

ANALYTICAL VIEWS OF STUDENT ENROLMENT TREND OF DIFFERENT PROGRAMS OF BANGLADESH OPEN UNIVERSITY AND ITS PROJECTION

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ABSTRACT

Bangladesh Open University (BOU) is only University of the country which provides mass education in different dimensions in science, agriculture, humanities, social science, health, etc. It intends to provide opportunities of education to all classes of people and create efficient and skilled manpower by improving the quality of education. BOU was established in 1992 by launching B. Ed. program. Now it has 20 formal programs and enrolled 7,81,904 students from beginning to till 2006. This study focuses on the analysis of students' enrollment trend at different programs of BOU as well as shows the projection of enrollment trend. The students' enrollment data prepared in 2006 by the Students Support services Division of BOU has been used in this study. The year wise students' enrollment pattern in different programs of BOU is analyzed using linear regression. The study showed that every year student's enrollment is rising for only four programs and declining for rest of the programs. The study reveals that some programs already have touched the border line of zero students' enrolment. At the same time, projection shows that if these trends continue at these rates, then students' enrollment of six of these programs would reach to nil in next few years. So, it is the time for the policy makers and the academics to rethink about those programs and take effective strategies to revive those programs. In the end, authors also pointed out some measures to be considered in offering effective and more popular educational program through BOU.

Keywords: BOU; Academic Program; Enrollment Trend; Projection; linear regression.

BACKGROUND

Open and distance learning extends learning opportunities at various levels in the society to people who do not have access and/or who have limited access to traditional educational system for various reasons (BOU Consultancy Report, 1998, Lewis, 1993; McIsaac and Gunawardena, 1996). Open and distance learning also supports learning as a continuing or life-long process for ongoing cultural and professional development, increasing technical skills and assisting the general public to keep abreast of current topics, as well as scientific and technological advancements (Rumble, 1989). Their needs and interests should guide the planning and design of courses, the selection of media, the process of student placement and the choice of student support services (Singh, Mullick and Chaudhury, 1994). These views have been embraced by the Bangladesh Open University (BOU) which, in designing its student support services, has taken account of the need to help mass students.

Bangladesh Open University, established in 1992, is the largest educational institution in the country. At present, BOU is offering twenty formal programs from certificate to masters level from its seven school. In 2005, more than 1,00,606 students have been enrolled in these programs (SSS, 2005). The students' enrolment from different programs suggested that BOU certainly exists as one of the mega-universities in near future and will take the responsibility for educating mass people in Bangladesh (Islam et al. 2006; Islam and Selim, 2006a; Islam and Selim, 2006b). For delivering of education, printed texts, tutorial sessions, audio services and radio and television broadcasting medium is used. The printed texts and some audio cassettes are distributed through the 12 Regional Resources Centres (RRCs) and 80 Local Centres (LCs). Tutorial sessions are carried out in more than 1000 Tutorial Centres (TCs) all around the country. The radio and television programs are produced from the University Media Centre and transmitted by the national broadcasting and telecasting centre. Bangladesh Television (BTV) and Radio Bangladesh have allotted BOU with one hour transmission slots six days in a week broadcasting time. But there are problem of relatively low level of receiving stations among the students all over the country.

The use of people-intensive communication by the BOU can be seen as an alternative or supplement to the use of communication as to the newer technology. As the use of communication technology as an educational resource is still difficult to achieve in Bangladesh, other types of educational communication took this place. The face-to-face contact session, that is tutorials, are held on alternative Friday; usually twice a month for each program in BOU's tutorial centre. The number of locations where tutorial sessions are take place varies from program to program. The tutorial session provision is organized through a network of 12 RRCs and 80 LCs. Most of the programs are available nation-wide, in urban, sub-urban and rural areas. Some programs have the greatest impact in increasing the opportunities for girls and women to participate in education. This paper focuses on the students' enrolment trend at BOU and tried to show the projection of students' enrolment trend in different programs. At the end authors also suggested some remarks on the programs which need extra attention.

