

A Study on the Pedagogical Barriers of Tertiary Level Education in Bangladesh

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Abstract : *The prime objective of this research was to identify and investigate the impact of various pedagogical barriers on effective tertiary level education. Other objectives were to find out the pedagogical barriers in tertiary level education and to portrait current pedagogical practices of higher studies institutions like public and private universities. For achieving the above objectives primary data were collected through verified structured questionnaire. A total number of 70 respondents have chosen as sample by convenience sampling technique. Sample respondents were taken from five public universities and two private universities. Data were analyzed by using SPSS-16 version by adopting the statistical techniques, correlation and multiple regression analysis. The findings of the study revealed that except the SPA (Social and psychological attachment) all of the independent variables have no significant effect on tertiary level education system in Bangladesh. Therefore, ministry of education, university grants commission and university authorities should take necessary steps to overcome the effect of these barriers to develop effective tertiary level education system. Thus, this study recommended the required actions for addressing and resolving those barriers effectively for ensuring quality education in the tertiary level.*

Keywords : *Pedagogical Barrier, Tertiary Level Education, Public University, Private University, UGC.*

1. Introduction

Tertiary level education system in Bangladesh mainly centered with two main streams of higher studies institutions. These are: public universities and private universities. After the independence of Bangladesh in 1971 there were only 4 public universities in Bangladesh. Due to increasing demand of higher education, private sector came forward to establish universities in early 1990s. Currently there are 39 public universities spread around the country and near about 92 private universities approved by the government as of February 2016 providing higher education to a large number of students in different area of specialization like: business,

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engineering, technology, agriculture and medicine. Also bulks of students are studying in different colleges affiliated to the National University (NU) which is another big stake holder of tertiary level education in Bangladesh.

In 1973, The University Grants Commission (UGC) was established by the government to approve and monitor academic programs of all universities in the country. UGC as the apex body of the government for higher education is responsible for funding of public universities and private universities do not get any government assistance in terms of funding, they need to receive approval from the UGC to operate and award degrees.

After the independence of Bangladesh, the quality of higher education in the universities declined day by day. There are few researches trying to identify the reasons for incessant dwindle of quality of the imperative segment of education sector that is tertiary level education. But further study is needed to explore some specific constraints exist in teaching and learning methods responsible for poor purposeless education system that increasing the unemployment rate of the country among the youth population. Therefore this research got ample scope to investigate the pedagogical barriers, its impact on tertiary level education as well as explore the remedies to those obstacles for effective and outcome based higher education system in Bangladesh.

2. Literature Review

Tertiary level education is the crucial part of education which contributes a lot to the development of a nation. Different academic development focus on the structure of knowledge which view the development of university academic programs as more than just subject experts, but rather emphasized on its implication and practices in the real life with professionalism which ultimately linkage the area of subject expertise and expert practice (Behari-Leak and Williams, 2011; Reitano and Green, 2013). Effective pedagogical system of tertiary level education also ensures the knowledge structure which supports practical implication of theoretical knowledge as a non-linear, iterative process to convert specific knowledge into expertise (Brody and Hadar, 2011). Pedagogy includes the underpinning values, philosophy or rationale of teaching and the strategic approaches to teaching and learning employed by teachers, tutors and their institutions. Areas examined include the aims and responsibilities of teachers, teaching experience, attitudes to transition, the teaching environment, teaching approaches to the promotion of specific learning skills, and the role of assessment. Pedagogical approaches to class work, lectures, tutorials, seminars, essay-writing, students' study skills, and assessment are considered. Macnaught et al. (2013) revealed that complementary roles of conceptual density and contextual specificity within the disciplinary areas may offer communities of teachers "a way to make the organizing principles of knowledge visible to students through explicitly teaching discipline-specific resources that

create and shape the knowledge of their disciplines.” Students can be involved in work to uncover these principles which supports the view of Werderet al., (2012) in considering co enquiry with students as a threshold concept in academic development.

University education curriculum should focus more on research based on specialized field of discipline rather than as a generic field. Dotterer (2002) viewed ‘research as pedagogy’ which help the teachers to link teaching with their prior knowledge gained from relevant research. In another relevant research it is found that university instructors must focus on the continuing need for “quality teaching and learning outcomes and life-long human capital development of our workforce” (Doerfert, 2011, 20). Because a competent faculty member believes that quality teaching is an art of delivering knowledge which facilitates learners toward accomplishing the learning goal. It is well accepted by educational researchers that the values, beliefs and attitudes of a teacher certainly influence the teaching method positively or negatively (Khader, 2012; Brownlee, Purdie, & Boulten-Lewis, 2001; Pajares, 1992; Tickle, Brownlee, & Nailon, 2005). For effective teaching learning method in university education program, continuous learning and confidence on the earned knowledge to select effective pedagogy for selective disciplines is mandatory. Many researchers found that there is a significant relationship between a teacher’s epistemological beliefs and their tendency to adopt specific pedagogical practices (Chan, 2003; Luft & Roehrig, 2007; Maggioni & Parkinson, 2008; Pajares, 1992).

