The Scope of Industry-Academia Collaboration

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Abstract

Connected Learning Initiatives (CLIx) uses simple digital techniques to teach most complex of subjects. CLIx supports school curricula and integrates it with technology. CLIx works in co-ordination with India's national goal of enhancing, and improving the quality of secondary education.

Massachusetts Institute of Technology (MIT) came out with an educational model of Edx platform (an online learning platform). In collaboration with Tata Trust and Tata Institute of Social Science. The initiative started by MIT and TISS intends to leverage new technologies, enrich professional development of teachers, and create an open ecosystem to foster collaboration for innovation. (News, 2016)

Currently, CLIx is being offered in over 15 modules in Mathematics, Science, and English. Digital Literacy is being offered in schools in which ICT labs have been activated. About 1,770 teachers had participated in Teacher Professional Development workshops and are on mobile-phone enabled Communities. (Aggarwal, 2018)

The objective of this research is to explore the scope of public-private sector partnership in the education sector, mostly focusing on one of the biggest collaboration that is, between Massachusetts Institute of Technology and Tata Trusts. The research methodology will be exploratory in nature, taking the collaboration of MIT, TISS and Tata Trusts as the case study.

The purpose of this paper is to recognize the potential and scope of having such collaborations in the Indian education sector and to realise the needs of the budding students' category in rural India who aim to pursue their secondary and higher education.

Key Words: ICT, Collaboration, Education, teaching, Rural

1. Introduction:

India is a country of social ethnic groups that are divided from each other on the basis of language, religion and geographical location. Development over the centuries has clearly shown that only a few of these ethnic groups have flourished and made a mark for themselves. Majority of these groups are still undeveloped and are engulfed in social problem that not these region face but the country is also facing the same social problems.

The social scenario of India is primarily, rural. Looking at the development since Independence, majority of the rural sector has seen a persistent degradation. One of the most crucial of these social issues is illiteracy. Illiteracy in India is caused because of various reasons (Social Issues in India, 2017). Because of its unique set up, illiteracy is instigated

by factors such as gender disparity, income disparity and caste disparity.

This was not the case always. India as a country was known for high standard of education. The Guru-shishya format followed in the Gurukuls provide quality education to its disciples. The main objectives of imparting education A major problem with Gurukuls was the discrepancy in providing and imparting education only to the children of the royal family or the Brahmins. It seems the legacy still continues.

According to the report presented by UNESCO the illiteracy level in India has risen by 63 %in the time period of 1996-2006. India stands at 106 place out of 127 countries (TNN, 2017). With 34 % of the illiterate population in the world, India has the highest illiteracy rate. This social issue has always been a problem in the Indian sub-continent, despite strenuous efforts by the Government.

Based on the gender discrepancy the figures provided by NITI Aayog are alarming. According to the statistics provided the literacy rate for females is only 65.46% in comparison to 82.14 for males. In the rural sector, only 58.75% females are literate in comparison to 78.57 for males (India, 2017).Kerala is the only state that provides a positive picture with female literacy rate being 92.07% vis-a-vis 96.11% for males (Which State has the Highest Literacy Rate?, 2017).

The World Bank in 2009 upgraded the status of India from a "poor country" to a "middle income country" (Palmer, 2017) . Even this upgraded status has not improved the literacy rate of the country.

The caste system prevalent in India is also a contributing factor to the high illiteracy rate in the country. The reason for low admission rate amongst poor is that majority of the poor belongs to Dalit community. This disparity leads to increase in the number of cases of child labour (Casimes, 2017). Dalits have been denied access to education since 1850s. (Fraser, 2010)

Development Initiatives in the Education Sector

Steps have been taken to improve the situation at various levels. Even though the literacy rate is way below the average literacy rate of the world, the last decade has seen a positive change in almost every state and also within every ethnic group.

Government Initiatives

The government has been taking very encouraging steps in the education sector. But despite the strong steps taken, the government is still struggling because of lack of awareness (Jain, 2013). Breaking the gender disparity was and still is a difficult task. The male dominated society found it difficult to think that girl education was equally important. The dominant thought was that if girls are educated they will become independent and it would be difficult to suppress them.

In order to bring this drastic change, government introduced free education for girls from 6 to 14. This was the first step to empower females. Whether it is the "Beti Bachao, Beti Padhao" "Kasturba Balika Vidyalaya" for setting up residential schools for girls, "SABLA-Rajiv Gandhi Scheme" for Empowerment of Adolescent Girls, "National Programme for Education of Girls" at Elementary Level to safeguard minimum dropouts, "Dhanlakshmi scheme" to just name a few, are all working towards girl education and empowerment (Woman education in India - Importance & Government Initiatives, 2015). Even at State Level efforts are persistently being taken to provide education to the poor. The government needs to create and strengthen

educational institutions at decentralized local levels (JAGANNATHAN, 2000)

Non-Government Organization Initiative

Government resources and effort are not enough to fulfil the lacuna. A study by UN estimated a shortage of 1.5 million teachers if every child attended school at the ratio of 1:40. The Government of India estimated a shortfall of 925,000 teachers (Jensen, 1998).

NGOs have worked effortlessly for the cause of education. They have been providing basic education to the underprivileged children, children that are working as child labourers, children belonging to poor parents, educating the girl child or the street children (Mission Education, 2017)

The census data by National Sample Survey Office (NSSO) revealed two alarming facts — 32 million Indian children (aged between 6 and 13 years) have never attended any educational institution while nearly 78 lakh children are forced to earn a livelihood even as they attend schools (Pal, 2017).

