

Title: Developing Future-Ready Graduates: The Contribution of Open Education to Increasing Employability and Awareness

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Abstract

The demand for graduates who are prepared for the future is greater than ever in a global labor market that is changing. Open education has become a transformative force by offering inclusive, flexible, and accessible learning opportunities that give graduates industry required knowledge and skills. This study used survey method. The sample size was 150 and the respondents are the employers at different organisations located in Dhaka City. The study examined the employability status of the MBA graduates at the sampled organizations. The study tested the significance of the difference between the MBA Curricula and employability requirements of the organisations. The study also examined how open education can improve graduates' employability by encouraging lifelong learning, adaptability, critical thinking, and digital literacy. It also looks at how open education increases knowledge of professional development pathways, industry requirements, international career opportunities and global competitiveness. The study finds that the organisations can better prepare employees for coping with rapidly changing employability requirements by utilizing the advantages of open education. The study emphasizes how crucial it is to incorporate open education into traditional learning models in order to produce need-based professionals who are flexible, knowledgeable, and prepared for the future in the context of fourth industrial revolution (4IR) and beyond.

Keywords: HEI, Employability, Open Education, Awareness, Future-ready graduates, 4IR, Bangladesh

1.0 Introduction

In an increasing inter-connected world, human resource has become a cutting edge factor and also played a pivotal role in ensuring dynamism and vitality. Most of the CEOs in the world say, the right person at the right Job with required knowledge, skills and competencies will produce the better results within the stipulated time. We believe that the real difference between success and failure in an organization can be very often traced to the question of how well the organization brings out the great energies and talent for this reason, the employers look for those graduates whose possess diverse range of competencies. Employer value these graduates more than those of traditional employees as they can help the organization meet the challenges and survive in this changing world.

Evidence shows that, Universities were seen to be more concerned with theoretical knowledge rather than Practical one. This made them to detached from the real-life situation. As a result, they were unable to prepare their graduates in order to mitigate the challenges of competitive world. This led to the graduates lack of some of the relevant skills for obtaining employability (McMurray *et al.*, 2016). Today, most of the universities in the world are considering employers' demands and requirements from the fresh graduates and offering courses and extra curriculum activities are imparting relevant Knowledge and skills to the graduates/students which helps in developing their diverse range of competencies. It will facilitate them for the workplace and ultimately helping the graduates to make smooth transition from student to employee (Saeed, 2015).

It is true that the 4IR has significant shift in the global job market characterized by the integration of AI, automation of the ToT and advanced data analytics into day-to-day operations. As a result, the traditional skill set expected from graduates is rapidly evolving. Employers are now looking from graduates who possess diverse range of skills.

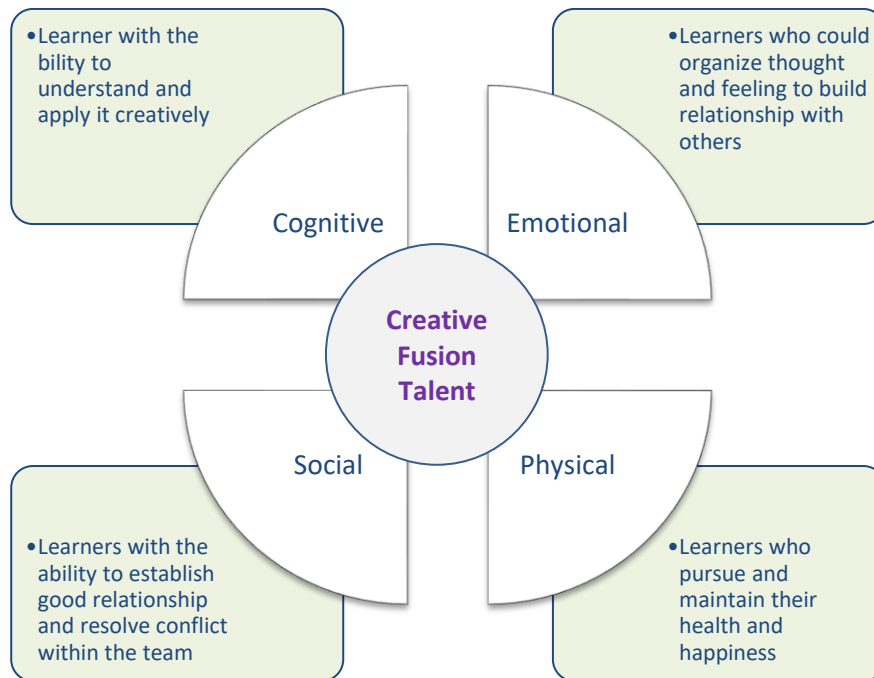
In the era of automation and AI-driven technologies employability job readiness skills are increasingly important for graduates. The employability skills are defined as the technical skills, soft skills, critical

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thinking skills, problem solving skills, adaptability skills and resilience, emotional intelligence, collaboration and team work skills, negotiation skills, digital literacy, decision making skills, service orientation skills and so on.

