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University Education in the Context of 4IR

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The world embraced the fourth industrial revolution (4IR) at the beginning of the twenty-first century. Artificial intelligence, machine learning, cloud computing, robotics, 3D printing and the internet of things have a huge impact on how we improve product quality and increase production rates, make business, manage massive amounts of data, conduct financial transactions, perform daily tasks, provide services, administer government programs, and conduct our daily lives. And this is how 4IR differs from 3IR. Everything that can be codified will take the place of human interaction. How far 4IR has come is beyond our wildest dreams. It tries to substitute even human thinking.

With each Industrial Revolution, the educational system underwent adjustments. But education began long before 1IR even got underway. Ez-Zitouna University is regarded by some historians as the world's oldest university. Ez-Zitouna University, which had its beginnings as a madrasa in Tunisia in 737, began to take shape of a university in 1956. But it is generally agreed that the oldest university was the University of Bologna, which was established in Italy in 1088. If we use the concept of a university as a setting that awards undergraduate and graduate degrees, the University of Bologna is the first university in history. At that time, there existed two different university models. The establishment of a student-controlled university paradigm was influenced by the rediscovery of old Greco-Roman knowledge. They held the idea that any argument-based instruction comes from previously acquired knowledge. Based on the faculty governance system, another model was developed at the University of Paris. Initially, religions had a big influence on education and clergy led it.

Things gradually altered and by the nineteenth century, the clergy's influence virtually diminished. The university was noted as a solitary setting where professors would do research and it was up to the students to learn from the lecturers. Universities were not connected to any kind of social or economic advancement. Up until the start of 2IR, universities began to engage in economic and societal development as they emerged from seclusion. Universities in industrialised nations now have incubation hubs, centres for innovation, and centres for entrepreneurship development. Professors are now not only conducting research but also showing an interest in how the students will become active learners and acquire employable abilities. Numerous studies have been conducted on a variety of topics, including (i) how the brain processes the information that a professor imparts in class, (ii) which paradigms will best assist students in learning and in solving complex problems in the real world, (iii) how to encourage students to engage in active learning rather than relying solely on memorisation for grades, and (iv) how to encourage teachers to keep up with research in the field of education.

Our government has recently implemented a well-liked educational program called outcome-based education (OBE). OBE is very different from traditional education (TE). In TE, the only things that matter are the content of the courses and what the instructor or textbook has to say. The course instructor provides the students with subject knowledge, and they are not particularly active participants and they hardly ever have the chance to demonstrate their understanding of a subject or how to put it to use. Their education primarily relies on recollection. OBE, on the other hand, is based on the objective that students demonstrate that they "know and are able to do". A program curriculum is developed based on some measurable program outcomes (POs) and course learning outcomes (CLOs) for learners that they will be able to do successfully during their studies at universities. Students become motivated to complete them as they become aware of the preset POs and CLOs that they must exhibit in order to be considered successful. A course instructor must spend more time educating and keeping track of each student's academic progress in OBE than in TE. As a result, the professor should not take on more than three courses each semester.

Today, university graduates must acquire ten skills, including creativity, critical thinking, emotional intelligence, adaptability, active learning, complex problem solving, judgment and decision making, diversity and cultural intelligence, technology skills, and collaboration. Some of the skills can be learned through classroom teaching and curriculum. Universities must create an atmosphere that fosters the development of students' emotional intelligence, adaptability, diversity and cultural intelligence, and collaborative skills

We must modify our present teaching method. The instruction paradigm is a very old one and now education researchers are raising questions its usefulness. Contrarily, the objectives of the learning paradigm proposed by education researchers in the middle of the twentieth century are for a course instructor to develop dynamic learning environments where students can learn to reorganise new information and their past knowledge into new knowledge about the subject matter and to practice utilising it. A course teacher's main responsibility is to help students to learn rather than just to transfer information to the students. Implementation of this paradigm is challenging. If the students do not have the time or inclination to study alone, this paradigm will not work. Therefore, they may not be interested in this paradigm; rather, they show more interest in the instruction paradigm, which is based on the idea that passing a course depends on the student's attendance, attention to the teacher's lecture, and memorisation of material. All these issues must be considered, and universities must act decisively.

Universities must also take up another responsibility. Graduates of the 20th century required to possess a few other abilities in addition to their subject-matter expertise, such as computer proficiency and fluency in English language, and those individuals were essentially promised employment. However, 4IR has made it challenging to get work. Today, university graduates must acquire ten skills, including creativity, critical thinking, emotional intelligence, adaptability, active learning, complex problem solving, judgment and decision making, diversity and cultural intelligence, technology skills, and collaboration. Some of the skills can be learned through classroom teaching and curriculum. Universities must create an atmosphere that fosters the development of students' emotional intelligence, adaptability, diversity and cultural intelligence, and collaborative skills. Students will develop several 4IR skills through taking part in projects, industry excursions, internships, and club activities.

Universities in Bangladesh cannot shirk their responsibility to reform in order to produce graduates for 4IR. The university administration, the teaching community, government, UGC, all have duties to play that are appropriate for their responsibilities.

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