

Determinants of Academic Performance of the Students of Public Universities in Bangladesh

By Rashed Alam* & Rafiqul Islam[±]

Education is one of the most important factors in producing human resources. University education can be influenced by many factors that affect students' quality of academic performance. The main focus of this study is identifying the influencing factors that are significantly associated with the academic performance of universities students. Data were extracted from the various departments of two public universities. Data analysis by Contingency and logistic regression were used to identify the determinants of academic performance of the students. Among the students, 56.8% were male and 43.2% were female most of them are Muslims and unmarried. 75.1% of students came from rural areas, only 15% of students' mothers were higher educated and 65% of student's family status was middle class. Higher educated mother, HSC and SSC results, admitted to an expected university, admitted present department by their own choice, study environment in the department and use of the internet had significant effects on the results of 1st year of the students. The findings concluded that increase and improve students' academic performance are some crucial steps regarding securing admission first choice of the department and advising about peer influence should be taken into consideration.

Keywords: determinants, academic performance, public university, logistic regression analysis, Bangladesh

Introduction

Education is one of the most essential factors in producing a human resource that is compulsory for any development according to the needs of a country. The role of education plays and contributes to the intellectual growth and development of a society which becomes a common concern in both developed and developing countries (Hosseini, 2014). Bangladesh is one of the most densely populated countries in the world. Its population increased day by day and also developed its educational institution and all development sectors. It has achieved 8.2 percent economic growth in 2019 and has become a faster-growing economy of the world (IMF, 2019). But, this economic growth will not continue for a long time without substantial development of its human capital because “investment in human capital development plays a positive role in economic growth and that human capital is the driver of economic growth and development” (Psacharopoulos & Woodhall, 1997). This economic growth and development depend on its education systems. Thus, the development of human capital through quality of higher

* Associate Professor, Department of Population Science and Human Resource Development, University of Rajshahi, Bangladesh.

[±]Professor, Department of Population Science and Human Resource Development, University of Rajshahi, Bangladesh.

education and training must be needed for Bangladeshi people, if it wants to ensure sustainable development and growth of its economy (SDGs, 2030; Sarkar & Hossain, 2019). The quality of the education system may reflect the development efforts that must be made in the social, economic, and political spheres. Furthermore, in this era of globalization and technological revolution, education is considered the first step for every human activity (Battle & Lewis, 2002). Higher education in Bangladesh has grown at an exponential rate during the last two decades.

Students are an essential asset for every educational institution. The social and economic development of a country is directly related to the academic performance of students. These factors have a major impact on learning performance, but these factors vary from person to person and from country to country (Hanushek, 1997). Indeed, academic performance can be influenced by several factors that influence the quality of academic performance, both inside and outside the school. These factors may be termed as student factors, family factors, school factors, and peer factors (Crosnoe, Johnson, & Elder, 2004). It is important to ensure both the internal and external efficiency of any academic performance must be desirable of the students. Internal efficiency is the utility created within the system by the students output and external efficiency manifests the adaptability of the performance output in an external environment (Windham, 1990).

Education as well as academic achievement of students imposes a high impact to create better citizens and plays a vital role in producing the best quality manpower and leader for economic and social development of the country (Ali et al., 2009). Most people know that the number of determinants or factors other than university entrance results may significantly affect the academic performance of students. The factors might be the type and location of secondary school performance, type of admission, quality of teaching, study habit, economic and educational background of parents, references and textbook availability, student's placement by their first choice, etc. (Kapur, 2018). In our study, we take the Grade point average (GPA) of students can measure student academic performance. This idea supported by (Hijazi & Naqvi, 2006) stated that GPA in university is a commonly used indicator of student academic performance. Therefore, we conducted this study to identify the determinants of the academic performance of the students

