

The urgent need for cutting edge technology education in India

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The technical institutes have the responsibility to transform from givers of degrees to shapers of talent, write academics Dipali Bansal and Neharika Vohra



The need for futuristic technology education hardly needs to be belaboured. Yet, the technical institutes in the country need to take stock of the situation and help the youth of India to acquire their rightful global foothold. In a country of 1.3 billion people and a population that is the youngest in the world at an average age of 29, there is a huge opportunity for high-quality relevant technology education. There are three reasons for this urgent need.

First, the availability of talent trained in technology would be required to fuel the start-up juggernaut. India just crossed the 100 unicorns list each with a valuation of over a billion dollars. Among them, fintech, health tech, e-commerce, and consumer internet companies have come forth to lead the pack. Deep talent in technology would be required to create solutions for future issues.

Second, is the ushering in of the Industry 5.0 where robots will work alongside people and smart machines to give a personal fillip to Industry 4.0 automation pillars like Artificial Intelligence (AI), Big Data & Machine Learning (ML) and Internet of Things (IoT). Technology is changing at a frantic pace and could impact us much faster than we anticipate, rewriting the domains and industries across material sciences, health, transportation, renewable energy, electric vehicle technologies, telecommunications, media & entertainment and so on.

Third, in addition to the rapid pace of technology development, global problems including the onslaught of an epidemic, inflation, social inequality, unemployment, emergence of a technopolar world order stare at us. From a classroom in a rural village to the most advanced lab in Switzerland in the last one year has been affected by the shortage of semiconductor chips led by higher demand for hi-tech equipment.

Workforce for technological progression

The need for a capable workforce to imbibe technological progression and adapt to the opportunities is rather urgent. Technical education must keep pace with time or one more generation of youth would be lost somewhere in between science and history chasing unknown goals with some freak streaks of excellence. We cannot be stuck in the paradigm of education that creates consumers of technology and not crafters of technology.

All of this calls for an innovative approach to evolve the thought process around education and industrial policies. National Education Policy (NEP) 2020 is an excellent framework aiming to holistically address the realm of knowledge building from primary level across to higher education and appreciating the significance of interdisciplinary research for outstanding outcomes.

Unique pedagogical initiatives

Innovative B. Tech and M. Tech programs in AI & ML, IoT, Industrial Automation & Design are required to enrich the research environment. These courses must move beyond theory learning to apply and students must be informed about the real problems and new areas of study.

It will be a long road for current technical institutions to transform from givers of degrees to shapers of talent. It necessitates meticulous preparation, consistent execution, and precise course corrections. While the road is long, the speed of innovation in design and delivery has to be accelerated if they wish to be relevant and practical. The academia and industry have to come together to create scalable models of education and adoption.

(The authors are Dipali Bansal, director, GB Pant DSEU Okhla – I Campus, DSEU, and Neharika Vohra, vice-chancellor, DSEU)

