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Determinants of Students' Academic Performance at the University Level: Case of Bangladesh

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Abstract

This study identifies the determinants of students' academic performance at the tertiary level of agricultural education in Bangladesh. Primary data were collected through interview survey with a pre-tested interview schedule over a period of three months from randomly selected 437 students of four agricultural universities of Bangladesh. Regression analysis was performed to identify the factors affecting students' academic performance. Students are seemed to perform better provided they had a good result in the first semester at the university as the coefficient value of this variable is found statistically significant at one percent level. Their academic achievements are largely influenced by their motivation along with their active participation in different extra-curricular activities. Teaching and research facilities provided by the institutions influence academic achievement of the students positively as well. The study further reveals that pre-university results, family income, connectivity with family members, parents' occupation, and residence positively influence academic results. In contrast, the uncongenial environment of the residential hall and non-cooperation from supporting staffs make students apathetic in achieving better academic results, which is evident in the data with the statistically significant relationship at a one percent level having a negative effect on academic results. The findings emphasize on creation of enabling environment for the fresher, enhancement of need-based teaching and research facilities, and provision of extra-curricular activities to foster the academic performance of the students.

Keywords: Academic Performance; Tertiary Education; Factors; Bangladesh

1. Introduction

The universities worldwide are established with a vision to impart knowledge and skills to students and produce quality graduates with good academic performance. Students' academic performance at the tertiary level of education has remained as one of the core concerns for researchers from the past. Consequently, higher educational institutions have shown significant interest in performance since the last quarter of the twentieth century. A recent shift of the foci of educational literature has been found on causal relations between academic performances with standard-based reform that is high academic standards for all students (Berkowitz et al., 2017). Hence, the quality assessment movement during the 1990s took a pragmatic shift towards qualitative aspects of performance (Sarrico, 2010).

Like other organizations, the performance of public universities can be evaluated from different dimensions including effectiveness, efficiency, economy, and equity. One of the widely used dimensions is the effectiveness dimension which is regarded as the most important dimension of performance measurement. The effectiveness dimension is measured based on the relation between obtained results and planned results. The efficiency dimension is the relationship between results and resources used to obtain that result and the economic dimension is the minimum resources required to achieve the same result. The equity dimension assures equal access to services with equal needs (Davis et al., 2013; Dronkers and Robert, 2004). Most often, insight is drawn from any of these dimensions to conclude

the respective performance. These dimensions may vary in different institutional settings and it is the responsibility of the respective institution to set priorities to achieve desired goals.

For universities to manage performance, governance of performance is important which indicates commitments towards students and integration of performance across several units to best demonstrate the outcomes of the institution in society. Thus, the investigation of the factors relating to academic performance is regarded as an important topic in higher education as it is linked with the social and economic development of a country (Fenollar, et al., 2007).

Moreover, knowledge of the learning environment also enriches the idea of academic achievements and the improvement of teaching and learning. A wide range of external and internal factors including social, psychological, economic, environmental, and personal factors are associated with the overall academic performance of the students (AL-Muslimawi and Hamid, 2019; Tsinidou, et al., 2010; Harband El-Shaarwi, 2006). In this line, previous studies have documented mixed results in different regions. Extensive social networking, enrollment in undesired discipline, less experienced teachers, grading discrimination are regarded as hindering factors in achieving higher academic performance (Englander, et al., 2011; Hansen, 2005).

Besides, several background factors, like the socioeconomic status of students and their families, academic self-efficacy, grade goal, prior academic knowledge show the different extent of the relationship with academic performance (Richardson, et al., 2012; Byrne and Flood, 2008; Sirin, 2005). Although educational literature has been found exploring the relationship between socioeconomic status and academic achievements, most of these did not provide conclusive direction on systematic associations in this dimension (Sirin, 2005; Berkowitz, et al., 2017). Rego and Sousa (2006) reported that socioeconomic background does not seem to influence performance in higher education largely. A review conducted by Berkowitz, et al. (2017) asserts that a supportive institutional climate can mitigate the effects of low socioeconomic status on academic achievements.