Effective teaching and learning also influenced by faculty willingness, positive attitude and believes to develop learning friendly, participative class room environment. Different pedagogical approach reflects certain beliefs about the teaching/learning process that guide selection of educational strategies and techniques (Shrewsbury, 1987). It holds that application of these principles and values provides students with learning opportunities nonexistent in the traditional classroom (Dunn, 1987). Pedagogical barriers in tertiary level education connected to adult learning barriers. Dunn (1987) identified three barriers to adult learning. The first is the intuitive/affective barrier, which generated from learner’s stress and anxiety. The second is the ethical barrier, generally comes from the conflict and contradiction between learned knowledge and the personal values and beliefs of the learners’. The third and final barrier is the logical barrier generated from cognitive dissonance of the learners. New knowledge sometimes does not match with the learners existing thought structure which creates critical or logical barriers of learning (Dore, 1994).

Pedagogical system of tertiary level education contains diversified use of technology which ensures the teaching learning process more effective. Research studies in education reveals that the use of computers) can help improve students’

performance on standardized tests (Bain & Ross, 1999). Another research shows that use of technology in the teaching learning process can improve students' self-concept and motivation (Sivin-Kachala & Bialo, 2000). Moreover, application of modern technology provides the opportunity to transfer of knowledge from various diversified sources to the learner which otherwise would be very difficult to attain. After reviewing a number of literatures on technology integration barriers it is found that there are various kinds of barriers like (i) lack of resources (ii) lack of knowledge and skills (iii) institutional barriers (iv) barriers related to attitudes and beliefs (v) problems of assessment, and (vi) cultural barriers (Karagiorgi, 2005; O'Mahony, 2003; Pelgrum, 2001; Sandholtz, Ringstaff, & Dwyer, 1997). Internet technology can add value and benefit existing methods of online or distance education that would contribute in shaping current and future social, economic and political structures, at all levels (Souter, McLean, Akoh & Creech, 2010). Use of communication technology like internet in the class room can make learning useful; facilitate self-directed learning, allowing access tangential by time and location (LeNoue, Hall, & Eighmy, 2011). This learning process favor a constructivist approach where students are active participants and co-producers of knowledge rather than passive recipients and ordinary consumers that traditional practices make of them (Golding, 2011; LeNoue, Hall, & Eighmy, 2011).

Lack of teacher's training to use technology for effective teaching and learning is another important barrier of pedagogical system of our higher education. For lack of technological knowledge and skills teachers are unable to apply pedagogy by using technology. Hughes (2005) reveals that teachers should have technology-supported-pedagogy knowledge and skills base, which they can apply to develop appropriate technology integrated teaching plan. Another research found technology as amplification involves the use of technology to accomplish tasks more efficiently and effectively without altering the task (Pea, 1985).

Proper institutional instruction plays very significant role to make learning effective. In most of the colleges under national university Bangladesh are having lack of institutional instruction for effective class room management. According to Fraser (1983), proper class room management need to have the provisions and procedures necessary to establish and maintain an environment in which instruction and learning can occur and the preparation of the classroom as an effective learning environment. Universities in Bangladesh mostly followed class room based learning and in many research classroom management has been identified as the most important factor influencing student learning (Wang, Haertel, & Walberg, 1993). Insufficient training, time, and incentives are among the most commonly cited barriers for faculty turn over and frequent faculty pedagogical change (Henderson et al., 2010, 2011; AAAS, 2011). In terms of training, many instructors have indicated they feel ill-equipped to change the way they teach and thus would like access to structured, formal training. Thus faculty members may not be

