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### Research article

# Evaluation of quality attributes of graduate by employers to develop skilled manpower and ensuring the quality of higher education

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### ABSTRACT

Education is the backbone of the nation. The key success and prosperity of the country depend on the skilled manpower or human resource development. Self-evaluation in higher educational institutes (HEI)is necessary for building skill graduates to combat in the competitive labour market and to stable the backbone of the nation. In this regard, a study was conducted to evaluate the quality performances of new graduates by employers or stakeholders passed from a HEI. A total of 17 employers of different categories (private or government) were selected randomly to collect data on the performances such as knowledge, communication skills, interpersonal skills and work skills of new graduates. A survey work was conducted to collect data from the employers with a pre-formed questionnaire during the study period. Each questionnaire contained a range of questions differing in aspect and varies from 3 to 7. Enough time. freedom and explanation were given to each respondent to fill up the questionnaires before collecting data. Data were evaluated from the respondents against the scores set from 1 to 5 scales (1=Poor, 2=Fair, 3= Good, 4=Very good and, 5= Excellent). The result revealed that maximum score (2.82±0.30) obtained in job knowledge of the graduates. Majority employers about 53 % supported that this skill like job knowledge or subject matter knowledge of the graduate is better than that those of IT (35.29%) knowledge and innovative (47.06%) knowledge, respectively. In case of communication skills, and presentation skill of graduate being the highest average score (3.76±0.33), and 41.18 % employers expressed that the quality of presentation skill of the graduate is excellent. Other skills including written (35.29%) and oral (41.18 %) skills were found very good. The results of interpersonal skills (IS) showed that teamwork ability got the higher score (3.24±0.28) and it is supported by 29.41 % employers as good. Other IS qualities of the graduate found very good with respect to motivating ability (41.18%), adaptability (41.18%), empathy (41.18%), appreciation to ethical values (35.29%), and reliability (23.53%) except for leadership skill (29.41%) being fair category. The data of work skills (WS) reported that discipline of the grad had the higher score (3.29±0.30) and it was supported by 35.29% employers as very good. Time

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management skill of the grad was found to be excellent as 23.53% employers responded positively for this skill, Other WS qualities like judgment (47.06%), problem solving ability (47.06%), ability to link theory to practice (41.18%), of the grad found very good except for the data analyzing ability (41.18%), and sense of responsibility (29.41%) of the grad being good, It can be inferred from the results that the overall quality attributes of our grad appear to be very good as majority responses of the employers supported positively for this performances including knowledge, communication, interpersonal and work skills were measured in this study. Above all, to make more skilled, competent, qualified graduates or man power, the university should give more emphasis on these qualities improvement of the graduates.

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#### 1. INTRODUCTION

Higher educational institute (HEI) or university is the highest seat of learning, research and education. The main goal of any HEI is to produce innovative knowledge and quality education through building skilled manpower (graduates) to enter into a competitive job market or workplace. Graduates or employees face huge competition continuously at the workplace for getting a quality job prestigious service with a well-paid salary or remuneration. The primary goal of any graduate is to look for a job at home and abroad and start continuing struggles until he/she achieve it from a competitive job market. The global job market is very competitive, as it were a fierce of battle field between employees and employers, to reach their desired goal or success. One critical measure of success in workplaces is an employee's ability to use competently the knowledge, skills and values that match the needs of his job, satisfy the demands of his employer, and contribute to the overall achievement of institutional goals (Abas and Imam, 2016).

Bangladesh like other countries is beset with the increasing challenges or changes of globalization. The whole world is treated now as a global village due to the advancement in communication technology. People suiting at home can get information or jobs from other parts of the world by means of improved technology. We are residing in a global economy that is geared by technology, fueled by information, and driven by knowledge. Work

and skills will be redefined and reorganized due to the influence of innovative technology that surpasses new equipment and faster communications.

Currently, education and employment are two vital sectors that influence the newly created scopes or technology along with emerging challenges and complexities of the modern age. Both education and employment are facing a great difficulties day by day in human resources development that could compete successfully in a global economy (Lasan, 2000).