Public Universities Scenario in Bangladesh

The area comprising present Bangladesh was to have no university for a long time during the British rule. A teaching cum residential university was set up first in Dhaka in 1921. The second university was set up in Rajshahi in 1953. In total there had been 6 public universities in the country before 1971. After the liberation of Bangladesh in 1971, during the last 50 years, the higher education scenario has greatly been transformed. The number of public universities has increased significantly (Table 1). University seats are a scarce commodity in Bangladesh, especially at quality institutions of higher education in 2017, 801,711 potential students had passed the HSC exams, but fewer than 50,000 available seats in the

top tier of competitive public universities¹. However, larger numbers of spaces are available at the less reputable and non-competitive are National University and Open University, as well as in open distance education. Admission criteria differ by institution and faculty, but entrance examinations that are often hard to pass are a common requirement at competitive institutions, in addition, to set minimum GPAs in the HSC/Alim examinations. There may also be minimum grade cutoffs in specific subjects (for example, high grades in mathematics for science programs). Science and engineering programs are generally hard to get entrance compare to programs in the social sciences and humanities. All public Higher education institution (HEIs) are required to use centralized entrance examinations in Bangla, English, and major-specific subjects, according to the current national education policy and also the specific universities rules and regulation.

Table 1. Number of Universities, Teachers, and Students and Teacher-Student Ratio during 1981-2020

Year	No. of Universities	No. of Teachers	No. of Students	Teacher-Student Ratio
1981	6	1,245	16,683	1:13.4
1994	11	3,241	45,699	1:14.1
2001	20	5,241	92,562	1:17.7
2006	29	7,905	153,249	1:19.4
2011	35	9,781	389,963	1:39.9
2012	35	10,568	413,434	1:39.1
2013	37	11,323	457,183	1:40.4
2014	37	12,047	496,425	1:41.2
2015	38	12,531	541,506	1:43.2
2016	38	13,072	594,052	1:45.4
2017	41	13,168	519,488	1:39
2018	44	13,465	527,546	1:38.6
2019	46	13,988	531,544	1:38
2020	49	14,293	535,988	1:37.5

Source: UGC Annual Report up to 2020.

Public University out of 49 public universities, 3 newly established agricultural and science and technology universities have not yet started their academic activities, 44 universities are teaching universities having their classroom, residential accommodation, and other physical facilities in their campus, and the remaining 2 are special, of which one is the National University (NU) and open university, an affiliating university, which affiliates all degree colleges that provide general education, conducts examination and awards certificates or diplomas depending on the nature of academic programs, and offers subject-wise special training and M. Phil and Ph.D. programs for the teachers of affiliated colleges. Public universities are the foremost choice of the majority of students seeking higher education. This is for various reasons. First, these universities offer a wide range of subjects in Science, Commerce, Liberal Arts, Humanities, Engineering and Technology, Law,

¹Bangladesh Bureau of Educational Information and Statistics: <http://www.banbeis.gov.bd/>.

Education and Medicine disciplines. Second, public universities attract the best brains and researchers as teachers although monetary compensation for them is anything far from attractive. Third, the library, laboratory, internet, and research facilities are much better there than anywhere else in the country. Fourth, seminars, symposiums, workshops, debates, exhibitions, and visiting teachers lecture series are often held in these institutions with a wide scope for national and international exposures for promising young knowledge seekers. In 2017, Bangladesh's parliament also passed legislation to create an independent accreditation council. The plan is to have the council accredit universities, public and private, as well as individual study programs, for periods of five years following an initial interim accreditation period of one year (UGC, 2019).

According to the latest UGC report, there are 49 public universities across the country. On average, the teacher-student ratio (TSR) is 1:19 at the public universities except for the National and Open University. The TSR is not ideal at 21 public universities as the ratio was over 1:22 at the institutions. But the UGC is not happy as the teacher-student ratio at many public universities is not satisfactory which is frustrating as it has given a sorry state of education at these institutions.

