

A Comparative Study between the Learners of Computer Science and Health Science of Bangladesh Open University

Dr. Sharker Md. Numan, sharkermd_numan@yahoo.com
Dr. K. M. Rezanur Rahman, kmrezanur@yahoo.com
Mr. Anwar Sadat, sadat_it@yahoo.com
Bangladesh Open University

Formal Education
Technologies for Scaling up ODL programmes

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INTRODUCTION

Bangladesh Open University (BOU) is one of the public universities in Bangladesh that providing a wide variety of distance education programs across the country. School of Science and Technology (SST) is one of the six schools of the Bangladesh Open University. The main objective of this school is to create a scientific and technically skilled manpower in the country. The extended activities of this school on scientific awareness in health and ICT, degree awarding and advance research programs for M. Phil. and Ph.D. are on process.

SST is now offering Diploma in Computer Science and Application (DCSA) and B.Sc.-in-Nursing (BSN) programs which facilitate learners' pursuit of knowledge relevant to their life and career. Both the programs are now running very successfully and well accepted by the need based learners throughout the country. In both programs, admission takes place once a year.

Text materials for the programs of SST have developed by following the special designed guideline of British Open University modular format. Learners are attending the tutorial services twice a month to solve their problems while studying learning materials and/or while preparing assignments. To understand the difficult lesson or part of the unit of the text Audio-Visual programs have been developed and broadcast regularly for the learners.

DCSA program has launched in 1998 and consists of 33 credits. Duration of this program is of one and half year which would be completed within 3 semesters. The main objectives of this program are to use a computer and its areas of application in office environment, to know the use of databases, computer programming and software development and to learn maintenance and troubleshooting a microcomputer.

BSN program has launched in 2003 and consists of 100 credits. To earn the bachelor degree in nursing, learners should completed all the 25 theoretical and practical courses by three years which would be completed within 6 semesters. The main objectives of this program are to provide higher educational opportunities to the diploma holder nurses, to develop clinical competence for quality assurance of nursing care services, to develop teaching skill, management and research skills and abilities.

To create an opportunity for huge unskilled and less educated peoples, BOU was established in 1992. Over the years, it has launched 23 formal and 19 non-formal academic programs under six schools. To teach in a distance, BOU uses a combination of some conventional delivery of media such as print, radio and television (TV) broadcasts audio-cassettes and occasional face to face tutorial services. The response to BOU programs is so phenomenal that current enrolment of learners (2, 89,791) is several fold higher than that of total enrolment in all public and private universities in the country. Thus BOU is emerged as a member of the mega-universities (Daniel, 1996). In several studies, it has been found that BOU education is flexible, cost-effective and comparable standard to the conventional universities (Anonymous, 2002; Islam et. al. 2006). To provide learner support

services BOU has a network of 12 regional, 80 local centers and selected study centers all over the country.

Success of distance education would be depended on how the policy makers' are aware of the problems, needs, attitudes and characteristics of their learners. The present study tried to reflect the learners' demographic status and a comparative analysis between the learners' of DCSA and Nursing program of SST.

MATERIALS AND METHODS

A study was conducted amongst the learners whose were randomly selected from study centers of SST of BOU during the period of August 2007 to December 2007. The entire list of learners of SST served as sampling frame and the sample size was 633. A cross-sectional study design was used to collect the data by a structured pre-tested self administrated questionnaire and analyzed using Statistical Package of Social Sciences (SPSS) version 12.0 (SPSS, Inc. Willy, 2004). For all the outcomes, *p* value of 0.05 or less was considered indicating significance.

RESULT AND DISCUSSION

1. Socio-demographic Profile

Table 1 shows the composition of learners' demographic status. The study showed that among the learners, 75.2% (n=460) were enrolled for Bachelor of Nursing Program and 24.8% (n=152) were enrolled in Diploma in Computer Science and Application Program and 71.1% (n=435) of them were female.