A total of 7,81,904 students have been enrolled in different programs at BOU up to 2006. Among them 76.1% are males and 23.9% are females. Up to 2005, there were 1,31,068 students awarded certificate or degree from BOU. The year wise students' enrollment pattern in different programs of BOU has been analyzed using linear regression analysis. In linear regression analysis equation $y = a + bx$, where outcome 'y' represent "number of students", intercept 'a' represent "constant value", slope 'b' represent the number of changes of student per year and parameter 'x' represent "single unit of year". This study used the student's enrollment data prepared in 2006 by the Students Support services (SSS) Division of BOU. Data were analyzed using Statistical Package of Social Sciences (SPSS) version 12.0 (SPSS, Inc. Willy, 2004) and MS Excel.

OVERVIEW OF BOU PROGRAMS

BOU started its academic activities in 1992 through B.Ed program with 5,075 enrolled students. Presently, there are 20 formal programs offered through its seven academic schools. These different programs have different enrolment criteria where enrolment usually takes place once a year. Some programs are targeted for large number of people and some are for professional groups which are targeted for relatively small number of people. Besides these, some of the programs are targeted neither for the masses nor for professional groups but for specific groups. The formal academic programs and its relevant school, level of program, duration of program and total number of enrolled students are shown in Table: 1.

ANALYSIS OF STUDENT ENROLMENT TREND

Among the seven school of BOU, six schools have been offering 19 formal programs. Newly established School of law has designed a new course, but not launched yet. Programs under various schools have been discussed in this section.

School of Education (SOE)

The objective of School of Education (SOE) is to develop nurture educational thought, teaching capacity and eventually provide effective teacher education and training all the level of education. At present, School of Education has three formal programs.

B.Ed. program is the first academic program of BOU, which was offered by School of Education in 1992. Total number of students enrolled in B.Ed program was 5075 in 1992 and was 1651 in 2005. Again student enrolment dropped at a rate of more than 269 students per year where the trend means that 81% of the variation in the number of students is accounted for by the variation in the year. Total number of students enrolled in C.Ed program was 1,894 in 1998 and was 506 in 2005. Linear regression line of student enrollment trend indicates that this program had large demand at the beginning but later it has lost student at a rate of 208 students each year, where strength of relationship is 76%. Total number of students enrolled in M.Ed program was 1,117 in 1999 and in 2005 it was 1,006, where students' enrolment pattern is steady (Figure: 1).

List of Formal Programs of the BOU

Schools of BOU	Formal Programs	Level	Duration	Total Students
1. School of Education	1. Certificate in Education (C.Ed) 2. Bachelor of Education (B.Ed) 3. Master of Education (M.Ed)	Certificate Bachelor Masters	3 Semester 4 Semester 4 Semester	12105 60284 8215
2. School of Social Science, Humanities & Languages	4. Certificate in Arabic Languages Proficiency (CALP) 5. Certificate in English Languages Proficiency (CELP) 6. Bachelor of Arts/Bachelor of Social Science (BA/BSS) 7. Bachelor of English Language Teaching (BELT)	Certificate Certificate Bachelor Bachelor	2 Semester 2 Semester 6 Semester 2 Semester	3163 23459 63025 2729
3. Open School	8. Secondary School Certificate (SSC) 9. Higher Secondary Certificate (HSC)	Certificate Certificate	Two Years Two Years	376036 192516
4. School of Business	10. Certificate in Management (CIM) 11. Post Graduate Diploma in Management (PGDM) 12. Master of Business Administration (MBA) 13. Commonwealth Executive Master of Business Administration/Commonwealth Executive Master of Public Administration (CEMBA/CEMPA)	Certificate Diploma Masters Masters	3 Semester 3 Semester 4 Semester 4 Semester	1563 14017 2210 726
5. School of Agriculture	14. Bachelor of Agricultural Education	Bachelor Certificate	4 Semester 2 Semester	11732 735

and Rural Development	(BAGEd) 15. Certificate in Pisci Culture and Fish processing (CPFP) 16. Certificate in Livestock and Poultry (CLP) 17. Diploma in Youth in Development Work (DYWD)	Certificate Diploma	2 Semester 2 Semester	1034 476
6. School of Science & Technology	18. Bachelor of Nursing (BSN) 19. Diploma in Computer Science and Application (DCSA)	Bachelor Diploma	6 Semester 3 Semester	1831 4151
7. School of Law	20. Bachelor of Law (LL.B.) (to be offered shortly)	Bachelor	6 Semester	Nil

