Skill Masterclass Two
Skill Development Programs and Quality Framework
TRANSCRIPT

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Prof. Vineeta Sirohi: Welcome to this skills masterclass on the skill development programs and quality framework. This is the first in a series of master classes on India skills sector. The master classes aims to build understanding of India skill system across the Australian vocational education and training sector, the VET sector. The master classes will support increased participation by Australian VET providers in India's skill system. I am Professor Vineeta Sirohi, lead researcher working in the area of skill development and vocational education and training also holding the position of chairperson steering committee, MPhil PhD program and chairperson equal opportunity cell at the National Institute of Educational Planning and Administration, New Delhi. The National Institute of Educational Planning and Administration, the team to be university established by the erstwhile Ministry of Human Resource Development, now Ministry of Education Government of India is a premier organization dealing with capacity building and research in planning and management of education not only in India, but also in South Asia. In recognition of the pioneering work done by the organization in the field of educational planning and administration, the Government of India has empowered it to award its own degrees by way of conferring it the status of deemed to be university in August 2006. Like any central university, NIEPA is fully maintained by the Government of India. The institute is unique as it is the only institution in the country offering exclusively research programs MPhil PhD and postdoctoral on educational planning and administration. NIEPA is very pleased to partner with the Australia India Institute for this skills master class series. The Australia India Institute is an Australian organization that is dedicated to the Australia India relationship. Their work includes research and policy advice supporting the Australia India education relationship. They receive funding from the Australian Government Department of Education for projects that support this work and we acknowledge and thank the department for their support for this series of skills master classes. This master class will examine Indian skills development programs and curriculum example national occupational standards, qualification packs, long and short programs, apprenticeships et cetera. The

national skills qualification framework and quality assurance. Before we begin the class I would like to briefly introduce our resource person for this class Professor Vinay Suroop Mehrotra, head of the curriculum development and evaluation center and center for international relationship at the PSS Central Institute of Vocational Education, a constituent unit of National Council of Educational Research and Training under the Ministry of Education, Government of India. He is also the coordinator of the UNIWOC network center at PSSCIV, Bhopal. He served as officiating joint director of PSSCIV from 9th May 2022 to 1st August 2022. He has been actively involved with the Ministry of Education in the development and implementation of the national skills qualification framework and the scheme of vocationalization of school education under Samagra shiksha. He is working as the project coordinator of Ministry of Education funded projects under Samagra shiksha for the development of vocational curricula, textbooks and digital resources for grades 9 to 12. Professor Mehrotra was the project coordinator for the development of training modules for the life kit of UNESCO India. He is coordinating the development of vocational textbooks of employability skills and vocational skills for grade 9 to 12 published by NCERT. He has coordinated training programs for the Tivet, teachers of Bhutan and officials of Sri Lanka and has attended VET conferences and visited several Tivet institutions in Indonesia, Australia, New Zealand, the Philippines, Thailand, Germany and South Korea. So this is a brief introduction of our resource person. I would like to mention that in India the government has made rigorous efforts in introducing various skill development programs and a unified framework for quality assurance as the national skills qualification framework came into place in 2013. Now let us listen to what Professor Mehrotra has to share about the programs and the quality framework. Over to you Professor Mehrotra So I am going to talk about skill development programs and quality framework.

Introduction :

India has the largest population in the world in the age bracket of 5 to 24 years with 580 million people presenting a huge opportunity in the education and skill development sector. India has over 250 million school going students with more than 1.5 million schools. It has one of the largest networks of higher education system in the world. 45,000 degree colleges, over 1,000 universities and around 1500 top institutes. According to the International Labour Organization, India is likely to face a shortage of 29 million skilled personnel by 2030. India has the largest and most diverse education system in the world. The challenge is to integrate vocational education with general education to improve the social status of vocational education