In today's world, knowledge is available through internet like Google and YouTube. The students need to learn skills and intelligence through their study in educational institutions. However, the intelligence to be obtained through formal education which may be classified into four categories as under:



Developing future-ready graduates will be the part or member of creative fusion talent information society to make Bangladesh a tech-leader in the days to come.

Rapid technological advancements, shifting demographics, financial constraints and impact of globalization are dynamically changing the job markets and making it more competitive. This is making employers want those graduates as their employees who can make a difference and add value to the workplace; however, difficulty of employability of these graduates exists as they lack the knowledge and skills wanted by the employers. So, it is essential to find out the employability skills that the employers need from the graduates (*Al-shehab et al., 2020*). The graduates join the organization with the expectation of performing according to the formal higher education they received from their university. Their performance mismatches with employers' expectation as, the employer expects the graduates to possess diverse skills and experience. In between these two parties are the Universities whose responsibility is to develop their graduates for this competitive future Job market (*Jusoh et al., 2011*). Identifying the strategies to bridge the existing knowledge and skills gap between job market requirements and graduates capabilities, ultimately induced the researchers to undertake the present study. The potentials of open and distance education in addressing the employability gaps has been on the center of research focus.

1.2 Objectives

The main objective of the study was to find out the skills and knowledge gap between job market requirements and graduates capabilities. The specific objectives are:

- To have an overview on the higher education system in Bangladesh;
- to examine the employers' expectation towards graduates' competencies and the reality;
- to identify the role of open education to increasing employability and awareness; and
- to provide some measures for developing future-ready graduates through mitigating the existing skill gaps for employability.

1.3 Research Hypothesis

H₁: There is a significant difference between the employers' expectations of knowledge and skills, and the actual performance of the graduates in Bangladesh.

H₀: There is no significant difference between the employers' expectations of knowledge and skills, and actual performance of the graduates in Bangladesh.

2.0 Research Methodology

The study followed the qualitative approach. A survey method was used for data collection. The clarity and relevancy of the survey questions was validated by a pilot test. Convenient and purposive sampling techniques have been used to do the study. A total of 150 employers from different organizations located in Dhaka were selected as a sample of this study. Both primary and secondary data have been used in this study. For primary data collection, the researchers directly contacted with the respondents. First, the contact was made via emails and phone calls in which survey purpose and general outlines were introduced. Then the researchers emailed the respondents the online survey's link which contained a cover page introducing the study and the researchers, and assurance of confidentiality. Secondary data were collected from sources like relevant articles and journals from Google Scholar.

As no existence of standard scales related to present study has been found, comprehensive literature review has been done to identify employers' perception towards competencies for hiring graduates in Bangladesh, and prepare the survey instrument. Based on existing literature survey and pilot testing, 21 competencies of graduates were identified which have been considered as a guide in this study. The survey instrument has been developed while keeping in mind that the instrument is short and practical to administer in terms of the amount of time required to complete this study. For ensuring consistency, the scale has been adapted from Parasuraman *et al.* (1985). The study used Five-Point Likert Scale, ranging from very low (1) to very high (5). The survey instrument was structured having first part consisted of respondents' personal data, and later parts concentrated on all the items of independent (competencies) and dependent (employers' perception towards quality of graduates) variables.

The collected data were tabulated, interpreted, and simplified to make them eligible for the research purpose. All collected raw data were entered into SPSS (Version 20) for statistical analysis. Then the analyzed data were arranged into an Excel file for summarization.