Indeed, there is a need for further studies on exploring the impact of a positive environment on academic achievements. Similarly, the grade or performance goal is positively related to academic performance (Eumand Rice, 2011; Wirthwein, et al., 2013; Bunce, et al., 2016). Emphasis has been given on self-regulation as a predictor of performance at study. Students' self-motivation has been associated not only with students' retention but also with higher academic grades (Davy, et al., 2007; Ryan and Deci, 2000; Hardreand Reeve, 2003; Pisarik, 2009). Curious students achieve better letter grades (Bailey and Phillips, 2016). These factors vary across the country and cultural settings. The increasing proportion and diversity of students attending university raise the vital question of factors that influence academic performance (McKenzie and Schweitzer, 2010). Therefore, country-specific analysis of the catalysts and barriers to achieving better letter grades will help to produce quality graduates for the development of the country. Like other countries, the overall advancement of Bangladesh is expected to be correlated with the academic performance at the tertiary level of education through enriching human capital.

The economy of Bangladesh is predominately dependent on agriculture. Agricultural education, therefore, bears special importance to promote agricultural technologies to the end-users, the farmers, throughout the country. Agriculturists have been working all over the country under government and private organizations. They are contributing to the economy through the dissemination of modern agricultural technologies for sustainable agricultural and rural development. However, there is a concern that some graduates are facing challenges to serve the nation as per expectation. This is happening because the existing educational environment does have some kind of limitations for producing quality graduates. Although talented students with higher grades in the previous examinations are enrolled in agricultural universities, many of them could not obtain their desired academic grades.

Students' academic performance may depend on many factors including their prior academic abilities, socio-economic status, psychological traits, and the environment of the institution. Poor academic performance is a frustration for the students and a concern for the teachers as well as for university management (Islam, et al., 2014). Several studies identified that higher educated mother, secondary and higher secondary results, admitted to expected department and university, study environment in the department, class lecture understanding level of students, active participation in a university program, attentiveness, sharing the result with parents, and use of the internet had significant effects on the results of the university students (Radhika, 2018; Shahiduzzaman, et al., 2017; Sothan, 2018; Ahmed and Selim, 2018; and Lotsi, 2019).

Unfortunately, very little significant attention has been paid by the university management and policymakers of Bangladesh to address this issue (Alam and Islam, 2021 and Islam, et al., 2021). The varying nature of the determinants of academic performance gives rise to specific studies in different cultural and institutional settings. So, there is a necessity for context-specific studies to evaluate the corrective measures to advance the academic performance of university students (Mlambo, 2011). Moreover, no effort so far has been paid to identify the determinants of academic performance of the students at agricultural universities in Bangladesh. Therefore, the present study examines the

determinants of academic performance of the students of agricultural universities in Bangladesh. It also recommends the measures, which can be adopted for ensuring better academic performance of the students.

2. Materials and Methods

Both primary and secondary sources of information were used in the present research. Primary data were collected by using a pre-tested structured interview schedule over a period of three months. At first, four major agricultural universities, namely i) Bangladesh Agricultural University (BAU), Mymensingh; ii) Sher-e-Bangla Agricultural University (SBAU), Dhaka; iii) Bangabandhu Sheik Mujibur Rahman Agricultural University (BSMRAU), Gazipur and iv) Sylhet Agricultural University (SAU), Sylhet were selected purposively for empirical investigation as this study completely focuses on the agricultural universities of Bangladesh. As an agriculture-based country, the development of agriculture of Bangladesh is dependent on the quality of the graduates produced by these universities. For this reason, identification of determinants of academic performance of the students of agricultural universities of Bangladesh is very much time-worthy. Afterward, a list of students graduated in 2015 including their academic records was collected from the office of the Controller of Examination of each selected university. Then a total of 437 students (15 percent of the total students, covering all disciplines) were selected randomly consisting of 171 from BAU, 101 from SBAU, 103 from BSMRAU, and 62 from SAU. After the collection of necessary data, data were coded, edited, cross-checked, and made ready for analysis. Both tabular and statistical analyses were carried out.