and make general education more meaningful, relevant and competency based so as to meet the skill demands of employers and the world of work. The quality issues of vocational education and training institutions in India are of great concern and reforms have been introduced to address the challenges of both increasing vocational education training and employment opportunities by skilling, upskilling and reskilling a large number of young people and ensuring the availability of standardized, formally trained skilled workforce to meet the regional, national and global labour market demands. In spite of the magnitude and diversity in the education and skill development sector, India is working towards meeting the key challenges and issues for becoming the skilled capital of the world. The National Education Policy 2020 proposes the revision and revamping of all aspects of education including the educational structure, regulations and governance to create a new educational system which is aligned with the aspirational goals of 21st century students. India can realize its demographic dividend through a workforce that is trained in employable skills and is industry ready. The Ministry of Skill Development and Entrepreneurship established in 2014 is the nodal agency for promoting skill development in India. It has collaborated with central government ministries, state governments, industry, non-profit organization and academia to synergize and accelerate the skilling efforts across geographies. Quality education which is enlisted as Goal 4 under the United Nations Sustainable Development Goals that is the SDG 4.0 aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all by 2030. This goal is of critical importance for improving the standard of living of people and creating better opportunities for livelihood. Recognizing that education is the most important factor for human capital formation, the National Education Policy 2020 provided for the revision and revamping of all aspects of the education structure. This includes its regulation and governance, creation of a new system that is aligned with the aspirational goals of 21st century education including SDG 4 while building upon India's traditions and value systems. The National Education Policy 2020 provides for nurturing the all-round development and skill acquisition by youth in an inclusive, accessible and multilingual setup. The National Skill India Mission launched in 2015 focuses on skilling, reskilling and upskilling through short term and long term market relevant training programs. The National Skill Development Mission seeks to provide a strong institutional framework at the centre and states for implementation of skilling activities in the country. The Union Government through more than 20 central ministries or departments is implementing various skill development schemes and programs across the states or Union territories of the country, mostly through the public-private partnership mode. The two major ministries implementing the skill development programs are the Ministry of

Education and the Ministry of Skill Development and Entrepreneurship. Skill development schemes and programs including both long term and short term vocational education and training, apprenticeship training and recognition of prior learning in various sectors have been introduced by the government. Sector means a grouping of professional activities on the basis of their main economic function, product, services or technology. Recognition and standardisation of vocational education and training qualifications are being done by the National Council for Vocational Education and Training, in short NCVET which is under the Ministry of Skill Development and Entrepreneurship.

National Skill Development Mission :

The National Council for Vocational Education and Training established in 2018 subsumes the skill regulatory bodies such as National Skill Development Agency and the National Council for Vocational Training and it now acts as an overarching regulator for skill development schemes and programs. The National Council for Vocational Education and Training is responsible for implementing the national skill qualifications framework, maintaining the national qualification register, approval of the NSQF aligned qualifications and national occupation standards in each of the qualifications. NCVET is also responsible for monitoring, evaluation and supervision of recognised entities and grievance redressal of the various stakeholders. National Skill Development Corporation which is a not for profit public limited company incorporated on July 31st 2008 was set up by the Ministry of Finance as public private partnership model. The Government of India through Ministry of Skill Development and Entrepreneurship aims to promote skill development by catalysing creation of large and quality vocational education training schemes and programs and for profit vocational education and training institutions. The National Skill Development Corporation provides funding to build scalable and profitable vocational training initiatives. Its mandate is also to enable support system which focuses on quality assurance, information systems and train the trainer academies either directly or through partnership mode. It also develops appropriate models to enhance support and coordinate private sector initiatives. Sector skill councils which play a vital role in bridging the gap between the skill demand and supply operate as an autonomous body and could be registered as a section 8 company or a society. The National Skill Development Corporation is mandated to initiate and incubate sector skill councils with initial seed funding to facilitate their growth and enable them to achieve self sustainability in a time bound manner. They create national occupation standards and qualification bodies, develop competency framework, conduct train the training programs, conduct skill gap studies and assess and certify trainees on the curriculum aligned to the national occupation standard s developed by them. There are currently 37 sector skill councils which are

operational. The directorate general of training in short DGT in the Ministry of Skill Development and Entrepreneurship is an apex organisation for the development and coordination of the vocational education and training in industrial training institutes including women's vocational training institutes and also to provide skilled manpower to the economy. It acts as a secretariat and the implementing arm of the National Council for Vocational Education and Training which is under the Ministry of Skill Development and Entrepreneurship. It has a quality assurance and grievance redressal unit to ensure implementation of common norms and guidelines for the affiliation of training institutes. Setting curriculum for different trades or courses and conducting assessments.

States Skill Development Missions :

There are states skill development missions that align their skill development programs with the schemes and programs of the national skill development mission. District skill committees have been constituted in all the states which are mandated to plan, manage and monitor skilling activities at the district level. District skill committees under the guidance of states skill development mission play a key role in the implementation of skill development related to the schemes in the states by ensuring convergence, coordination and coherence among schemes and programs of different departments, addressing the issues of skill gaps and skill demands at the district level and identifying the priorities and drawing up a list of activities for developing and implementing district skill development plan.