knowledgeable about what constitutes a student-centered classroom (Hativa, 1995; Miller et al., 2000; Winter et al., 2001; Hanson and Moser, 2003; Luftet al., 2004; Yarnallet al., 2007). Teachers are also sometimes less convinced to use new teaching methods because they are not confident enough whether new methods are really more effective than traditional instruction (Van Drielet al., 1997; Miller et al., 2000; Winter et al., 2001; Yarnallet al., 2007). Science faculties are also facing the challenges of reform and but they have lack of training on these types of pedagogical methods (Rushinet al., 1997; Handlesmanet al., 2004; Ebert-May et al., 2011). Most of our private universities practice higher teaching loads which is another barrier to effective teaching. Because faculty members with highest teaching load cannot focus on developing and changing modern teaching learning method as the process requires huge time and labor orientation (Krockoveret al., 2002; Howland and Wedman, 2004; Stevenson et al., 2005; Schneider and Pickett, 2006; Malicky et al., 2007). Thus institutions must recognize the importance of initiating new method and create the environment of more interactive teaching learning method for the faculties and students which is critical to accomplish excellence of knowledge in the long term. UGC Bangladesh could play the main role to make it happen as many researches already revealed that interactive pedagogical method takes more time, investment and effort as compared with traditional teaching learning method (Miller et al., 2000; Hanson and Moser, 2003; Pundak and Rozner, 2008). Financial barriers are another crucial factor of effective pedagogical system of tertiary education in Bangladesh. According to Froke (1994b) well equipped class room, modern technology based teaching system and hardware, software maintenance of those modern equipment are costly for universities and thus it is a big challenge for effective higher education.

2.1 Tertiary Education in Bangladesh

Higher studies in Bangladesh generally comprises of bachelors degree education, masters level education, doctoral level education, and post doctoral education provided by university colleges, general universities, professional and technological universities. Also there is Madrasa education system for Islamic religious higher education. After reviewing the literature few research found on the pedagogical system of tertiary level education in Bangladesh. Day to day updated accessories have made a tremendous progress in the pedagogy of English and ensured maximum benefits and acceptability among teachers and learners simultaneously. In this regard, Ahmed, M. K. (2018) focused on the significant progresses in the application of multimedia; take up of class with the aid of modern equipment and practical scenario of the use of multimedia in schools, colleges and universities of Bangladesh where multimedia based classroom is getting popular between teachers and students equally. Ali Azgor Talukder & Moses Samuel (2017) explored the notion of problematisation through an analysis of a writing lesson involving undergraduate students in Bangladesh. It analyses both the teacher's and a

student's encounters with and reflections on problematisation throughout the lesson, and reveals that problematisation embodies complexities, and is empowering when it is self-reflexive. In another research, Barnamala M. T. (2015) addressed in a study the challenges of quality higher education in terms of status, issues and prospects in the contest of globalization and considered education fee, choice of the students and guardians, session jam, popularity, teaching aids, library facilities, availability of books and journals, research facilities, and laboratory facilities as main factors to identify quality higher education. The findings indicate that Bangladeshi universities lack of updating all those facilities and infrastructure. In the line of the research, Md. Saifuddin Khalid and Tom Nyvang (2014) investigated that how do stakeholders of educational administration experience the barriers of ICT adoption, and how can they facilitate the transformation process in addressing the barriers that prevent the adoption? They found that that barrier originate from the levels of individuals, the educational institution, the national agencies, and the external environment. Participatory Rural Appraisal provided a useful framework facilitating communication to highlight barriers and gain a deeper understanding of what exactly the barriers at different levels are in a specific institution and how they influence practice. In this regard, Shahadat Hossain Khan (2014) presented a model for integrating ICT in the professional development of teachers in Bangladesh based on the Technology Pedagogy Content Knowledge (TPCK) framework. Finally, his proposed model demonstrate the potential benefits to the teachers, trainers, policymakers and other educators who are directly or indirectly accountable for teachers' professional development. Finally it concludes with emerging research issues and pertinent guidelines in the context of Bangladesh.

Other researches focused on the quality comparison of three level of education in Bangladesh: primary, secondary and tertiary. Khan M. N. U. et al. (2014) explored the effectiveness of Bangladesh's present education system in delivering quality education as well as reckoning the prospect of establishing a knowledge-based society in the nation in their research. They revealed that Bangladesh has achieved an exemplary success in primary education as regards increased enrolment rate, while the enrolment rate is not satisfactory in secondary schooling and the tertiary education is expanding.

Higher education's in the private universities are much more costly than public universities but considering the quality and pedagogical system none of those are performing up to the mark. Barmon B. K. et al. (2012) found that the monthly average cost of education of a student in a private university is significantly higher than in a public university in Bangladesh. M. Tariq Ahsan, Umesh Sharma and Joanne M. Deppeler (2012) investigated the challenges to prepare pre-service teachers for inclusive education in Bangladesh. They identified four theme areas challenges: attitudinal beliefs, academic challenges, challenges in practicum and challenges for beginning teachers. Lack of appropriate information in the teacher

preparation curriculum, untrained teacher educators, limited resources, inappropriate teaching-learning approaches, insufficient practicum experiences, and large class sizes were some of the major challenges identified.