Table 1: Demographic Status of the Learners of SST

Variable	Frequency	Percent	
Gender	Male	177	28.9
	Female	435	71.1
Age Groups of Respondents	Age below 25 years	91	14.9
	25 years to 30 Years	148	24.2
	31 Years to 35 Years	152	24.8
	36 years to 40 Years	145	23.7
	> 40 years	76	12.4
Marital Status	Single	155	25.3
	Married	452	73.9
	Divorced / Widowed	5	0.8
Religion	Muslim	455	74.3
	Hindus	128	20.9
	Christian	26	4.2
	Buddhist	3	0.5
Study Level of Learners	Diploma in Nursing	322	52.6
	HSC	130	21.2
	Bachelor	127	20.6
	Masters	34	5.6
Place of Residence	Urban	331	54.1
	Suburban	179	29.2
	Rural	102	16.7
Distance from Residence to TC	Minimum	1	KM
	Maximum	307	KM
	Mean	22.7	KM
Total Monthly Family Income	< 10000 TK	118	19.3
	10000 TK to 19999	289	47.2
	20000 to 29999 TK	125	20.4
	30000 TK to 39999	31	5.1
	> 40,000 TK	25	4.1
	Info Not Available	24	3.9

The mean age of the learners was 33.2 SD±6.7 years and ranged from 21 to 52 years. While the mean age of BSN learner was 34.8 years (SD ± 6.27, 95% CI 34.2 to 35.4) and median age was 35 years. In the mean time, the mean age of DCSA learner was 28.4 years (SD ± 5.66, 95% CI 27.5 to 29.3) and median age was 26 years. The mean age of the learners of DCSA was significantly lower than the learners of BSN ($t = 11.13$; $df = 610$ and $p = 0.001$). It was found that 63.9% ($n=391$) of the learners were young adults aged below 35 years. The findings of the study corroborate those of Valentine & Darkenwald (1990), MacBrayne (1995) and Johnstone and Rivera (1965), which showed that adult learners who choose to enroll in distance education programs, were aged of 18 and 40 years.

The study showed that 74.3% ($n=455$) learners were Muslims, 20.9% were Hindus and 4.2% were Christian. However, this figure did not represent the major religions in Bangladesh. The study also found that the majority 73.9% ($n=452$) of the learners were married.

This study stated that more than half (54.1%; $n=331$) of the learners were come from urban areas and more than a quarter were come from suburban (29.2%; $n=179$) areas where they were living. The learners of SST were travel on average 22.7 km surroundings from the study centers where the tutorial and practical sessions were performed. Learners were resides on average 25.9 KM from the RRC where most of the administrative jobs were performed for them. In comparison to a Malaysian study it was too far away for the Bangladeshi learners, where most of the learners (89.2%) travel less than 100 KM to attend their learning centers (Raghavan and Kumar, 2007).

Table 2: Learners residential distance from the SC by program

Distance from TC	Which program do you study?					
	BSN		DCSA		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Up to 10 KM	312	67.8	87	57.2	399	65.2
11 to 25 KM	47	10.2	25	16.4	72	11.8
26 to 50 KM	30	6.5	19	12.5	49	8.0
> 50 KM	71	15.4	21	13.8	92	15.0
Total	460	100.0	152	100.0	612	100.0

The study expressed in the Table 2 that 65.2% of both the learners of DCSA and BSN were resides on average 10 kilometer distance from the study center. Amongst the learners, 12.5% learners of DCSA program were reside from 26 to 50 Km away from the study center in comparison with only 6.5% of the learners of BSN. In Table 3, this study also showed that the learners of DCSA and males were residing far away from the RRC than the learners of BSN and females; whereas learners of DCSA and male were resides nearer to the study centers than the learners of BSN and female. There was a significant difference between the learners of BSN program and DCSA program by comparing with the distance residing from the RRC ($\chi^2=11.03$; $df=3$ and $p=0.012$).

Table 3: Learners average residential distance from the RR and SC by program and Gender

Distance from Residence to	Which program do you study?		Gender	
	BSN	DCSA	Male	Female
RRC (KM)	25.70	26.41	28.61	24.77
SC (KM)	23.01	20.39	20.36	23.18

The mean total monthly family income of the learners of SST was TK15685 (95% CI 14825 to 16545). And the total monthly family income (15966TK) of DCSA program was higher than the learner of BSN program (15601TK). The study also expressed in the Table 4 that nearly 70% of both the learners of DCSA and BSN program income group were below 20000TK. There was a significant difference between the income group of learners of BSN program and DCSA program ($\chi^2=12.2$; $df=4$ and $p=0.016$).

Table 4: Learners Total Monthly Family Income by Program

Income Group	Which program do you study?
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	BSN		DCSA		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
< 10000 TK*	78	17.3	40	29.2	118	20.1
10000 TK to 19999	235	52.1	54	39.4	289	49.1
20000 to 29999 TK	96	21.3	29	21.2	125	21.3
30000 Tk to 39999	25	5.5	6	4.4	31	5.3
> 40000 TK	17	3.8	8	5.8	25	4.3
Total	451	100.0	137	100.0	588	100.0

*(1\$USD = 70BD TK).

