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Association between Peer Relations and Teaching Learning Environment in Higher Secondary Level Education of Bangladesh

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Abstract

The present study is based on the peer relations among the higher-secondary level (college) students which is considered as one of the most popular techniques to improve teaching-learning environment and learning capability of students in higher education sector of Bangladesh. To measure the peer relation and its impact, the study followed the attachment theory and used the measurement scales (intimacy, popularity, trust, and insightfulness) proposed by the theory. The main objective of the study is to assess the students' awareness regarding the concepts and importance of peer relations, and test the affiliation of peer relations with learning environment and learning capability of students. The study covered 526 sample respondents from 16-colleges of 4-districts of Bangladesh. The samples were selected randomly and data were collected using a well-structured questionnaire. The study found that there is an important affiliation between peer relations and learning environment but it is not formally practiced in most of the institutions; whereas the family and social support they received is not sufficient to ensure the best possible outcomes through peer relations. The study concluded with mentioning some suggestions for related parties and decision makers to take necessary actions and to create proper environment to improve peer relations and to develop students' learning capability. Though the study has some limitations, it has significant contribution in the literature of peer relations; and its social implication will help the students to learn with pleasure effectively.

Keywords: Peer relations, teaching-learning environment, learning capability, higher-secondary level

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Introduction

Educational institutions are working to improve various skills of the students. Intellectual skill that enables a student to process the subject matter while practical skill indicates specific subject area; and transferable skills comprise written and oral communication, team-work, self-management, problem-solving and critical thinking etcetera. Different pedagogical methods are used by educational institutions to develop the students' skills and learning capacity. Among all the techniques, peer learning is one of the effective techniques by its nature and flexibility (Bosworth and Hamilton, 1994, Neale, Carroll, & Rosson, 2004). Though the concept is not new, the formal and institutional application of peer relations in Bangladesh is lagging behind. There are some reasons behind the poor practices of peer relations in Bangladesh such as nuclear family, small numbers of siblings, urbanization, school-based coaching, political unrest, addiction through bad accompaniment, love and emotions, etcetera (Hossain 2013; Akter 2021). Experiencing social crises, many guardians or even educational institutions are reluctant to allow their children to make good relations with their peers and pass their time with their friends. In this situation, students become bored and to some extent mentally inconsistent; they feel nervous and uneasy to adjust to any new and challenging environments; or even working with a group of unknown people.

1.1 The Rationale of the Study

Once upon a time, it was practiced that senior students take part in teaching junior grade class and meritorious students of the same class do the same in their class. The class teacher tended to do it by their will to examine senior grade students' capability concerning analytical ability, explaining theoretical knowledge as well. Through this approach, students' relationship (fellow feelings) was remarkably improved in the previous days. Learning theorists reveal that learning through sharing with peers is one of the most important ways to learn with the course materials with the cooperation of friends and fellows (Bosworth and Hamilton, 1994). Peer relations allow students to participate keenly in group work, brainstorming for problem-solving by communicating with each other in every stage of their learning. It also helps learners to deal with complex concepts and formation for new ideas and solutions (Neale, Carroll, & Rosson, 2004). In addition, it facilitates more practical information in a systematic and well-organized way. It is an opportunity to use students' highest potential in the field of innovation and creativity through brainstorming, teamwork, group learning, and entertaining peer relations from guardians and educational institutions. Considering the above-mentioned importance, the researchers feel interested in doing the present study at the higher secondary level in Bangladesh.

1.2 Objectives of the Study

The main objective of the study is to identify the impacts of peer relations to improve students' academic achievements and learning. Along with this, there are some specific objectives which are stated below:

i. to assess the perceptions and awareness of college students about peer relations and its practices in higher secondary level educational institutions in Bangladesh;

ii. to investigate the institutional arrangements regarding extra-curricular activities to develop peer relations among college students; and

iii. to assess the impact of peer relations on the development of the teaching-learning environment and the learning capability of students.

2.0 Literature Review and Conceptual Framework

Peer relationships are establishing communication among peers or individuals with similar emotional and mental improvement, and are a form of social support. Here, in this study peer relations are considered as the relationships and sharing of information among the classmates within the class or outside of the class regarding academic and personal development. Peer relation has significant importance from different perspectives which is discovered in many former studies. Aziz & Hossain (2010) found that the effects of collaborative learning on mathematics are very significant, whereas some researchers argued that scholarly attainment, self-efficacy, and problem-solving ability of school children are highly affected by peer learning (Hossain 2013; Akter 2021). Islam, Sarker, & Islam (2022) conducted a study emphasizing better student-teacher interaction in both discussing online peer groups, and regular face-to-face classes and found that to promote innovation and contextual pedagogy and knowledge construction- sharing, interacting, and collaborative discussions among the students are very significant.

