

MID-TERM SATISFACTION SURVEY OF COLLEGE EDUCATION DEVELOPMENT PROJECT

Executive Summary

Improving skills and productivity are critical for Bangladesh to accelerate economic growth and hence, become a middle-income country. However, the current levels of skill of the existing labor force are unlikely to meet future market demands. Although there is plenty of low-skilled workers, there is a strong demand for graduates with higher cognitive and non-cognitive skills, as well as a demand for job-specific technical skills. This would necessitate increasing the quality and relevance of tertiary education so that educational institutions can produce graduates with more market-relevant skills. Therefore, the Government of Bangladesh (GoB) intends to implement a new project called "College Education Development Project (CEDP)" through the Ministry of Education with support from the World Bank as part of its commitment to improve the quality and governance mechanisms of the college subsector as articulated in the 6th Five Year Plan (2011-2015) and the Strategic Plan for Higher Education.

To fulfill the human development needs of the country, the College Education Development Project (CEDP) was incepted in 2016. The GoB is currently implementing the CEDP to improve the teaching and learning environment of participating colleges as well as strengthen the strategic planning and management capacity of National University (NU) affiliated tertiary colleges in Bangladesh.

The focus of CEDP is to improve the capacity of the National University College system to plan, manage, implement, and monitor institutional programs, as well as strengthen the foundation for the next phase of development activities. CEDP promotes institution-led activities that focus on creating quality teaching-learning environments in government and non-government colleges through the availability of competitive grants.

The achievement of the College Education Development Project (CEDP) is the satisfaction level of students, teachers, and employers in terms of the quality and relevance of teaching. To measure the satisfaction level of the relevant stakeholder (i.e., students, teachers, and employers), three beneficiary feedback surveys (i.e., baseline, mid-term, and end-line) are planned to be conducted, among which the baseline was carried out in 2019.

The Bangladesh Institute of Development Studies (BIDS) conducted the Baseline Satisfaction Survey (BSS) to determine student, teacher, and employers' satisfaction with the colleges' teaching-learning environment. The finding of this survey is the benchmark satisfaction levels of the college principals, teachers, students, and employers. The results of this survey show us the level of satisfaction of the beneficiaries (i.e., college principals, teachers, students, and employers) at the benchmark levels in order to evaluate the impact of IDG implementation in NU-affiliated colleges.

BIDS conducted the Mid-term Satisfaction Survey in April-May 2022. The mid-term survey is the second of the three planned surveys of the CEDP, measuring the mid-term satisfaction level of the stakeholders, students and teachers of National University-affiliated colleges, and

employers of NU graduates. This survey assesses the mid-term satisfaction level of students, teachers, and employers.

The population for the study is around 757 colleges under the NU with Honors and Master's programs. We select 10 percent of the population as the sample, resulting in 75 colleges. CEDP organized a series of awareness-building workshops for colleges to encourage participation in its IDG program. In the first round, 458 colleges, and in the second round, 238 colleges participated in the workshops. Finally, 168 colleges submitted IDP applications. Out of these 168 colleges, 122 colleges were awarded IDG in two phases. In the first phase, the number of colleges awarded IDG by the order of 22nd June 2019 is 74. However, there is another order of 48 colleges proclaimed by the project on 31st July 2019. We consider these 122 colleges as the treatment population. From this, we draw 60 percent of our targeted 75 colleges (45 colleges) as our treatment sample. To allow us to evaluate the impact of IDG against the control sample (who do not receive and/or apply for IDG), we draw a control sample of 40 percent of our targeted 75 colleges (30 colleges) from the non-applicants list of 881 colleges. The treatment population (122 IDG awardees) comes from 41 districts of the country, covering all the administrative divisions. To maintain the similarity of comparison, the control colleges are chosen from the districts where the treatment colleges are located. Following the ToR of the study and the same sample selection methodology of the baseline satisfaction survey mentioned above, we chose 60 percent government colleges and 40 percent non-government colleges in the case of treatment and control samples.

We prepared four sets of structured questionnaires for the current students, teachers, principals, and potential employers of the National University graduates. We aimed to survey (actually surveyed) 3,060 (3,017) students and 1,275 (1,245) teachers from 255 Honors and Masters departments of the 75 sample colleges; 75 (73) principals from each of the colleges along with 200 (196) employers who either employed or would employ. To complement the quantitative surveys, qualitative approaches were employed, including eight focus group discussions (FGDs) of students, 8 FGDs of teachers, and 15 key informant interviews of the employers.

