Research Paper
Impact Factor: 6.462
Peer Reviewed & Indexed Journal *Special Issue*
IJMSRR
E- ISSN - 2349-6746
ISSN -2349-6738

INDUSTRY INSTITUTE INTERACTION: A CONCEPTUAL STUDY WITH REFERENCE TO INDIA

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Abstract
Technical Education is considered as a critical area in the overall development of India as defined by the New Education Policy 2020. This may be because of the recent research and developments taking place in the technical area which contributes to Global Knowledge Index and if India has to position itself in the better position, there is need for skilled manpower and lot of research and development which matches with the current trends. The current manpower needs and skill requirements by the Industry could be better understood, learned and practiced by the technical institutes if there is effective interaction with Industry. Because of COVID 19 Pandemic and Lockdown, Functioning of Educational Institutions and lot of Industries have been affected because of which there is no proper Industry Institute Interaction and Practical learning is been affected. This conceptual paper highlights about the Industry Institute Interaction which is a major factor to enable the Indian education sector to scale up in Global Knowledge Index. This paper tries to highlights the causes for poor Industry Institute Interaction through extensive literature survey, find out the benefits of having Industry and Institute Interaction and suggest the various ways for establishing Industry Institute Interaction.

Keywords: Technical Education, Employability, Industry Institute Interaction, Global Knowledge Index, Knowledge Economic Index.

Introduction

According to the recent survey, India is been ranked 75 in the Global knowledge index with the score 44.4 among 138 countries against Switzerland being in the first rank with score of 73.6. Technical education is considered as a critical area in the overall development of India. There is more demand for qualified manpower and collaboration between Industry and educational institutions so that it contributes to the development of nation in the three important areas considered as the pillars of Knowledge Index. When it comes to technical education, there are two important things which have to be concentrated on by the higher education institutions. One important outcome should be graduates having sound scientific knowledge and the other outcome should be competency based skill acquisition. Sound scientific knowledge could be acquired by the curriculum and the teachers but the skills could be acquired by the effective Industry Institute Interaction. COVID 19 has impacted various areas among which one important sector is education sector. Because of the lockdown during first and second wave of COVID 19, there is lot of disturbance been caused in the education system in India, Most of the education institutions switched on to online mode of teaching because of which technical students did not have much exposure to learn practically either through lab sessions or by having interaction with industry and industry experts. Online mode of learning could be effective in gaining scientific knowledge but it becomes difficult for the graduates to acquire competency based skills. If India has to move up in the ladder of Global knowledge index, there is need for well qualified manpower in the technical field. Well qualified manpower can be created if there is close collaboration between Industry and Higher Education Institutions which in turn leads to innovation and research (New Education Policy 2020).

Industry Institute Interaction

Industry Institute Interaction has taken different forms which include curriculum development, problem solving, industrial visits, scholarships, apprenticeship and incubation centres. General collaboration, academic level collaboration, institutional support type collaboration, service type collaboration, cooperative type collaboration, student level collaboration will influence the effective interaction between industry and institute (Parameswaran and Suresh, 2015).

Knowledge Index (KI)

World Bank institute has created Knowledge Indexes by using knowledge assessment methodology through which country's position in the global knowledge index could be measured. It measures the country's ability to generate, adopt and diffuse knowledge. Knowledge Index is based on three pillars of knowledge economic index namely, Education and Skilled Population, Innovation system, Innovation and Communication Technology. These are directly related to the Education System of the respective countries. Knowledge Index focus on creating, sharing and use knowledge well so that specific country would have educated and skilled population, innovation system where the universities, research centers, consultants and firms will be involved in understanding the local needs and create new technology, ICT which facilitate creation, dissemination and information processing.

Technical Education

Technical Education involves programmes of Education, Research, and training in Engineering and Technology, Architecture, Town Planning, Management, Pharmacy, and Applied Arts and Crafts (AICTE Act 1987). Technical education includes degree and diploma programmes in, engineering, technology, management, architecture, town planning, pharmacy, hotel management, catering technology etc., which are critical to India's overall development (New Education Policy 2020).