Many other studies revealed that teacher-student relations develop their intellectual level, interaction skills, and learning capability (Hossain 2016, Biswas 2015). Furthermore, Hossain & Tarmizi, (2013) conducted a study on the student's achievement and attitudes towards mathematics between two groups and found that the attitudes and achievements of the students about mathematical operations were influenced by the disclosure in the group learning. The students also gave preference to learning mathematics by exchanging their understanding. In the same way, they were happy when they could learn efficiently in peer relations. Moreover, Mim & Chowdhury (2018) argued that peer support is an important aspect of understanding science content. The effectiveness of mobile communication among peers in learning science content has been discovered in a way that not only helps both students and parents get more time from their daily routine but also bears the potential to reduce extra unwanted monthly expenses. The complex relationship in terms of Youth-Technology-Culture is revealed as an important aspect to be considered while introducing and implementing the interventions of m-learning.

Observing the findings of the above-mentioned studies in the context of Bangladesh and all over the world the researchers found valid ground to do the present study considering peer relations and the learning capability of students using the attachment theory as base theory. The previous studies and findings of the reviewed papers open a window in front of the researchers that peer relations could be an important topic to improve the teaching-learning environment and the learning ability of the students. On the basis of measuring scale and hypotheses, the reviewed literatures are presented categorically.

2.1 Intimacy and Peer Relations

When students can talk to each other, and mingle, it creates a mutual respect and risk-taking mentality in their studies. A cordial relationship in the classroom creates a comfort zone between them. (Ciani, Middleton, Summers, & Sheldon, 2010; Martin & Dowson, 2009). Again, peer relationships play a role in eliminating conflicts and moral pollution between different groups. Overall, peer relationships are effective in identifying, expressing, and achieving effective goals. (Parr, 2002). Observing the previous supportive works of literature, it is hypothesized that-

H1: Intimacy in peer relations has a significant impact on the development of the teaching-learning environment.

2.2 Trust and Peer Relations

Research on cooperative behavior has shown that interpersonal trust positively affects cooperative tendencies among individuals (Wang, G., & Hu, W. 2021; Acedo-Carmona and Gomila, 2019). A study conducted by Zavarrone & Vitali (2011) on university students found that when they have trust in their peers they make friends, create a network, exchange general information, and also exchange lecture notes with each other. Interpersonal trust reduces the cost of cooperation and is the starting point, prerequisite, and foundation of cooperative relationships (Malti et al., 2016). So, it is evident to hypothesize that-

H2: There is a significant impact of trust on developing a teaching-learning environment.

2.3 Popularity and Peer Relations

Popularity is one of the important dimensions of peer relations which reflects prestige, visibility, and reputation (Cillessen and Marks 2011). Popularity is more salient in early adolescence and youth age than in other age groups (Cillessen and Rose 2005; Lafontana and Cillessen 2010). Researchers found that students' happiness with less support classmates is less than the more support classmates. Among all the students 1638 (76.1%) students are happy and 515 (23.9%) are unhappy in the fewer support classmates' group but 2245 students (88.7%) are happy and 286 (11.3%) are unhappy in the more support classmates' group as well as the number of bullied students are less in a more support classmates' groups than the others. (Tome et,al.2014). During adolescence, peers become increasingly important as peer relationships contribute to social, emotional, and cognitive development (Tarrant, 2002). So, it is hypothesized that-

H3: Popularity in peer relations has a significant impact on developing the teaching-learning environment.

2.4 Support of Teachers and Peer Relations

In collaborative learning, the peers become the primary source of knowledge and sharing their ideas; whereas the trainer or teacher plays the role of a facilitator (Evlat & Avcioglu, 2022). Hoferichter et al., (2022) argued that teacher's support was interconnected to a high ability to be coped and bottom levels of weakness; whereas during classroom activities the support of peers was linked to better capacity to be coped and academic achievement. At the same time, another study also indicated that the students are more apparent to be benefited in the context of coping with and attainment in classes with peer relationships while they seem to demonstrate low coping capacity with the support of higher teacher (Blatchford & Baines, 2010). For example, Ma et al. (2021) found that perceived teacher support promoted the academic self-concept and enjoyment of learning, while Yildirim (2012) found a positive relationship between teacher support and students' use of learning strategies in mathematics. So, it is hypothesized that-

H4: Support of teachers in peer relations has a significant impact on developing a teaching-learning environment.