Policy For Skill Development And Entrepreneurship :

The National Policy for Skill Development and Entrepreneurship 2015 was launched on 15 July 2015. The policy acknowledges the need for an effective road map for promotion of entrepreneurship as the key to a successful skill strategy. The vision of the policy is to create an ecosystem for empowerment of people through skilling on a large scale at greater speed and with high standards and to promote a culture of innovation based entrepreneurship which can generate both wealth and employment so as to ensure sustainable livelihood opportunities for all citizens in the country.

National Education Policy 2020: Reimagining Vocational Education :

The Union Government of India determines the policy of education including technical and vocational education and training which is then followed by the states or union territories. The National Education Policy 2020 lays emphasis on providing vocational exposure to children at an early age specially in the middle and secondary schools and integration of quality vocational education into higher education in order to ensure that every child learns at least one vocation and is exposed to several more.

The National Education Policy 2020 envisages that by 2025 at least 50 percent of learners shall have vocational exposure through school and higher education. Activities through pre-vocational education program, 10 days bagless period and internships sometimes during the grade 6 to 8 with local vocational experts or craftsperson such as carpenters, gardeners, potters, artists, et cetera is also envisaged as a means of joyful learning. Lok Vidya that is important vocational knowledge developed in India will be made accessible to students through integration into vocational education courses. Vocational education and training in India is organized through the formal, informal and non-formal sectors. Among the various ministries, the Ministry of Skill Development and Entrepreneurship and the Ministry of Education, Government of India are responsible for the implementation of majority of the skill development schemes and programs. Vocational education training provisions through schools, polytechniques, colleges and universities come under the purview of the Ministry of Education.

Vocationalisation Of Education In Schools:

Vocational education was accorded high priority in the National Policy on Education 1986 and also in the National Education Policy 2020. Vocationalization of education in India was introduced under the centrally sponsored scheme of vocationalization of secondary education way back in 1988. The scheme was implemented by the states or union territories for the formal sector and by the non-government organizations or voluntary organizations in the non-formal sector. Vocational courses under the scheme were introduced in grades 11th and 12th through a distinct stream intended to prepare skilled personnel for identified vocations or trades in several areas which included both the organized and unorganized sectors. The scheme became redundant due to irrelevant courses, due to a mismatch between the labour market needs and the skills required in the market, lack of focus on emerging areas of industrial development, outdated syllabi being followed in schools and use of obsolete tools and equipment. Inadequate practical training skills acquired by the students and lack of social acceptability or employment opportunities led to an overall poor enrollment in vocational stream in such schools. The Ministry of Education, Government of India revised the centrally sponsored scheme of vocationalization of secondary education which was introduced in 1988 and reintroduced the revised scheme in 2012. The vocationalization of school education under Samagra Shiksha was introduced in 2018. Under the Samagra Siksha and within the mainstream general education, there is a choice of one vocational subject which can be taken as an optional in grades 9th and 10th and this vocational subject is aligned to NSQF level

3. And there is a choice of one vocational subject as an elective subject in grades 11th and 12th and these are aligned to NSQF level 4. Occupation based vocational subjects in 19 sectors are being offered from grades 9 to 12. The overall objective of the scheme is to provide vocational exposure at every stage that is the foundational, preparatory, middle and secondary stage of school education and also add value to the general education through vocationalization of education. So, as to make vocational education and training aspirational and relevant for the students. According to the national education policy 2020, by 2025 at least 50 percent of the learners through the school and higher education system shall have exposure to vocational education for which clear action plans with targets and timelines are to be developed. Every child in school will learn at least one vocation and will be exposed to several more. This would bring about the importance of dignity of labour and the knowledge of various vocations involving the indigenous knowledge and skills of Indian arts and artisanship which in Hindi we call Lok Vidya. Vocational courses through open distance learning mode are being offered both at school and higher education levels. Special e-content for the visually and hearing impaired has been developed on digitally accessible information system and in sign language. High quality e-content in languages spoken in states or union territories have been developed for delivery of vocational education training content via the internet, mobile phones, television and radio. Virtual skill labs are being developed for facilitating access to practical learning specially for those who do not have access to physical labs.