Employability

Employability is defined as "portable competencies and qualifications that enhance an individual's capacity to make use of the education and training opportunities available in order to secure and retain decent work, to progress within the enterprise and between jobs, and to cope with changing technology and labour market conditions" (ILO, 2004, Para. I.2(d)). "Individuals are most employable when they have broad-based education and training, basic and portable high-level skills, including teamwork, problem solving, information and communications technology (ICT) and communication and language skills... This combination of skills enables them to adapt to changes in the world of work." (ILO 2005, Para. 33, Footnote 1). Employability built around individual factors, personal circumstances and external factors, which acknowledges the importance of both supply- and demand-side factors (Ronald & Lindsay, 2005). Employability is the possession by an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realise his or her aspirations and potential in work (CBI, 1999, p. 1). Employability is the capability to move into and within labour markets and to realise potential through sustainable and accessible employment. For the individual, employability depends on: the knowledge and skills they possess, and their attitudes; the way personal attributes are presented in the labour market; the environmental and social context within which work is sought; and the economic context within which work is sought (DHFETE, 2002, p. 7). Employability is the possession by an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realise his or her aspirations and potential in work (CBI, 1999, p. 1). Employability is the possession by an individual of the qualities and competencies required to meet the changing needs of employers and customers and thereby help to realise his or her aspirations and potential in work (CBI, 1999, p. 1)

COVID 19

COVID 19 was first reported in India on January 30 2020 and lockdown was announced in March 2020. Second wave of COVID 19 started in India during March 2021 and lockdown was announced in many states during April 2021. This had an impact on various areas such as Displacement of migrant workers, Drug shortages,Education,Economy, Freedom of expression, Health and other diseases, Healthcare and frontline workers, Religion, Rural and semi-rural India, Transport and various other segments.

Objectives

1 To gain an insight into Industry Institute Interaction practices followed in India.
2 To understand the reasons for Poor Industry-Institute Interaction.
3 To find out the benefits of Industry Institute Interaction and suggest the new ways for Industry Institute Interaction.

Methodology

This Study is based on the extensive literature review used to understand the facts and describe the relationship between knowledge index and technical education and to know the impact of COVID 19 on Technical Education, Industry Institute Interaction, Employability. This study is based on secondary data available on Knowledge Economic Index, Global Knowledge Index, New Education Policy 2020, Employability skills and Industry Institute Interaction available in various journals, periodicals, articles published in various sources. An approach is been made to explore various areas and describe the facts on the Technical education and employability of graduates in relation to the Global Knowledge Index. The study is also focused on the impact of COVID 19 on Technical Education, Industry Institute Interaction and Employability.

Results and Discussion

A degree alone cannot guarantee jobs (Nielsen Research Services, 2000), there are various graduate attributes which would be considered by employers or industry when they recruit graduates.COVID-19 has led to largest disruption of education, it has impacted learners and teachers around the world. COVID 19 has affected skill development establishments, adult learning, Universities, vocational education and training (TVET) institutions and pre-primary and secondary schools. There were around 94 per cent of learners were affected by mid April 2020 worldwide in 200 countries, representing 1.58 billion children and youth. Graduates to be employable must possess certain skills demanded by the employers such as academic achievement in a suitable discipline, literacy, numeracy, basic computer skills, time management skills, written business communication skills, oral communication skills, interpersonal skills, team working skills, problem solving skills, comprehension of business processes, research and analysis skills and leadership skills (Nielsen Research Services, 2000). Earlier, degree was considered as the indicator of intellectual ability and knowledge but now graduate attributes are more important than degree (LeeHarvey, 2000). According to the outcome based education specified by National Board of Accreditation, engineering institutes must make sure that twelve graduate attributes are met by students namely, Engineering knowledge, Problem analysis, Design/development of solution, conduct investigation of complex problems, modern tool usage, engineering and society, environment and sustainability, individual and team work, communication skills, project management and finance, lifelong learning. But most of the recruiting firms feel that graduates lack problem solving skills, technical ability, interpersonal skills and communication skills (Nielsen Research Services, 2000). Many employers are disappointed with higher education outcomes and are seeking applicants with skills-based certifications rather than traditional four-year college degrees (Smith, 2020).