2.5 Social Support and Peer Relations

Social relationships with peers play a pivotal role in students' stress and learning outcomes as they act as resources that support learning and mitigate feelings of stress (Wentzel et al., 2017). Murugan & Annadurai (2021) viewed that relationship with peers delivers an exclusive environment where boys and girls discover a variety of crucial societal psychological capabilities, including problem-solving strategies, cooperation, and empathy building. So, the following hypothesis is fully backed by the above-mentioned literature:

H5: Social support in peer relations significantly affects the development of the teaching-learning environment.

2.6 Insightfulness and Peer Relations

Insightfulness indicates the expertise or clear understanding of any specific area and the person who holds such accurate and deep knowledge is well-accepted by his friends and peers. Sometimes, it is seen that school kids neglect their batch mates which turns hostility and insults, having violations through little infringement that draws into debates. The schoolroom is uneasy, and so much time is given to maintain the disciplinary activities. Forceful communications (i.e. controlling, enmeshed, or manipulative) degrade the genuine priority of a student and devalue the feeling of freedom. Students are frequently engaged in violent harmonies, such as trying to take an aggressive approach to capture their counterpart which tends to outside encouragement towards fellowship (Hawley & Pasupathi, 2002). So, it is rational to hypothesize that-

H6: Insightfulness significantly affects the development of the teaching-learning environment.

2.7 Learning Environment and Learning Ability

Lu, F. (2020) argued that the majority of the students are satisfied with peer relationship; whereas most of the secondary and primary school students agreed that such relationship is supportive in their studies. The researcher holds the viewpoint on peer relationships for cultivating learning motivation. This study proposes that mixing positive academic emotions will cultivate the learning motivation of primary and secondary schools at an early age with children's cognitive will force (Tu & Chu, 2020). So, it is rational to hypothesize that-

H7: A positive teaching-learning environment can significantly affect the improvement of the learning capability of the learners.

2.8 Conceptual Framework

To develop the conceptual framework and scales for measuring the peer relations the researchers have considered the attachment theory which is used by Fatih Aydoğdu (2022). His study was about the development of peer relations scales for adolescents and he used four scales- intimacy, popularity, trust, and insightfulness. The researchers considered these four scales as the basis for peer relations and added two more variables- social support, and teacher support to measure the impact of peer relations on the development of the teaching environment and learning ability of the learners. Considering the attachment theory and the above-mentioned variables the researchers have developed the research model as follows:

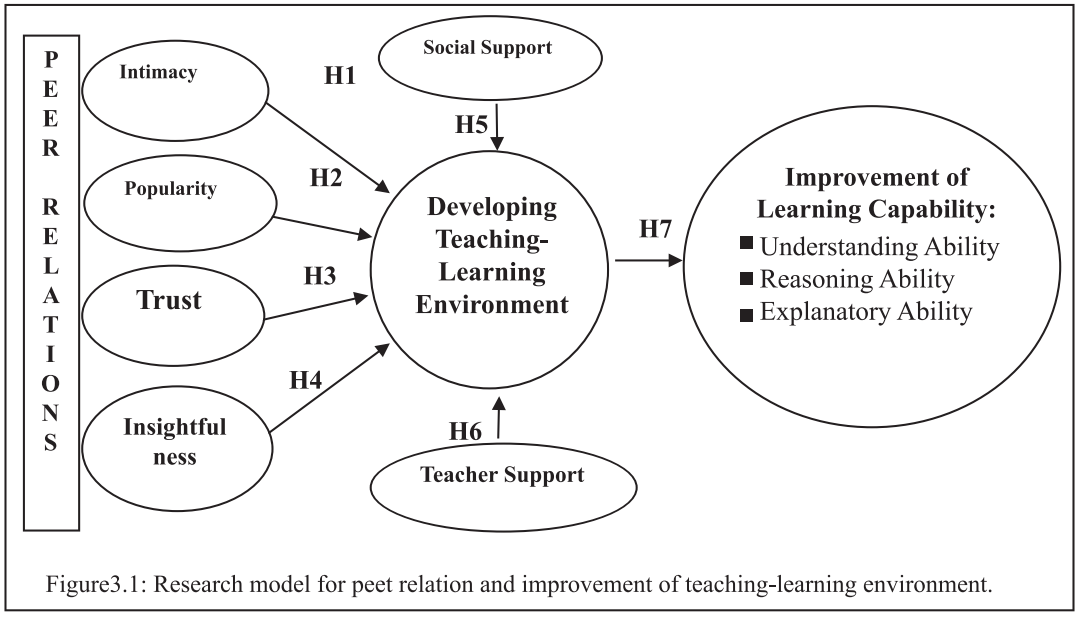


Figure3.1: Research model for peet relation and improvement of teaching-learning environment.