Findings from College Principals' Survey

Principals were asked to provide their opinions regarding several important factors that could be used to identify and describe the actual teaching and learning facilities available in the surveyed colleges. The level of satisfaction is measured on Likert Scale from 1 through 5 (1= very dissatisfied, 5=very satisfied) for the selective five indicators of the teaching-learning environment, quality of the academic infrastructures, the speed and reliability of the internet, the effectiveness of developing soft skills in the colleges, and industry collaboration for employment of the students.

The overall satisfaction level regarding selected indicators shows that only in the case of the teaching and learning environment at the college are the principals almost satisfied with the existing facilities. The mean level of satisfaction is 3.81, which is close to 4 (i.e., satisfied) on the Likert scale of satisfaction.

The mean level of satisfaction for IDG awarded and IDG non-recipient colleges within government and non-government sub-samples shows statistically significant differences in four overall satisfaction variables except for collaboration with industries for students' job placement. IDG-awarded government college principals reported that they are more satisfied with the existing teaching and learning environment, quality of academic infrastructure, internet connection at college, and soft-skill development of the students compared to IDG non-recipient government colleges.

In the subsample, between government and non-government colleges, we do not find any significant differences between the IDG-awarded colleges and IDG non-recipient colleges in any of the five satisfaction indicators.

However, in the case of the difference between IDG and non-IDG colleges, a highly significant difference exists between IDG-awarded colleges and IDG non-recipient colleges in the case of two satisfaction indicators. The IDG-awarded college principals reported being more satisfied with the academic infrastructure of the college and the quality of soft-skills development of the students compared to IDG non-recipient colleges.

Findings from College Teachers' Survey

In order to obtain a comprehensive idea about the prevailing teaching-learning environment of the colleges, teachers were asked to rate their satisfaction level, on a scale of 1 to 5, with respect to five types of facilities: (1) Overall satisfaction with teaching-learning facilities, (2) Overall satisfaction about academic infrastructure, (3) Overall satisfaction about connectivity through internet, (4) Overall satisfaction about the development of students' soft skills, and (5) Overall satisfaction about college's linkage with industry for the student's job placement.

The results show that with respect to the overall satisfaction of teachers, the highest level of satisfaction is for teaching-learning facilities (2.95), followed by academic infrastructure (2.85), computer lab (2.73), and connectivity through the internet (2.42). The lowest value of satisfaction is found for the college's linkage with industry for students' job placement (1.76). The overall satisfaction level of the teachers stays between 1 and 3 (on a scale of 1 to 5) for these indicators.

Among the government and the non-government college teachers, IDG-awarded colleges are more satisfied than IDG non-recipient colleges. Overall, the satisfaction score for the IDG-awarded colleges is much higher compared to the IDG non-recipient colleges. The mean differences are also statistically significant for all the indicators.

Findings from the Current Students Survey

Students' overall satisfaction with the teaching and learning environment depends on a number of factors. We ask them to assign their current level of satisfaction for five broad categories: (1) Teaching-Learning facilities, (2) Access to ICT facilities, (3) Teaching skills of the teachers, (4) Development of soft skills of the students, and (5) University-Industry collaboration and (6) Teaching/curriculum.

The survey results show that students are satisfied with the teaching skills of the teachers, with a mean level of satisfaction of 3.92 (SD 0.99). This is followed by teaching/curriculum (3.54)

and teaching and learning facilities provided by the colleges (2.57). The students of the IDG-awarded colleges are more satisfied with the proclamation of their own perceptions. Though for the teaching-learning facility-related indicators like available classrooms, library, laboratory, seminar laboratory, and other related facilities, students as a whole bunch fall under neither the satisfied nor dissatisfied category. Similarly, when considering other features of the colleges, students from IDG-awarded colleges are more inclined towards the satisfaction scale than the IDG non-recipient ones.

Students are found to be least satisfied with the current state of University-Industry collaboration, with the lowest satisfaction level of 2.10 on a scale of 5. These findings are similar to the level of satisfaction of teachers.

Findings from Employers' Survey

The mean overall satisfaction is 3.73 out of a 5-point scale. That means, on average, the employers are close to satisfied with the NU graduates as this value is more closed to 4 (=satisfied) on the Likert scale. We find only 12.04 percent of the employers who hired NU graduates in the last 12 months were highly satisfied with the overall skills and qualities of the NU graduates.