3.0 Findings and Analysis

3.1 Snapshot of Higher Education in Bangladesh

Education is the backbone of a nation and root cause of developments of human society. Among the various stages of education, higher tertiary level education is the highest seat of learning and by far the most important one for transfer of knowledge through creation and dissemination. After completing higher education, graduates are expected to be able to think creatively, synthesize knowledge, express themselves effectively, assume leadership roles, contribute to the society's development and also mitigate any challenges in the changing world. But, unfortunately, it is true that the quality of higher/tertiary education in Bangladesh is not up to the mark compared to developed countries. The common pedagogical practices can be grasped from the following chart:

| Instruction | Content and activity | Assesment |
|--|--|--|
| <ul style="list-style-type: none">• Dependency on waterflow type delivery.• Limited scope for the students to analyze the subject matter and to think critically.• Heavy dependency on photocopied textbooks. Most of the books are authored by foreign writers and published by paywalled publishing firms. | <ul style="list-style-type: none">• Knowledge-driven• Employability focus is missing.• Very limited used of technology.• Content design is not always pedagogically justified• Traditional assignments and quizzes are widespread. | <ul style="list-style-type: none">• Grade point/CGPA driven, not quality driven.• Techniques used are old fashioned - written exam, vive voce.• Role playing or recognition of extracurricular activities or self-study learning achievement are not well respected. |

Due to traditional and teacher-centric educational practices, graduates in Bangladesh cannot attain necessary employability skills during their education at the University level. Literally, the problems of employability still have been arisen from the limitations of our teaching and evaluation methodologies at university level and those limitations shall be overcome through collaborative efforts among the teachers, students, and authorities of HEIs.

3.2 Reliability Analysis

Table 1 shows that Cronbach's Alpha value for each competency/skill used in the study. All value of Cronbach's Alpha were more than 0.7 which indicate that the competencies used for each variable are highly reliable (Hair, et al., 2006, Nunnally, 1978, Cronbach, 1951)

Table 1: Cronbach's Alpha Value

| Item | Number of Items | Cronbach's Alpha | |
|-------------------------------|-----------------|------------------|-------------|
| | | Expectation | Performance |
| Communication Skill | 1 | .961 | .962 |
| Leadership/Management Skill | 1 | .962 | .962 |
| Adaptability skill | 1 | .962 | .962 |
| Academic soundness | 1 | .962 | .962 |
| Teamwork Ability | 1 | .962 | .961 |
| Creative or Innovative Skill | 1 | .962 | .962 |
| IT or Computer Skill | 1 | .962 | .962 |
| Coordination Skill | 1 | .961 | .961 |
| Decision Making Skill | 1 | .962 | .961 |
| Problem Solving Skill | 1 | .962 | .961 |
| Lifelong Learning | 1 | .962 | .961 |
| Stress Taking Ability | 1 | .961 | .962 |
| Conceptual Knowledge/Skill | 1 | .962 | .962 |
| Presentation Skills | 1 | .962 | .962 |
| Interpersonal Skills/HR Skill | 1 | .961 | .961 |
| Critical Thinking Skill | 1 | .961 | .962 |
| Negotiation Skill | 1 | .961 | .962 |
| Service Orientation Skill | 1 | .962 | .961 |
| Analytical Skills | 1 | .961 | .962 |
| Diversity Awareness Ability | 1 | .962 | .961 |
| Emotional Intelligence | 1 | .962 | .962 |
| | Total Item: 21 | | |

3.3. Gap Analysis

The result of comparison between expectation of job market requirements and actual graduates' capabilities as perceived by employers based on mean scores are shown in the following table:

Table-2: Comparison and Paired Samples T-Test for Differences between Expectation and Reality on Graduates' Capabilities as Perceived by Employers in Bangladesh

| Skills | Expectation | | | Performance | | | Correlation | Sig. |
|---------------------------------|-------------|-------|-----------------|-------------|-------|-----------------|-------------|--------|
| | Mean | Sd. | Std. Error Mean | Mean | Sd. | Std. Error Mean | | |
| Communication Skills | 3.900 | 0.730 | 0.052 | 3.120 | 0.767 | 0.054 | 0.488 | 0.000* |
| Leadership or Management Skills | 3.360 | 0.868 | 0.061 | 2.820 | 0.686 | 0.048 | 0.447 | 0.000* |
| Adaptability to Changes | 3.640 | 0.796 | 0.056 | 2.800 | 0.723 | 0.051 | 0.328 | 0.000* |
| Academic Soundness | 3.860 | 0.665 | 0.047 | 3.080 | 0.660 | 0.047 | 0.300 | 0.000* |
| Teamwork Ability | 3.940 | 0.787 | 0.056 | 3.300 | 0.642 | 0.045 | 0.314 | 0.000* |
| Creativity or Innovative Skills | 3.500 | 0.808 | 0.057 | 3.020 | 0.709 | 0.050 | 0.333 | 0.000* |