The teacher-student ratio (TSR) was 1:90 at Chittagong Veterinary and Animal Sciences University, 1:90 at Sylhet Agricultural University, 1:90 at Bangabandhu Sheikh Mujibur Rahman Agricultural University, 1:90 at Sheikh Hasina University, 1:70 at Jashore University of Science and Technology, 1:70 at Bangabandhu Sheikh Mujibur Rahman Digital University, 1:60 at Bangamata Sheikh Fojilatunnesa Mujib Science and Technology University, 1:44 at Begum Rokeya University, 1:43 at University of Barisal, 1:40 at Bangabandhu Sheikh Mujibur Rahman Science and Technology University, 1:33 at Rajshahi University, 1:38 at Islamic University, 1:53 at Sheikh Mujib Medical University, 1:37 at Hajee Mohammad Danesh Science and Technology University, 1:29 at Mawlana Bhashani Science and Technology University, 1:50 at Chittagong University of Engineering and Technology, 1:24 at Jagannath University, 1:24 at Comilla University, 1:29 at JatiyaKabiKazi Nazrul Islam, 1:25 at Pabna Science and Technology University, 1:32 Rangamati Science and Technology University. Even the teacher-student ratio is not ideal at some renowned and old universities. There are only 1,150 teachers against 38,291 students at Rajshahi University, 399 teachers against 15,057 students at Islamic University, 188 teachers against 8,393 students at Begum Rokeya University, 261 teachers against 3,959 students at Jashore University of Science and Technology, and 312 teachers against 11,547 students at Hajee Mohammad Danesh Science and Technology University (Bangladesh Education Statistics, 2015; UGC, 2019). Whereas the University of Tokyo in Japan: 6.7, Seoul National University of South Korea: 12.6, the University of Science and Technology in China: 8.2, the Indian Institute of Science: 8.4, and the University of Malaya in Malaysia: 10.9 (Solamain, 2018).

Literature Review

During the last few decades, there have been done several good studies on determinants of academic performance and academic competence all over the world and in Bangladesh. Academic performance is dependent upon how well the students manage their course load describes in their curriculum. Academic competence is also indicative of the extent to which the curriculum is interesting for the students to enjoy the classes. Students' academic performance in higher education is affected by various socio-economic, psychological, and environmental factors (Hijazi & Naqvi, 2006). A review of the works that have been done related to the present study reveals a wide range of factors including socio-economic, demographic, and cultural that vary from one area to another area and also one country to another country. Thus, a review of the literature is necessary to know about the earlier studies accomplished in the field. Only the expectable literature in the perspective of the current studies is reviewed in a few words.

Hosseini (2014) observed that the teachers regarding their change of performance in the classroom, despite the passing of several years. She also indicated that they made positive use of the pattern. All the teachers participating in the course stated that attending the course helped them to move away from teacher-centered toward learner-centered classes, which has made their students very enthusiastic.

Jacobsen and Forste (2011) investigated students' perspectives on the potential of current educational strategies to encourage creativity in university students. The survey data reveals a strong tendency of university faculty to rely on didactic, memory-based instruction, even though respondents also recognized that this form of learning was not motivating for their current students. She recognized that higher education has encompassed philosophies and aims directed at the knowledge creation and cultural development of a nation.

Monem and Baniamin (2010) suggested that better understanding among teachers and students, the introduction of modern teaching methods, and dedication of teachers and students can improve the culture of higher education in Bangladesh. They also believe that a proper academic calendar can bring discipline. Initiate to free the universities from the clutches of politics can play a lot of the overall improvement of the universities.

Islam (2016) suggested that the no University of Bangladesh is managed to 'rank' in the list of top-ranking universities in the world. He alleged that it has been happened due to a lack of good governance in the education sector. Does he also arise that does governance matters for quality education? What types of governance problems confronting quality education in Bangladesh? What is the role of the UGC and how does it play its role in respect to good governance in the higher education sector in the country? He argues and explores the answers to these questions as well as puts forward policy implications in this regard.

Shahiduzzaman, Ali, and Islam (2017) suggested that the guardians and the teachers take more attention to their wards and students respectively to improve their future academic performance. The university authority should take care of the students especially of science, law, and art faculty for their academic improvement.

The students may be advised to reduce their monthly expenditure and not to drop their studies in any semester. Despite that, the guardians and university authorities should take more attention to the male students in their academic study period.

Sothan (2018) observed that personal backgrounds played a potential role in predicting the academic performance of undergraduate students. Some researchers argued that older students performed better than younger ones (Guney, 2009; Alhajraf and Alasfour, 2014; Kim et al., 2016).

