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## Factors of Quality Education Enhancement: Review on Higher Education Practices in Bangladesh

**Mohammad Abul Kashem**

Assistant Professor, Department of Marketing, Faculty of Business Administration, Feni University, Bangladesh

**Abstract:** To maintain equality in higher education level both in private and public universities are very diverse both in function and in nature in Bangladesh. Quality teaching Initiatives and go-long-maintenance-and-continuation are basically an interesting issue in higher education landscape and found enormous difficulty with increasing diversity in the factors' influence. The study focused on the factors by which effective teaching quality be enhanced in higher education level along with considerations for perfection in teaching methodology. This paper determines the research area of critical success factors of quality enhancement and assurance in higher education level which has potential to be explored and generate new knowledge, to improve the quality education practices and outcome. By using Factor Analysis and ranking of the factors, it has found that Teacher's Distinctiveness, Human Resources Development, Teaching Approach and Quality of Teachers, Interpersonal and Pedagogy Skills are worth considerable to determine appropriateness in ensuring quality in higher education level.

**Keywords:** Teaching factors; Quality education; Higher education; Quality enhancement.

### 1. Introduction

Services offered by educational institutions are not tangible in nature and difficult to measure since its reflection go with the transformation of knowledge, behavior modification and life skills of learners (Tsinidou *et al.*, 2010). Quality assurance scheme has not only been influenced by a single factors and its assurance mechanism is somewhat different based on the complexity of the organization (Stensaker, 2004). To identify the quality in higher education level, most institutions focused in procedures and relied heavily on internal mechanism, which fails to appraise perfectly the impact of quality learning (ENQA (European Association for Quality Assurance in Higher Education), 2008). Again students learning is not only depend on quality teaching initiatives but also on whole institution and learning environment as well.

To be honest, the yardstick for university rank and value is relied heavily on contribution in research than on teaching quality. The facts that a great proportion of studies on quality teaching were carried out on a very limited scale (OECD, 2008). The model of Anglo-Saxon in the study of quality education still bears consequences of the ways and context on which quality teaching has been thought (OECD, 2008). The key challenges facing higher education are to quality, governance and educational outcomes for development (Wilkins, 2011).

### 2. Objectives

The study has been covered the following key objectives, as such:

- (i) To analyze the most rated quality factors of education from both teachers and students view point.
- (ii) To rank the factors affecting quality education from opinions of sample respondents.
- (iii) To provide support for the guidelines for the quality assurance and enhancement, delivery and management of higher education.

### 3. Literature Review

Generally research reviews include the factors that are closer to the students actual learning process have the strongest impact. These factors have greater impact than distant factors at national level (Wang *et al.*, 1993) where as some highlighted the level of class room teaching has strongest impact there to Scheerens (2003).

Scheerens and Bosker (1997) expressed apprehension about the effective teaching and instruction as the combination of factors as such, high expectations, orderly climate, instructional conditions: opportunity to learn, time on task/homework, monitoring at class room level, aspects of structured teaching: cooperative learning, feedback, reinforcement, differentiation or adaptive instruction.

Quality teaching might be a follower of an instrumental management framework by transparency, involment, quality function deployment, quality policy deployment, communication (Van der Wiele, 1995). The trends of higher

education encompassed through several dimensions likely to increasing targeting resources, performance oriented funding and competitive procedures (OECD, 2008) whereas, it is now being on market oriented (Green, 1993).

Boyer (1990) urged the necessity of scholarship in teaching whereas (Feldman, 1976a) listed teacher's sensitivity to class level and progress, clarity of course requirements, understandable explanation, respect for students and encouragement of independent thoughts as factors of a good teacher. In the same pathways, Shulman (1987) emphasized pedagogical knowledge and full command of the curriculum. Marsh (1987) mentioned appropriate workload, clear, empathy with students' explanations, openness on the part of the lecturer and quality of assessment procedures.