Islam and Yousuf (2011) conducted a research where they illustrated the situation with a number of examples taken from day-to-day teaching and learning system of universities to inculcate interest among education researchers to think about innovative ways in which the education delivery methods can be improved to produce graduates who are willing to pool efforts towards the development of the country. As the world is going through the technological revolution, adoption of new technologies in the education system is the most important. This has profound implications for education, both because ICT can facilitate new forms of learning and because it has become important for young people to master ICT in preparation for adult life. The use of ICT has the potential to enhance the real world experiences, the educational institutions should emphasize on the use of ICT for both administrative and academic efficiency. This study investigates current status of ICT in educational institutions and educational organization related activities and provides comprehensive recommendations to build a digital society in Bangladesh in the near future (Bairagi A. K. 2011).

Another researcher Islam F. (2008) found that there is demand for higher education but enrolment pattern reflects interdisciplinary imbalance in favor of liberal arts and social sciences than pure science, agricultural science and technical areas. In a relevant research Farooqui S. (2008) revealed that the assessment system only covered learners' ability of memorization and comprehension skills. Other categories of skills in the knowledge like application, analysis, synthesis and evaluation are hardly included in the assessment. The education policy of Bangladesh also criticized by different education researchers due to lack of proper identification of problem and creating and developing quality pedagogical system for the quality of higher education. Ahmed M. (2009) criticized the sixth education policy because some general propositions have been presented in the education policy draft regarding improving quality and making tertiary education more responsive to development requirements of the country, most of which are unexceptionable.

3. Objectives

The prime objective of this study is to investigate the impact of pedagogical barriers on tertiary level education system in Bangladesh. The specific objectives of this study are:

- i. To find out the present situation of pedagogical system in tertiary level education of Bangladesh.
- ii. To identify the pedagogical barriers in tertiary level education system of Bangladesh.
- iii. To suggest the way of emancipation of the barriers to the policy makers.

4. Research Methodology

To fulfill the objectives of this study, total number of 70 university teachers (N= 70) were chosen from different public and private universities by convenience sampling technique. The condition was that all of the respondents were in teaching position in different public and private universities of Bangladesh. They were serving in different positions from lecturer to professor in various departments. The broad research area for this study was seven (07) different universities of Bangladesh. Five were public universities: University of Dhaka, Jahangirnagar University, Jagannath University, Comilla University and BUP and other two were private universities: Southeast University and Daffodil International University.

The main methodology chosen for this research is the questionnaire survey method. The survey was conducted from October 2015 to April 2016. Primary data were obtained through a structured survey questionnaire. Total twenty questions including demographic characteristics were included. Four item questions for tertiary level education and twelve item questions for pedagogical barriers were designed to conduct the questionnaire survey. The final questionnaire focused on measuring pedagogical barriers in the context of university level education practiced by the public and private universities. The questionnaire also sought to get information related to teachers' demographic characteristics. The scale developed took the form of a 20 statements/attributes self-completion questionnaire, which teachers were asked to complete upon their teaching experiences in different universities. For each statement respondents were asked to tick (✓) their opinion of the statements related with pedagogical barriers and their experiences listed on a five point Likert scale anchored at (1) strongly disagree through to (5) strongly agree. An exploratory research has been conducted by collecting relevant qualitative information from the secondary data sources which includes different education publications, reputed university websites, UGC reports, different books and online reports and other sources. Besides, the researcher got information through face to face interviews with the professors of department of Management, department of IR and IER of Dhaka University. They have shared their valuable opinions and experiences both from local universities and universities from abroad.

5. Conceptual model and hypotheses

In order to achieve the objectives of the research, a conceptual model was developed which is shown in Figure 1. The pedagogical barriers of the study were selected through the related literature review. Furthermore, through an analysis of previous studies, this research chose the components of tertiary level education in order to know the impact of barriers on the effectiveness of the higher studies in Bangladesh.