Source: Student Support Services Division, 2005 and Different School of BOU

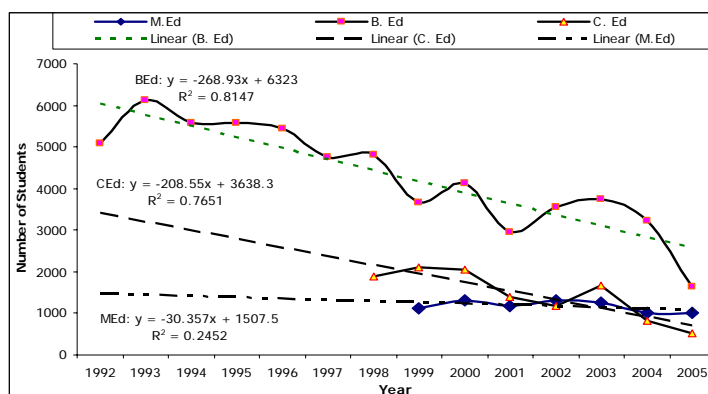


Figure: 1 Students Enrollment Trend in SOE

School of Social Science, Humanities and Languages (SSHL)

The School of Social Science, Humanities and Languages comprises of different disciplines like Bangla, English, Arabic, Philosophy, Economics, Sociology, etc. and offering programs at certificate and masters levels. It has four formal programs (Table-1). According to the Figure-2, students' enrolment pattern of different programs of this school is different. CELP, CALP and BELT programs were launched in the year of 1994, 1996 and 1997 and admitted 5026, 601 and 1077 students respectively.

In 2005, these programs admitted 325, 127 and 77 students respectively. All of these three programs are losing students at a rate of 475, 33 and 107 students per year respectively. The strength of relationship of these trends is explained as 84%, 57% and 67% respectively.

Total number of students enrolled in BA/BSS program was 7,339 in 2000 and in 2006 it was 17,500, where student enrolment has been increasing at a rate of 2,438 students yearly. The strength of relationship for this trend is estimated as 67%.