Hativa *et al.* (2001) focused the attention on lesson organization-clarity, interest in learning and positive class room climate whereas leadership and management have greater role in this aspect (Radloff, 2004; Taylor, 2003). To focus relatively on recent articles Boyer (1990) and Gibbs (1995) have been worth considering but recent changes is incorporated in this study based on information technology changes.

Skelton (2005) highlighted that no unique factors truly identify the teaching excellence, that would be depended on quality cultures as well and review how the institutions work. Experience matters in teaching effectiveness and better role players in students' achievements (Chalmers, 2007; Greenwald *et al.*, 1996).

Marton and Säljö (1976) found that students learning approaches focused mainly on understanding the course material and on memorizing the material itself whereas students' perception regarding learning environment influenced as well (Van Rossum and Schenk, 1984). From Benowski (1991) teaching should not be separated from research, indeed, "professors teach best what they know best", good researchers are good teachers just a myth (Terenzini and Pascarella, 1994).

Finally, the researcher accumulated all the issues and factors after reviewing the literature focused on existing scenario and the encouraged indicators to the adoption of quality education practiced in higher educational institutes.

## 4. Methodology

The study is descriptive in nature conducted by using a survey method. The population was the population was the faculties working at and the students of undergraduate and graduate level studying at Chittagong University, Feni University, BGC Trust University, and University of Information Technology and Sciences (Ctg.). Data regarding the variables have been collected through a questionnaire. Structured questionnaire was used as a means of data collection and was collected via personally administered questionnaire. The questionnaire was distributed to the respondents based on considering representatives by personal judgment. In total 250, i.e., 100 faculties and 150 students were randomly selected from the sample universities where response rate was 80%. The instrument was made up of sections of questions as per the factors in prearranged order. All items were measured on a five-point Likert Scale ranging from 1 'Strongly Disagree' to 5 'Strongly Agree'. Data regarding the variables have been collected through a questionnaire. The collected data then were analyzed by applying factor analysis using SPSS 17.0.

## 5. Analysis

### 5.1. Characteristics of quality education enhancement

Against these background data, we were interested to know from the sample students regarding the characteristics of quality education for meeting the requirement of job market and knowledge economy. The collected data have been examined by factor analysis.

#### 5.1.1. Principal Component Analysis

The variables have been further subjected to principal component analysis. The Eigen values, the percentage of total variance, and rotated sum of squared loadings have been shown in Table-4 in appendix. The factor matrix as obtained in the principal component analysis has also been further subjected to Varimax Rotation. An examination of Eigen values has led to the retention of ten factors. These factors have accumulated for 12.26%, 10.56%, 7.65%, 7.07%, 7.04%, and 5.43%, 5.12%, 4.57%, 4.23%, 3.73% of variation. This implies that the total variance accumulated for by all ten factors is 67.70% and remaining variance is explained by other factors. The KMO value is 0.713 which indicates the sampling adequacy of data.

### 5.2. Factor Analysis

The rotated factor matrix has been shown in Table-2 in appendix. This shows that variables understudy have constituted ten groups/factors. It can be mentioned that the variable with factor loading of 0.46 and above has been considered for inclusion into the factors. These have been discussed as follows.

### 5.2.1. Factor-I: Teacher's Distinctiveness

Factor-I explains 12.26% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed this major cluster. This factor belongs to teachers' availability for counseling and tutoring, teachers' regularity in publishing results, teachers' regularity in taking exams, teachers' regularity in taking classes, notification from teachers about office timings, course contents covered by the teachers, notifications from teachers about their leaves, teachers' encouragement to ask questions in class for development of quality education. So, this factor provides a basis for conceptualization of a dimension, which may be identified as 'Teacher's Distinctiveness Factor'.

### 5.2.2. Factor-II: Human Resources Development

Factor-II explains 10.56% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed second important cluster. This factor is concerned with necessity of career counseling and workshops, necessity of industrial attachment, necessity of job placement services, necessity of internship, necessity of internet facilities, importance of teaching methods: role play, importance of teaching method: case study, necessity of computer lab facilities, necessity of teachers' researcher records. So, this factor provides a basis for conceptualization of a dimension, which may be identified as 'Human Resources Development Factor'.