Methodology

Data were extracted from two public universities named Rajshahi University (RU) and Pabna University of Science and Technology (PUST). The primary consideration in the sample selection of these studies is to include representative and adequate numbers of cases to perform meaningful analysis. This study has been conducted under a purposive sampling procedure because of the time-consuming and constraints of the cost of sampling. Based on that sampling procedure, the present study has considered 1,000 respondents as a sample size. Among the respondents we target 700 will be collected from Rajshahi University out of 26,560 students and the rest of them collected from PUST out of 3,240 students. Finally, we collect 800 respondents at two different universities in Bangladesh. The summary statistics including mean, frequency, and percentage distribution were used to describe study characteristics. Association Ist year result (GPA) and selected socio-demographic variables were assessed by Chi-square test. Finally, logistic regression models were used for identifying the effects of the various selected socio-economic and education-related characteristics of the study population. All analysis was performed in SPSS software version 16.

Results

Descriptive analyses, contingency analyses, and logistic regression analyses were used to determine the study objectives. Students' academic performance was categorized as a high GPA achiever group with GPA 3 and above, whereas those with GPA below 3 were categorized as low GPA group. Based on this criteria students were categorized in the low GPA group (n = 165) and the high GPA group (n = 629). The study characteristics of Table 2 represent the selected socio-economic and education-related variables. Among the variables, Mother education, SSC and HSC GPA, Admitted to the expected institution, admitted to the present department by their own choice, study environment their department, and using internet facilities have a significant effect on the academic performance of the students. Moreover, there is a nonsignificant difference found on religious status, father education, monthly family income, place of residence of the students, year drop after admission, enough books in their own their department seminar and courses finished in due time. Table 3 indicates logistic regression model that showed higher educated mothers, a student in the middle class and high-income family, college types, strategy of studying course teachers, admitted in the present

department by their own choice, using the internet have a significant effect on academic performance of the students and the other hand gender, finishing courses in time have an insignificant effect on academic performance of the public universities students.

Table 2. Chi-Square Test of Academic Performance of Students According to the Selected Background Characteristics

Background Characteristics	1 st -year result (in GPA)		χ^2_{cal} p-value
	<3.00	≥ 3.00	
Religious status			
Muslim	142(21.4%)	522(78.6%)	$\chi^2_{cal} = 0.901$ p = 0.343
Non-Muslim	23(17.7%)	107(82.3%)	
Gender			
Male	103(22.8%)	348(77.2%)	$\chi^2_{cal} = 2.684$ p = 0.101
Female	62(18.1%)	281(81.9%)	
Father's education			
Literate	53(21.0%)	199(79.0%)	$\chi^2_{cal} = 0.784$ p = 0.676
Up to HSC	56(22.3%)	195(77.7%)	
Higher Educated	56(19.2%)	235(80.8%)	
Mother's education			
Literate	92(23.7%)	296(76.3%)	$\chi^2_{cal} = 8.858$ p = 0.012
Up to HSC	60(20.8%)	228(79.2%)	
Higher Educated	13(11.0%)	105(89.0%)	
Monthly family income (in Taka)			
<15000	25(16.4%)	127(83.6%)	$\chi^2_{cal} = 2.556$ p = 0.279
15000-30000	109(22.3%)	379(77.7%)	
>30000	30(19.7%)	122(80.3%)	
Permanent residence			
Rural	124(20.8%)	473(79.2%)	$\chi^2_{cal} = 0.000$ p = 0.090
Urban	41(20.8%)	156(79.2%)	
Present residence			
Hall	129(20.4%)	504(79.6%)	$\chi^2_{cal} = 3.292$ p = 0.193
Mess	19(18.3%)	85(81.7%)	
Own or Relative's house	17(29.8%)	40(70.2%)	
Got expected GPA in SSC			
No	47(20.9%)	178(79.1%)	$\chi^2_{cal} = 0.002$ p = 0.962
Yes	118(20.7%)	451(79.3%)	
GPA in SSC			
<4.00	6(42.9%)	8(57.1%)	$\chi^2_{cal} = 4.219$ p = 0.040
≥ 4.00	159(20.4%)	621(79.6%)	
Location of college			
Urban	127(22.0%)	451(78.0%)	$\chi^2_{cal} = 1.832$ p = 0.176
Rural	38(17.6%)	178(82.4%)	
GPA in HSC			
<4.00	8(44.4%)	10(55.6%)	$\chi^2_{cal} = 6.265$ p = 0.012
≥ 4.00	157(20.2%)	619(79.8%)	
Admitted in expected institution			
No	87(24.8%)	264(75.2%)	$\chi^2_{cal} = 6.131$ p = 0.013
Yes	78(17.6%)	365(82.4%)	
Admitted to present department by own choice			
No	92(27.1%)	248(72.9%)	$\chi^2_{cal} = 14.759$ p = 0.001
Yes	72(15.9%)	381(84.1%)	
Disinterest in study			
No	49(17.9%)	224(82.1%)	$\chi^2_{cal} = 0.926$ p = 0.336
Yes	69(24.5%)	213(75.5%)	
Year drop after admission			
No	140(20.1%)	557(79.9%)	$\chi^2_{cal} = 1.673$ p = 0.196
Yes	25(25.8%)	72(74.2%)	
Course class amount is enough			
No	53(24.7%)	162(75.3%)	$\chi^2_{cal} = 2.683$