Over 80 percent of the employers believe that NU students should develop their talents in the following areas: (a) computer/ICT skills, (b) English language proficiency, (c) presentation skills, (d) technical knowledge, and (e) communication skills. However, a higher percentage of government employers suggest that graduates of NU-affiliated colleges should improve their computer/ ICT skills and English language proficiency.

Overall Satisfaction of Principals, Teachers, and Students: A Comparison

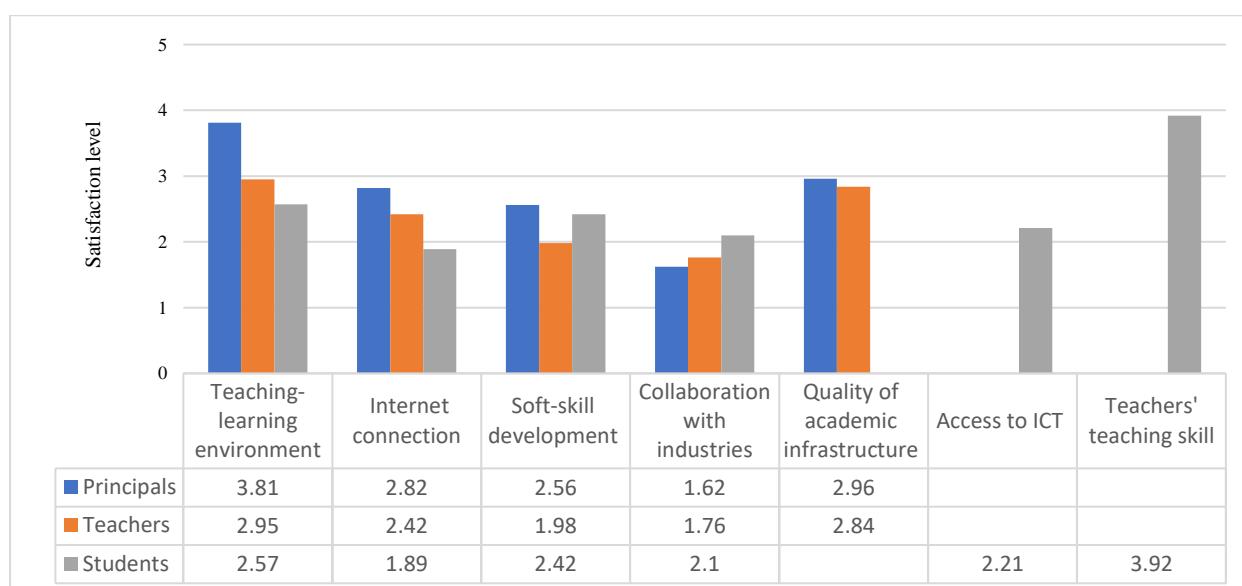
We compare the overall satisfaction level regarding all the relevant indicators discussed above by stakeholder types, i.e., principals, teachers, and students, and observe differences among the average satisfaction levels. The satisfaction level for the overall teaching and learning environment is 3.81 among college principals, 2.95 among teachers, and 2.57 for students. A similar pattern is also found for other indicators except the collaboration of colleges with industries. The satisfaction level regarding the collaboration of colleges with industries is noted as the lowest for principals (1.62) and teachers (1.76), and for students, it is slightly higher (2.10 on a scale of 5). The lowest satisfaction level among students is recorded for connectivity through the internet (1.89) and the highest for teaching skills of teachers (3.92).

