# Skill Development - The Future Of India

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**Abstract:** In the next few decades, India will be the human capital with world's largest young working age population and viewed as the potential talent pool. The global gig economy creates a short duration jobs and expects manpower training on technological advancements and 21st century economic skill. The challenge is targeting the inactive, and those who are employed in the informal sectors present everywhere for country's economic growth with a key focus on minimizing the risks of social unrest. There are several innovative methods, adopted both national and globally. However, the scale and demographic boundaries of India pose dynamic challenges that dissuade the implementation of any single successful model. The research work presented has studied the existing practices prevalent in low, mid and high skill sets and suggests the way forward.

**Index Terms**: Skill Development, NSDC, NSQF, Gig economy, B.Voc, Interdisciplinary courses, Employment Opportunities

## 1 INTRODUCTION

THE target of skilling and up-skilling the Indian younger generation, as projected by the National Council of Applied Economic Research (NCAER, 2018) is presented in Table 1. The skill development has lifespan across agriculture, service industries, manufacturing etc., at school and higher education levels. The skill training aims at continuous upgrading of the inactive, low skilled, semi-skilled and knowledge-intensive high skilled workers in the technology disruption era (Wadhawan, 2018). Government takes several initiatives for promoting vocational certifications to formalize skill up-gradation in informal sectors. Higher education apex bodies and councils of the country focus on enrichment of knowledge intensive skill sets in the higher order thinking skills of science, engineering, agriculture and humanities domains for the development of the nation. This paper analyses the practices of skill-based vocational and higher education initiatives. The skill development polices, plans and practices are studied and compared with the international practices.

## 2 GOVERNMENT INITIATIVES IN VOCATIONAL EDUCATION

In India, vocational programmes are conducted largely at the school level and there is a myth that they do not provide an aspiring career. Only a small proportion of the students, who are unable to cope with the conventional and general school education opt for the vocational studies. However, recognizing the importance of the skill development, government has drafted skill development polices and schemes through ministries, councils and organizations (refer Fig. 1) supported with industry collaborations (Chenoy, D. 2013). Some of them have overlapping roles in imparting skill training.

***Table 1. India's skilling challenge in numbers (Source:** NCAER, 2018**)***

| Estimation and Projection | Capacity in million |
|---|---|
| New workers aged 15-29 estimated to join every month from 2022 | 1.25 |
| Number of people more in the age group of 19-59 than either less than 19 or above 59 | 47 |
| Need 21st century skill training during 2018-2022 | 70 |
| Workforce to be up-skilled, as 92 % are informal sectors | 468 |
| **Estimation and Projection** | **%** |
| Ratio of Illiterate, Primary Education, College graduates in India's current workforce | 31 %, 13 %, 6 % |
| Formal & Non-formal vocational training | 2 % & 9 % |
| Unemployment rate of graduates in 20-24, 25-29 & 30-34 age group | 29 %, 12 % & 4 % |
| Women's labour workforce in urban & rural India | 21 % & 30 % |
| The offline small, medium business enterprises | 68 % |

School boards offer vocational courses that include agriculture, business, health sciences, engineering skills etc. Industrial training institutes and centers offer training in basic engineering skills, craft and skill programmes etc., of one year to three years duration while the polytechnics offer three year diploma courses, primarily in the engineering disciplines. As vocational education is considered more relevant to employment, it is governed by the Ministry of Labour and Employment (MoLE). Ministry of Human Resource and Development (MHRD) oversees the implementation of national policies on the levels of education, Ministry of Micro, Small & Medium Enterprises (MSME) focuses on entrepreneurship development, and the Ministry of Rural Development (MoRD) aims at the development and welfare of the rural areas. The Ministry of Skill Development and Entrepreneurship (MSDE) coordinates the efforts that are already in vogue through targeted National policy for skill development and entrepreneurship (2015). The National Skill development Corporation (NSDC) plays a vital role in skill-based training by engaging public and private partners. National Skill Development Agency (NSDA) streamlines skill development activities. Both of them are brought under MSDE.