Because of Lockdown there were prolonged closures of educational institutions because of which many educational outcomes are at risk. COVID 19 Pandemic and lockdown has also impacted various industries, lot of organisations announced work from home and some organisations stopped their process temporarily. This kind of disruptions in work places made it difficult to implement apprenticeship schemes and work-based learning modes which are key elements for technical institutions. Industry Institute Interaction in terms of industrial visits, apprenticeship, Internships was affected which is directly related to few graduate attributes of Technical Institutions. Global Knowledge Index measures the performance of countries in seven areas such as economy and the general enabling environment, information and communications technology, research, development and innovation, higher education, technical and vocational education and training, pre-university education. Technical education is considered as a critical area in the overall development of India. There is more demand for qualified manpower and collaboration between Industry and educational institutions so that it contributes to the development of nation in the three important areas considered as the pillars of Knowledge Index. There will be a greater demand for well qualified manpower in technical sectors, this require closer collaborations between industry and higher education institutions to drive innovation and research in these fields (NEP 2020). India must also take the lead in preparing professionals in cutting-edge areas that are fast gaining prominence, such as Artificial Intelligence (AI), 3-D machining, big data analysis, and machine learning, in addition to genomic studies, biotechnology, nanotechnology, neuroscience, with important applications to health, environment, and sustainable living that will be woven into undergraduate education for enhancing the employability of the youth. This can be strengthened by effective Industry Institute Interactions and collaborations (NEP 2020).

The reasons for poor Industry Institute Interactions may be caused due to negligence, dislocation of work, behavioural mismatch, lack of transparency, lack of trust formed towards academic institutions, lack of time, mismatch with academic schedule and company's requirements, disconnected programmes offered by institutions. University professors' part-time commitment and limited availability are frustrating for industry, results in mutual underestimation of each other's strengths. It is necessary to identify the ways to interact and collaborate among institutions and industries to have better results. These collaborations will have greater impact on course design, developing curriculum, exposure to current industrial atmosphere through Industrial Visits, research collaborations, frequent interactions with the Industry Experts. The growing issues for many are unsuitability of talent available in the institutions and employment requirements from Industries, this gap need to be identified and filled to enable graduates to become Job Fit in the employment Market, (Kumar, S., Luthra, S., &Haleem, A., 2016).

The technical institution curriculum should be from an occupational and vocational angle to develop: • diagnostic skills • management skills • an ability to think creatively • an awareness of national and international standards, and quality control operations.This industry/institute partnership will benefit both industry and institutes in the following ways. It will help industry to: • remain competitive • have access to the latest technology and effective technology forecasting • obtain updated software • offload part of their research work to institutions and save on R&D expenditure. It will help institutions to: • lead to greater resource generation • a better utilisation of expertise and facilities in the industries • create a more relevant curriculum and effective R&D outputs due to feedback from end users • a better placement of students and thus a better intake of students. This interaction would help to bring out the best professionals and industry would get the required valuable assets. Institutions need to establish Industry-Institute Interaction Cell to carry out the functions rigorously. This will help in understanding the industry's demands on a regular basis and developing facilities to equip students. Institutions can appoint Industry Experts on the Academic panel in devising Syllabus, Curriculum Development, identifying the skill gaps and recommending training programs. Institutions should collaborate with industries for enhancing the knowledge, providing the ample opportunities to learn Industry related skills. The institute should come out of the regular and traditional courses, by offering new courses. This is feasible if the university is willing to provide the type of curriculum required by industry.

Conclusion

The best way to bridge the skill gap in India is to give high priority to Industry Institute Interaction. Most of the large and small scale industries still prefer collaboration with international organisations and not with the educational institutions and R&D centres for technology creations, technology solutions, upgrading the existing system and so on (Sengupta, 1994). If institutions and industries realise that the effective interaction between the both contributes to foreign universities or institutions having less chances to capture the Indian education market (Wani, 2004). If India has to move up in the ladder of knowledge economy, it is important that higher education and technical institutions have to give importance for having effective Industry Institute Interactions which in turn helps in understanding the labour market demands and expectations with regard to skills and help in developing such skills among the technical graduates. Because of COVID 19 pandemic, there is lot of disturbance in education sector which in turn has impacted graduate attributes, outcome of technical education, employability. The negative impact of COVID 19 during the first wave is more on employability and employment than the Second wave. Educational Institutions, Industry and all stake holders must understand the importance of higher education and technical education and its contribution in promoting sustainable livelihoods and economic development of the nation.

It is important that more and more young Indians aspire for higher education, prepare students for more meaningful lives and work roles which enable economic independence. It is essential that an identified set of skills and values will be incorporated at each stage of learning. This must contribute towards the four pillars of Knowledge Economic Index.

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