Today's graduates are the best human resources, their education, qualifications, experiences, knowledge, skills, and talent will harmonize with the requirements of the present and future labor or world job market. Therefore the mutual cooperation and interactive approaches of these two sectors are very important nowadays in stabilizing the job market. The quality attributes or employability skills of the graduates rather than technical skills, make them valuable assets or resources to an employer (Buck and Barrick, 1987). The employability skills can be classified as basic academic skills, higher-order thinking skills, interpersonal skills, communication skills, work skills, job knowledge, and personal qualities (Robison, 2000). Most of employers expect graduates must possess these skills, which are considered as essential requirements for recruiting policy (Gregson and Bettis, 1991). These skills are necessary for every aspect of job positions from entrance to top of the offices (Sherer and Eadie, 1987). The quality of education can be measured by the employability of the graduates and their capacity to launch

business and becoming successful entrepreneurs. Similarly, these quality dimensions of graduates are crucial for employment and workplace success, and serve as a basis for lifelong learning needed by graduates to find a suitable job (Clarke, 2008).

Quality is one of the factors for any higher educational institute or organization. Quality institutes or organizations are able to generate quality graduates which have a great demand in the world job market. The efficient performance of the graduate in the labor market is always considered as valuable human resources to an employer, and its expansion helps the world labour market to flourish rapidly. On the contrary, inefficient or poor-quality graduates appear to be a burden of any institute, as job market does not allow them to enter into the service field or job system easily.

Thus assuring quality education in higher educational institutes has been a great challenge or burning issue for the sake of fulfilling employer's needs and graduate's quality. Very limited research has been initiated regarding this matter in Bangladesh. No available data, inconclusive results, variation of employers' need in the challenging environment, and volatile performance of the graduate' or educational quality etc., are acting as driving forces to undertake this sort of research study. It has no doubt that the graduates find their jobs or are employed in various private farms, multinational companies, GO, NGOs and other organizations of home and abroad just after passing out from the university. The quality of these graduates is also variable in the competitive job market. Job market also varies due to the volatile performance quality of the graduates/employees. Considering the above backgrounds, the present study was undertaken to investigate the graduate performances for assuring the quality of higher education.

### 2. MATERIALS AND METHODS

A structured questionnaire was used to perform this experiment (#A sample copy of attached herewith) with a view to assess the quality attributes of neo-graduates by a different categories of service providers or employers. The questionnaires were prepared covering all relevant aspects of self-assessment (SA) developed through different workshops and seminars on SA organized by IOAC with the help of faculties of this university. Data or samples were collected by survey method with the pre-formed questionnaire from the different sorts of employers organizations located in the different regions of Chattogram division during the experimental period from 2022 to 2023. A total of 17 different categories of employers was selected randomly from the project area to collect experimental data. The employers were poultry farm owners (n=5), dairy farm owners (n=4), drug manufacturing companies (n=5), and private entrepreneurship (n=3), personnel involved in livestock related business and others. The employers were selected based on the number of criteria like type of organization (government or non-government, registered or non-registered), durability of the organization, location, distance, communication facilities, availability of DVM graduates employed therein, size of the farm/organization, number of staff employed and so on. The pre-formed questionnaire was comprised with a number of different categories of questions, which helped to collect the data from the employers to evaluate the graduate's quality performances. Before collecting survey data, the respondents are discussed the matter of questionnaire details, and also replied for any query if they raise now and then while conducting survey works. Enough time, freedom and explanation were given to each respondent to fill up the before collecting questionnaires required information. Data were collected from the respondents like employers or service providers against the scores set from 1 to 5.