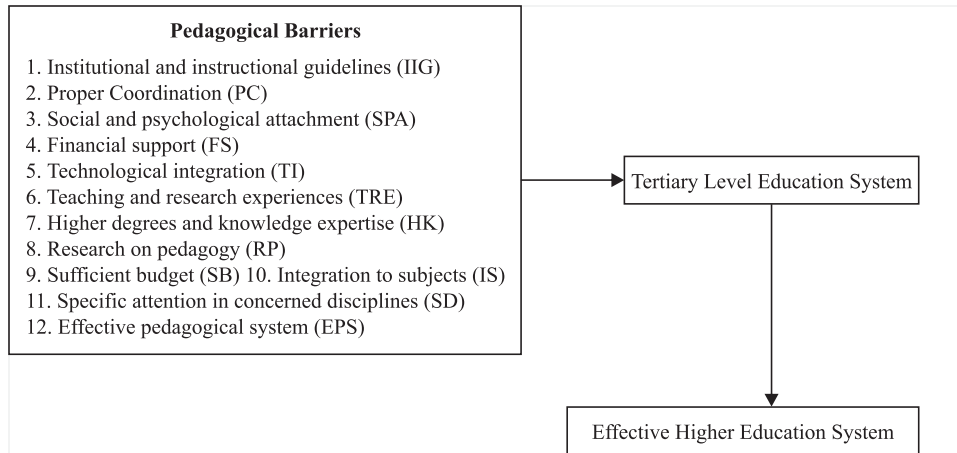


Figure 1 : Conceptual Research Model

The equations of the conceptual model were expressed in the following:

$$TLES = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + e$$

Where, TLES = Tertiary Level Education System

X_1 = Institutional and instructional guidelines (IIG)

X_2 = Proper Coordination (CE)

X_3 = Social and psychological attachment (SPA)

X_4 = Financial support (FS)

X_5 = Technological integration (TI)

X_6 = Teaching and research experiences (TRE)

X_7 = Higher degrees and knowledge expertise (HK)

X_8 = Research on pedagogy (RP)

X_9 = Sufficient budget (SB)

X_{10} = Integration to subjects (IS)

X_{11} = Specific attention in concerned disciplines (SD)

X_{12} = Effective pedagogical system (EPS)

And α is constant and $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8, \beta_9, \beta_{10}, \beta_{11}$, and β_{12} , are coefficient to estimate, and e is the error term.

Hypotheses

A review of the relevant literature was used to develop the conceptual model and lay down hypotheses in order to outline the main theme of this research. Therefore, there are twelve hypotheses were developed and utilized to accomplish the objectives of this research. These hypotheses are expressed as follow:

- H1:** There are proper institutional and instructional guidelines in tertiary level education system in Bangladesh.
- H2:** There are sufficient coordination efforts between academics and administrative officers to build effective pedagogical system in tertiary level education system.
- H3:** There is social and psychological attachment between students and teachers in tertiary level education.
- H4:** There is enough financial support for implementing advanced teaching methodologies in tertiary level education system.
- H5:** There is sufficient technological integration into the curriculum of tertiary level education system.
- H6:** Teaching and research experiences differentiate the teacher's ability to provide effective learning process at the tertiary level education system.
- H7:** Higher degrees and knowledge expertise are available in tertiary level education in Bangladesh.
- H8:** There are innovative projects to develop teaching and learning methodology in tertiary level education.
- H9:** There is sufficient budget for further research in tertiary level education system.
- H10:** There are proper group studies and subject integration in tertiary level education system.
- H11:** Different disciplines are getting required specific attention in tertiary level education system.
- H12:** The pedagogical system of tertiary level education is highly effective in Bangladesh.

6. Data analysis and findings

6.1 Demographic Characteristics of the Respondents

The major group of the respondents was assistant professor 40%; 30% respondent was lecturer, 20% respondent was associate professor, and 10% respondent was professor of different universities in Bangladesh. In terms of the tenure of experience, maximum respondents had 6 to 10 years of teaching experience, which is 34.3%, 24.3% of the respondents had maximum 2 years teaching experience and the same had experience more than 10 years, and 17.1% of the respondents had 3 to 5 years of experience. In case of gender distribution of the respondents, most of the respondents were male 72.9%; the female respondents were 27.1%. The dominant group of the respondents belongs to public university (88.6%), and rest of them were belongs to private universities (11.4%).

6.2. Descriptive Statistics and correlation Analysis

The study conducted descriptive statistics analysis of the variables which showed in table 1. If the mean scores of independent variables are observed then it is clear that both SB and EPS have higher value 4.64 then the rest of the order is as follows: IP (4.57), GS (4.50), IIG (4.41), TI (4.32), SD (4.22), TRE (4.21), HDK (3.78), SPA (3.67), FS (3.04) and CE (2.90). The mean score of the respondents close to 4 and above indicates their agreement on existence of various pedagogical barriers in different universities in Bangladesh.