3.0 Research Methodology

The study followed an explanatory method to collect and analyze the data. To conduct the study, the researchers have used 526 randomly selected samples (not more than 10% samples from a single college) covering 16 colleges over 4-districts (Dhaka, Tangail, Barishal, and Jalakhati). The overall methodology used in this study is described in the following sub-section:

3.1 Sample Size Determination

To determine the sample size the researchers have considered the suggestions of two scholars Mugenda (2003) and Besides, Cochran (1963). Applying the formula of Mugenda (2003) at a 5% precession level the sample could be 385 (**n**= $Z^2pq \div d^2$ = $(1.96)^2 * (0.5)\ (0.5)/\ (0.05)^2$ **= 385). In addition, Cochran (1963)** suggested where the total population is unknown or a large number such as a population>100,000; then the researchers can consider the sample size at least n= 400 at a 5% level of significance. In this study, the researchers used 526 sample respondents and think it is justified enough.

3.2 Sampling Techniques Used

The study is based on 526 samples which were collected from 16 colleges located in Dhaka and Barishal division following the random sampling methods. Among those samples, the highest number is 47, and the lowest number is 22 from a single college which is not more than 10% of total samples from any single institution.

3.3 Sources of Data and Methods of Data Collection

In this study, the researchers use both primary and secondary data. For secondary data, extensive literature was reviewed through a wide range of research articles, project papers, and seminar papers related to the topic. For primary data collection, the researcher has used questionnaire methods. For preparing the questionnaire, the researcher follows the back-translation method suggested by Brislin (1980). Initially, the questionnaire was developed in English language and then translated into the Bengali language and again back to English to ensure accuracy. The questionnaire was divided into two parts- one for the respondent's demographic information and another part for the questions related to the research objectives and related variables that were considered for the study. Five-point Likert scale is followed to design the questionnaire.

3.4 Methods of Data Analysis and Presentation

Following the suggestions of Coffey and Atkinson (1996)- 'the prime intention of the researchers is to collect data only for the analysis and no one collects data without substantial analyzing intention', the researchers process, analyze, and present data using different statistical tools, and graphical presentation. To analyze the whole data, the researchers used IBM-SPSS 25. The data are presented using different statistical analyses such as descriptive statistics (mean, variance standard deviation, correlation, regression analysis, and hypotheses are tested), graphical presentation, and tabulation methods. To ensure the reliability of data the researcher used Cronbach's alpha (Hair, 1995); whereas the construct validity is measured by using factor analysis (Campebell & Fisk, 1959).

4.0 Data Analysis and Presentation

In this section, the overall data analysis is presented in different sub-sections such as respondent's biographical information, their awareness regarding peer relations and its importance to them, and the impact of peer relations on developing teaching environment and students' learning ability.

4.1 Respondents' and their Education Institution's Information

This section is divided into the following four sections: respondent personal profile, and family profile, surveyed education institution's information, and their arrangements to improve peer relations.

4.1.1 Respondents' Demographic Information

The biographic information of the respondents' such as age, gender, area of study, academic records etcetera are presented in the following table:

Table 4.1: Biographic information of the respondents

Demographic information of respondents	Category	Frequency	%
Age: Categories into three cluster ▪ The respondents are homogeneous in terms of their age as 97% belong to the same range.	Below 16 years	5	0.9%
	16-18 years	510	97.0%
	Above 18 years	11	2.1%
Gender: Categories into two categories ▪ The male-female ratio is about 62:38.	Female	198	37.6%
	Male	328	62.4%
SSC GPA: Categories into four categories ▪ More than 81% of students have GPA between 4.00-5.00 in their SSC exam	GPA 1.00- 2.00	None	0%
	GPA 2.00- 3.00	13	2.5%
	GPA 3.00- 4.00	85	16.2%
	GPA 4.00- 5.00	428	81.4%
Areas of Study: Three major areas of study ▪ The ratio of science, commerce, and arts is 43:36:21 accordingly.	Science	224	42.6%
	Business	191	36.3%
	Social Science & Arts	111	21.1%

Total sample: 526; *Note: developed by authors*

4.1.2 Institution's Clubs and Extra-curricular Activities to Improve Peer Relations

The different clubs and their related co-curricular activities to develop peer relations in surveyed institutions are listed in the following two tables:

Table 4.2: Club(s) in the College(s)		
▪ Most of the colleges have only BNCC & Rover scouts, debating clubs and cultural and sporting club but not play active roles to develop students' potential. ▪ Urban-based colleges sometimes have science & ICT club, language club, press club etcetera. ▪ Very few colleges have nature and geo club, business, arts & craft club, and others.	Cultural Club	Language Club
	Debating Club	Heritage Club
	Nature & Geo Club	Language Club
	Science & ICT Club	Business Club
	Photography Club	Press Club
	Arts & Craft Club	Sporting Club
	BNCC (3 Wings)	Rover Scouts

Total sample: 16 Colleges; *Note: developed by authors*

Table 4.3: Co-Curricular Activities in the College(s)		
▪ Most of the colleges just arrange annual sports and cultural programs and celebrate national days and college day(s). ▪ Some colleges arrange debate competitions, seminars and workshops, study tours, film festivals etcetera. ▪ Very few arrange ICT training, language training, case competition, Math and Science Olympiad fest etc.	Singing	Language Learning
	Drama	ICT Training
	Debate	Photography
	Recitation	Film festival
	Study tour	Math Olympiad
	Film	Case competition

Total sample: 16 Colleges; *Note: developed by authors*

4.2 Assessments of respondents' awareness regarding the importance of peer relation

The respondents' awareness regarding the concepts of peer relations and the importance of peer relations are examined in the following two sub-sections:

4.2.1 Respondent's Awareness Regarding the Concept of Peer Relations

Peer relations are not well-practiced in Bangladesh in a formal way as society and institutions do not consider it always positively. Moreover, the following table represents the present status and students' awareness regarding peer relations in the context of the survey:

Table 4.4: Respondents' awareness regarding Peer Relations

Questions regarding the Awareness of Peer Relations among Students	Category	Frequency	%
1. Do you have any idea about peer relations?	Yes	393	74.7%
▪ Yes. About 75% have minimum ideas	No	133	25.3%
2. Your level of knowledge of peer relations?	Sufficient knowledge	115	21.9%
	Average knowledge	323	61.4%
▪ The respondents do not have sufficient knowledge about PR; 61.4% report that they have average knowledge.	Little knowledge	72	13.7%
	No knowledge at all	16	3.1%
3. Do you have a close group with whom you share studies, knowledge, and experiences?	Yes and enjoy share	146	27.8%
	Yes; sometimes share	295	56.1%
▪ Yes, only 27.8% love to share and enjoy.	Yes but rarely share	85	16.2%
4. How do you enjoy this group relationship in your personal and academic life?	Enjoy a lot	190	36.1%
	Moderately enjoy	307	58.4%
▪ Yes, 36.1% enjoy it a lot in both areas	Don't enjoy it at all	29	5.5%
	Not in a formal way	98	18.6%
5. Usually with whom are interested to make peers?	Previously known	184	35.0%
	Same Academic group	265	50.4%
▪ Students feel comfortable to make peers with the same academic group students.	Same region/ area	20	3.8%
	Same subjects	57	10.8%
6. What factors create problems in creating peers?	Adjustment problem	224	42.6%
	Poor communication	123	23.4%
▪ adjustment problems & Poor communication and create (66%) problems in making PR.	Unable to make peer	82	15.6%
	Reluctant and rigid	97	18.4%
7. How/to what extent do peer relationships affect cognitive will force?	Always affect	306	58.2%
	Sometimes affects	186	35.4%
▪ About 58.2% argued that PR affects cognitive will force whereas 35.4% found it sometimes effective.	Little impact	26	4.9%
	No effect at all	8	1.5%
8. Do clubs in educational institutions play a role in creating peers?	Very Significant	133	25.3%
	Significant	317	60.3%
▪ About 86% agreed that institutions' clubs play significant roles in PR.	Less significant	62	11.8%
	No impact at all	14	2.6%

4.2.2 Respondent's Awareness Regarding the Importance of Peer Relations

From the literature, it is evident that peer relations are very important in terms of collaborative learning, knowledge sharing, and creating a good academic atmosphere to learn and improve learning capability. The following table represents the respondents thinking about the importance of peer relations in their academic and non-academic lives:

Table 4.5: Respondents' awareness regarding the importance of peer relations

Questions regarding Awareness of the Importance of Peer Relations	Category	Frequency	%
1. How effective are groups in developing students' knowledge and skills? ▪ About 87% of respondents agreed that PR is effective to develop students' ASK.	Very effective	213	40.5%
	Effective	245	46.6%
	Less effective	60	11.4%
	Not effective at all	8	1.5%
2. Students at all levels get benefit from peer relationships. ▪ Most of the respondents (93%) were somehow convinced regarding the benefits of PR.	Always	231	43.9%
	Sometimes	259	49.2%
	Little or seldom	14	2.7%
	Not helpful at all	22	4.2%
3. Do you get the answer if you ask any questions to the peer? – 89.4% straightly argued for Yes.	Yes	470	89.4%
	No	56	10.6%
4. Does peer group discussion increase test scores? – 83.5% argued that it improves marks.	Yes, Improve	439	83.5%
	No impact	87	16.5%
5. If the peer group talks only about studies, how it affects the result? ▪ About 66% argued that group talk regarding studies improves their academic results.	V.good/ effective	128	24.3%
	Good or effective	217	41.3%
	Average impact	164	31.2%
	Not effective at all	17	3.2%
6. What level of change can bring friendly relations between students and teachers in Teaching Learning Environment? ▪ About 86% believe in positive change	V. positive change	236	44.9%
	Positive change	215	40.9%
	Average impact	70	13.3%
	No change at all	5	0.9%

Note: Developed by authors

4.3 Descriptive Statistics regarding model variables:

The table 4.6 indicates the descriptive statistics regarding variables and it indicates that the highest average (mean) is for teachers' support (4.1954) and the minimum mean for popularity in peers (3.7471); whereas all of them have a standard deviation less than 0.64241

which defend that all the variables have a significant impact on learning attitudes. Besides, the value of Cronbach's alpha (α) for the variables is between 0.771 to 0.928 which indicates that all the variables have a minimum value of reliability (0.70) mentioned by (Hair, 1995).

Table 4.6: Descriptive Statistics

	N	Mean	Std. deviation	Variance	Alpha
Intimacy	526	3.8839	.75765	.574	0.841
Popularity	526	**3.7471**	**.97772**	.956	**0.771**
Trust	526	4.0595	.75910	.576	0.821
Insightfulness	526	4.1186	.83882	.704	0.804
SS	526	4.1051	.76711	.588	0.836
TS	526	**4.1954**	.77856	.606	0.862
DTLE	526	3.9336	.73504	.540	0.820
ILC	526	4.0165	**.64241**	.413	**0.928**

Note: Authors self-study

4.4 Correlations among the Considered Variables of the Research Model

The correlations matrix among the variables indicates that all the variables are significantly correlated to each other (two-tailed, at a 95% significance level). In addition, it is found that variable DTLE and ILC have the highest value of correlation coefficient which is 0.690; whereas ILC& INS, has the lowest value of correlation coefficient which is 0.290.

Table 4.7: Correlation Matrix of Considered Variables

INT	POP	TR	INS	SS	TS	DTLE	ILC	
INT	1							
POP	.556**	1						
TR	.645**	.673**	1					
INS	.446**	.326**	.472**	1				
SS	.354**	.374**	.434**	.310**	1			
TS	.317**	.278**	.328**	.286**	.548**	1		
DTLE	.401**	.365**	.411**	.326**	.526**	.644**	1	
ILC	.387**	.446**	.479**	**.290****	.545**	.584**	**.690****	

Note: Total Sample (N) = 526; Note: Authors self-study

Note: INT- Intimacy, POP- Popularity, TR- Trust, INS- Insightfulness, SS- Social support, TS-Support of teachers, DTLE- Development of teaching-learning environment, ILC- Improvement of learning capability.

4.5 Regression Analysis of peer relations on the Improvement of learning capability:

The following table represents the value of linear regression of different variables which indicates how peer relations affect the learning capability of the learners. The calculated value indicates that except intimacy (INT) and insightfulness (INS), all the considered variables for peer relation positively and significantly affect the learners' learning capability.

Table 4.8: Regression of peer relations on the Improvement of learning capability

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	95.0% Confidence Interval for ß	
	ß	Std. Error	ß			Lower Bound	Upper Bound	
1	(Constant)	.899	.136		6.626	.000	.632	1.166
	INT	-.027	.034	**-.032**	-.792	**.429**	-.093	.040
	POP	.082	.026	.125	3.113	.002	.030	.134
	TR	.117	.039	.138	3.043	.002	.042	.193
	INS	-.026	.026	**-.034**	-1.016	**.310**	-.077	.025
	SS	.119	.031	.142	3.827	.000	.058	.181
	TS	.140	.033	.170	4.263	.000	.076	.205
	DTLE	.373	.035	.427	10.572	.000	.304	.443

Dependent variable ILC (Note: Authors self-study)

Here, INT- Intimacy, POP- Popularity, TR- Trust, INS- Insightfulness, SS- Social support, TS- Support of teachers, DTLE- Development of teaching-learning environment.