For a measure of academic achievements, the Cumulative Grade Point Average (CGPA) of students was taken into account as CGPA is considered as one of the key measurement criteria of success at university. Linear regression analysis was performed to determine the relationship of academic performance with other explanatory variables. Literatures suggest that students' academic performance depends on several factors including his/her motivation, involvement with extra-curriculum activities, connectivity with family, teaching and research facilities, supporting environment by the university, previous academic results, family income, parent occupation, and area of residence. Therefore, the model is

$$Y_i = a+b_1X_1+ b_2X_2+b_3X_3+b_4X_4+b_5X_5 +b_6X_6+b_7X_7+b_8X_8+b_9X_9+b_{10}X_{10}+b_{11}X_{11}+b_{12}X_{12}+b_{13}X_{13}$$

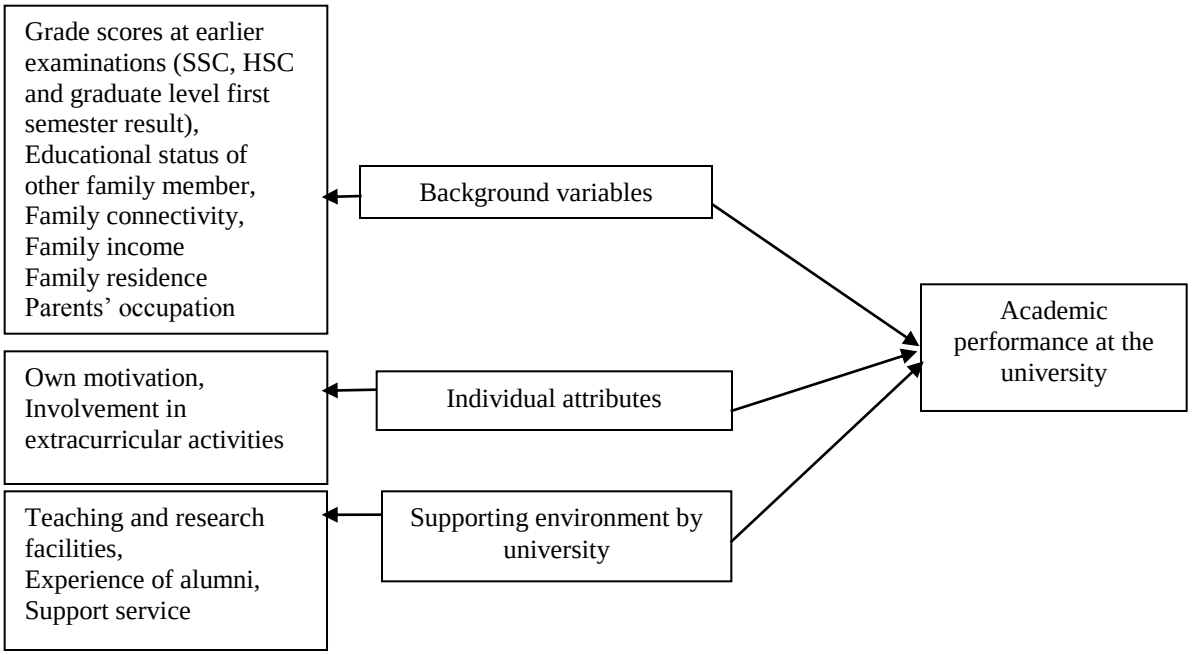

Figure 1. Proposed Model of Academic Performance

Where, the dependent variable is CGPA (continuous) (Y_i), with independent variables grade point at the first semester of the university (X_1), grade point at HSC examination (X_2), grade point at SSC examination (X_3), family member (brother or sister) studying at university or college (yes=1, otherwise=0) (X_4), the index value of students' motivational attributes (X_5), the index value of students' involvement in extra-curricular activities (X_6), the index value of family attributes (connectivity) (X_7), the index value of teaching and research facilities (X_8), the index value of senior fellows (hall-mate, faculty-mate) (X_9), the index value of supporting environment by the university (hall accommodation, supporting staff) (X_{10}), family income (X_{11}), dummy of parents' occupation (service holder=1, otherwise=0) (X_{12}), and the dummy of parents' residence (urban=1, otherwise =0) (X_{13}).