Skill Hub Initiative Program In Schools :

The skill hub initiative program is being implemented in schools under the Pradhan Mantri Kaushal Vikas Yojana 3.0 by the union ministry of education and ministry of skill development and entrepreneurship in a hub and spoke model as envisaged in the national education policy 2020. The skill hubs are the nodal skill centres identified to provide short term skill development training opportunities to school students, school dropouts and out of education candidates.

Craftsman Training Scheme In Industrial Training Institutes :

The craftsman training scheme was introduced by the government of India in the year 1950 to ensure a steady flow of skilled workers in different trades for the domestic industry to raise quantitatively and qualitatively the industrial production by systematic skill training to reduce unemployment among the educated youth by providing them employable skills and to cultivate and nurture a technical and industrial attitude in the minds of the younger generation. Government and private

industrial training institutes are implementing craftsman training scheme across India. Industrial training institutes deliver post school technical as well as vocational training certificate or diploma courses of 6 months, 1 year and 2 year duration. The training includes employability and vocational skills modules which are aligned to the qualifications under the national skill qualifications framework. Now, I am going to talk about vocational education and training in polytechnics.

Vocational Education And Training In Polytechnics :

Government and privately managed polytechnics offer diploma courses that comprise vocational education in the specialized streams of science, technology, engineering or any other technical subject. Few of these institutions organize skill development programs only for girls. Polytechnics facilitate admission to the second and third year of the semester of bachelor in technology in most of the states.

Vocational Education And Training In Private Institutions :

Private vocational education and training institutions which include industry based training centers and centers run by the non-government organizations or vocational training partners are engaged in sharing training infrastructure and implementing Pradhan Mantri Kaushal Vikas Yojana 3.0. Besides the government managed education and training institutions, the Pradhan Mantri Kaushal Vikas Kendras conduct training for the industry driven courses of high quality with focus on employability and they create an aspirational value for skill development training programs under the PMKVY scheme as per the common norms.

Vocational Education And Training In Jan Sikshan Sansthan

Jan Sikshan Sansthan also known as Institute of People's Education aims to provide vocational skills to non-literate, neo-literate persons with the rudimentary level of education up to grade 8 and the school dropouts up to grade 12 in the age group of 15 to 45 years. It is implementing vocational education training programs through a network of non-government organizations in the country since 1967. The main target groups of the scheme are women, scheduled caste, scheduled tribes, minorities and other disadvantaged sections of the society in both rural and urban areas. It is under the Directorate of Jan Sikshan Sansthan which is a subordinate office of Ministry of Skill Development and Entrepreneurship. Pradhan Mantri Kaushal Vikas Yojana is the flagship scheme of the Ministry of Skill Development and Entrepreneurship and it is being implemented by the National Skill Development

Corporation. The objective of the scheme is to enable a large number of Indian youths to take up industry relevant skill training that will help them in securing a better livelihood. It includes short term training, recognition of prior learning, special projects, Kaushal Mela which means skill exhibition and Rojgar Mela which means employment fair. It also provides placement assistance and continuous monitoring of programs.

Pradhan Mantri Kaushal Vikas Yojana :

In short term training, there is a provision of 200 to 500 hours of skill oriented training at Pradhan Mantri Kaushal Vikas Yojana affiliated and accredited training centres for the school or college dropouts or also for unemployed youth. Individuals with prior learning experience or skills are assessed and certified under the recognition of prior learning. Recognition of existing skills after a 12 to 80 hours orientation come bridge course is done with provision of Pradhan Mantri Kaushal Vikas Yojana certificate to candidates who clear the assessment.

Deen Dayal Upadhyaya Grameen Kaushal Yojana :

Deen Dayal Upadhyaya Grameen Kaushal Yojana is designed to provide high quality skill training opportunities to the rural poor and also to establish a larger ecosystem that supports trained candidates to secure a better future. The target group for DDU-GKY is poor rural youth in the age group of 15 to 35 years. Customised need based programs are offered for specific age groups in communication, life skills, positive thinking skills, language skills, behavioural skills, management skills et cetera.

Skill Acquisition And Knowledge Awareness For Livelihood Promotion :

Now, I am going to talk about skill acquisition and knowledge awareness for livelihood promotion. The skill acquisition and knowledge awareness for livelihood promotion in short Sankalp is a program of the Ministry of Skill Development and Entrepreneurship with loan assistance from the World Bank. It aims to improve short term skill training both qualitatively and quantitatively through strengthening of institutions, bringing in better market connectivity and inclusion of marginalised sections of the society.