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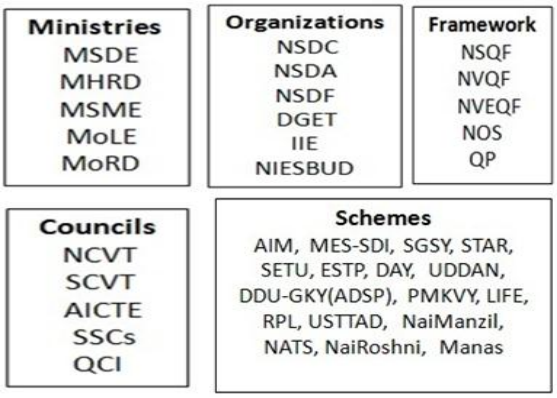



***Fig. 1. Skill Development Eco system***

The National Skill Development Fund (NSDF) was set up for raising funds from both government and non-government sectors to meet the skill development objectives. Directorate of General of Employment and Training (DGET) in MoLE coordinates the trainings related to vocational skill development. Indian Institute of Entrepreneurship (IIE), and National Institute of Entrepreneurship and Small Business Development (NIESBUD) under MSME are engaged to promote the entrepreneurship. The skill-based training and assessment models exist under various key schemes. Most of the schemes are revamped under new NSDF as follows:

- Schemes for Rural
  - Swarnajayanti Gram Swarozgar Yojana (SGSY) programme to enhance income for the rural poor
  - Aajeevika Skill Development Programme (ASDP) scheme offers training with public private partnership to rural young people
  - The Deen Dayal Upadhyaya Gramin Kaushal Yojana (DDU-GKY) to improve employability of rural population
  - Livelihoods in Full Employment (LIFE) to impart skill training to unskilled workers
- Urban
  - Employment Skills Training & Placement Programme (ESTP) scheme to provide skills for both unskilled and upgrade the existing skills in the urban poor
- Urban and Rural
  - Deen Dayal Upadhyaya Antyodaya Yojana (DAY) scheme undertakes skill development of urban, rural poor
- Jammu-Kashmir
  - UDDAN is a special industry initiative for Jammu and Kashmir to provide skills training and enhance the chances of employability of unemployed youth
- Minority people
  - NaiManzil for minority skill development, NaiRoshni, for minority women leadership training and Maulana Azad National Academy for Skills (MANAS) for minority youth entrepreneurial skills up-gradation
  - USTTAD (Upgrading Skills and Training in Traditional Arts / Crafts for Development) of minority people
- General : Vocational & skill development
  - Modular Employability Scheme – Skill Development Initiative (MES-SDI) focuses on vocational training of skilled, unskilled technicians
  - Standard Training Assessment and Rewards (STAR) scheme offers skill training for youth with incentives
  - Recognition of Prior Learning (RPL) scheme is an outcome-based qualification framework where prior learning can be assessed and certified
  - Pradhan Mantri Kaushal Vikas Yojana (PMKVY) aims to offer meaningful, industry relevant, skill-based training with financial assistance to secure an employment
  - Hunar Hai Toh Kadar Hai (you will be respected if you have a skill) is a nationwide initiative by the NSDC to broaden the skill development landscape, glorifies the idea of vocational skilling, suggesting that vocational training which results in jobs is better than a formal education that does not end in a job
  - National Apprenticeship Training Scheme (NATS) has been set up to provide skilled manpower for Industries
- Self Employment
  - SETU (Self-Employment and Talent Utilization) supports startup businesses, self-employment activities, predominantly in the technology-driven areas
- Innovation
  - Atal Innovation Mission (AIM) aims innovation promotion involving academicians having national and international reputation