# Graduate's quality performance or subject matter competence:

The graduates should belong to these qualities (subject matter knowledge, communication skills, interpersonal and work skills), which could help them to find any job easily from a competitive labour market. In this process of evaluation, preformed questionnaires the contained some particular aspects knowledge (job or subject area, IT knowledge, innovative knowledge), communication skill (oral, written, presentation skills), interpersonal skill (ability to work in team, leadership,

empathy, motivation ability, reliability, appreciation of ethical values, adaptability), work skill (e.g. time management, judgment, problems formulation, solving and decision making skills; collecting and analyzing data, ability to link theory to practice, discipline, and sense of responsibility). Each of these aspect included at least 3 to 7 different points /topics as stated earlier, which are designed to be graduating grade by the respondent using the following scale from 1 to 5 (e.g. 5 – Excellent, 4 -Very Good, 3 - Good, 2- Fair, and 1 -Poor).

## Statistical analyses

All collected data were entered into MS excel sheet. Statistical analyses were carried out by using Minitab statistical software (Minitab version, 16, 2000). Descriptive analysis was performed on the data set. Results were expressed in mean, frequency, standard errors and percentage.

### 3. RESULTS

# Graduate's quality performance or attributes on subject matter

The results obtained for evaluating the graduate's performance or quality attributes with respect to knowledge, communication skill, interpersonal skills, and work skills etc., are shown both in Table 1 and graphs (Figures 1 to 4), respectively.

## A. Knowledge [graduate's quality attributes]:

The mean scores were 2.82±0.30, 2.76±0.17 and 2.76±0.29, respectively, for the job knowledge (Q2.1), IT knowledge (Q2.2), and innovative knowledge (Q2.3), (Table 1). The group mean score for the overall knowledge was 2.78±0.25. The results obtained for job knowledge of employer data showed that 11.76.% excellent, 5.88 % very good, 52.94% good, 11.76% fair and 17.65% poor, respectively (Figure 1). In case of IT knowledge (Q2.2), data showed that 0.% excellent, 17.65 % very good, 47.06% good, 29.41% fair and 5.88% poor, respectively, (Figure 1). The data for the innovative knowledge (Q2.3) showed that 5.88.% excellent, 23.53 % very good, 35.2.9% good, 11.76% fair

and 23.53% poor, respectively, as is seen in the Figure 1.

# **B.** Communication skills [graduate's quality performance]

The survey reports showed that the mean scores being 3.35±0.28, 3.18±0.29 and 3.76±0.33 for the oral (O2.4), written (O2.5), and presentation skills (Q2.6), respectively (Table 1). The group mean score was 3.43±0.30. The values obtained for oral communication (Q2.4) indicate that 11.76% excellent, 41.18 % very good, 29.41 % good, 5.88% fair and 11.76% poor, respectively. (Figure 2). In case of written skill (Q2.5), the data showed that 11.76.% excellent, 35.29 % very good, 23.53% good, 17.65% fair and 11.76% poor, respectively (Figure 2). The data received for the presentation skills (Q2.6) revealed that 41.18% excellent, 23.53 % very good, 17.65% good, 5.88% fair and 11.76% poor, respectively, as evinced from the Figure 2.

# C. Interpersonal skills [graduate's quality performance]

The survey responses showed that the mean scores were found as 3.24±0.28, 2.94±0.29, 3.06±0.26, 3.12±0.32, 3.18±0.35, 3.16±0.34 and  $2.84\pm0.32$  for the teamwork ability (Q2.7), leadership ability (O2.8), empathy (O2.9), motivating ability (Q2.10), reliability (Q2.11), appreciations of ethical values (Q2.12), and adaptability (Q2.13) (Table 1). The groups mean score of these quality attributes was 3.08±0.31. The responses (%) of interpersonal skills like teamwork ability, leadership ability, empathy, motivating ability, reliability appreciations of ethical values and adaptability were also shown in a graph (Figure 3). The results obtained for the teamwork ability (Q2.7) of the graduates showed that 17.65% excellent, 23.53 % very good, 29.41% good, 23.53% fair and 5.88% poor (Figure 3). In case of leadership ability (Q2.8), the result showed that 11.76% excellent, 23.53 % very good, 23.53% good, 29.41 % fair and 11.76% poor (Fig.3). The data of the empathy (Q2.9) showed that 5.88% excellent, 41.18 % very good, 17.65% good, 25.53 % fair and 11.76% poor (Figure 3). The data of the motivation ability (Q2.10) showed that 11.76% excellent, 41.18 % very good, 11.76% good, 17.65 % fair and 17.65 poor for the motivation ability of graduate (Figure 3). The data of the