Bunker Roy started a unique school called the Barefoot College, in 1975, in a village in Rajasthan. It is an initiative in the form of a school for the poor where they learn what they find important (Goenka, 2015).

To say it aptly in the words of Shanti Jagannathan" NGOs as the voluntary sector are best placed to be a conscience-keeper for Government programs on the one hand and to be the voice of the disadvantaged on the other." (JAGANNATHAN, 2000)

Industry-Education Initiative

Research has shown that when it comes to philanthropic activities by the corporates, education has been the sector where maximum investment has taken place (Catalysing growth: Education Sector in the Northern Region, 2009). Apart from this there is a dire need in the industry for skilled employees. There is a gap between the education provided and the skills required. Industry- academia collaboration would mean that the education sector is getting inputs of the required skills, skills that can be taught at the higher education level. (Gandhi, 2014)

The National Policy on Education adopted by the Parliament in 1986 emphasized the need for the collaboration by stating that: "Active collaboration between technical or management institutions and industry will be promoted in programme planning and implementation, exchange of personnel, training facilities and resources, research and consultancy and other areas of mutual interest... Networking will have to be established between technical education and industry, R & D organisations, programmes of rural and community development." (Gandhi, 2014)UGC has created four Centres of National Facilities - Indian Institute of Advanced Studies, Shimla (Himachal Pradesh.); Western Regional Instrumentation Centre, Mumbai (Maharashtra); Crystal Growth Centre, Anna University, Chennai and mesosphere-stratosphere-troposphere (MST) Radar Centre, Tirupati (Vinay K. Nangia, n.d.).

A survey done by McKinsey Global Institute indicated that only 25 % of engineers were employable (Kapil, 2014). This is the reason that more and more collaboration is required for the industry ready students with high level of employability.

Looking at the survey conducted by McKinsey Global Institute, there is a lot of scope both in the education sector and the industry getting employees that are already trained. Efforts have HDFC bank recently announced its plan to partner 50 technology companies and business schools to tap emerging fin-tech ideas starting with IIT-Bombay and IIT-Roorkee as part of its industry-academia partnership effort, but the need of the hour is to become more diligent

(Kannan, 2017). IIT Madras also got a boost in its budget from the Ministry of Human Resource and Development (MHRD) to enhance its innovation cell and to encourage industry-academic ties.

The focus today is on research and development, a collaborate effort from both the academia and the industry. Wipro has also started a program called the Wipro Academy of Software Excellence, in association with BITS (Pilani) to prepare fresh graduates for careers in software programming and provide them with the necessary skills (Mehra, n.d.)

Cisco Networking Academy (NetAcad) has taken another initiative that provides hands on experience to the students so that the students are Industry ready. NetAcad is also making consistent efforts to bridge the digital divide between the developed and undeveloped cities. (Mehra, n.d.). In technology areas such as Big Data, IoT and gaming, there are huge opportunities for universities to co create ventures which offer commercial solutions to the industry.

2. Research Methodology

2.1 Objective

The objective of this research is to explore the scope of public-private sector partnership in the education sector, mostly focusing on one of the biggest collaboration that is, between Massachusetts Institute of Technology and Tata Trusts.

2.2 Research Design

The research design is exploratory in nature using secondary data. Tata Trust Collaborated with Massachusetts Institute of Technology (MIT) and Tata Institute of Social Sciences (TISS) to launch one of the biggest educational initiative called Connected Learning Initiatives (CLIx). This study is an attempt to understand the project and also explore the scope and possibility of increased Industry Academia Collaboration.

3. Findings

The tie-up between MIT, TISS and Tata Trust led to the new educational experiences and opportunities for secondary students, i.e. students from Grade 8-11. Around 1,000 schools from the Eastern and Central regions of Indian Sub-continent. The regions selected were from Mizoram, Telangana, Rajasthan, and Chhattisgarh The target was to reach an estimated 165,000 students and 4,400 teachers by 2018-19 (Aggarwal, 2018). In its first year CLIx project helped provide computer education in 478 government schools covering 32,437 students.

The best part was that the education was provided in both English and regional languages. The programme itself was a challenge, as nothing of this kind had been done either for the students or the teachers. The curriculum had to be designed by understanding the ecosystems of the regions selected and then providing education in regional languages.

The basic aim of CLIx was to impart education to the students in Mathematics, Science and English. In order to reduce the income disparity, the students were selected from the lower and lower middle class in the rural areas. The tools used were virtual laboratories, gaming, simulations and online learning resources (Dutta, 2016).

The initiative is also being supported by the Union ministry of human resource development and the United Nations Children's Fund, or UNICEF. The project has won UNESCO's prestigious King Hamad Bin Isa Al-Khalifa Prize, an international recognition for the use of Information and Communication Technologies in the field of Education. (Aggarwal, 2018)

The objective of this research was to explore the scope of public-private sector partnership in the education sector, mostly focusing on one of the biggest collaboration that is, between Massachusetts Institute of Technology and Tata Trusts. According to TISS Director S. Parasuraman "A strong focus on research, measurement, and impact assessment will inform the future scale-up of CLIx. The project will also draw upon the expertise of carefully selected curriculum development partners such as Eklavya, the Homi Bhabha Centre for Science Education, and the National Institute of Advanced Studies, as well as implementation partners like Mizoram University, State Council for Education Research and Training (SCERT) Telangana, the Centre for Education Research and Practice, and UNICEF Chhattisgarh."

Looking at the scope of Industry Academia Collaboration, it is high time Indian Education Sector tapped these opportunities and aimed for 100% literacy rate.

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