National council on vocational training is responsible for setting standards for vocational curriculum while the State council of vocational training (SCVT) caters to the needs of technical training and employment of states. Quality council of India (QCI) has been established to oversee the national accreditation framework of vocational education. The design of national occupational standards (NOS) and Qualification Packs (QP) are established by Sector Skill Councils (SSC) in conjunction with All India Council for Technical Education (AICTE). National Vocational Educational Qualification Framework (NVEQF), developed by AICTE and National Vocational Qualification Framework (NVQF) of MoLE are used as background to develop National Skill Development Qualification Framework (NSQF), as shown in Table 2. It organizes the qualifications with specific level of competencies leading to international equivalency. The council focuses on addressing the lack of industry-readiness through aligning skill qualification framework with higher education.

***Table 2. NSQF levels (Document for Credit Framework: MHRD, 2014)***

| Level | Qualification | | Certifying Bodies |
|---|---|---|---|
| 10 | Doctorate | | • Universities |
| 09 | PG | | |
| 08 | PG Diploma | | • Universities<br>• Board of Technical Education |
| 07 | UG Degree (Vocational) | | • Universities<br>• Board of Technical Education<br>• SSC |
| 06 | UG Year 2: Advanced Diploma (Vocational) | | |
| 05 | UG Year 1 | Diploma (Vocational) | • Board of Technical Education<br>• SSC |
| 04 | Grade XII | | |
| 03 | Grade XI | | |
| 02 | Grade X (School : Vocational) | | • SSC<br>• School Boards |

The NSQF approach encourages flexible multiple entry and exist system with assured skill up-gradation and skill-based on-the-job training promotion, "Earn while you Learn" model. Most of the skill development schemes are implemented through various knowledge and training partners suggested by SSCs. Though the government has established several initiatives, incentives and schemes to promote skill development, the adoption rate is low and the results are not fruitful.

## 3 INTERNATIONAL PRACTICES IN VOCATIONAL EDUCATION

Countries around the world are addressing the skill imbalance that may have huge social and economic consequences. Despite the economic, social, geographic and political diversity, the countries follow common themes such as matching supply and demand, industry engagement, preparing people for work and improving the perception of skills to meet the challenge of increasing mobile labour workforce. The best practices of the vocational educational system of different countries have been sourced from various reports: Hillmert, 2006, Berlia, 2007, Mehrotra et al. 2011, Tucker, 2012, and Agarwal 2013 and FICCI 2016 (Refer Table 3). Other governments around India are also gearing up to keep their workforces competitive. The educational and economic reforms in technical and professional skills in Malaysia make the country more sustainable. The Philippines government has set up a programme to train the high school students in vocational skills.

***Table 3.*** *Skill development practices in different countries*

| Country | Best Practices |
|---|---|
| Australia | Usage of ICT, Frequent Curriculum Reform, and Apprenticeship |
| Bangladesh | Underprivileged Children's Education Programme |
| Chile | Rural Programme with Private Participation |
| China | Adoption of 'Lewis turning point' theory, Digital collaboration, Private Players, Train the trainers initiative, Provide Generic Skills |
| Germany | Apprenticeship system, Public Private Partnership model, Continuous updation of Job roles |
| Kenya | Voucher system for informal workers, Need based training |
| New Zealand | Industry adoption of training, eLearning – Open Polytechnic |
| Singapore | Quick strategic forward looking revisions, Shift towards high skill employment, Labour intensive → Capital Intensive → Knowledge Intensive transformation |
| South Korea | Placement Linkage, Presence of Generic Curriculum |
| Switzerland | Recognition, Respect in higher position – CEO |
| United Kingdom | Development and assessment of SSC, Changing Job Roles , Labour Market Information linked to training, Entered into Indian Market through Manipal & City-Guild |
| United States | Flexible Entry-Exit, Presence of Community College, Optional Practical Training |