Yes	112(19.3%)	467(80.7%)	p = 0.101
Enough books in seminar			
No	91(22.6%)	312(77.4%)	$\chi^2_{\text{cal}} = 1.610$ p = 0.204
Yes	74(18.9%)	317(81.1%)	
Study environment in department			
Very good	16(16.2%)	83(83.8%)	$\chi^2_{\text{cal}} = 7.470$ p = 0.058
Good	73(19.9%)	293(80.1%)	
As a whole	55(20.7%)	211(79.3%)	
Bad	21(33.3%)	42(66.7%)	
Course finishes in due time			
No	69(21.6%)	251(78.4%)	$\chi^2_{\text{cal}} = 0.199$ p = 0.656
Yes	96(20.3%)	378(79.7%)	
Study environment in home			
Enough	115(20.3%)	452(79.7%)	$\chi^2_{\text{cal}} = 0.300$ p = 0.584
Inadequate	50(22.0%)	177(78.0%)	
Use of internet			
No	6(10.2%)	53(94.4%)	$\chi^2_{\text{cal}} = 4.359$ p = 0.037
Yes	159(21.6%)	576(78.4%)	

Table 3. The Results of Logistic Regression for the Effects of Selected Background Characteristics on the Academic Performance of the Students

Background characteristics	Adjusted odds ratio	95% CI		p-value
		Lower	Upper	
Gender				
Male ^(RC)	1.00			
Female	0.90	0.622	1.313	0.596
Mother's Education				
Literate ^(RC)	1.00			
Secondary to Higher Secondary	1.14	0.772	1.670	0.518
Higher Educated	2.58	1.361	4.881	0.004
Monthly family income				
Low-income family (≥ 10000 Tk) ^(RC)	1			
Middle-income family (10001-30000 Tk)	1.78	1.61	3.97	0.051
High-income family (above 30000 Tk)	1.45	1.21	3.41	0.029
Types of college				
Government ^(RC)	1			
Private	0.71	0.46	0.96	0.051
The strategy of studying course teacher				
Very good ^(RC)	1			
Good	0.85	0.63	0.97	0.030
Average	0.62	0.57	1.63	0.087
Bad	0.30	0.47	0.95	0.047
GPA in SSC				
<4.00 ^(RC)	1.00			
≥ 4.00	2.06	0.634	6.710	0.229
GPA in HSC				
<4.00 ^(RC)	1.00			
≥ 4.00	2.91	1.036	8.139	0.043
Admitted to the expected institution				
No ^(RC)	1.00			
Yes	1.41	0.543	1.656	0.612
Admitted in the present department by own choice				
No ^(RC)	1.00			
Yes	1.92	1.289	2.854	0.001
Course class amount is enough				
No ^(RC)	1.00			
Yes	1.175	0.782	1.767	0.438
Study environment in the department				
Very good ^(RC)	1.00			
Good	0.73	0.394	1.367	0.329
As a whole	0.77	0.398	1.469	0.421
Bad	0.49	0.215	1.101	0.084
Use of internet				