4.6 Hypotheses Testing Results

The following table summarizes the hypotheses results for clear understanding of the readers.

Table 4.9: Impacts of Peer Relations on Improvement of Learning Capability

Formulated Hypotheses	ß	***P***	**Acceptation or rejection decisions**
H1: INT has significant impacts on DTLE	**.010**	**.792**	**Null Hypothesis accepted (p≥0.05)**
H2: POP has significant impacts on DTLE	.100	.001	Null Hypothesis is rejected at 1% SL
H3: TR has significant impacts on DTLE	.136	.001	Null Hypothesis is rejected at 1% SL
H4: INS significant impacts on DTLE	**-.010**	**.717**	**Null Hypothesis accepted (p≥0.05)**
H5: SS has significant impacts on DTLE	.180	.000	Null Hypothesis is rejected at 1% SL
H6: TS significant impacts on DTLE	.306	.000	Null Hypothesis is rejected at 1% SL
H7: DTLE has significant effects ILC	.373	.000	Null Hypothesis is rejected at 1% SL

Note: Authors self-study

Here, INT- Intimacy, POP- Popularity, TR- Trust, INS- Insightfulness, SS- Social support, TS- Support of teachers, DTLE- Development of teaching-learning environment,

The table- 4.9 represents the hypotheses testing result of the research which indicates out of seven formulated hypotheses five hypotheses are accepted (H2, H3, H5, H6, and H7; as their p-value is less than 0.05); whereas two hypotheses (H1, and H4) are rejected due to their p-value is more than or equal to 0.05 ($p \geq 0.05$). So, the study can conclude that peer relationships can influence the teaching-learning environment through popularity, trust, social support, and teachers' support; it is also evident that the teaching-learning environment significantly affects the learning ability of the learners.

5.0 Major Findings and Discussion

This research cultivates some important and vibrant issues related to peer relations and teaching-learning environments to develop learners' capability to learn which are as follows:

A great number of the colleges have only BNCC & Rover Scouts, and some colleges have debating clubs and cultural and sporting clubs but do not play active roles to develop students' potentiality through encouraging peer relations. Most of the colleges just arrange annual sports and cultural programs and celebrate national days and college day(s). Rarely, some colleges arrange debate competitions, seminars and workshops, study tours, film festivals etcetera. However, very few colleges arrange ICT training, language training, case competitions, and Math & Science Olympiad competitions.

The study found that about 75% of students have an idea or preliminary knowledge whereas about 22% have sufficient knowledge about peer relations and most of them are practicing it operationally but not academically. Besides, about 36% enjoy peer relations a lot and they argued that the same academic group is their precondition to make peer relations. Moreover, they have identified adjustment problems and poor communication as vital issues or influential factors in forming new groups or maintaining peer relations. Peer relations always affect cognitive will force (mental and intellectual ability increase) to learn and explore new things, or searching solutions to the existing problem.

Most of the students (about 86%) argued that educational institutions play a significant role in forming peer relations which leads them to learn academic lessons develop their skills and knowledge and achieve academic excellence. About 89.4% of respondents argued that peer relation helps them to get answers and probable solutions to any problems; whereas 85.5% claimed that peer relations help them to improve their academic results; they also viewed that problem-solving and opinion-sharing are enjoyable parts of peer relations.

In correlation analysis, all the variables considered in this research are significantly correlated to each other (two-tailed, 5% level of significance). The regression analysis shows that except two all five other variables have positive and significant effects on the learning ability of the learners. In the case of hypotheses analysis, except two (H1, H4; variable- Intimacy and Insightfulness), all other five hypotheses (H2, H3, H5, H6, H7; variables-

Popularity, Trust, Social support, Teachers support, T-L environment) are proved with at least 1% level of significance.