Again, in each index, several questions were asked to the respondents to get their feedback on three points Likert scale (3=agree; 2= indifferent; 1=disagree). A summation of the Likert value was used to see the extent of a particular sub-group for obtaining a higher grade. However, the number of questions for each sub-group was not similar; hence the value may not be similar. For example, under the "own motivation" category there were 8 questions, for this category the maximum and minimum range was 24 and 8, respectively. The factors are further divided into three general categories, category 1= background variables of respondents, category 2=individual attribute, and category 3= supporting environment by the university, which are shown in Figure1. Variables included in these three categories are expected to influence the academic performance of a student at university. The study was an initiative to explore which category is more influential for academic performance at the universities.

3. Results and Discussion

3.1 Results

All of the respondents, here the sample students of the four agricultural universities, were graduated in 2015. The sex ratio (the number of male per female) of the survey students was estimated at 1.51 (male 60.2 % and female 39.8 %). The result regarding the residence of the parents of survey students depicts that slightly higher percentage of parents live in the urban areas when all of the universities were taken into consideration together. For BSMRAU, majority of the students' family lived in the urban areas, while it is only 35.6 % for SBAU. In the case of BAU, 55.6 % of students' parents live in urban areas. The reason for the lower percentage for SBAU, which is located in Dhaka, the capital city of Bangladesh, is not clear but there might be the reason that if urban people decided to send their son/daughter to the university their preference for SBAU becomes lesser compared to other university situated in the capital city. Alternatively, rural parents prefer to send their son/daughter to Dhaka-based universities even they could enroll in other agricultural universities.

Table 1 shows the undergraduate results of the sample respondents. A greater percentage (34.6%) of the students obtained letter grade A- followed by B+ (27.5%), A (23.1%), and B (12.6%), respectively at undergraduate level. Interestingly, only one student was found in SBAU who obtained the highest letter grade A+ (obtaining 80% and above marks) with grade point 4. 00. In the case of BAU, about 35 percent of the survey students obtained letter grade B+ while it was 19.4, 29.0, and 21.8% for BSMRAU, SAU, and SBAU respectively. The majority of the BSMRAU students obtained letter-grade A (36.9 %) but for SAU and SBAU the majority of the students obtained letter grade A-. Comparatively, BSMRAU students obtained higher letter grades than that of other universities. Besides, about 40 % of BSMRAU students obtained letter grade A- in their first semester, while it was 19.3, 33.9, and 35 percent for BAU, SAU, and SBAU, respectively. About 24 percent of the BSMRAU and SAU students achieved letter grade A but it was only 10 and 7 percent for BAU and SBAU, respectively. It was found that BSMRAU students performed better in their first semester results too.

Bangladeshi universities, like other international universities, make university entrance decisions largely from previous academic performance along with the admission test scores of the applicant (McKenzie, et al., 2004). Previous academic performance is considered as one of the determinants of individual academic success at university. In respect to HSC (Higher Secondary Certificate) and SSC (Secondary School Certificate) results, the majority of the students obtained the highest letter grade A+ (grade point 5 out of 5) and A (grade point 4 out of 5). Although 93 percent of BAU students obtained letter grade A+ in their HSC as well as SSC results (which is lower for other universities), their undergraduate results were comparatively lower than that of the other three universities.