No ^(RC)	1.00			
Yes	0.37	0.149	0.903	0.029
		Lower	Upper	
Finishing course within the scheduled time				
No ^(RC)	1.00			
Yes	2.13	1.53	3.56	0.001
Model summary				
Model χ^2 (p -value)	335.470 (<0.0001)		$p^2_{cv}=0.329022$	
-2 log likelihood	763.862		$\lambda=0.0159$	
Cox & Snell R-square	0.345		Stability of $R^2=0.9841$	
Nagelkarke R-square	0.460			

Note: Significant at $p < 0.05$ and "RC" = Reference Category.

Discussion

Education is the key component of any development of any nation. In Bangladesh, all citizens must undertake ten years of compulsory education which consists of 5 years at primary school level and five years at high school level. Primary and secondary education is financed by the state and free of charge in public schools (CPRB, 2017). After completing the primary school and secondary education they were admitted to higher secondary education and completed this higher secondary education and then admitted tertiary level education or higher education. Bangladesh Nevertheless, access to tertiary-level education is still very limited. Only about 12 percent of the year twelve graduates can enter into higher education in public universities (Shahiduzzaman, Ali, & Islam 2017). More than 80 percent of these students are admitted to the National University (NU) affiliated colleges others are in the public and private universities. Tertiary education in Bangladesh comprises two categories of institutions: degree-awarding universities and colleges affiliated to the National University (NU) (Monem & Baniamin, 2010). There were only 6 universities in Bangladesh at the time of independence in 1971, the University of Rajshahi is one of them. All of those universities were publicly financed autonomous entities. At present, there are 49 such universities, PUST is one of them. The present study focuses on determinants of the academic performance of the students of public universities in Bangladesh. The chi-square test reveals that 56.9% were male respondents and the rest of them were female. Gender and education focused on whether differences in the educational outcomes of males and females were due to biological differences. General overviews of gender and education provide broad information on trends and theories in this field.

Female students have better results than male students. Bangladesh is the fourth-largest Muslim-populated country in the World (Pew Research Center, 2015; BBS, 2011). Muslims are the predominant community of the country and they form the majority of the population in all eight divisions of Bangladesh. The total population in Bangladesh was over 149 million in 2011, which makes up 90% percent of the Muslim population in the country. The Constitution of Bangladesh declares Islam as the state religion (Bangladesh Government, 2015; Bangladesh Education Statistics, 2015). But the study results revealed around 16% of students were Non-Muslims and Non-Muslims students have better results than

Muslim students. A mother's education level has a long-lasting effect on her children. Whatever else a mom does for her child, achieving a higher level of education can be an accomplishment that has a profound impact. The Foundation for Child Development report Mother's education and children's outcomes presents economic, health, and other hard statistics that demonstrate how children benefit from a higher level of mother's education (Urdan & Schoenfelder, 2006; Eddor, 2019). The study showed that students or children with a higher level educated mother had better results (89.0%) than that of a college-educated mother. Currently, Bangladesh's education system can be divided into three big stages, 1) primary, 2) secondary and 3) higher education. Primary education is related chiefly to primary-level institutions. Secondary education is comprised of junior secondary and higher secondary level institutions. The main two branches of secondary education are comprised of SSC and Higher Secondary education HSC. After finishing the HSC the students were admitted to higher education. But the SSC and HSC results had a significant effect on student higher education academic performance. This study depicted that very few students get GPAs 4 and above in their SSC and HSC level among them around 57% and 55% of students had better academic performance in higher education level. The admission system of higher education in Bangladesh had three processes such as national university, private university, and public university.

