

How Do Institutional Development Grants (IDGs) Affect Student Satisfaction at the National University Affiliated Tertiary Colleges in Bangladesh?



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Outline

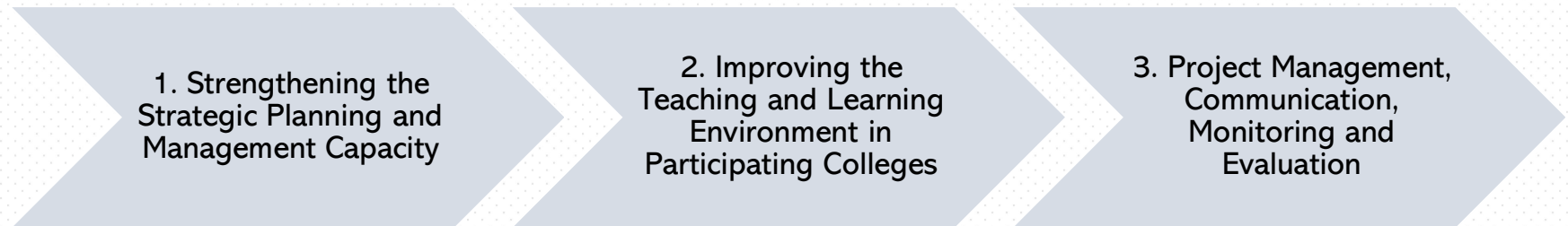
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Background

- Improving skills and productivity are crucial for Bangladesh to accelerate economic growth;
- However, the current levels of skill of the existing labour force are unlikely to meet future market demands;
- There is plenty of low-skilled workers, but strong market demand exists for graduates with:
 - higher cognitive and non-cognitive skills, as well as
 - job-specific technical skills.
- This eventually necessitate increasing the quality and relevance of tertiary education;
- Educational institutions should produce graduates with more market relevant skills to meet future market demands.

CEDP as part of Government's Strategic Plan

- College Education Development Project (CEDP) was incepted in 2016 to improve the teaching and learning environment of participating colleges;
- Project aims to:
 - strengthen the teaching and learning environment;
 - increase strategic planning and management capacity of National University (NU) affiliated tertiary colleges in Bangladesh.
- NU educates two-thirds of all tertiary students studying in government and non-government colleges;
- Project has three key components to improve education quality outcomes for tertiary college students.



Institutional Development Grant (IDG)

- 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.

- Institutional Development Grants (IDGs) focuses on:

- 01 upgrading basic teaching-learning facilities and internet connectivity
- 02 enhancing the marketability of college education through the development of students' soft skills and connections

- 03 introducing quality assurance
- 04 strengthening management capacity and upgrading the fiduciary system in colleges

- Three beneficiary feedback surveys have been planned to measure the levels of satisfaction in different stages of IDG implementation in National University (NU) affiliated colleges.:



Mid-term Satisfaction Survey (MTSS)

- MSS measures the levels of satisfaction of all relevant stakeholders in the midst of IDG implementation.
- This survey assesses the mid-term satisfaction level of two types of beneficiaries:

Direct Beneficiaries (i.e., students, teachers)

- in terms of quality of education, teaching, skills and facilities

Indirect Beneficiaries (i.e., employers)

- in terms of quality of graduates

- Objectives of the Study:
 - Understanding the academic environment, facilities, and human resources, of the NU affiliated honors and master's colleges;
 - Opinions of students and teachers about existing college facilities and investments, and areas needing improvement, and opinion and satisfaction on quality of teaching and learning;
 - Opinion of employers on match between current skills and desired skills of graduates.

Approach and Methodology

- The survey was designed in a mixed method approach (i.e., both quantitative and qualitative);
- Sample consisted of two groups of colleges, i.e., IDG-awarded colleges and IDG non-recipient colleges.
- Separate set of questionnaires was designed for students, teachers, and college principals as well as for current employers of NU graduates.
- Qualitative approaches such as focus group discussion (FGD) and key informant interviews (KII) were conducted among relevant stakeholders.

Sample Selection Procedure

- Population of this study is the NU-affiliated Honors and Masters colleges in Bangladesh.
- Since May 2017, around 757 honors and master's colleges affiliated with NU (CEDP-PMU):
 - 562 are non-government colleges and 195 are government colleges;
- 10% of colleges (75 sample colleges) were selected for primary data collection.