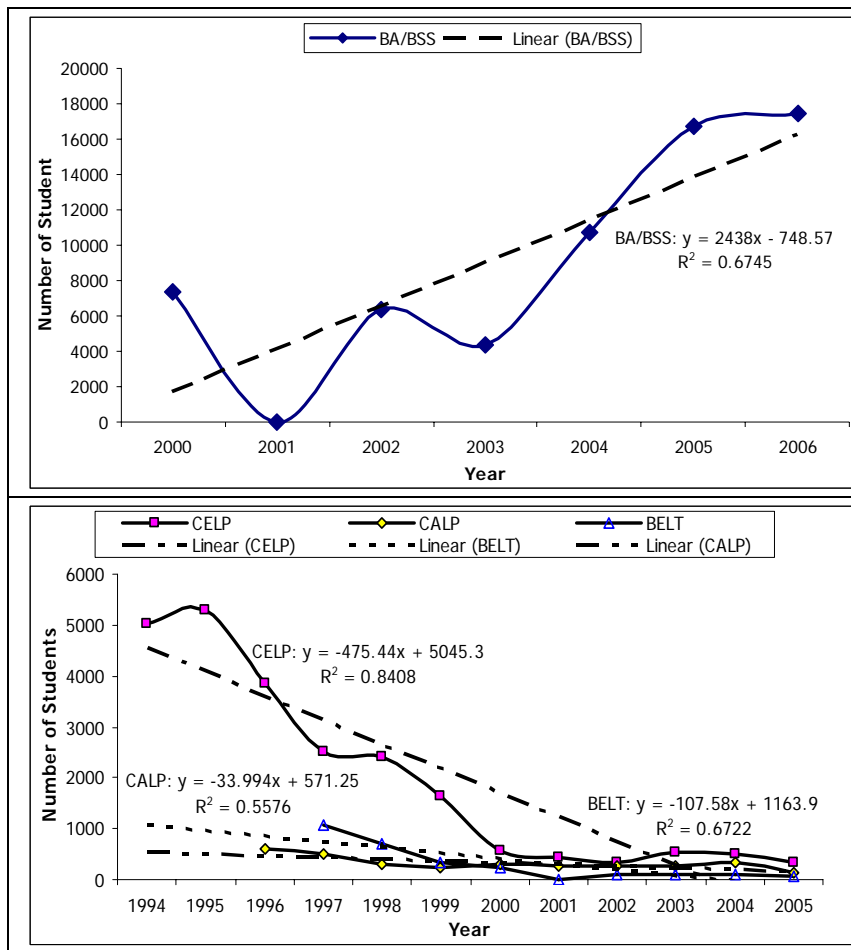


Figure: 2 Students Enrollment Trend in SSSL

Open School (OS)

Open School is the largest school among the seven school of BOU in respect of students' enrolment. It has two formal programs, SSC and HSC (Table-1), which were launched in 1995 and 1998, respectively. Figure-3 shows that student's enrolment trend of both programs are increasing dramatically every year.

Total number of students enrolled in SSC program was 16,199 in 1995 and 70,990 students in 2006. In this program, student enrolment has been increasing at a rate of 4,217 students every year. The strength of relationship for this trend is estimated as 83%.

Total number of students enrolled in HSC program was 12,006 in 1998 and 34,023 in 2005 where student enrolment has been increasing at a rate of 4,630 students yearly. This trend also explained by 72%.

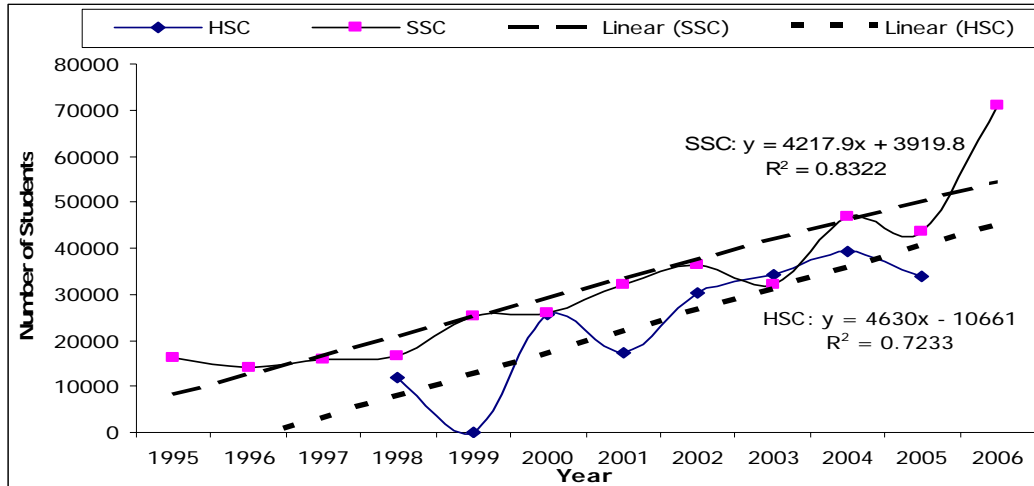
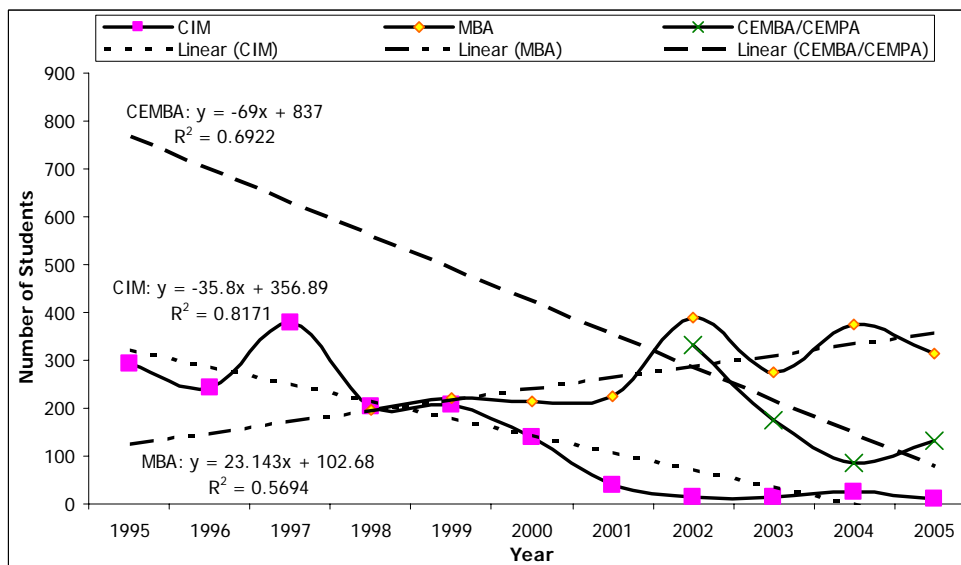