The study finds, for academic learning, the participatory class develops peer relations magnificently which is a resemblance to the findings of several former literature on mutual learning through group activities in the classroom (Beiswenger &Grolnick, 2010; Hossain & Tarmizi, 2013). Likewise, the study of Aziz & Hossain (2010) also identifies peer relations as an effective means for academic excellence and exam outcomes. This research also unveils that peer group appears as an easy solution by sharing opinions in the context of problem-solving and different queries on peers' enthusiasm to learn. Moreover, amicable behavior between teacher and student can create a compatible environment for learning which was also emphasized by the study of Islam, Sarker, & Islam (2022). In addition, many other former studies also considered the importance of peer relations from different perspectives such as group learning is effective in learning science, mathematics, and languages (Hossain & Tarmizi, 2013; Mim & Chowdhury 2018; Biswas, 2015), perceived academic support and teacher-students relations is highly related with students' academic achievements, (Hossain, 2016; Aziz & Hossain, 2010; Wentzel et al., 2017), whereas, unfriendly classroom environment and stressful peers negatively affects students learning ability and academic excellency (Akter, 2021). Moreover, this study reveals most of the students are used to gossiping during break time for not having a formal PR group though a positive view for liking break time is found by the existing study (Blatchford and Baines, 2006).

In addition, the present study also finds that among the six considered scales of peer relations (intimacy, trust, popularity, insightfulness, social support, teachers' support) have a significant impact on the development of the teaching-learning environment. This finding also validated by some previous studiessupportive peer relationships are important for student's mental and physical health (Ragelienė, 2016; Tome et, el. 2014); interpersonal trust positively affects cooperative tendencies among individuals (Wang, G., & Hu, W. 2021; Acedo-Carmona and Gomila, 2019); when peer trust is low, relationships are more distant, resulting in less significant cooperate tendencies (Wang and Chen, 2011); social relations can mitigate feelings of stress (Wentzel et al., 2017); In peer relations the teacher play role as a facilitator (Evlat & Avcioglu, 2002), teacher's support is interconnected to high ability to be coped with academic environment and achievement (Hoferichter et al., 2022; Blatchford & Baines, 2010).

Furthermore, the present study finds that a better teaching-learning environment significantly affects the learning capability of the learners which is also supported by some previous studies such as long-term student engagement is a predictor of student learning and achievement (Fredricks, Blumenfeld, & Paris, 2004), mutual learning gives learners a chance to take part in discourse, and make them critical thinkers (Babu et al., 2017; Mehar & Kaur, 2017), mixing positive academic emotions will cultivate the learning motivation and cognitive will force of the students (Tu & Chu, 2020).

6.0 Recommendations and Conclusion

In light of the study findings, the researchers have recommended some points for the policymakers, college administrators, teachers, guardians, or even for students to enhance peer relations and make students able to learn new things in groups. Firstly, the Ministry of Education should be careful to provide and accommodate effective student-friendly education policy considering the significant impact of behavioral patterns and the demand for student learning. The different academic and non-academic clubs can play active roles to develop students' potentiality which will be perfectly monitored by the Directorate of Secondary and Higher Education by its field staff.

Secondly, the college administrators, staff, and teachers should consider adopting practices that have been shown by the study to support, engage, and nurture students which will stimulate peer relations among the students. College administrators should organize different colorful cultural activities that students can perform in a couple of days by the group. For perfect monitoring, a group of students should be distributed under a guide teacher (student adviser); a code of conduct should be displayed on the notice board and also provided to the students which will be followed strictly by the college administration. Bullying, ragging, or ferocious unhealthy behavior should be stopped, and let them know about the zero-tolerance level of it. Teachers should make a plan for engaging in classroom activities to find out the adjustment and poor communication problems of the students.

Thirdly, peer relations should be well received by Students' guardians for the flourishing of their children's adjustment and growing positive attitude. But they have to maintain close contact with their youngster to overcome the negative aspects. Guardians should be careful enough about the company of their children, and also extend cooperation and care to their children so that the students can overcome the losses (if they are involved in any wrong peer relations, addiction, love, and affairs, or others) or wrong decision taken through the inspiration of their peers. The students as well as guardians should be careful of illegal events that may come from the misuse of the relationship peer group which leads them to a life full of darkness.

Finally, it is to be said that the findings from this study have significant implications concerning peer relations among classmates for improving the teaching-learning environment and learning capability of the learners. Though it covers a small area, it has ample scope to observe and examine students' capacity, adjustment or learning sensitivity, or learning willingness in the higher secondary or even in the tertiary, and higher education level in Bangladesh. Though the study has significant importance, it is not free from some limitations. Firstly, the study covers limited areas and institutions but it tries to blend the urban and rural students to get a general idea. Secondly, the sample respondents are not well-experienced in the term which makes the data collection more complex and time-consuming for the researchers. After completing the study, the researchers believe that the findings may assist policymakers, teachers, students, or even guardians to identify appropriate measures that could promote cooperative learning in the education sector of Bangladesh and to improve the learners' capability.

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