1. Learners Perception on Text materials

The study stated that 80.4% of the SST's learners gave their opinion that the programs were as usual and 96.4% of the learners of SST expressed that the quality the text materials was up to the mark. Islam and Numan (2005) found nearly similar (93.5%) findings about the BOU's text materials these were easy to understand and average in quality. In Figure 1 a higher positive opinions were given regarding the quality of the text materials by the learners of BSN than the DCSA. Among the learners, 31.9% were stated that it was satisfactory, 34.8% learners stated that it was as usual and 29.7% learners were stated that it was acceptable.

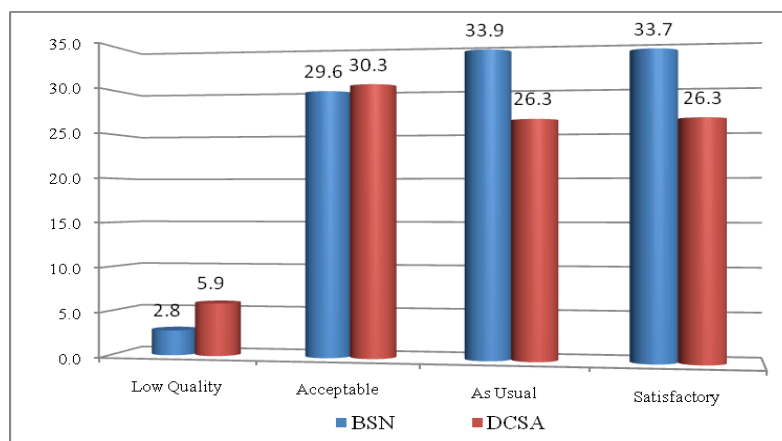


Figure 1: Learners Opinion Regarding the Course Materials

2. Learners Quarries regarding the Study Process

The study stated in the Figure 2 that on average only 31% of the learners has been communicate with the main campus teachers of SST of BOU for any quaires regarding the study. It was surprising that only 20.4% learners of DCSA were communicate with the teachers' of main campus those who were directly responsible for the program to clarify their any quires and advices than the 34.6% learners of BSN. It was due to lack of communication between the faculty or RRCs and the respective study centers. These situation should be overcome by contineuous motivating the learners regarding the prospects of the program. The communication with the teachers' by the learners of BSN program (34.6%) was significantly higher as compared to the 20.4% DCSA learners ($\chi^2=10.7$; $df=1$ and $p=0.001$).

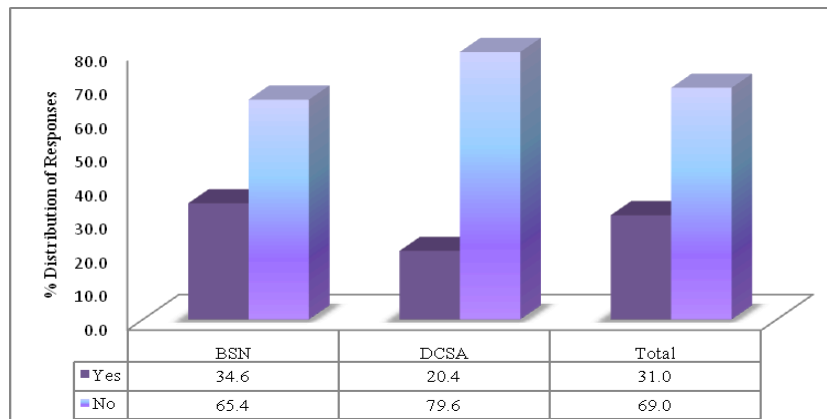


Figure 2: % distribution of Learners to Communicate with Teachers by Program

It was alarming for the learners of SST that more than 50% of them were keep in touch with study material for study purpose by less than seven hours a week (Table 5). It was significantly ($\chi^2=11.03$ and $p= 0.012$) alarming that the DCSA program learners were higher detached from their study then the BSN program; the figure were 57.9% and 49.3%, respectively. The situation should be change by continuous motivation by the tutors and the academics of BOU as well as providing needful support to the learners time to time.