Besides exploring the previous examination results, household income-related information (shown in Table 2) of each survey student was gathered to find out whether there prevails any correlation with graduate-level achievement. Household income of the survey students was categorized into five groups such as i) up to Tk.149,000, ii) Tk.150,000 to 249,000, iii) Tk. 250,000 to 349,000, iv) Tk. 350,000 to 449,000, and v) Tk. 450000 and above. Among the different income categories, the highest about 44 percent belonged to the 2nd category implied that their annual household income was between Tk. 150,000 to Tk. 249,000.

Table 1. Distribution of undergraduate results of the sample students

Results category	Universities				Total
	BAU	BSMRAU	SAU	SBAU	
Letter Grade A+	0	0	0	1	1
	(0.0)	(0.0)	(0.0)	(1.0)	(0.2)
Letter Grade A	39	38	13	11	101
	(22.8)	(36.9)	(21.0)	(10.9)	(23.1)
Letter Grade A-	48	35	24	44	151
	(28.1)	(34.0)	(38.7)	(43.6)	(34.6)
Letter Grade B+	60	20	18	22	120
	(35.1)	(19.4)	(29.0)	(21.8)	(27.5)
Letter Grade B	18	10	6	21	55
	(10.5)	(9.7)	(9.7)	(20.8)	(12.6)
Letter Grade B-	6	0	1	2	9
	(3.5)	(0.0)	(1.6)	(2.0)	(2.1)
Total	171	103	62	101	437
	(100.0)	(100.0)	(100.0)	(100.0)	(100.0)

Note: Figures in the parentheses indicate percentage

Table 2. Annual income of the households of the sample students

Income category	Universities				Total
	BAU	BSMRAU	SAU	SBAU	
Annual income up to Tk. 149,000	27	12	9	16	64
	(15.8)	(11.7)	(14.5)	(15.8)	(14.6)
Annual income between Tk.150,000 to Tk. 249,000	83	49	21	39	192
	(48.5)	(47.6)	(33.9)	(38.6)	(43.9)
Annual income between Tk. 250,000 to Tk. 349,000	34	18	11	24	87
	(19.9)	(17.5)	(17.7)	(23.8)	(19.9)
Annual income between Tk. 350,000 to 449,000	21	17	13	12	63
	(12.3)	(16.5)	(21.0)	(11.9)	(14.4)
Annual income Tk. 450,000 and above	6	7	8	10	31
	(3.5)	(6.8)	(12.9)	(9.9)	(7.1)
Total	171	103	62	101	437

Note: Figures in the parentheses indicate percentage

Students' responses were sorted out for different aspects like own motivation, involvement in extra-curricular activities, family connectivity, academic environment, relations with teachers and seniors, and support services, which affect the academic success of the students at the university (Sarrico, 2010; Rego and Sousa, 2006; Bunce, et al., 2016). The results of Table 3 confirm that students' motivation, relations with teachers and seniors, and involvement in extra-curricular activities are associated with achieving the highest letter grade (A+). Those who do not involve in extra-curricular activities are likely to secure the lowest letter grade (C).

It was observed that the higher Likert value of a specific category leads to obtain a higher letter grade. A general trend was observed regarding the Likert value. The higher value resulted in attaining a better letter grade. As mentioned in the methodology, linear regression was adopted to estimate the relationship of academic performance with other relevant independent variables. The result of the linear regression analysis is presented in Table 4.

The coefficient value of GPA in the first-semester result at the university was found statistically significant at one percent level which implies that a one-unit increase of first-semester result (GPA) can increase 0.488 units of final results (CGPA). Students' motivation for obtaining higher letter grades was also found statistically significant at less than five percent level implying that the motivation of an individual has positively influenced in obtaining higher grade/score. Involvement with other extra-curricular activities by the students and teaching and research facilities for the students were found positively related with the achievement of better results at one and less than 10 percent level of significance, respectively.