### 5.2.3. Factor-III: Interpersonal skill

Factor-III explains 7.65% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed third cluster. This factor is related to importance of team and interpersonal skill, importance of networking and specialization, importance of knowledge regarding industries, importance of oral communication skill, and importance of IT skill. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Inter Personal Skill Factor'.

### 5.2.4. Factor-IV: Pedagogy Skill

Factor-IV explains 7.07% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed fourth cluster. This factor is related to importance of subject knowledge, necessity of teachers' academic background, necessity of teachers' depth in subject knowledge, importance of teaching method: lecture. So, this factor provides a basis for conceptualization of a dimension, which may be identified as 'Pedagogy Skill Factor'.

### 5.2.5. Factor-V: Logistic Support

Factor-V: explains 7.04% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed fifth cluster. This factor is related to necessity of printing facilities, necessity of photocopy facilities, and importance of written communication skill. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Logistic Support Factor'.

### 5.2.6. Factor-VI: Relationship Skill

Factor-VI explains 5.43% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed sixth cluster. This factor is related to necessity of teachers' year of experience, necessity of teachers' to be student friendly, necessity of teachers' delivery skills. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Relationship Skill Factor'.

### 5.2.7. Factor-VII: Infrastructure Facilities

Factor-VII explains 5.12% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed seventh cluster. This factor is related to necessity of infrastructure facilities, importance of teaching Method: others. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Infrastructure Facilities Factor'.

### 5.2.8. Factor-VIII: Teacher's Qualification

Factor-VIII explains 4.57% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed eighth cluster. This factor is related to necessity of teachers' PhD degree, necessity of teachers' industry job experiences. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Teacher's Qualification Factor'.

### 5.2.9. Factor-IX: Interaction

Factor-IX explains 4.23% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed ninth cluster. This factor is related to teachers' encouragements in asking questions and interactions, importance of teaching method: presentation. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Interaction Factor'.

### 5.2.10. Factor-X: Teaching Approach

Factor-X explains 3.73% of the total variations existing in the variable set. This factor has significant factor loadings on these variables which have formed tenth cluster. This factor is related to the importance of teaching method: assignment, teachers' qualification and in depth subject knowledge. So, this factor provides a basis for conceptualization of a dimension which may be identified as 'Teaching Approach Factor'. Finally the rankings obtained on the basis of factor wise average scores are shown in [table-1](#) and also Scree-plot of the factors in [figure-1](#) in appendix.

The ranking show that *Pedagogy Skill* Factor is the most important factor that leads the quality education. This factor includes variables i.e. importance of subject knowledge, necessity of teachers' academic background, necessity of teachers' depth in subject knowledge, importance of teaching method: lecture. These implies that the development of quality education in the respective field.

The second most important factor is the *Relationship Skill* Factor. This factor includes variables such as necessity of teachers' year of experience, necessity of teachers' friendly relationship with students, necessity of teachers' delivery skills.

The factors which draw attention to policy makers, professionals and market participants for the enhancement of quality education are shown as follows in order of magnitudes:

Teacher's Distinctiveness, Human Resources Development, Interpersonal Skill, Pedagogy Skill, Logistics Support, Relationship Skill, Infrastructure Facilities, Qualification of Teachers, Interaction, and Teaching Approach.

## 6. Recommendation

The study reflected the context on the quality enhancement and assurance in higher education level. The issue itself added a greater sense of urgency and purpose to deliberations, as well as hope that systematic obstacles that had blocked higher education reform efforts in the past might give way in the current climate focusing on the need for improvements in the quality assurance and enhancement, delivery and management of higher education.