Table 5: Learners study hours per week by program

Study Hours by week	Which program do you study?					
	BSN		DCSA		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Up to 7 Hours in a Week	224	49.3	88	57.9	312	51.5
8 to 14 Hours	155	34.1	47	30.9	202	33.3
15 to 21 Hours	54	11.9	14	9.2	68	11.2
22 to 28 Hours	12	2.6	2	1.3	14	2.3
> 28 Hours	9	2.0	1	0.7	10	1.7
Total	454	100.0	152	100.0	606	100.0

3. Learners Opinion on BOU's TV Program Schedule and Quality

Broadcasting by TV is a popular means of communication in distance teaching system because of its universal accessibility (Chander, 1991). By watching educational TV program learners get necessary knowledge and information about their courses. Figure 3 showed that 56.4% of the learners desire that BOU's TV program should be broadcast at night schedule on 6 to 9PM, and 33% were expressed that it should be broadcast at evening schedule. The study also stated that learners of DCSA were significantly desire to watch more TV program at morning, noon and evening than the learners of BSN, it was reverse at the night schedule ($\chi^2=7.9$; $df=3$ and $p=0.046$). It is happening due to their job status and leisure period.

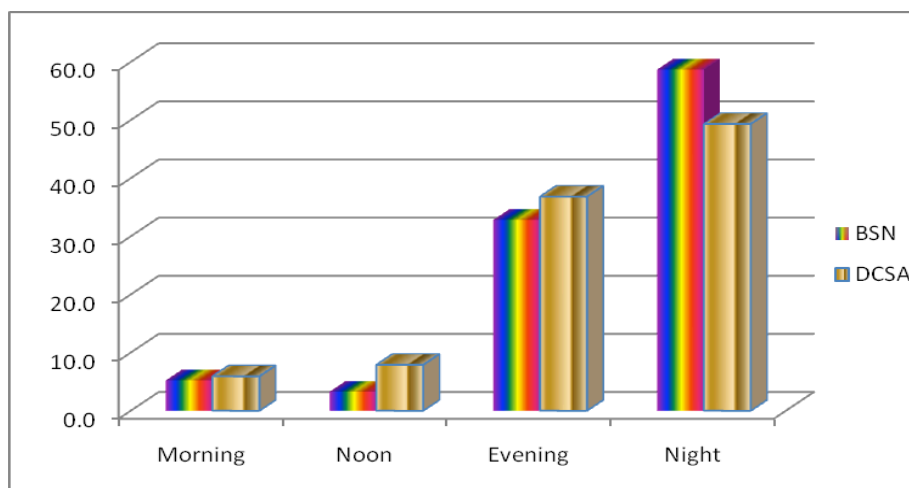


Fig 3: Suitable time for TV Program

CONCLUSION

The learners of DCSA and BSN program have the scope to get education anywhere, either at home or in any place and in any situation. Amongst the learners, 71.1% were female, 73.9% were married and 74.3% were Muslims. Moreover mean age of the learners of BSN were higher than DCSA and 63.9% of the learners were young adults aged below 35 years. More than half (54.1%) of the learners were come from urban areas and travel on average 22.7KM. Learners of DCSA and male were residing far away from the RRC than the learners of BSN and female; whereas learners of DCSA and male were resides nearer to the study centers than the learners of BSN and female. Learners of BSN gave higher positive opinions regarding the quality of the text materials and did higher communication with the teachers of SST than DCSA; whereas learners of DCSA were less interested to study more and watch TV program at night than BSN. Distance education can be more learners oriented if distance educationists are aware of the problems, needs, attitudes and characteristics of their learners (Numan et al. 2008).

This study suggested that factors related to professional and personal self-development for learners' needs to more support from support services in open and distance education. We were expecting that the findings of this study would give some valuable information from the learners for the policy maker and future researchers.

RECOMMENDATIONS

The findings of this study have important implications for research and it would be used as a basis for improving programs. To strengthen the existing program in the university and to maintain quality education, following recommendation should be suggested:

- ✚ University should develop programs which are in job demand list.
- ✚ There should be strong coordination between academics and administrative staff.
- ✚ Printing text materials should be self instructional, activity based and more learner-oriented.
- ✚ BOU can rethink about the on-air timetable of the TV program and at this point further more survey should be needed.
- ✚ The attitude of the Learner Support Services should be always positive towards the learners and should be more active to promote this program.
- ✚ More research should be done in this area to get ideas of the learners, tutors and administrative staff.

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