reliability characters (Q2.11) showed that 23.53 % excellent, 23.53% very good, 17.65% good, 17.65 % fair and 17.65% poor (Fig.3). The data for the appreciations of ethical values (Q2.12) reported that 17.65% excellent, 35.29 % very good, 11.76 % good, 17.65 % fair and 17.65%

poor (Figure 3). The data of the question (Q2.13) showed that 5.88% excellent, 41.18% very good, 17.65% good, 11.76 % fair and 23.53% poor for the adaptability of graduate (Figure 3).

Table 1. Mean scores (mean  $\pm$ SEM) of different quality dimensions or aspects of graduate (graduate's quality performance) obtained from the different stakeholders

Quality / Standard	Ques.	Aspects of evaluation	Employers (n=17)	Group mean scores
A. Knowledge	Q2.1	Job knowledge (knowledge on the	2.82±0.30	
		subject matter)		
	Q2.2	IT knowledge	$2.76\pm0.17$	$2.78\pm0.25$
	Q2.3	Innovative knowledge	$2.76\pm0.29$	
B. Communication skills	Q2.4	Oral communication	$3.35\pm0.28$	
	Q2.5	Written communication	$3.18\pm0.29$	$3.43\pm0.30$
	Q2.6	Presentation skills	$3.76\pm0.33$	
C. Interpersonal skills	Q2.7	Ability to work in teams	3.24±0.28	
	Q2.8	Leadership	$2.94\pm0.29$	
	Q2.9	Empathy	$3.06\pm0.26$	
	Q2.10	Motivation ability	$3.12\pm0.32$	
	Q2.11	Reliability	$3.18\pm0.35$	3.08±0.31
	Q2.12	Appreciation of ethical values	$3.16\pm0.34$	2.00=0.01
	Q2.13	Adaptability	$2.84\pm0.32$	
D. Work skills	Q2.14	Time management	3.0±0.34	_
	Q2.15	Judgment	$3.0\pm0.28$	
	Q2.16	Problem formulation, solving and decision making skills	3.18±0.29	
	Q2.17	Collecting and analyzing appropriate data	$2.88 \pm 0.27$	3.09±0.31
	Q2.18	Ability to link theory to practice	$3.12\pm0.32$	
	Q2.19	Discipline	$3.29\pm0.30$	
	Q2.20	Sense of responsibility	$3.18\pm0.34$	

[n=number of data, Data refer to mean value ±SEM; SEM-standard errors mean]

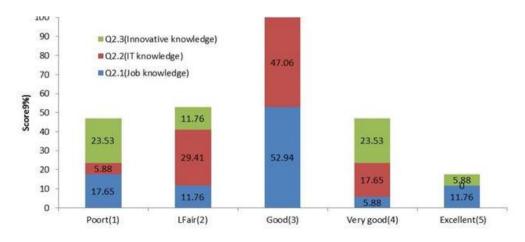


Figure 1. Knowledge-dimension of quality (graduate's quality performance)

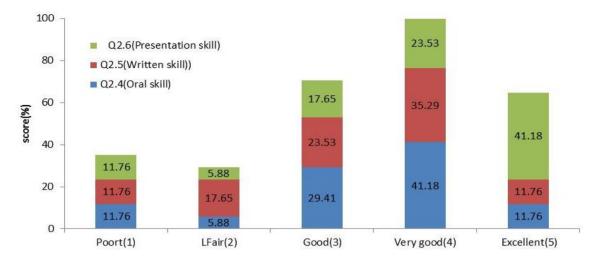


Figure 2. Communication skills-dimension of quality (graduate's quality performance)