Table 1: Correlation between Pedagogical Barriers and Effective Tertiary Level Education

	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
IIG	4.4143	.49615	1											
PC	2.9000	.93483	.575**	1										
SPA	3.6714	1.16372	.081	.099	1									
FS	3.0429	1.18488	-.030	.102	.015	1								
TI	4.3286	.71670	.086	.142	-.175	.072	1							
TRE	4.2143	.84943	-.306**	.038	.098	.379**	.107	1						
HK	3.7857	.99116	-.279*	-.184	.107	-.100	.331**	.402**	1					
RP	4.5714	.57914	.414**	.088	.001	.068	.380**	-.188	.102	1				
SB	4.6429	.61469	.098	.246*	-.075	.362**	-.068	.369**	.117	.165	1			
IS	4.5000	.58359	.040	.064	.164	.058	-.117	-.064	.173	.340**	.374**	1		
SD	4.2286	1.10560	-.011	.079	.342**	.012	.165	-.010	.456**	.205	.225	.317**	1	
EPS	4.6429	.48262	.101	.066	.357**	-.048	-.102	.031	-.120	.094	.047	.233	.188	1

Source: Calculated

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

6.3 Correlation between Pedagogical Barriers and Effective Tertiary Level Education

Correlations between different variables are shown in the Table 1. In this study, a correlation coefficient measured the strength of a linear between the pedagogical barriers and tertiary level education. Except SPA, the correlation between pedagogical barriers and tertiary level education was negative and insignificant at the 0.01 level and .05 levels (2-tailed). For example, the correlation between pedagogical barriers and IIG (Factor 1) was 0.101 (P=0.406) which does not supports hypothesis 1; the correlation between pedagogical barriers and PC (Factor 2) was 0.066 (P=0.585) which does not supports hypothesis 2; the correlation between pedagogical barriers and SPA (Factor 3) was 0.357 (P=0.002) which accepts hypothesis 3; the correlation between pedagogical barriers and FS (Factor 4) was 0.048 (P=0.693) which does not supports hypothesis 4; the correlation between pedagogical barriers and TI (Factor 5) was 0.102 (P=0.399) which does not supports hypothesis 5; the correlation between pedagogical barriers and TRE (Factor 6) was 0.031 (P=0.801) which does not supports hypothesis 6; the correlation between pedagogical barriers and HK (Factor 7) was 0.120 (P=0.323) which does not

supports hypothesis 7, the correlation between pedagogical barriers and RP (Factor 8) was 0.094 ($P=0.439$) which does not supports hypothesis 8, the correlation between pedagogical barriers and SB (Factor 9) was 0.047 ($P=0.700$) which does not supports hypothesis 9, the correlation between pedagogical barriers and IS (Factor 10) was 0.233 ($P=0.652$) which does not supports hypothesis 10, and the correlation between pedagogical barriers and SD (Factor 11) was 0.188 ($P=0.119$) which does not supports hypothesis 11.

6.4 Multiple Linear Regression Analysis

Results of linear regression analysis are shown in Table 2. To predict the goodness-of-fit of the regression model, the correlation coefficient (R), t-value, standardized coefficient (Beta), unstandardized coefficient (B), and F ratio were examined. The results of the regression analyses are discussed below:

Hypothesis 1 On the basis of the value of $R = 0.101$, $F = 0.698$ at $P = 0.406$ and the value of $t = 0.835$, it can be inferred with confidence that H_1 is not accepted.

Hypothesis 2 On the basis of the value of $R = 0.066$, $F = 0.302$ at $P = 0.585$ and the value of $t = 0.549$, it can be inferred with confidence that H_2 is not accepted.

Hypothesis 3 On the basis of the value of $R = 0.357$, $F = 9.917$ at $P = 0.002$ and the value of $t = 3.149$, it can be inferred with confidence that H_3 is accepted.

Hypothesis 4 On the basis of the value of $R = -0.048$, $F = 0.158$ at $P = 0.693$ and the value of $t = -0.397$, it can be inferred with confidence that H_4 is not accepted.

Hypothesis 5 On the basis of the value of $R = -0.102$, $F = 0.721$ at $P = 0.399$ and the value of $t = -0.849$, it can be inferred with confidence that H_5 is not accepted.

Hypothesis 6 On the basis of the value of $R = 0.031$, $F = 0.064$ at $P = 0.801$ and the value of $t = 0.253$, it can be inferred with confidence that H_6 is not accepted.

Hypothesis 7 On the basis of the value of $R = -0.120$, $F = 0.992$ at $P = 0.323$ and the value of $t = -0.996$, it can be inferred with confidence that H_7 is not accepted.