Figure: 3 Students Enrollment Trend in OS

School of Business (SOB)

The main objectives of the programs of school of Business are to create educated and skilled manpower throughout the country by making business education available to a large number of populations. Currently, SOB is offering programs at certificate, diploma and post-graduate levels. It has four programs (Table-1). Figure-4 shows that students' enrolment patterns of the programs of this school are mixed, some are increasing and some are decreasing. Total number of students enrolled in PGDM and CIM program in 1995 was 1487 and 294, respectively and in 2005 it was 313 and 10, respectively. Both PGDM and CIM programs are experiencing a decreasing rate of students' enrolment, which are 283 and 35 students per year respectively.



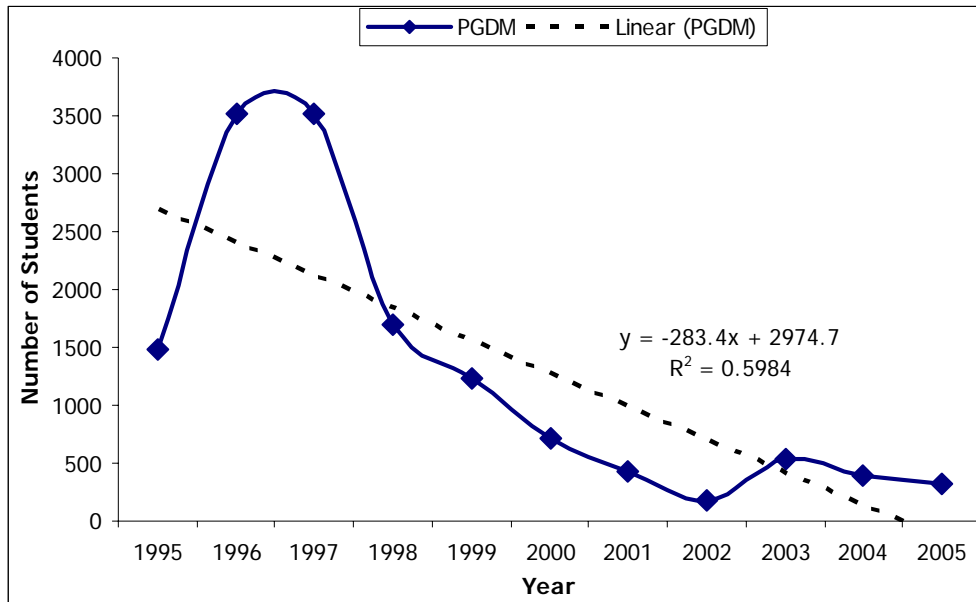


Figure: 4 Students Enrollment Trend in SOB

This trend could be explained by 60% and 81% respectively. Total number of students enrolled in MBA program was 196 in 1998 and in 2005 it was 315. This program is gaining student at a rate of 23 students each year, where strength of relationship is 57%. Total number of students enrolled in CEMBA/CEMPA program in 2002 was 333 and in 2005 it was 132. Student enrolment in this program dropped for first two years and then increased next year (Figure: 4).

School of Agriculture and Rural Development (SARD)

Among the seven school of BOU, SARD is the school which only offers agriculture based programs. It has four programs, such as, Bachelor of Agricultural Education (BAgEd), Certificate in Pisci-culture and Fish processing (CPFP) Certificate in Livestock and Poultry (CLP) and Diploma in Youth in Development Work (DYWD) are at degree, certificate and diploma level respectively. According to Figure-5, student enrolment pattern of all SARD programs are very fluctuating and gradually decreasing.