1. The UGC should play the overseer roles to maintain quality in higher education by intervention and involvement through the hard and fast rules, quality assurance structures, and establishing quality benchmarks.
2. Higher education institute should focus on adopting and internalizing a culture of evaluation and accountability at every level among faculty, administrators and students assessing teaching, program quality and student outcome.
3. University should explore expanded partnership with the private sectors name PPP (Public Private Partnership) and also co-op opportunities along with high-value career counseling.
4. Students learning platform may be more enriched through 'Collaborative Learning' means to collaboration with the other group members than on individual learning based on different skill levels among members.
5. Team learning has influenced the learners in different scenario of learning through discussion, sharing and peer influence as well than on individual learning.
6. Another process like 'Learning Centered Approach' can be introduced where group of people engaged in intellectual interaction for learning (Cross, 1998). This would be applicable in three different ways, as such, philosophical: new conception of knowledge base, research base: satisfaction of interaction in learning process; & pragmatic reason: learn about group dynamics. (Cross, 1998)

To develop quality culture in higher education institute would be an effective ways to ensure quality education, by develop a vision and a mission, establish a sense of necessity, explaining why culture is needed, create a guiding coalition: form an empowered team to lead developments, communicate widely and continually, be prepared to listen, develop a shared commitment-balance, purposeful and cohesive; generate some early successes, consolidate and embed the gains, don't rest on laurel (Yorke, 2000).

## 7. Conclusion

There are various factors inside and outside the educational institute contributing to the higher education quality enhancement. The study only consider the factors that usually focused by UGC and what is supported by the literature. The key aspects of the educators is to educate their students with utmost care and consider the factors what students opined in. usually study progress and way of teaching depend on the logistic facilities available in the campus and the pedagogy they are following. It is very much concerning that though few faculties have been used to follow the North-American standard and so and so, but they cannot ensure changes radically in all others. In this practice, private universities are ahead with ultra-modern infrastructure and facilities, but lack of the provision not have an option enormously in research like public university teachers. The literature stressed that good teaching is necessarily student-centered where attention should given to not simply teachers pedagogical skills but must address the students' needs. Collaborative learning through intellectual interaction to build knowledge might enhance students' learning methinks.

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**Table-1.** Rankings of the influencing factors

|      | <b>Factor</b>               | <b>Average Score</b> | <b>Rank</b> |
|------|-----------------------------|----------------------|-------------|
| I    | Teacher’s Distinctiveness   | 2.24                 | 9           |
| II   | Human Resources Development | 2.58                 | 6           |
| III  | Inter personal skill        | 2.57                 | 7           |
| IV   | Teaching Skill              | 2.97                 | 1           |
| V    | Logistic Support            | 2.63                 | 4           |
| VI   | Relationship Skill          | 2.92                 | 2           |
| VII  | Infrastructure Facilities   | 2.63                 | 5           |
| VIII | Teacher’s Qualification     | 2.71                 | 3           |
| IX   | Interaction                 | 2.21                 | 10          |
| X    | Teaching Approach           | 2.33                 | 8           |