Hypothesis 8 On the basis of the value of $R = 0.094$, $F = 0.606$ at $P = 0.439$ and the value of $t = 0.778$, it can be inferred with confidence that H_8 is not accepted.

Hypothesis 9 On the basis of the value of $R = 0.047$, $F = 0.149$ at $P = 0.700$ and the value of $t = 0.387$, it can be inferred with confidence that H_9 is not accepted.

Hypothesis 10 On the basis of the value of $R = 0.233$, $F = 3.911$ at $P = 0.052$ and the value of $t = 1.978$, it can be inferred with confidence that H_{10} is not accepted.

Hypothesis 11 On the basis of the value of $R = 0.188$, $F = 2.496$ at $P = 0.119$, and the value of $t = 1.580$, it can be inferred with confidence that H_{11} is not accepted.

Table 2: Regression Results of Pedagogical Barriers and Tertiary Level Education

Variable	R	t-value	Co-efficient	F-value	P-value
1.IIG	.101	.835	.101(.089*)	.698	.406
2.CE	.066	.549	.066(.051*)	.302	.585
3.SPA	.357	3.149	.357(.258*)	9.917	.002
4.FS	-.048	-.397	-.048(-.043*)	.158	.693
5.TI	-.102	-.849	-.102(-.091*)	.721	.399
6.TRE	.031	.253	.031(.034*)	.064	.801
7.HDK	-.120	-.996	-.120(-.079*)	.992	.323
8.IP	.094	.778	.094(.121*)	.606	.439
9.SB	.047	.387	.047(.034*)	.149	.700
10.GS	.233	1.978	.233(.216*)	3.911	.052
11.SD	.188	1.580	.188(.150*)	2.496	.119

Source : Calculate

7. Discussion

The analysis of the first barrier found that there is lack of proper institutional and instructional guidelines in tertiary level education system of Bangladesh which indicate that universities are not practicing sufficient updated policy and guidelines integrated to subject responsive instructions for the faculty members to create and maintain proper pedagogical system. Second barrier is poor coordination efforts between academics and administrative personnel to build effective pedagogical system in tertiary level education system. For effective teaching learning environment university administration need to facilitate properly the faculty members in each and every requirements of the academic issues timely and rapidly when and where necessary. This research found that there is lack of coordination between administrative staff and faculty members to create positive learning environment. Third barrier focused on the social and psychological attachment between students and teachers in tertiary level education. This relationship is necessary for teachers to understand student's attitude and perceptions as well as apply effective tools to help them recognize the worth of learning and capacity to adopt with the lessons. Fourth barrier deals with lack of financial support for conducting advance level research in every discipline which can contribute significantly to the national and international store of knowledge. Analysis of fifth barrier found that necessary technological integration in the curriculum of tertiary level education system is not satisfactory in most of the universities of Bangladesh. Acquiring, installing and maintenances of modern technology in the class rooms as well as for other learning purposes is seem to be quite unfeasible for the developing

country like Bangladesh. Another barrier is lack of teaching and research experiences of faculty members. Quality of education largely depends on the teacher's ability to postulate lessons in a manner supportive to understand the knowledge as well as to apply in the real life for better outcome. This research found that public universities are now only teaching university, unfortunately there are no significant research and development initiatives which can contribute to the nation's development. Pedagogical inefficiency also cause from absence of required higher degrees and knowledge expertise in tertiary level education of Bangladesh. Higher studies in domestic universities are not of that quality so teachers need to go for higher studies abroad which government cannot finance according to the requirement. Lack of innovative projects to develop teaching and learning methodology is another problem. In this competitive world, every university need to understand and upgrade continuously their teaching learning method for accomplishing the purpose of learning, that ultimately require lot of investment on research and development of curriculum, timely updating and acquire latest technology to impart the knowledge properly. Sufficient allocation of budget to patronize future research also absent in the management philosophy of the universities. This scenario is alarming for any nation toward prospering growth as a whole. Due to huge teaching load and administrative work pressure, some private university faculties could not manage time to focus on designing and developing lesson plan in a manner to create student involvement, participation and engagement in the study. So lack of group study, brain storming and proper integration to subject could work as barrier. Another barrier is lack of attention to specific core disciplines. Besides all these barriers of pedagogical system, higher studies institutions have been undoubtedly playing significant role through its contribution to earn growth and development in all sectors of the economy. But unfortunately the barriers are making the system ineffective in its operation and lessen the success of attaining the purpose.