Table: Overall Satisfaction of Principals, Teachers, and Students

Variables	Principal				Teacher				Student			
	IDG Mean (SD)	Non-IDG Mean (SD)	Difference (p-value)	All sample Mean (SD)	IDG Mean (SD)	Non-IDG Mean (SD)	Difference (p-value)	All sample Mean (SD)	IDG Mean (SD)	Non-IDG Mean (SD)	Difference (p-value)	All sample Mean (SD)
Teaching and learning environment	3.90 (0.77)	3.68 (0.75)	0.23 (0.22)	3.81 (0.76)	3.14 (0.98)	2.66 (1.04)	0.480*** (0.000)	2.95 (1.03)	2.73 (1.26)	2.22 (1.15)	0.51*** (0.00)	2.57 (1.22)
Quality of academic infrastructure	3.32 (1.04)	2.48 (1.00)	0.83*** (0.00)	2.96 (1.09)	3.08 (1.08)	2.49 (1.06)	0.582*** (0.000)	2.84 (1.11)				
Access to ICT facility									2.22 (1.22)	1.80 (1.14)	0.44*** (0.00)	2.21 (1.25)
Connectivity through Internet	2.95 (1.00)	2.65 (1.08)	0.31 (0.22)	2.82 (1.04)	2.60 (1.11)	2.14 (1.09)	0.468*** (0.000)	2.42 (1.12)	1.99 (1.21)	1.72 (1.1)	0.28*** (0.00)	1.89 (1.17)
Quality of soft-skills development of the students	2.85 (1.01)	2.16 (0.93)	0.69** (0.00)	2.56 (1.03)	2.12 (1.06)	1.78 (0.96)	0.341*** (0.000)	1.98 (1.03)	2.49 (1.29)	2.33 (1.29)	0.15** (0.00)	2.42 (1.29)
Collaboration of the colleges with industries	1.71 (0.90)	1.50 (0.82)	0.21 (0.32)	1.62 (0.87)	1.82 (1.02)	1.67 (1.00)	0.156** (0.008)	1.76 (1.01)	2.12 (1.28)	2.08 (1.26)	0.05 (0.31)	2.10 (1.27)
Teaching skills of the teachers									4.00 (0.94)	3.80 (1.07)	0.20*** (0.00)	3.92 (0.99)

Note: *, **, and *** indicates statistically significance at 10 percent, 5 percent, and 1 percent level, respectively.

Figure: Overall Satisfaction of Principals, Teachers, and Students



Overall Satisfaction of Principals, Teachers, and Students: Baseline Versus Mid-term

In the baseline data, the satisfaction scores on the quality of academic infrastructure and the satisfaction scores on the degree of industry linkage are not significantly different between IDG-awarded colleges (treatment group) and IDG non-recipient colleges (control group). However, the mean values of the satisfaction score on the quality of internet connection and other related facilities and the satisfaction score on the quality of facilities for students' soft skill improvement are significantly different between IDG-awarded colleges and IDG non-recipient colleges.

On the other hand, in the mid-term data, the mean values of the satisfaction score on the quality of internet connection and other related facilities and the satisfaction score on the degree of industry linkage are not significantly different between IDG-awarded colleges and IDG non-recipient colleges. However, the satisfaction score on the quality of academic infrastructure and the satisfaction score on the quality of facilities for students' soft skill improvement is significantly different between IDG-awarded colleges and IDG non-recipient colleges.

These results show that at the college level, Institutional Development Grant (IDG) has made significant improvement in the IDG-awarded colleges compared to IDG non-recipient colleges.

Table: Mean differences between the selected outcome variables

Selected variables	Baseline				Mid-term			
	IDG colleges (T)	Non IDG - colleges (C)	Mean difference (T-C)	<i>P</i> value	IDG colleges (T)	Non IDG - colleges (C)	Mean difference (T-C)	<i>P</i> value
Teaching and learning environment	3.54	3.64	0.1	0.62	3.90	3.67	0.22	0.21
Quality of academic infrastructure	3.00	2.86	0.14	0.58	3.31	2.48	0.83	0.00***
Quality of internet connection and other related facilities	2.25	2.9	-0.65	0.00***	2.95	2.64	0.30	0.21
Quality of facilities for students' soft skill improvement	2.2	2.66	-0.46	0.05**	2.85	2.16	0.69	0.00***
Degree of industry linkage	1.68	1.8	-0.11	0.62	1.70	1.5	0.20	0.32

Note: *, **, and *** indicates statistically significance at 10 percent, 5 percent, and 1 percent level, respectively.

Impact of IDG Grant on the Satisfaction Level of the Beneficiaries

In the regression, we controlled for some explanatory variables at the college level, namely the age of the college, the number of students at honors level, the number of classrooms, the number of multimedia classrooms, the number of labs, the number of computer labs, number of teachers, the number of teachers trained (within Bangladesh), and the number of teachers trained (in abroad). The results from the DiD regressions are presented for the five satisfaction scores (measured on a scale of 1 to 5).