**Note:** Data have been compiled by the researcher

**Table-2.** Rotated Component Matrix(a)

|  | <b>Component</b> |             |             |          |          |          |          |          |          |           |
|--|------------------|-------------|-------------|----------|----------|----------|----------|----------|----------|-----------|
|  | <b>1</b>         | <b>2</b>    | <b>3</b>    | <b>4</b> | <b>5</b> | <b>6</b> | <b>7</b> | <b>8</b> | <b>9</b> | <b>10</b> |
| Teachers' Availability for Counseling and Tutoring | <b>.849</b>      | .071        | .085        | .019     | .020     | -.068    | .115     | .103     | .074     | .133      |
| Teachers' Regularity in Publishing Results         | <b>.834</b>      | .085        | .043        | .030     | -.108    | .166     | -.072    | -.010    | .106     | .045      |
| Teachers' Regularity in Taking Exams               | <b>.831</b>      | .030        | .043        | -.089    | -.160    | .156     | .012     | -.126    | .148     | -.029     |
| Teachers' Regularity in Taking Classes             | <b>.722</b>      | -.086       | .208        | .130     | .081     | -.200    | .057     | -.238    | .018     | -.069     |
| Notification from Teachers about Office Timings    | <b>.701</b>      | -.097       | -.192       | -.014    | .110     | -.035    | -.077    | .075     | -.333    | -.059     |
| Course Contents Covered by the Teachers            | <b>.683</b>      | -.034       | .268        | .267     | .054     | -.116    | .262     | -.044    | -.017    | -.027     |
| Notifications from Teachers About their Leaves     | <b>.662</b>      | .209        | -.020       | .150     | -.266    | .130     | .104     | .037     | -.218    | -.090     |
| Teachers' Encouragement to Ask Questions in Class  | <b>.607</b>      | .171        | .134        | .389     | -.010    | .053     | -.016    | .073     | -.207    | .259      |
| Necessity of Career Counselling and Workshops      | .014             | <b>.759</b> | .187        | .027     | .178     | .067     | -.117    | -.142    | .164     | .167      |
| Necessity of Industrial Attachment/Apprenticeship  | .183             | <b>.730</b> | -.036       | -.080    | -.002    | -.088    | .111     | .066     | -.228    | .040      |
| Necessity of Job Placement Services                | .110             | <b>.713</b> | -.126       | -.060    | .184     | .044     | .149     | .043     | .025     | -.280     |
| Necessity of Internship                            | -.044            | <b>.671</b> | .243        | .109     | .083     | .222     | .003     | .113     | .052     | .127      |
| Necessity of Internet Facilities                   | -.093            | <b>.601</b> | .222        | .201     | .316     | .167     | .025     | -.153    | .065     | -.150     |
| Importance of Teaching Method: Role Play           | .086             | <b>.581</b> | .166        | -.004    | -.141    | .044     | .353     | .159     | .066     | -.084     |
| Importance of Teaching Method: Case Study          | -.013            | <b>.530</b> | .431        | .176     | -.114    | -.070    | .237     | .064     | .141     | .158      |
| Necessity of Computer Lab Facilities               | -.081            | <b>.522</b> | .091        | .101     | .479     | .145     | .046     | -.282    | -.165    | .096      |
| Necessity of Teachers' Research Records            | .178             | <b>.389</b> | .188        | .225     | -.014    | .202     | .250     | .336     | .287     | .125      |
| Importance of Team and Interpersonal Skill         | .262             | .132        | <b>.754</b> | .116     | -.007    | .037     | -.128    | .158     | -.113    | .011      |