| | | | | | | | | |
|--------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|
| It or Computer Skills | 3.520 | 0.576 | 0.041 | 3.120 | 0.684 | 0.048 | 0.453 | 0.000* |
| Coordinating Skills | 3.420 | 0.697 | 0.049 | 2.860 | 0.723 | 0.051 | 0.396 | 0.000* |
| Decision Making Skills | 3.300 | 0.924 | 0.065 | 2.780 | 0.809 | 0.057 | 0.331 | 0.000* |
| Problem Solving Skills | 3.400 | 0.665 | 0.047 | 2.840 | 0.733 | 0.052 | 0.173 | 0.014* |
| Lifelong | 3.000 | 1.113 | 0.079 | 2.700 | 0.946 | 0.067 | 0.500 | 0.000* |
| Stress Taking Ability | 3.560 | 0.986 | 0.070 | 2.840 | 1.010 | 0.071 | 0.313 | 0.000* |
| Conceptual Knowledge/Skills | 3.520 | 0.757 | 0.054 | 2.900 | 0.576 | 0.041 | 0.166 | 0.019* |
| Presentation Skills | 3.680 | 0.950 | 0.067 | 2.980 | 0.951 | 0.067 | 0.438 | 0.000* |
| Interpersonal Skills/HR Skills | 3.680 | 0.788 | 0.056 | 3.140 | 0.634 | 0.045 | 0.452 | 0.000* |
| Critical Thinking Skills | 3.240 | 0.791 | 0.056 | 2.780 | 0.758 | 0.054 | 0.223 | 0.002* |
| Negotiation Skills | 3.300 | 0.730 | 0.052 | 2.720 | 0.635 | 0.045 | 0.442 | 0.000* |
| Service Orientation Skills | 3.340 | 0.712 | 0.050 | 3.040 | 0.600 | 0.042 | 0.250 | 0.000* |
| Analytical Skills | 3.360 | 0.821 | 0.058 | 3.00 | 0.777 | 0.055 | 0.536 | 0.000* |
| Diversity Awareness Ability | 3.300 | 0.808 | 0.057 | 2.920 | 0.660 | 0.047 | 0.384 | 0.000* |
| Emotional Intelligence | 3.500 | 0.730 | 0.052 | 2.960 | 0.633 | 0.045 | 0.000 | 1.000 |

*Significant in 95% confidence level

From Table-2 it can be inferred that there is a significant skill gap between expected job market requirement and actual graduates' capabilities as perceived by the employers in Bangladesh at 5% (0.05) level of significance.

3.3. Employers' Perceptions Regarding Higher Educational Practices

Table-3 summarizes employers' perceptions on the practices in the higher education programs in Bangladesh. They ranked the problems that they observe in the higher educational institutions in Bangladesh.

Table-3: Employers' Perception about the Higher Education System in Bangladesh

| Problems | Weighted average | Ranks |
|---|------------------|-------|
| Rigid curricula | 45.457 | 1 |
| Very limited extracurricular activity | 35.345 | 4 |
| Lack of partnerships with industries | 33.285 | 5 |
| Rigid time schedule | 20.287 | 11 |
| Rigid age requirements | 16.233 | 12 |
| Rigid program packages | 28.334 | 7 |
| Textbook based instructions | 37.866 | 2 |
| Lack of recognition of prior learning | 36.957 | 3 |
| Minimum opportunity for micro credentials | 30.445 | 6 |
| Lack of learning platforms | 23.354 | 9 |
| Reluctance to accreditate the microlearning credentials | 25.376 | 8 |

Source: Field survey, 2023

3.4 Role of Open Education to Increasing Employability and Awareness

The problems identified by the employers in Table-3 somewhat speaks to the scope of open education in addressing the gaps. Since continuous improvement is essential for different categories of employees to cope with the rapid technological and societal changes both in local and international contexts. Open and Distance Learning itself provides flexible learning environment that the learners can improve their soft and hard skills at their own pace. The following features of ODL programs may help the existing graduates as well as the working people improve their knowledge and abilities:

- Flexible learning opportunities: Learners can enroll either in free or paid open courses and attend at their own pace.
- Learning platforms: Due to the unprecedented technological innovations like AI, the learning platforms are easily accessible even from mobile devices. Therefore, pursuing the courses online has become super comfortable and affordable.
- Credentials: The learners can attend the microcourses as per their requirements and gets certificates.
- Experiential learning: Learners can use their experiences to be recognized as prior learning by the open education institutions.

- Virtual learning Community: There are a number of virtual learning communities where the learners can benefit from.
- 24/7 Feedback loop: Learners can get assistance with AI tutors anytime from anywhere. Also chatbots are meaningfully assisting the learners for different learning and administrative information.