## 4 SKILL DEVELOPMENT IN HIGHER EDUCATION

The corporate India grapples with the "Educated unemployable" problem due to inadequate skill sets found lacking in the students of higher education (Sabharwal, 2016). The higher education councils understand the need of mapping labour market requirements in mid-skilled and high-skilled workforces (FICCI & EY, 2016). University Grants Commission (UGC) has launched different schemes such as increasing number of community colleges, introduction of bachelor and master in vocational degree, knowledge updgradation centres for skilled human action and learning (Kushal) in institutions, entrepreneurship courses, startup initiatives and establishing skill universities. The model of Bachelor of Vocation (B.Voc), as a part of higher education skill development with flexible entry and exit options is given in Fig. 2. The objective is to integrate NSQF within undergraduate level and recognize vocational education under higher education path. The new nomenclature followed in awarding the degree could face initial challenges from the public, industries and also from outside the country. The institutions are recommended to offer skill-oriented choice-based curriculum, and additional courses in the form of certificates / diplomas to improve the employment opportunities in all faculties. The accredited and ranked institutions are also encouraged to offer online upskilling courses. Some of the Indian institutions offer interdisciplinary degrees to widen the job opportunities as similar to Colorada career cluster model as given in Fig. 3.

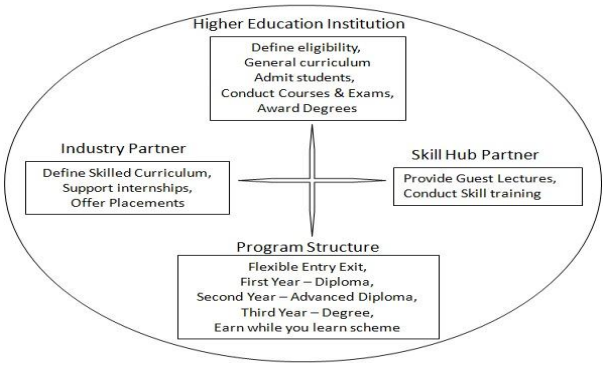
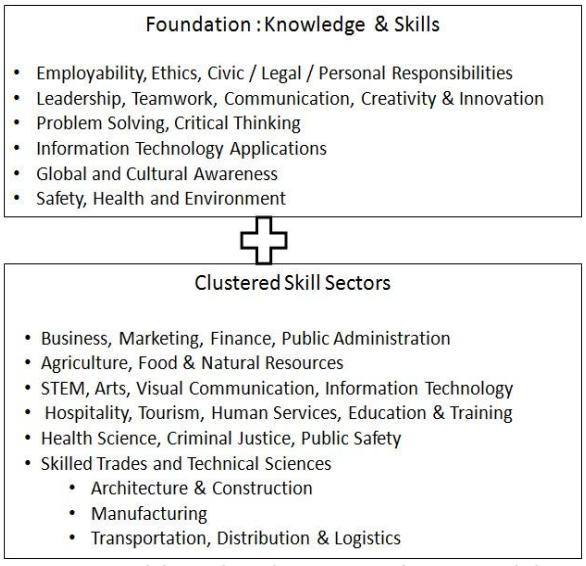



***Fig. 2. B.Voc Degree Structure***




(a) Colorado Career Cluster Model


(b) Interdisciplinary degree option

***Fig. 3. Interdisciplinary skill sets model and degree option***

## 5 EMPLOYMENT UNCERTAINTIES

India faces a big challenge on employment generation. Despite an average economic growth, the rate of employment growth is not much encouraging in India. The hiring plans are reduced in the first & second quarter survey as per the study of (Manpower Group, 2018). Various statistics that lead to market challenges suggest that the world is likely to have skill-job mismatch along with vulnerable jobs (Dobbs et al. 2012, Gambin et al. 2016). The skill challenges within the country are listed as follows (Sharma et al, 2016).

