.4%)	364	100.
		Expected Count	**86.0**(23.6%)	**278.0**(76.4%)	364.0	100.0

Discussion

The results of the study indicate that a higher number of female respondents were both in the first and master's degree programmes than the male respondents. For instance, 142 females (39%) registered for first degree as against 91 (25%) males and 67 females (18.4%) as against 64 (17.6%) males were in Masters Degree programme. The findings confirm the statement of Assié-Lumumba (2006) at first and master's degree levels that the female enrolment rates are higher than those of males in Southern African especially

in Botswana and Namibia. Assié-Lumumba appeared to have confined her study to primary school level.

On the information needs of distance learners, the study shows that while there may be no established relationships in other information needs areas, there is a significant relationship between gender and information need area of making information-based decision. The finding reveals that male distance learners tend to have greater need to making information-based decisions than females. A number of authors, such as Singh (2002) and COL (2003) among others have expressed views on what should constitute the information needs of distance learners. Of particular relevance to distance learners in Botswana are the information needs as expressed by the Commonwealth of Learning (COL). COL (2003) affirms that the basic information services that distance learners need, among others, are developing ways to apply the information gleaned and to make sound, information-based decisions. It is however observed in this study that the latter i.e. making information-based decisions was found more among male and urban-located distance learners than among female and rural-based learners. Specifically, the findings indicate that gender and locational characteristics of distance learners do have implications for types of learning-related decisions made, as well as the nature of information needed by the distance learners.

In the second objective that determines how the information needs of distance learners are met; the findings showed that gender was significantly related only to the use of email as an information source. Even though many information sources were listed and used as noted earlier in the findings, less female and more male respondents than expected indicated that they used email as an information source. The finding confirms that the Internet is more accessible, available and possibly more affordable in cities and towns than in villages. Head (2007) observes how recent research has made claims about students' reliance on the Internet for academic research over their use of campus libraries. Email being a facility of the Internet, Head quotes Research from the "Pew Internet & American Life Project" which observed that nearly three–quarters (73 percent) of college students used the Internet for research more than the campus library (Jones, 2002). He also observes that other findings suggest a vast majority of students turn to the Internet first for academic research (Griffiths and Brophy, 2005). In another survey of the University of Iowa distance education students, McLean and Dew (2004) found that access to electronic resources ranked the highest. The current investigation in Botswana has also established that access to the Internet and consequently, electronic resources, ranked the highest among the distance learners, and more male than female respondents used email (the internet) as information source.

In the exploration of the information resources and services available to distance learners in Botswana, the study found that of all the resources and services indicated as having been used, gender was significantly related only to "Reference" and "Journals" as information resources used in the past year. The findings showed that more male and less female than expected affirmed having used Reference and Journals as information sources. The fact that majority of distance learners would visit the library in person over other methods such as using email, SMS text messages, toll-free telephone, leaving messages on telephone answering machine, facsimile etc, shows that the traditional library service is still in vogue even for distance learners. These results seem to be at

variance with the understanding in some Library Associations e.g. ACRL (2004) and CLA (2000) that traditional library service designed for on-campus users, will not meet the requirements of distance learners. In his attempt to determine the information seeking by research students studying via distance delivery mode at Deakin University, Australia, Macauley (1997) notes that the traditional types of services are still the most requested and used. This survey notes that while distance learners would like to use fast resources like the Internet, their location may have some significant impact on their accessibility to the facility. This probably accounts for the distance learners rebound to Reference and hardcopy journals.

While identifying the challenges faced by distance learners in Botswana, the study found that gender was significantly related only to lack of well equipped library and lack/cost of equipment as barriers to using information sources. The finding shows that more females than males were in locations where they could access well equipped library and would therefore not complain of lack or cost of equipment. Further still the study found less respondents in the city and more in town and village than expected indicated lack of well equipped library as a barrier. This finding is a confirmation that there is the presence of the university main or branch library that is well equipped in the two cities in Botswana but not in towns and villages. Green and Trevor-Deutsch (2002) observe that female students in Asian DE face barriers when the course content is not directly relevant to their livelihood; when it does not value their knowledge, wisdom, and experience; when access to the content is too costly; and when they do not feel able to use the technology competently or confidently. This observation Kanwar and Taplin, (2001) assert is supported by case studies that detailed how Asian female distance learners had overcome frustrations and succeeded in their learning.

Conclusion and Recommendations

With the capacity to take knowledge and training to the marginalised, isolated, underprivileged and the unreachable, ODL also has the capability to assist in gender mainstreaming. Information is known to be of great value in educational and research institutions, as well as other environments where learning takes place. This is seen in the pride of place given to information resources and services in institutions of higher learning. The study found some imbalances that tilt against the female especially in some notable areas where comparison is drawn in the study. For example, the study found that male distance learners tend to make information-based decisions than females in the first objective of the study. The second objective that attempts to determine how the information needs of distance learners are met established that a significant relationship exists between gender and use of email as an information source with the result that more males than females use emails. In the third objective this study also established a significant relationship between gender and library and information resources used. The finding revealed that men use ‘Reference’ services and ‘Journals’ than women distance learners in Botswana. What then could have accounted for the seeming lopsidedness against female respondents? The study seems to suggest the significant social role of parent (usually as single parents) that females tend to play more than males in Botswana is partly responsible. Taplin and Jegede (2001) and Von Prümmer (2000) in their study

assert that Asian female learners ask for supports that assist them to overcome personal and social barriers and achieve high performance. They observe that for female learners, quality DE may mean a system that removes these barriers, that maximizes opportunity, that provides needs-based learner supports, and that is based on the understanding of their perceptions, concerns, and experiences. Other reasons that could account for the disparity and remove the barriers or assist in addressing the imbalances are embedded in the recommendations offered below.

- Adequate publicity is required, particularly to female distance learners, on library and information services that are available for utilization. It should be part of the marketing strategies of a library to adequately publicize the services available to its users, particularly distance learners.
- There is need to make computing and information literacy skills mandatory for distance learners.
- Necessary provision of information resources and services through the establishment of study centres in strategic locations across the country is imperative.
- Distance teaching institutions should establish mutual partnerships with viable institutions, schools or public libraries for their students to have easy access to materials
- Adequate application of cell phone functionalities and social media platforms should be encouraged
- ICTs like emailing system, telephone answering machine, short message service (SMS) and instant messaging, among others, are necessary facilities that can be adopted to easily contact distance learners in their various locations
- The distance learners (DLs) should be encouraged to make use of Help or Reference Desk even at a distance and librarians (who should familiarize themselves with the DLs at the commencement of their studies.
- Even though the information world is going digital, distance learning environment in Botswana and Africa in general still subscribes to print format. Print format should therefore not be discarded yet, even as digital method of communication is encouraged

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