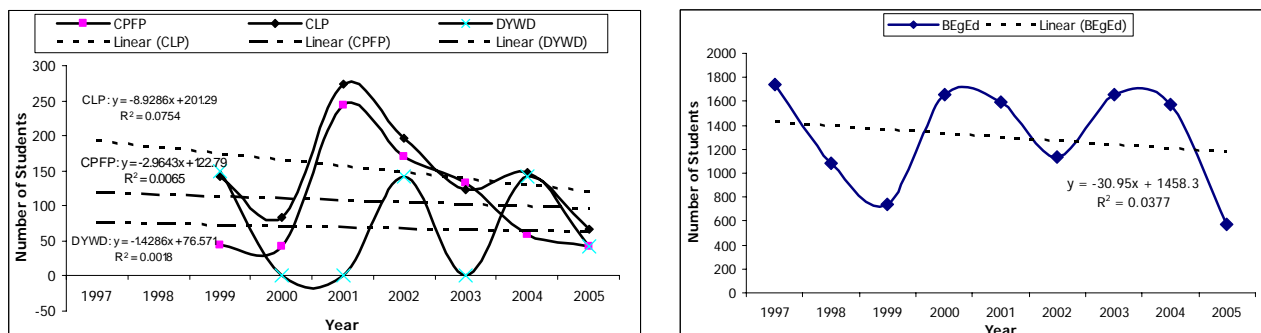


Figure: 5 Students Enrollment Trend in SARD

School of Science and Technology (SST)

Creation of science and technology skilled manpower in the country is the main objective of the School of Science and Technology. The activities of this school are confined on scientific awareness. SST offers professional and technical programs in the field of health and computer. It has two programs, DCSA and BSN (Table-1) which were launched in 1998 and 2003, respectively. Figure-6 shows that students' enrolment trend of both programs are gradually decreasing.

Total number of students enrolled in DCSA program was 720 in 1998 and in 2006 it was 340, where student enrolment has been decreasing at a rate of 52 students every year and strength of relationship for this trend is estimated as 74%. Total number of students enrolled in BSN program was 733 in 2003 and in 2006 it was 507. In this program, student enrolment has been decreasing at a rate of 64 students every year. The strength of relationship for this trend is estimated as 67%.

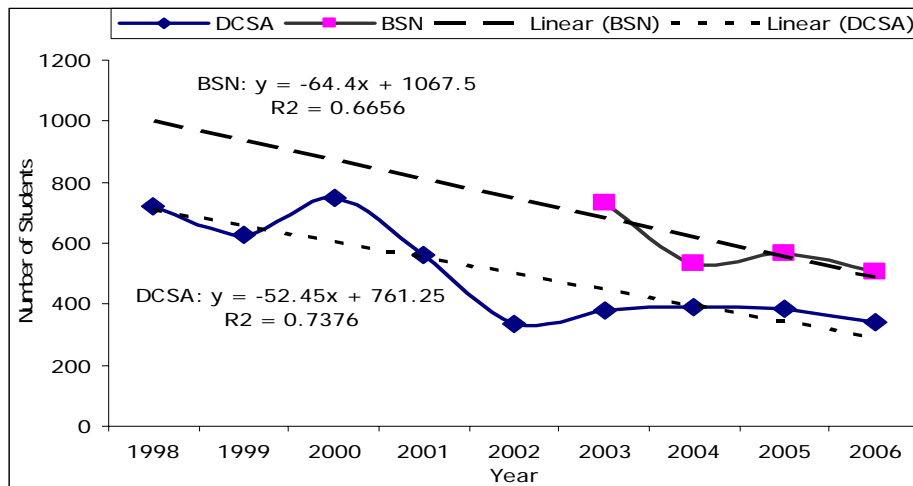


Figure: 6 Students Enrollment Trend in SST

DISCUSSION

In the BOU, the delivery system to support students is presently not effective (Ali et al. 1997). Dekkers (1998) finds in his consultancy work with the BOU student support activities '*not being able to properly support students*'. Dekkers (1998) also finds another disappointment that '*lack of service mentality with respect to student support*' of the BOU local and regional staff. In the light of Dekker's report, it is true that many staff still do not fully understand the distance education support.