Type of Colleges	IDG Colleges (Number)	Non-IDG Collages (Number)	Total Colleges (Number)
Govt.	27	17	44
Non-Govt.	18	13	31
Total	45	30	75

- 3 honors departments and 2 master's departments (if available) were selected from each college;
- 12 students and 5 teachers from each department were chosen at random to participate in the survey;
- Overall, 3,060 students (255 x 12) and 1,275 teachers (255 x 5) were surveyed.
- 200 employers were interviewed from government and non-government organizations.

Methodology for Analysis

- Analysis makes use of both the baseline data and the mid-term data;
- A two-round panel data has been constructed at the college level;
- Depending on the specific indicators the impact of this project is calculated
- **Summary statistics:** in the form of tables, graphs, and figures to help comprehend the varied characteristics of variable distributions at each level of analysis
- **Difference in Difference (DID) estimation technique:** to identify the impact of the treatment that was given after the baseline survey in 2019
- **Regression analysis:** to identify the determinants of different indicators
- **Statistical tests:** to see if there is any statistically significant difference in the indicators between different groups
- **Qualitative technique:** to complement the quantitative analysis

STUDY FINDINGS....



Academic Environment, Facilities, and Human Resources of the NU Affiliated Colleges: Responses from College Principals

- About 96 % of principals reported that they have regular meetings of academic council, and on average, 10 meeting held per academic year.
- From each college, on average 17 teachers received training in Bangladesh, and 2 received training in abroad in the last 12 months.
- About 50% of the college principals reported that newly recruited teachers received pedagogical training,
- Almost 38 percent of teachers have received on-job/foundation training, and only 8 percent have received NU subject-based training in the last 12 months.

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- ✓ IDG-awarded colleges have more classrooms and multimedia-equipped rooms per 100 students than IDG non-recipient colleges.
- ✓ The average number of laboratory and computer labs is higher in IDG-awarded colleges.
- ✓ 22% of college principals from IDG-awarded colleges said that they have hostel accommodation for teachers.
- ✓ 39% of principals from IDG-awarded colleges said that they have hostel accommodation for students in their college.
- ✓ A good proportion of IDG-awarded colleges provides transportation facility for both students (28%) and teachers (8%).
- ✓ 50% of principals from IDG awarded colleges informed that they have mother's corner in their campus; while it is only 15% for IDG non-recipient colleges.
- ✓ 70% of IDG-awarded colleges have facilities for special needs students, which is only 44% in IDG non-recipient colleges.

Existing Teaching-Learning Facilities: Responses from College Teachers

- ✓ The academic calendar provided by the NU is followed in most of cases,
- ✓ Majority of the colleges distribute the academic calendar among the students at the beginning of the semester/year.
- ✓ The proportion of teachers' evaluation by students is higher in IDG non-recipient colleges than in IDG awarded colleges (43 percent and 37 percent respectively).
- ✓ IDG non-awarded colleges also provide more extra time to students for academic discussion/ counseling after class than IDG-awarded colleges.

Satisfaction Levels of College Principals and Teachers

Indicators	Satisfaction Level of Principals				Satisfaction Level of Teachers			
	IDG colleges Mean (SD)	Non-IDG colleges Mean (SD)	Difference (p-value)	All sample Mean (SD)	IDG colleges Mean (SD)	Non-IDG colleges 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)
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)
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)
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)
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)

Source: Mid-term satisfaction survey, BIDS-2022. Note: *, **, & *** represents significant at 10%, 5% & 1% level.
Note: The level of satisfaction is measure in Likert Scale from 1 through 5 (1= dissatisfied, 5= very satisfied).

Academic Engagement of the Students: Finding from The Student Survey

- ✓ Students reportedly spend more than 3 hours in the library every week.
- ✓ Students from IDG-awarded colleges spend more time than students from IDG non-recipient colleges.
- ✓ Majority of the students mentioned classes are held regularly (89.07 percent), there are full-time classes (96.10 percent), problems are solved regularly in the class lessons (91.54 percent), and teachers provide the students with extra consultation time (80.38 percent).
- ✓ These indicators point towards the prevalence of good academic environments in the colleges which are more prominent in the IDG-awarded colleges.
- ✓ However, students emphasize curriculum upgradation and complain about inadequate classes and insufficient time for class and exam preparation.