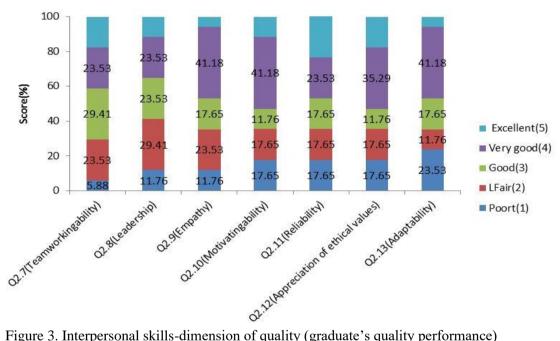


Figure 3. Interpersonal skills-dimension of quality (graduate's quality performance)

# D. Work skills (graduate's quality performance)

It is evident from the data that the individual mean scores were found as 3.0±0.34, 3.0±0.28,  $3.18\pm0.29$ ,  $2.88\pm0.277$ ,  $3.12\pm0.32$ ,  $3.29\pm0.30$ and 3.18±0.34 for the time management (Q2.14),judgment (Q2.15),problem formulation, solving, and decision making skills (Q2.16), data collecting and analyzing ability (Q2.17), ability to link theory to practice (O2.18), discipline (O2.19), and sense of responsibility (Q2.20), respectively, (Table 1). The group mean score of these performance criteria was found 3.09±0.31.

The responses (%) of work skill (e.g time management, judgment, problem formulation, solving, and decision making skills, data collecting and analyzing ability, ability to link theory to practice, discipline, and sense of responsibility) were also presented graphically (Figure 4). The results obtained for time management data showed that 23.53% excellent, 11.76 % very good, 23.53 % good, 23.53 % fair and 17.65% poor (Figure 4). In case of judgment (Q2.15), the data showed that 0.% excellent, 47.06 % very good, 23.53% good, 11.76 % fair and 17.65% poor (Figure 4). The data of problem solving and decision making ability (Q2.16) showed that 5.88% excellent,

47.06 % very good, 23.53% good, 5.88 % fair and 17.65 % poor (Figure 4). The data collecting and analyzing ability (Q2.17) showed that 5.88% excellent, 23.53 % very good, 41.18% good, 11.76% fair and 17.65% poor (Figure 4). The data of the question (Q2.18) showed that 11.76% excellent, 41.18 % very good, 11.76% good, 17.65% fair and 17.65% poor for the ability to link theory to

practice of graduate, respectively, as is seen in the Figure 4. The data for the discipline (Q2.19) showed that17.65.% excellent, 35.29% very good, 11.76% good, 29.41% fair and 5.88% poor (Figure 4). The data of sense of responsibility (Q2.20) showed that 23.53% excellent, 17.65% very good, 29.41% good, 11.76% fair and 17.65% poor for the sense of responsibility of graduate (Figure 4).

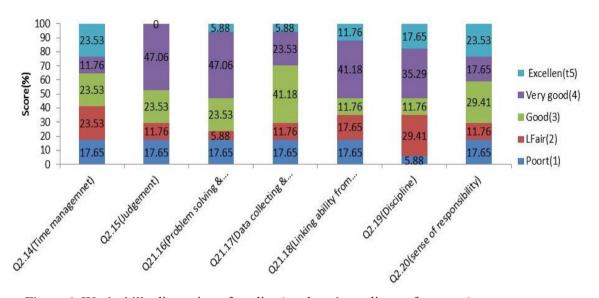


Figure 4. Work skills-dimension of quality (graduate's quality performance)

### 4. DISCUSSION

### **Knowledge** [graduate's quality performance]

As we know that knowledge is power, and it is the force that unlock all doors of success. In this study, three sorts of knowledge such as job, IT and innovative knowledge are assessed by the employers. It is obvious from the data that maximum score (2.82±0.30) obtained or major responses (52.94%) go to job or subject matter knowledge in compared to other types of knowledge measured in this study. Data of group mean score indicates that the subject matter knowledge of our passing graduate is fair or average quality, which is an important criteria to recruit graduates in their respective job or service fields.