For the full sample, the DiD of the satisfaction scores on the quality of academic infrastructure, the quality of internet connection, and the quality of facilities for students' soft skill improvement are statistically significant. The DiD for the other two satisfaction scores, namely, the teaching and learning environment and the degree of industry linkage, are not statistically significantly different from zero.

These results show that the colleges that received Institutional Development Grants (IDGs) have made a positive and statistically significant impact on the improvement of the quality of academic infrastructure, quality of internet connection and other related facilities, and quality of facilities for students' soft skill compared to those who did not receive this grant. However, the grant has made some changes in the teaching and learning environment and the degree of industry linkage between IDG awarded colleges and IDG non-recipient colleges. These changes are not statistically significant.

Variables	Full sample							
	Before			After			Diff-in-Diff	P value
	Treated	Control	Difference (T-C)	Treated	Control	Difference (T-C)		
Teaching and learning environment	3.175	3.364	-0.189	3.475	3.271	0.204	0.394	0.16
Quality of academic infrastructure	2.101	2.209	-0.108	2.476	1.936	0.540	0.649	0.061*
Quality of internet connection	1.990	2.721	-0.731	2.622	2.252	0.371	1.102	0.002***
Quality of facilities for students' soft skill improvement	1.411	1.996	-0.585	2.009	1.455	0.554	1.139	0.001***
Degree of industry linkage	1.232	1.500	-0.267	1.292	1.240	0.052	0.319	0.333

Note: *, **, and *** indicates statistically significance at 10 percent, 5 percent, and 1 percent level, respectively.

Conclusions and Recommendations

The overall findings from the mid-term satisfaction survey highlighted that: (1) Institutional Development Grant (IDG) has made positive and statistically significant impact on the improvement of quality of academic infrastructure, quality of internet connection and other related facilities, and quality of facilities for students' soft skill compared to those who did not receive this grant, (2) The grant has made some changes in the teaching and learning environment, and the degree of industry linkage between IDG awarded colleges and IDG non-recipient colleges. These changes are not significant enough to increase the satisfaction level of the students, teachers, and principals.

Therefore, this study proposes these recommendations for increasing the overall satisfaction level of all stakeholders: (1) The poor level of industry collaboration has been highlighted by all types of beneficiaries. To facilitate industry collaboration, job fairs should be organized every year, preferably at the district level; (2) Introducing short course facilities can increase the job market opportunities of the NU affiliated colleges; (3) Training for the NU teachers is highly recommended; (4) The interrelation and collaboration between NU-affiliated colleges, and universities should be increased. The colleges which are not well equipped with enough facilities can collaborate with the universities to share their equipment, such as computer labs, libraries, scientific labs, etc. This will help the less privileged colleges to provide quality teaching and learning facilities to the students; (5) Forming and activating the activities of Alumni Associations in the NU affiliated colleges; (6) There should be funds available for renovation of old academic buildings, addition to existing building, upgrading labs, research facilities for teachers wherever appropriate, (7) There should be some provision of need-based funds/emergency grant that might be used or made available to the college authorities in case of sudden emergency or need (e.g., sudden flash flood in Sylhet division).

Limitations of the Study

The sampling was based on a given population of the colleges that were on the list of CEDP. Further, the treatment and control colleges were chosen in different proportions in order to accommodate a higher number of government colleges from maximum districts as per the ToR. Hence, the sample may need to be more representative.

The respondents, such as the teachers and the students, are different from those in the baseline satisfaction survey. Therefore, a direct comparison of results between the mid-term satisfaction survey with that of the baseline satisfaction survey for the teachers and students survey particularly might not be appropriate in some cases.

The IDG intervention made so far has been focused more on the infrastructure and extrinsic factors of the colleges. The need for these changes has been necessarily asked by the respective colleges. Therefore, there are no initiatives taken to build links with the job market and also for students' soft-skill development.

The IDG is a part of CEDP's development activities. Other than the disbursement of this fund, many other activities, such as training for teachers and distributing electronic tablets (e-tab) among them, have been initiated. These initiatives are for NU-affiliated colleges, irrespective

of whether they have received IDG funds or not. In such cases, some IDG non-recipient college teachers might receive benefits under these initiatives of CEDP. Therefore, this might affect the outcome results between IDG awarded and IDG non-recipient colleges in our survey.

The worldwide Covid-19 pandemic outbreak has also had a significant impact on the outcome indicators of the mid-term satisfaction survey.