Table 3. Group of attributes for academic performance by letter grade

Influencing attribute	C		B		B+		A-		A		A+		Total	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Own motivation	15.56	2.83	16.36	3.31	15.34	3.47	18.11	3.72	18.89	4.12	19.00	6.13	17.26	3.93
Involvement in extra-curricular activities	11.56	3.24	13.47	3.55	13.00	3.87	15.15	3.23	15.76	3.05	17.00	4.72	14.42	3.61
Family connectivity	14.89	4.65	14.36	4.47	13.92	4.42	15.14	3.68	16.51	3.33	16.00	3.69	15.02	4.04
Academic environment	16.11	3.10	17.60	4.97	15.26	5.11	17.56	4.83	17.98	5.04	16.00	7.19	17.00	5.04
Relations with teachers and seniors	17.89	3.48	20.53	5.36	20.25	6.02	21.86	5.55	22.89	4.85	19.00	8.16	21.40	5.57
Support service	14.67	2.83	15.45	4.59	15.35	4.64	16.72	4.43	18.26	3.96	14.00	6.61	16.49	4.51

Table 4. Results of Linear Regression Analysis

Explanatory variables	Unstandardized Coefficient		Unstandardized Coefficient	T	Sig.
	B	S.E	Beta		
Constant	1.644	.272		6.043	.000
Grade point at first semester of the university	.396	.033	.488	11.871	.000***
Grade point at HSC level	.027	.039	.031	.703	.482
Grade point at SSC level	.008	.048	.007	.168	.867
Other family member study at university or college	-.025	.022	-.048	-1.182	.238
Index value of students' own motivational attributes	.010	.004	.147	2.364	.019**
Index value of the involvement with extra-curricular activities	.013	.004	.178	2.875	.004**
Index value of family attributes (connectivity)	.003	.003	.064	.867	.386
Index value of teaching and research facilities	.007	.004	.131	1.897	.059*
Index value of senior fellows (hall mate, faculty mate)	-.003	.004	-.054	-.772	.441
Index value of supporting environment (hall accommodation, supporting staff)	-.010	.004	-.174	-2.574	.010**
Family income	9.227E-008	.000	.041	1.011	.313
Dummy of parent occupation (in service holder=1, otherwise=0)	.021	.024	.036	.871	.384
Dummy of the residence of the parent (if urban=1; otherwise =0)	.019	.021	.038	.917	.360
F value			19.542		.000***

*Note: *= Significant at below 10% level; **= Significant at below 5% level; ***= Significant at below one percent level. R = 0.613, R^2 = 0.376*

Similarly, HSC and SSC results, family income, connectivity with family members, occupation, and residence of the parent have a positive relationship with academic results but these relationships are not statistically significant. On the other hand, a supportive environment including hall accommodation and staff facilities was found statistically significant at a one percent level having a negative effect on academic results. Family members studying at college and university, motivation from seniors (hall mates and faculty mates) were found negative relations but statistically not significant. Figure 2 represents the model of academic performance based on findings from regression analysis.