Most students always demand direct contact with the tutors. For difficult courses like, mathematics and English they need intensive direct contact with the tutors. Due to remote location, lack of communication facilities and inadequate tutorial sessions, it is not possible for students of different programs to have frequent contact with the tutors (Hossain et al. 1996).

Table: 2 shows that among the 19 running program of BOU, students' enrollment trend have been escalating for only four programs, such as SSC, HSC, MBA and BA/BSS.

Table: 2
Projected Students of formal programs of the BOU

Program Name	Linear Regression Equation	R ²	Students Enrolled (Launched Year)	Students Enrolled in 2005	Status	Projected Nil Students (Year)
1. C.Ed	$y = -208.55x + 3638.3$	0.77	1894	506	↓	2009
2. B.Ed	$y = -268.93x + 6323$	0.81	5075	1651	↓	2015
3. M.Ed	$y = -30.357x + 1507.5$	0.26	1117	1006	↓	
4. CALP	$y = -33.994x + 571.25$	0.56	601	127	↓	2010
5. CELP	$y = -475.44x + 5045.3$	0.84	5026	325	↓	2003
6. BELT	$y = -107.58x + 1163.9$	0.67	1077	77	↓	2003
7. BA/BSS	$y = 2438x - 748.57$	0.67	7339	16703	↑	
8. SSC	$y = 4217.9x + 3919.8$	0.83	16199	43747	↑	
9. HSC	$y = 4303.4x - 8591.5$	0.76	12006	34023	↑	
10. CIM	$y = -35.8x + 356.89$	0.82	294	10	↓	2005
11. PGDM	$y = -283.4x + 2974.7$	0.60	1487	313	↓	2004
12. MBA	$y = 23.143x + 102.68$	0.57	196	315	↑	
13. CEMBA	$y = -69x + 837$	0.69	333	132	↓	2007
14. BAgEd	$y = -30.95x + 1458.3$	0.04	1735	568	↓	
15. CPFP	$y = -2.9643x + 122.79$.007	44	42	↓	
16. CLP	$y = -8.9286x + 201.29$.007	142	67	↓	
17. DYWD	$y = -1.4286x + 76.571$.0002	150	42	↓	
18. BSN	$y = -64.4x + 1067.5$	0.67	733	532	↓	2014
19. DCSA	$y = -52.45x + 761.25$	0.74	720	390	↓	2012

Where as, students' enrollment pattern for rest of the programs are declining. Student enrollment projection shows that if this trend continues, then some times in future, programs would have no students enrolled. However, it has been seen that rather dieing up, some programs are just surviving by consuming an overhead cost.

The increasing trend of SSC, HSC and BA/BSS programs depicts that there are huge demand among the students to enroll themselves in these programs. They want to upgrade their skills in their field of interest and also wish to get higher degree. MBA program has also proved its high demand among the students due to the great demand in job market.

One other potential program is CEMBA/CEMPA which is getting popularity to build up career development. However, extra attention to those programs will be able to increase the number of student.

It has been seen that many other institutes are offering C.Ed., B.Ed. and M.Ed. programs other than BOU. Their educational costs are low and duration of the program is short compared to BOU. These easily attract many students to other institutes. Despite there are great demands for language learning in the country, CELP, CALP and BELT programs are loosing student significantly. There may have some weaknesses in academic or administrative side which fails to attract students. Due to fall in demand in job market programs like, PGDM and CIM are also loosing students. Agriculture based programs offered by SARD, can create skilled manpower in this sector which always has lot of demand in country's job market. By promoting these programs among the youth group we can increase number of student. SST offers DCSA and BSN programs which meet the need of technical person in the country. These programs deserve more students, but there may have some academic, motivational and administrative pitfall which fails to catch the students.

There may have several other causes which hinder the growth of the student. Often students do not get necessary information in time due to lack of academic and supporting staff and their necessary services. Sometimes students get dishearten and become frustrated when they faces delay in their result processing.