The public university's admission is based on examination on their university rules and regulation. After admission, the students have been admitted to the university according to their examination marks. Among them, many students were admitted by their own subject choice, and the rest of them have been admitted to university rules and regulations. The study results showed that the students who were admitted to the expected institution have better results than unexpected on the other hand the students who were admitted by their own subject choice had much better results than the rest of them. Study environment designs should facilitate modern learning methods that prepare students for department, careers, and citizenship in the twenty-first century. Students are expected to show what they know through problem-solving and in-depth demonstration of subject matters. It makes sense that students would do better when they learn in positive environments. After all, most people would agree that some environments are more conducive to learning and academic performance (Kilbourne, Scott-Webber, & Kapitula, 2017). The study results revealed that the students who were answered very well (83.8%) of their departmental study environment and had bad (66.7%).

The Internet has immense potential to improve the quality of education, which is one of the pillars of sustainable development goals (SDGs, 2030). This Internet Society briefing outlines ways in which policymakers can unlock that potential through an enabling framework for access to the internet or use of the internet. It sets out five priorities for policymakers: infrastructure and access, vision and policy, inclusion, capacity, and content and devices. Together these represent key considerations for unlocking access to the internet in support of education. It can improve the quality of education in many ways (UNHR, 1996). It opens doorways to a wealth of information, knowledge, and educational resources, increasing opportunities for learning in and beyond the classroom (Broadband Commission

Working group on Education, 2013). Teachers use online materials to prepare lessons, and students extend their range of learning using the internet. The study results showed that around 92.6% of students had used the internet for their study purposes. Among them, the students who use the internet had a much better result and same time better academic performance of the classes compared to those who were not using the internet.

Conclusion

Academic achievement as well as education of students imposes a high impact to create better citizens and plays a vital role in producing the best quality manpower and leader for economic and social development of the country. In this study, it was tried to explore the factors that influenced the academic performance of the students at higher education level in public universities in Bangladesh. Hence, according to the study, it is recommended that, as parent's education and profession are vital predictors associated with their academic performance, the parents need to give more attention to their son or daughter and also the students have to study properly to improve their future academic performance. Besides, the institutes should have to create a proper study environment by improvement and digitalization of the classrooms, well teacher and students understanding, etc. that make the student's more attentive to the classroom and make them capable of achieving a good result. In addition, excessive internet use can impede the progress of the student. Thus, the academic performance of the students in higher education will be improved and it should help to produce a well-educated citizen as well as to produce quality manpower for the nation.

References

- Alhajraf, N. M., & Alasfour, A. M. (2014). The Impact of Demographic and Academic Characteristics on Academic Performance. *International Business Research*, 7(4), 92-100.
- Ali, N., Jusoff, K., Ali, S., Mokhtar, N., & Salamat, A. S. A. (2009). The Factors Influencing Students' Performance at Universiti Teknologi MARA Kedah, Malaysia. *Management Science and Engineering*, 3(4), 81-90.
- Bangladesh Bureau of Statistics - BBS (2011). *Population Census – 2011*. BBS.
- Bangladesh Education Statistics (2015). *Bangladesh: Education for All 2015 National Review*. Ministry of Primary and Mass Education, Government of Bangladesh.
- Bangladesh Government (2015). *Official Census Results from 2011*. Bangladesh Government.
- Battle, J., & Lewis, M. (2002). The Increasing Significance of Class: The Relative Effects of Race and Socioeconomic Status on Academic Achievement. *Journal of Poverty*, 6(2), 21-35.
- Broadband Commission Working group on Education (2013). *Technology, Broadband and Education: Advancing the Education for All Agenda*. International Telecommunication Union, United Nations.
- CPRB (2017). *The Constitution of the People's Republic of Bangladesh: Article 17 (Free and Compulsory Education)*. CPRB.