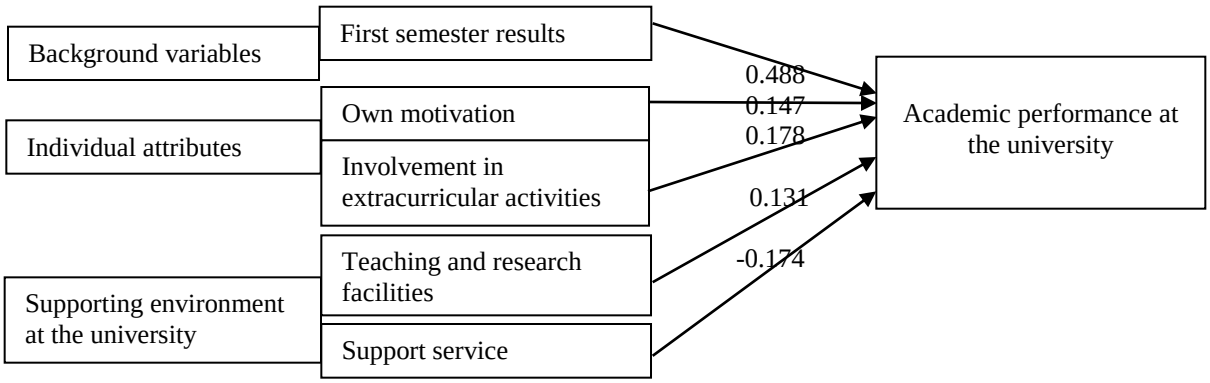

Figure 2. Evident Model of Academic Performance

3.2 Discussion

The study was sought to investigate the mechanisms that can effectively promote academic performance at the tertiary level of education. The proposed model of this study is the partial representation of the actual scenario as only some of the variables from the previous assumptions become true. The important construct is along with background variables, individual attributes, and supporting environment influence academic performance. Grade point at the first semester of the university, students' motivation, involvement with extra-curricular activities, teaching, and research facilities were found statistically significant for obtaining higher academic results. Regression analysis depicts that first semester results greatly influenced attaining better academic outcome that was statistically significant at one percent level.

The present study finding is different from the previous to a certain extent as it simultaneously connected the first-semester result with the results of succeeding semesters while others most often tried to connect degree-level academic performance with results of earlier classes. For instance, a study stated that previous high academic performance acts as an indicator of academic success in the first semester of university study (McKenzie, et al., 2004). So, to a certain extent, those who performed better in their earlier classes also tried to perform better at their university level. There is also a contradiction with the traditional assumption that students achieving higher letter grades at starting classes perform better in future academic years at degree level (Ali, et al., 2013). The present study clarifies both these views.

It is evident from the findings that most of the students had higher letter grades (grade A+ and A) at their secondary and higher secondary phases. Among four agricultural universities, more than 90% of students of BAU had the highest letter grade at HSC but their undergraduate results were lower than the other three universities. So, the previous assumption that students with a higher grade in earlier classes would also perform better at degree level study does not retain true. But in general, a positive relationship exists between academic performance at university and earlier results. Previous performance at the secondary and higher secondary level, however, does not largely affect university results in our case. The findings of Huws, et al. (2006) coincide with this view revealing that previous academic performance is not connected with academic achievement at the university level.

While previous academic performance was consistent for most of the students, after university entrance, individual characteristics and institutional environment are also vital ingredients in academic achievements. Still, we cannot deny the fact that the first-semester result at university which has a greater correlation with academic success at proceeding semesters is influenced largely first by background factors, then individual attributes and institutional environment. Because, the first semester at university is arguably the most crucial time affecting the academic achievement of students, as it is the time when student's attitudes towards the course, approaches to learning, and self-perceptions are developed (McKenzie, et al., 2004).

However, students who think that success can be achieved without acquiring better letter grades showed little concern about studying. On the contrary, students who believe that attaining higher letter grades would contribute to success invested more effort in achieving a better result. These self-motivated students can learn willingly and can prepare well for the examination. This finding coincides with the results of Fraser and Killen (2005). To succeed at the university level, self-control and self-discipline are required concerning academics.

Besides, other factors like family income, connectivity with family members, occupation, and residence of the parent were found positively related to academic results but statistically insignificant. This implies that although background factors like satisfactory family earnings, close connection with family members, parents' qualification, and residence in urban areas influence the academic performance positively through providing a favorable environment to a certain extent, still it largely depends on the effort of the individual student as well as the present surrounding environment. In contrast, the influence of senior fellows and support services were found negative in obtaining better results which can demotivate the students for obtaining better results. This may happen as senior fellows might try to connect prospects of the job with academic results. After graduation, some graduates become to succeed in getting a prospective job with a lower letter grade. While some of the graduates failed to place themselves in their desired positions with good academic results. They had to compete with others with lower results in the job market. Sometimes, the students do not get the extra benefit of having a better result. Experiencing this situation, they might suggest their junior fellows not to be serious with their academics as it will not help them in their job career.