However, maximum employers identified that job or subject matter knowledge of our graduate is very good. Other knowledge say IT and innovative knowledge are also good as majority employers responded positively for this skills. Job knowledge actually is the individual's

technical knowledge or professional expertise or individual's current state of knowledge about the subject matter. It is normal that recruiters or employers always seek to employ top candidates for their organization who have better job knowledge, job experience or expertise on particular fields. A recruiter needs specific skills to excel in their respective job or services. Currently, we see a large number of candidates are passing out every year, but job is limited, it is not increasing as the applicant rises each year by leaps and bounds. For this reason, applicants face hard struggles to find a suitable job. Recruiters or employers always look for competent candidates with right skills or job experiences despite the huge number of candidates fighting per job. From the overall results obtained in this question (A) indicates that job knowledge or experience is very much important for the quality of new graduate, as the majority responded positively for this criteria of the new graduate, regardless of other qualities.

# Communication skill [graduate's quality performance]

The employability skills of the current graduates have become a rising issues among the academicians and employers. Employers deem that applicants should have a good skill over communication along with excellent academic results or performances (Ngah et al., 2011, Ting et al., 2017). Communication skills can be one of the factors that can debar the graduates from getting a job, when the graduates fail to meet these expectations of the employers (Suppramaniam et al., 2019).

However, communication skills with respect to oral, written and presentation skills are evaluated in this study by the employers. It is clear from the data that out of three skills. maximum score (3.76±0.33) obtained or major responses (41.18 %) went to presentation skill in compared to other types of skills measured in this study. Maximum employers said that presentation skill of our graduate is excellent as evinced from the current results. From the overall results obtained in this question indicates that, presentation and oral communication skills are very good, as the majority employers responded positively for this criteria, even though other communication skill say written skill is also good. This group scoring result indicates that the overall communication skills of our passing graduate is pretty good, and it is considered as an important criteria to be recruit in their respective job or service fields.

# Interpersonal skills (graduate's quality performance)

number of parameters says team workability, leadership ability, empathy, motivating ability, reliability, appreciations of ethical values and adaptability were considered for interpersonal skills of the graduates in this study. It is obvious from the results that maximum score (3.24±0.28) obtained for team work skill in compared to other types of skills measured in this study. Maximum employers said that teamwork skill is very important for the new graduates as is seen from the current results. From the overall results obtained in this question indicates that the interpersonal skills of our graduates are very good and good, as greater number of the employers responded positively for this category except for leadership skill only. The majority (28.41%) employers responded fair for leadership quality of the graduates, so this skill need to develop. From the combined mean scoring result, it can be assumed that the interpersonal skills of our graduate are good, which seems to be an important criteria for recruiting any graduates in their respective job or service fields.

# **Work skill (graduate's quality performance)**

The pretty good number of criteria such as time management, judgment, problem formulation. solving, and decision making skills, data collecting and analyzing ability, ability to link theory to practice, discipline, sense responsibility etc., were taken into consideration for assessing work skills ability of the graduates by the employers in this study. It is obvious the results that maximum from (3.29±0.30) obtained for discipline skill in compared to other types of skills measured in this study. Maximum employers said that discipline skill is extremely important for the new graduates as is seen from the current results. After all, from the results obtained in this question indicates that the work skills of our graduates are very good, as the highest number of the employers responded positively for this grade or category. It implies that the overall results obtained in this question indicates that, work skills are very much important for the quality of new graduate, as the majority employers responded strongly for this criteria of the new graduate, even though other quality dimensions appear to be important for recruiting new graduates in the service field.

# **5. CONCLUSION**

From an overview of the result obtained in this study revealed that the quality of our graduates like job or subject matter knowledge or experiences, presentation skills, interpersonal skills and works skills are very good as majority employers responded positively for this quality attributes of the graduates. Though leadership quality of our graduate appears to be fair, so necessary measures need to be taken for improving this quality for ensuring higher education. After all, it can be suggested that the authority of higher educational institute or university should give more emphasis on the

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quality improvement of the new graduates to build up their dream institute a centre of excellence for teaching, research, training and education.

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