- Crosnoe, R., Johnson, M. K., & Elder, J. G. H. (2004). School Size and the Interpersonal Side of Education: An Examination of Race/Ethnicity and Organizational Context. *Social Science Quarterly*, 85(5), 1259-1274.
- Edcor (2019). *A Mother's Education Level Impacts her Children*. Edcor
- Guney, Y. (2009). Exogenous and Endogenous Factors Influencing Students' Performance in Undergraduate Accounting Modules. *Accounting Education*, 18(1), 51-73.
- Hanushek, E. A. (1997). Assessing the Effects of School Resources on Student Performance: An Update. *Educational Evaluation and Policy Analysis*, 19(2), 141-164.
- Hijazi, S., & Naqvi, S. (2006). Factors Affecting Students Performance: A Case of Private Colleges, Bangladesh. *Journal of Sociology*, 3(1), 12-17.
- Hosseini, A. S. (2014). The Effect of Creativity Model for Creativity Development in Teachers. *International Journal of Information and Education Technology*, 4(2), 138-142.
- International Monetary Fund - IMF (2019). *Real GDP Growth: Annual Percent Change*. IMF.
- Islam, M. S. (2016). Higher Education Governance in Bangladesh, Role of University Grants Commission. Presented in the INSEARCH 2016, *International Conference on Development, Governance and Transformation at BARD*. Comilla, Bangladesh. December 27-28.
- Jacobsen, W. C., & Forste, R. (2011). The Wired Generation: Academic and Social Outcomes of Electronic Media Use Among University Students. *Cyberpsychology, Behavior, and Social Networking*, 14(5), 275-280.
- Kapur, R. (2018). *Factors Influencing the Student's Academic Performance in Secondary Schools in India*. Retrieved from: <https://www.researchgate.net/publication/324819919>. [Accessed 2 August 2021.]
- Kilbourne, J. R., Scott-Webber, L., & Kapitula, L. R. (2017). An Activity-Permissible Classroom: Impacts of an Evidence-Based Design Solution on Student Engagement and Movement in an Elementary School Classroom. *Children, Youth, and Environments*, 27(1), 112-134.
- Kim, T., J. Y. Chang, S. J. Myung, Y. Chang, K. D., Park, W. B., & Shin, C.S. (2016). Predictors of Undergraduate and Postgraduate Clinical Performance: A Longitudinal Cohort Study. *Journal of Surgical Education*, 73(4), 715-20.
- Monem, M., & Baniamin, H. M. (2010). Higher Education in Bangladesh: Status, Issues, and Prospects. *Pakistan Journal of Social Sciences*, 30(2), 293-305.
- Pew Research Center (2015). *Countries with the Largest Muslims Population*. Pew Research Center.
- Psacharopoulos, G., & Woodhall, M. (1997). *Education for Development: An Analysis of Investment Choice*. New York: Oxford University Press.
- Sarkar, S. H., & Hossain, S. Z. (2019). Higher Education Systems and Institutions, Bangladesh. In *Encyclopedia of International Higher Education Systems and Institutions* (pp.1-10). Springer Nature.
- Shahiduzzaman, M., Ali, M. K., & Islam, M. R. (2017). Factors Influencing the Academic Performance of Undergraduate Students of Private Universities in Bangladesh: Modeling Approach. *Human Evolution*, 32(1-2), 43-55.
- Solamain, M. (2018). *The Teacher-Student Ratio is not Ideal at Many Public Universities in Bangladesh and Other Asian Countries*. Daily Sun.
- Sothan, S. (2018). The Determinants of Academic Performance: Evidence from a Cambodian University. *Studies in Higher Education*, 44(1), 1-16.
- UN Refugee Agency - UNHR (1996). *International Covenant on Economic, Social and Cultural Rights*. UNHR.

- United Nations (2015). *Transforming our World: The 2030 Agenda for Sustainable Development*. United Nations.
- University Grants Committee - UGC (2019). *UGC Annual Report 2018-2019*. UGC.
- Urdu, T., & Schoenfelder, E. (2006). Classroom Effects on Student Motivation: Goal Structures, Social Relationships, and Competence Beliefs. *Journal of School Psychology*, *44*(5), 331-349.
- Windham, D. M. (1990). *Indicators of Educational Effectiveness and Efficiency*. Washington, DC: Agency for International Development (IDCA), Bureau of Science and Technology.