Similarly, an incompatible supporting environment like hall accommodation and supporting staff might influence the academic performance of the students negatively. The reason may be that the residential halls most often do not have the amenities to facilitate study like, reading room, dining, or facilities of the library that favors academic preparation. Sometimes, during the first year, students have to share a common room with minimum facility just to support study. Most often these common rooms are decorated with only beds without a reading table or any desk. The condition of these rooms is terrible and numerous students are allocated beyond capacity. This is surely not a congenial environment of study. Moreover, newly admitted first-year students most often spend their time without proper academic planning, and at the end of the semester they do not get the desired results and this continues as a vicious circle of poor performance. This also may happen due to the provision of inadequate consultancy or guidance from mentors. So, counseling of newly admitted students is required to provide them the guidelines for academic advancements.

Additionally, there exists a relation between support services with academic results. A positive supporting environment leads to higher academic performance. Students have reported that the supporting staff does not show concern or responsibility in dealing with students' affairs and sometimes they do not find a positive attitude from the supporting staff in assisting their academic issues. The reasons may be that the staff are not trained enough or there may have a lack of monitoring or students' feedback mechanisms to ensure proper services to students. On the contrary, participation in extracurricular activities affects students' academic performance positively. Findings indicate that students who participated in different extracurricular activities like, debate, presentation, sports, etc. also performed better in their academics. The engagement of students with different co-curricular activities also ensures a quality investment of time. Hence, the additive mental and physical value of extracurricular activities seems to foster the academic performance of students. Similarly, a significant relationship exists between the availability of teaching and research facilities and the academic performance of students. Classroom facilities serve as a precondition in creating a better classroom atmosphere that facilitates learning. These facilities also foster the creative attitudes and abilities of students through an innovative supporting environment.

4. Conclusion and Recommendation

This research has significant importance on educational policy and practice. The study indicates that students had a high level of success in their earlier classes to get entry to the university. But, at the university level, many of them could not retain this result flow. The academic performance of undergraduate students can be improved by providing them the appropriate learning environment soon after their entrance into the undergraduate level. The finding also indicates a supportive and caring environment that should particularly be ensured during the first year of university. There should have consensus regarding the factors that can influence students to engage effectively with their studies. Besides, teaching-learning facilities should be further enhanced to support their learning efforts. Essential teaching and research aids like lab facilities, multimedia, sound system, other modern learning tools based on ICT, etc. are mandatory for academic performance, and inadequacies in these materials may lead to poor performance.

Emphasis is required on the development perspective of performance management that is important on staff development policy as well as support service. Moreover, the negative attitudes of senior fellows in prioritizing academics can be changed through adopting certain measures. For instance, to combat the existing situation, universities are required to explore the job markets and facilitate career orientations for their students. This will allow students not to be indulged in frustration due to unemployment and concentrate more on their academics. Moreover, students' performance can be improved through their active participation in extracurricular activities. University authorities should show positive attitudes on arranging supplementary programs frequently and should encourage students to actively participate. Therefore, it is suggested to create an enabling environment for the fresher, enhancing teaching and research facilities, and provision of extracurricular activities for better academic outcomes. Overall, the

findings can be helpful for both university authority and teacher-student community to improve higher education learning.

However, all the respondents are from public agricultural universities. These universities are specialized and residential. The findings of this study can be appropriate to other universities which are also research-intensive. Similarly, the environment of residential halls of other general universities seems to affect the academic performance of students. Newly admitted undergraduate students may face difficulties in concentrating on their studies and the subsequent disappointing result may frustrate them and they may lose hope to do better in the future. So, the recommendations are somehow applicable to the other universities. Moreover, different factors of self-motivation such as self-efficacy, goals, and values along with learning strategies, time management, and planning have not been explored separately. There is a need for future research in exploring the influence of different dimensions of support services on the academic performance of students as well.

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