8. Conclusion and Recommendations

As a developing country proper tertiary level education system can play important role to produce effective human resources. On the basis of this study it is concluded that except SPA (Social and psychological attachment) all of the independent variables have no significant effect on tertiary level education system in Bangladesh. Therefore, ministry of education, university grants commission and university authorities should take necessary steps to overcome the effect of these barriers to develop effective tertiary level education system. This study also concluded that university grants commission has given research budget but it is not sufficient. So, the present situation of pedagogical system in tertiary level education of Bangladesh is not satisfactory. Therefore, the following recommendations for policy makers requiring improvement of the current situation prevailing at tertiary

level education system: (a) At university level, faculty development should be offered in pedagogical training to further develop of instructional capacity. So, there is need to give proper institutional and instructional guidelines. (b) Need to proper coordination among faculty, department and concerned course teacher to deliver the lectures in the class room. (c) Contact hour between teachers and students has been precariously low at all level in all types of institutions. In degree colleges and public universities the contact hour is low by any standard. So, need to increase contact hour between students and teachers. Teachers must be provided more time and support to the students. As a result social and psychological attachment will be increased. (d) There must be enough financial support for training and development of teachers as well as researchers. (e) Teachers also need to have the necessary technology-supported pedagogy knowledge and skills in order to integrate technology for instructional purposes. (f) Need to improve facilities for research at the higher educational institutions. University must develop capacity with appropriate facilities and provisions to undertake research with national relevance and give due motivation and recognition to researchers. (g) Teachers must obtain higher degree (Mphil, PhD.) within four or five years of their appointment in the university. (h) Need to stop elections for selecting deans and other academic heads. Most of the public universities recruited voters not quality teachers. So, all academic heads should be selected on the basis of seniority. (i) Need to arrange seminar or conference each year. By doing so, teachers' research capacity will be increased and new innovative ideas will be developed. (j) Need to update of curricula/syllabus on a continuous basis. Co-curricular and extra-curricular activities should be encouraged with reasonable time to participate. (k) Need to increase the interaction between university and job market. University should have institutional approach to explore the possibility of corporate funding through university industry research collaboration. (l) Make linkage between educational institution and society. Higher educational institutions should have a system and policy to disseminate and transfer the research findings to the social organization and community through extension services. (m) Need to introduce students' awareness program. (n) Need to recruit quality of faculty members on the basis of common criteria approved by university grants commission. Promotion or appointment to any higher position or assigning any responsibility in the university must be on the basis of well-defined key performance indicators. Besides, all academic staff must have training or orientation for effective academic guidance and counseling. (o) Through good governance need to empowering the students and their skill development. So that students learn not only solving problems on performing a particular job, they are also fit to make presentations through multimedia projector and offer leadership. (p) Most of the departments and universities do not have new information and communication technologies for making learning resources available, improving quality of instructions. So higher education institution should provide necessary

information technology resources, computers, internet, and other communication equipments for the teachers and students. (q) All institutions and universities do not have adequate facility for offering specializations. Even then they have been offering the courses. Resources are not properly utilized. Adequate fund for quality assurance must be the main concern in future development of higher education. Public-Private Partnership (PPP), cost sharing and cost recovery should be the strategy for dealing with resource constraints, enhancing resources for developing capacity and capability and contributing to equity in the education system. (r) Campus politics, violence and unrest in public university campuses and college campuses have become center of politics instead of center of excellence. Campus politics' violence and outside political interference have destroyed the academic environment. Unrest in the campuses has been adversely affecting the learning process. Restoring academic autonomy and academic environment in the universities and colleges without any outside interference should be a high national priority. The government and the political leaders should come forward to find ways and means to restore academic environment in the campuses. (s) The UGC should have greater authority to monitor the activities of public and private universities. Accreditation councils already formed to encourage improvements and self-regulation in quality of higher education. Recently, UGC introduced IQAC (Institutional Quality Assurance Cell) for self-assessment in different universities. It should be transparent, fair and appropriate. The scope of UGC should be broadened and the parsons of eminence capable of giving leadership should be inducted to run the UGC. It is high time that the UGC in close cooperation of universities devised proper accreditation system to monitor the quality of tertiary education both in terms of internal as well as external assessments. (t) Students and teachers should not actively involve in national politics or acts by political affiliation. Admission of students should be based on previous academic results and admission score only and quota system should be totally abolished.

In this study, only want to know the effect of pedagogical barriers on tertiary level education system. But there are other barriers and factors that have impact on tertiary level education system. For example; Accountability and transparency, Academic leadership and autonomy, Stakeholder feedback, Curriculum content design, Physical facilities, Teaching-learning assessment, Student support service, Staff and facilities, performance of IQAC etc. So the future researchers may conduct their research by considering the above barriers or factors.

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