- Supply-demand connectivity gap in labour market needs
- Complex structure and too many players in policy decision
- Lack of dynamic revamp of curriculum and training modules
- Disintegration between schools and industries
- Low participation of adult workers in upgrading their knowledge
- Poor implementation and limited recognition of vocational qualification

The global knowledge based economy throws specific challenges for exporting Indian workforce which include lack of knowledge about international market requirements, training inadequacies, and competition from other developing countries that are willing to work for a lower pay scales and policy decisions of the government of the country on reducing non-native workers etc as given in Fig. 4.

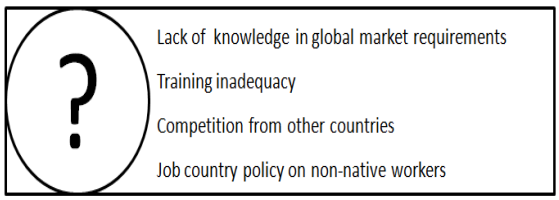



***Fig. 4. Global Employment Uncertainties***

## 6 OVERCOMING INDIA'S SKILL CHALLENGE

Our country is aggressively progressing to become a developed nation with faster, inclusive and sustainable economic growth. In reality, the growth is pulled-down by "lack of market-desired skills". Those countries with broader vocational education systems orient themselves towards increasing generalization of the vocational curricula. The relevancy of market-driven vocational education is possible through continuous revamp of the system, properly balancing the general and the vocational education components (Accenture & NSDC, 2013). This is to ensure that the vocational education is not constrained and driven to a dead end. India has set their highest priority to equip the young generation with interdisciplinary employability skills so that the youth can contribute productively in both national and International labour workforces (Refer Fig. 5). Additionally, the self-sustained economic and social objectives can be achieved through encouraging entrepreneurship with innovation and equity (Sanghi et al., 2018). Of late, the educational institutions are emphasized to educate the importance of the entrepreneurship to the students, both formally and informally.

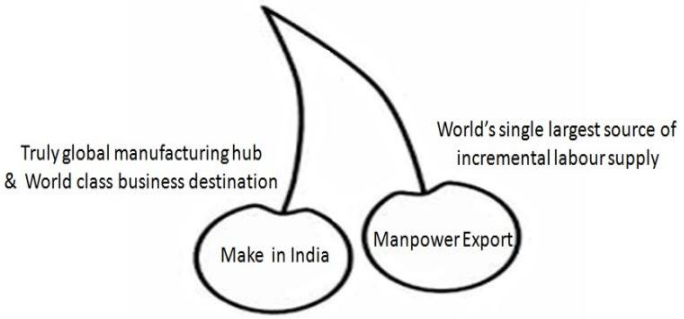



***Fig. 5.*** *Single vocational system, Dual Agenda, Multifold Benefits ?*

The expectation of sustainable economic development and to become a global knowledge capital will be fulfilled only if there is a focused skill development plan as listed (Accenture & NSDC, 2013).

- Identify prospective candidates in their young age, from rural, low-income geographically dispersed locations for low-mid skill training
- Empower trainees with generic employability skills
- Implement Inter-disciplinary skill based curriculum
- Build a life-long learning career ecosystem
- Develop production-focused training-apprenticeship model
- Scale-up the skill training by allowing public-private partnership model
- Encourage entrepreneurship / startup experimentation during studies

## 7 CONCLUSION

It has been proved beyond doubt that India shall have the best young work force possible for the next two decades are so. However, this alone would not suffice. The nation has awoken belatedly to the requirements of the skills and challenges which cannot be achieved through arbitrary governance. The global requirements of work force have to be carefully studied and analyzed and adequate steps have to be taken to impart the vocational and related skills mandated by the industries. This shall ensure a strong hold for the Indians in the global work force and sustain the development and growth of the country. The factors that improve skill development will be a mixed strategy of all the best practices on need-based analysis and requires introspections and revisions periodically. The cohesive contribution of all stake holders will ensure that our vocational and higher education system possess the perfect blend of necessary skills required to achieve the

targeted goals.

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