Overall Satisfaction Level of Students

Indicators	Mid-term satisfaction survey			
	IDG	Non-IDG	Difference (p-value)	All college
	Mean (S.D.)	Mean (S.D.)		Mean (S.D.)
Teaching-Learning facilities	2.73 (0.92)	2.22 (0.92)	0.51*** (0.00)	2.57 (1.22)
Access to ICT facilities	2.22 (1.12)	1.78 (1.04)	0.44*** (0.00)	2.21 (1.25)
Teaching skills of teacher	4.00 (0.94)	3.80 (1.07)	0.20*** (0.00)	3.92 (0.99)
Development of students' soft skills	2.49 (1.29)	2.33 (1.29)	0.15** (0.00)	2.42 (1.29)
College's linkage with industry	2.12 (1.28)	2.08 (1.26)	0.05 (0.31)	2.10 (1.27)

Source: Mid-term satisfaction survey, BIDS-2022. Note: *, **, & *** represents significant at 10%, 5% & 1% level.
 Note: The level of satisfaction is measure in Likert Scale from 1 through 5 (1= dissatisfied, 5= very satisfied).

Knowledge and Skills of NU Graduates: Opinions of Employers

- Top six skills with which employers are highly satisfied, are: reliability, behavior at workplace, verbal communication, teamwork, adaptability, and written communication.
- The employers are least satisfied with the following 3 qualities of the graduates: (a) advanced computer skills, (b) English language proficiency, and (c) critical thinking & analytical skills.
- The skills and abilities of NU graduates that make them more employable are: NU graduates do not change jobs frequently and they are easy to train. Moreover, NU graduates are interested in working with lower pay and are very hardworking and willing to learn new things at work.

Overall Satisfaction of Employer

Overall Satisfaction with Skills and Qualities	All		Govt.	Non-govt.	Difference (p-value)
	Mean (Std. D)	Highly Satisfied (%)	Mean (Std. D)	Mean (Std. D)	
Mid-term satisfaction survey	3.73 (0.84)	12.04	3.89 (0.64)	3.64 (0.93)	0.25 (0.14)

Source: Mid-term satisfaction survey, BIDS-2022. Note: *, **, & *** represents significant at 10%, 5% & 1% level.
 Note: The level of satisfaction is measure in Likert Scale from 1 through 5 (1= dissatisfied, 5= very satisfied).

Impact of Institutional Development Grant: A Regression Based Analysis

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- $Y_{it}^T = Y_{it}^C + G_{it}$ (1)

where, G_{it} is the impact or gain due to the program,

Y_{it}^C is the counterfactual outcome,

i is the index of individual observation, and

t is the index of time (in a two-round panel, $t = 1, 2$. In our case, $t = 1$ corresponds to the baseline and $t = 2$ corresponds to the midline).

- Let \hat{Y}_{it}^C = estimate from comparison group.
- Then the Difference in Difference (DiD) estimator is defined as:

$$DD = E[(Y_{i2}^T - \hat{Y}_{i2}^C) - ((Y_{i1}^T - \hat{Y}_{i1}^C))] \quad (2)$$

- The estimator DD provides unbiased estimate of the program effect (i.e., the gain due to program) under the following two conditions:

1. Parallel trend: The change over time for comparison group reveals the change in counterfactual outcomes. That is:

$$E\Delta Y_{it}^C = E\Delta \hat{Y}_{it}^C \quad (3)$$

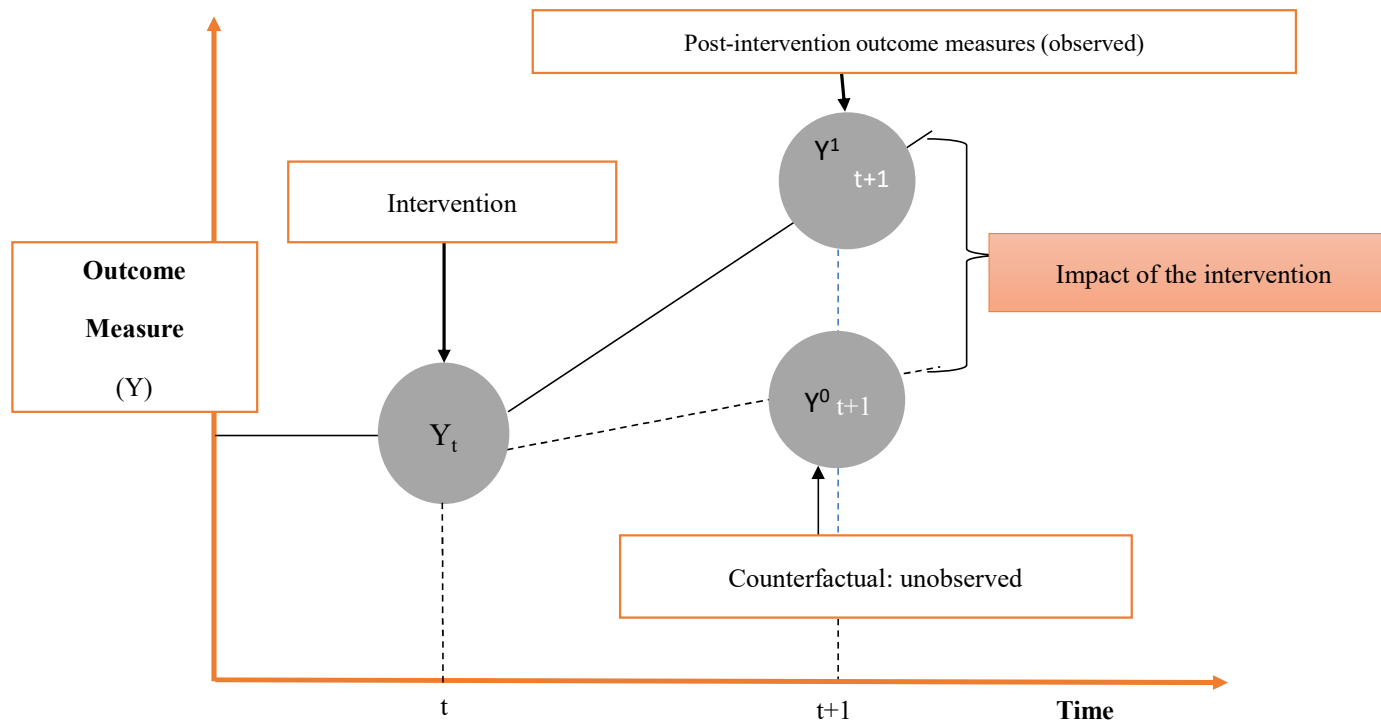
2. Baseline is uncontaminated by the program. That is:

$$G_{i1} = 0 \quad (4)$$

- Under these two assumptions, we have

$$DD = E[(Y_{i2}^T - \hat{Y}_{i2}^C) - ((Y_{i1}^T - \hat{Y}_{i1}^C))] = E(G_{i2}) = \textit{Average Treatment Effect} \quad (5)$$

The graphical representation of the DiD estimator



Impact of Institutional Development Grant: Regression Results

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 and other related facilities	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

Controls: Age of college, number of students, classrooms, multimedia, labs, computer labs, teachers, training received by teachers etc.
 Source: Mid-term satisfaction survey, BIDS-2022. Note: *, **, & *** represents significant at 10%, 5% & 1% level.

Summary and Conclusions

- The college principals are almost satisfied with the existing teaching and learning facilities.
- College teachers shows highest level of satisfaction for teaching and learning facilities at the colleges (2.95).
- Students are satisfied about the teaching skills of the teachers, with a mean level of satisfaction 3.92.
- For employers, the mean overall satisfaction is 3.73 out of a 5-point scale. That means, on average, the employers are closed to satisfied with the NU graduates as this value is more closed to 4 (=satisfied) on the Likert scale.
- 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.

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- The mid-term satisfaction survey highlighted that:

(1) Institutional Development Grant (IDG) has made a 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 skills 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,

Recommendations

- The mid-term satisfaction survey proposes these recommendations:
 - (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 in the district level;
 - (2) Forming and activating the activities of Alumni Associations in the NU affiliated colleges;
 - (3) There should be funds available for renovation of old academic buildings, addition to existing building, upgrading labs, research facilities for teachers wherever appropriate,
 - (4) 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).

Limitation of the Study

- The respondents such as the teachers and the students are not the same as the baseline satisfaction survey. Therefore, direct comparison 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 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. 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 mid-term satisfaction survey.

Thank You for Your Attention!