The analysis of students' enrolment trend has been projected and found that majority of the programs are going to touch the nil student line within few years. C.Ed, B.Ed, CEMBA, CALP, DCSA and BSN program students would be nil in the year of 2009, 2015, 2007, 2010, 2012 and 2014, respectively (Table-2). But some program, such as, CIM, PGDM, CELP and BELT, has already touched the border line of zero student though these programs has been continuing.

RECOMMENDATION

This study has been conducted to get an overview of the students' enrolment scenario of different BOU programs. The findings of this study have important implications for research and it could be used as a basis for improving programs regarding student enrollment at BOU. Social, political and economic situation of the country also play vital role in students' enrolment. Several factors could be considered which affects the number of students' enrolment.

To strengthen the existing program in the university and to maintain quality education, following recommendation could be suggested:

- Prior to offering programs, University should conduct need assessment survey.
- University should conduct need assessment survey at a regular interval during the program to justify the program's need.
- University should develop programs which are in job demand list.
- There should be strong coordination between academics and administrative staff.
- University should be more sincere in arranging examination and publishing result so that these tasks could be completed in optimum time.
- Academics of BOU can organize seminar, symposium and produce leaflets with the up to date content of the specific program.
- RRC's staff should be more active in promoting different programs and carry out motivational activities among the students.
- BOU media center can broadcast promotional activities to reach distant viewers which may help increase the students.
- More research should be done in this area to get ideas of the students, tutors and administrative staff.

We need to investigate on above issues and should try to set an inexpensive strategy to meet new challenges which will help achieving BOU objectives.

CONCLUSION

Education is closely related to human life and is practice-oriented, and distance education requires much care and devotion. Bangladesh is a developing country; it is faced with low socio-economic status and lack of infrastructure and communication technology. Still some programs are losing students alarmingly. We need to find out efficient and cost effective way to deal with these problems.

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REFERENCES

Ali, M. S., Haque, A. K. E. and Rumble, G. (1997). The Bangladesh Open University: mission and promise, *Open Learning*, 12(2), 12-17.

BOU Consultancy Services. (1998). *BOU Academic Programme Management Cycle*, London; Cambridge Education Consultants and International Extension College.

Dekkers, J. (1998). *Bangladesh Open University consultancy service project: overview of the status of the BOU, the establishment of an ID cell and a training and research institute, development of the student support system and program evaluation. Report no. BOU - CS 39*, Rockhampton: Central Queensland University press.

Hossain, M., Sultana, N. Z., Rahman, Z., Taleb, M. A. and Haque, M. (1996). *Tutoring in distance education*, Dhaka: Bangladesh Open University.

Islam, M. T., Rahman, M. M. and Rahman, K. M. R. (2006). Quality and Processes of Bangladesh Open University Course Materials Development. *Turkish Online Journal of Distance Education*, 7(2), 130-138.

Islam, M. T. and Selim, A.S.M. (2006a). Current Status and Prospects for E-learning in the Promotion of Distance Education in Bangladesh. *Turkish Online Journal of Distance Education*, 7(1), 114-119.

Islam, M. T. and Selim, A.S.M. (2006b). Information and Communication Technologies for the Promotion of Open and Distance Learning in Bangladesh. *Journal of Agriculture & Rural Development*, 4(1&2), 35-42.

Lewis, R. (1993). Approaches to staff development in open learning: the role of a competence framework, *In Alan Tait (ed), Key issues in open learning -- a reader: an anthology from the journal open learning 1986 -- 1992*, Harlow: Longman, 142 - 166.

McIsaac, M. S. and Gunawardena, C. N. (1996). Distance education, *In David. H. Jonassen (ed), Handbook of research for educational communications and technology: A project of the association for educational communication and technology*, New York: Simon and Schuster Macmillan, 403-456.

Rumble, G. (1989). 'On defining distance education', *The American Journal of Distance Education*. 3(2), 8-21.

Singh, B., Mullick, S. and Chaudhury, N. (1994). 'Correspondence/distance education in India: excerpts from a research report', *Indian Journal of Open Learning*, 3(2), 1-25.

SPSS , Inc. (2004). SPSS 12.0 for Windows, Chicago, USA.

SSS Division, BOU. (2005). Student Support Service Statement of student enrollment pattern of BOU.