|   |       |       |             |             |             |             |             |             |             |             |
|---|-------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Importance of Networking and Socialization                    | .130  | .048  | <b>.682</b> | -.148       | .193        | .186        | .139        | .022        | .100        | .036        |
| Importance of Knowledge Regarding Industries                  | -.037 | .223  | <b>.672</b> | .095        | -.031       | -.124       | .173        | -.122       | -.131       | .015        |
| Importance of Oral Communication Skill                        | .256  | .056  | <b>.504</b> | .126        | -.126       | .221        | -.073       | -.287       | .075        | -.413       |
| Importance of IT Skill  | .055  | .399  | <b>.474</b> | -.078       | .245        | .310        | -.064       | -.315       | -.030       | .054        |
| Importance of Subject Knowledge                               | .154  | .026  | -.182       | <b>.792</b> | .027        | .010        | .037        | -.032       | -.072       | .123        |
| Necessity Of Teachers' Academic Background                    | .013  | -.019 | .129        | <b>.734</b> | .239        | .087        | -.028       | .158        | -.068       | .089        |
| Necessity of Teachers' Depth in Subject Knowledge             | .082  | .194  | .187        | <b>.698</b> | .019        | .115        | .067        | .081        | .054        | .083        |
| Importance of Teaching Method: Lecture                        | .208  | -.110 | -.044       | <b>.590</b> | .326        | .096        | .013        | -.093       | .072        | -.359       |
| Necessity of Printing Facilities                              | -.083 | .125  | .083        | .063        | <b>.840</b> | .119        | .029        | .191        | .053        | .133        |
| Necessity of Photocopy Facilities                             | -.119 | .070  | -.010       | .146        | <b>.760</b> | .085        | .183        | .226        | .065        | .018        |
| Importance of Written Communication Skill                     | .001  | .356  | .049        | .278        | <b>.581</b> | .218        | -9.921E-05  | -.019       | .064        | .002        |
| Necessity of Teachers' Year of Experience                     | -.007 | .111  | .040        | .158        | .027        | <b>.742</b> | .096        | .197        | .070        | -.054       |
| Necessity of Teachers' to be Student Friendly                 | .062  | -.043 | .096        | .058        | .246        | <b>.642</b> | .067        | -.108       | -.110       | .307        |
| Necessity of Teachers' Lecture Delivery Skills                | .042  | .279  | .059        | .071        | .233        | <b>.639</b> | .225        | .150        | .065        | -.088       |
| Necessity of Others Facilities                                | .076  | .144  | .109        | .018        | .070        | .049        | <b>.857</b> | -.058       | .038        | .082        |
| Importance of Teaching Method: Others                         | .092  | .124  | .008        | .037        | .140        | .245        | <b>.821</b> | .097        | .014        | -.041       |
| Necessity of Teachers' PhD Degree                             | -.028 | -.083 | -.184       | .076        | .217        | .138        | -.045       | <b>.736</b> | -.127       | .056        |
| Necessity of Teachers' Industry Job Experience                | -.132 | .238  | .372        | .125        | .221        | .173        | .168        | <b>.643</b> | .142        | -.137       |
| Teachers Discouragemnets in Asking Questions and Interactions | -.063 | -.044 | -.290       | -.104       | .019        | -.089       | -.038       | -.050       | <b>.764</b> | .068        |
| Importance of Teaching Method: Presentation                   | -.003 | .162  | .331        | .035        | .143        | .190        | .147        | .054        | <b>.570</b> | -.022       |
| Importance of Teaching Method: Assignment                     | .081  | .034  | -.026       | .265        | .306        | .086        | .071        | -.139       | .322        | <b>.693</b> |
| Teachers Qualification and Indepth Subject Knowledge          | .340  | .032  | .108        | .310        | -.042       | .227        | -.034       | .177        | -.290       | <b>.460</b> |

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.  
a. Rotation converged in 11 iterations.

Table-3. KMO and Bartlett's Test

|   |                    |             |
|---|--------------------|-------------|
| <b>Kaiser-Meyer-Olkin Measure of Sampling Adequacy.</b> |                    | <b>.713</b> |
| Bartlett's Test of Sphericity                           | Approx. Chi-Square | 4505.602    |
|   | df                 | 780         |
|   | Sig.               | .000        |

Table-4. Total Variance Explained

| Component | Extraction Sums of Squared Loadings |               |              | Rotation Sums of Squared Loadings |               |              |
|-----------|-------------------------------------|---------------|--------------|-----------------------------------|---------------|--------------|
|           | Total                               | % of Variance | Cumulative % | Total                             | % of Variance | Cumulative % |
| 1         | 7.771                               | 19.429        | 19.429       | 4.907                             | 12.268        | 12.268       |
| 2         | 4.960                               | 12.400        | 31.829       | 4.227                             | 10.567        | 22.835       |
| 3         | 3.111                               | 7.777         | 39.606       | 3.063                             | 7.657         | 30.492       |
| 4         | 2.072                               | 5.181         | 44.787       | 2.831                             | 7.076         | 37.568       |
| 5         | 1.894                               | 4.735         | 49.522       | 2.817                             | 7.043         | 44.611       |
| 6         | 1.767                               | 4.417         | 53.939       | 2.173                             | 5.433         | 50.044       |
| 7         | 1.571                               | 3.929         | 57.868       | 2.051                             | 5.127         | 55.170       |
| 8         | 1.393                               | 3.482         | 61.350       | 1.830                             | 4.575         | 59.745       |
| 9         | 1.301                               | 3.253         | 64.602       | 1.692                             | 4.230         | 63.976       |
| 10        | 1.242                               | 3.106         | 67.708       | 1.493                             | 3.733         | 67.708       |

Extraction Method: Principal Component Analysis.

Fig-1. Scree Plot