3.5. Strategies/Measures for developing future-ready Graduates

HETs, including Bangladesh Open University, have a pivotal role to play in preparing graduates according to the needs of the job market. The present study identified the existing skills are knowledge gap of graduates between expectations and reality as perceived by the employers. The study has pinpointed the following measures that are essential for developing future-ready graduates who are equipped with the necessary skills:

- **Reforming toward a need-based flexible curriculum:** Universities in Bangladesh need to reform their academic program to include more outcome focus learning experiences. This might involve reforming need-based course content, updating teaching methods, incorporating more project-based learning, internships, accrediting the open credentials, Microcredentials, and so on.
- **Strengthening University-industry collaboration (UIC):** Strengthening partnerships between universities and industries are essential for ensuring that academic programs remain relevant to the needs of employers. By collaborating with industries, universities can develop curriculum that address current industry needs, giving students hands on experience with emerging technologies, data analytics and leadership challenge.
- **Focusing faculty development program:** Regular training, workshop, seminars and roundtable conference need to be arranged to entrance the knowledge and skills of the faculties. Universities need to invest in professional development programs to ensure that faculty members are capable of designing OBE curriculum, applying new pedagogical approach in teaching and learning and providing the necessary guidance and feedback to students.
- **Fostering skills development:** For skills development, it requires concerted efforts among the stakeholders for changing the overall activities involved in HRD. The GOB has established a NSDA. The NSDA may work with UGC, HEIs including Bangladesh Open University and industry skill councils jointly to prepare need-based graduates for future job market. In this contest, Universities should incorporate courses and organized workshops on critical thinking, problem solving, EI, teamwork, negotiation and communication into their academic programs.
- **Emphasis on technological integration:** Given the technologies nature of the \$IR and beyond, Universities in Bangladesh must ensure that their students are proficient in digital literacy. Integrating technology into the teaching and learning process will not only enhance students' technical skill but also improve their adaptability skills in a tech-driven environment.
- **Ensuring quality assurance:** Every university has an IQAC which may work with NSDA and UGC for making effective change in their curriculum, teaching methodologies and also organize seminars, workshops, brainstorming sessions for increasing graduates employability.
- **Open and blended courses:** Universities should ensure that the learners can access the courses from anywhere anytime at their own pace. University should maintain the LMS to share contents and encourage discussions.
- **Use of OER:** The universities needs to use and encourage the OER in their teaching learning process. Teacher, students and other relevant stakeholders should work together to create and use OER. It will help the learners and academics access academic resources at the lower cost openly.

Conclusion

In today's fast-paced world, learners are no longer more recipients of information, they must actively engage with new knowledge and skills, adapting it to their lives and the ever-changing situations they encounter. Embracing lifelong learning is crucial and in this digital age, it is essential to accepting various modes of teaching and learning for continually upgrade their skills and knowledge. Online, open and blended learning mode of education may helps enormously where quality education becomes more accessible, less costly, inclusive, equitable and effective.

The study compared diverse range of skills on graduates can possess, to find out the existing skills gap between expectation and reality on graduates' performance as gap between expectation of them and actual performances of graduates in Bangladesh. Findings shows that there is significant gap between expectation and actual performance of the graduates in Bangladesh. So the hypothesis that has been developed for this study is confirmed. Inclusion of hands on activities in academics program, student engagement in discussion and brainstorming activities, group presentation, learning the innovative application of knowledge in real-world, minimizing the gaps between HEIs and industries, increasing internships or apprenticeship especially in the middle of their education period may help graduates to obtain job readiness skills in the era of 4IR and beyond.

As the 4IR continues to transform industries worldwide, graduates must be equipped with necessary skills to succeed in the rapidly changing job market. In this context, Transformative Education Model (TEM) offers a promising solution by focusing on measurable learning outcomes and real-life solutions HEIs have a critical role to play in adopting this approach, ensuring that their graduates are not only academically competent but also capable with diverse of competencies which thriving in a digital, interconnected and fast-paced dynamic environment. Futher research may be done to dig dipper into the causes behind the gaps with the HEIs with special focus on Bangladesh. An efficient, effective and inclusive framework for skill development is supposed to be emerged from the further in-depth research.

Limitations

There were four limitations in this study. Firstly, a small sample size has been taken for this study; Secondly, the survey instrument can be developed based on literature reviewer and expert opinions. Thirdly, the survey instrument has been constructed with Likert scale. So these exist the chance of central tendency bias and social desirability bias. Fourthly, this research has been conducted only at manufacturing organizations of Bangladesh. So, it may not be a representative in other industries and also in other developing countries.

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