Skills Strengthening For Industrial Value

The skills strengthening for industrial value enhancement in short STRIVE scheme

Enhancement Scheme :

which is a World Bank assisted project was launched with the objective of improving the relevance and efficiency of skills training provided through the industrial training institutes and organisations imparting apprenticeship training. It aims at bringing about institutional reforms and improving quality and market relevance of skill development training programs in long term vocational education and training. It is incentivising industrial training institutes for improving the overall performance including apprenticeship training and by involving small and medium enterprises, business associations and industry clusters.

Apprenticeship Training :

Apprenticeship training is a course of training in any industry or establishment in pursuance of a contract under the Apprentices Act 1961 which was amended in 2014 and 2019 between employers and apprentices and under the prescribed terms and conditions of the national apprenticeship training scheme. It is imparted in different government run and privately owned companies. Apprenticeship training consists of basic training and on the job training or practical training at the workplace or in the industry. Basic training is an essential component of apprenticeship training for those who have not undergone any institutional training or skill training before taking up on the job training or practical training. Apprentices must possess a minimum of 14 years of age for non-hazardous industries and educational and physical qualification as per the prescribed trade and requirements of the Apprentices Act 1961. There are two types of recognised apprenticeship training. Designated trade which means apprentices pursuing any trade or occupation as notified by the government, optional trade apprentices which means apprentices pursuing any trade or occupation as may be determined by the industry. Apprentices are characterised into five categories on the basis of entry level qualification possessed by them and these are as follows. Trade apprentices, optional trade apprentices, technician vocational apprentices, technician apprentices, graduate apprentices. Administration of trade optional and technician vocational categories of apprentices is under the Ministry of Skill Development and Entrepreneurship and that of technician and graduate categories of apprentices are under the Ministry of Education. Directorate General of Training through regional directorates of skill development and entrepreneurship and National Skill Development Corporation under the Ministry of Skill Development and Entrepreneurship are responsible for implementation and monitoring of the Apprentices Act 1961 in respect of the designated trade and optional trades respectively for the central government departments and undertakings and establishments which are operating business or trades from different locations situated in four or more states. The duration of apprenticeship training depends upon the trade and it varies from six months to three years. However, the duration of basic training is three months to six months depending upon the trade. Apprentices get

stipend during the training. National apprenticeship promotion scheme was launched by the government of India in 2016 to provide financial support to establishments undertaking apprenticeship training. It consists of basic training and on the job training or practical training at the workplace or in the industry. The regional Directorates of skill development and entrepreneurship under the control of Directorates General of Training are the implementing agencies in their regions in respect of all designated trades under the act for all establishments falling under the central government jurisdiction. Higher education in India covers all post secondary education beyond grade 12 in different subject areas including all professional streams such as engineering and technology, medical, agriculture, etcetera. It comprises three levels of qualifications, Bachelor or undergraduate degree programs, Master or Post graduate degree programs and the Pre-Doctoral and Doctoral programs.

Vocational Education And Training In Higher Education Institutions :

The integration of skills in higher education is being done through skill enhancement courses under the National Skill Qualifications Framework, National Higher Education Qualifications Framework and National Credit Framework. Full time vocational diploma or advanced diploma or degree programs which includes bachelor of occasion are being offered through colleges, universities and Deen Dayal Upadhyay centers for knowledge acquisition and upgradation of skill, human abilities and livelihood. Bachelor in Vocation course is enabling the students multiple entry and exit at different levels. One year diploma program results in NSQF level 5 certification, two year advanced diploma program results in NSQF level 6 certification and three year B.VOC. degree program results in NSQF level 7 certification. B.VOC. courses are also considered equivalent to any other bachelor's degree course. Skill universities and digital universities are being set up to provide greater access to higher education thus reducing all direct and opportunity cost. Skill universities are developing and conducting advanced vocational education and training programs and doing extensive research to enhance the quality and delivery of vocational education and training. Apprenticeship or internship embedded degree programs are being offered by the colleges and universities in emerging and frontier technology such as artificial intelligence, drone technology, new evolving and emerging areas including expertise required for the production linked incentive scheme and the Pradhan Mantri Gati Shakti program of the government.

Centre Of Excellence For Skill Development :

Centre of Excellence is an institution where the highest standards are maintained and it provides leadership, best practices, research, support, training of trainers and skill training for a specific sector. The Centre of Excellence is envisioned to be one stop resource centre which would be working in partnership with industry to raise training

standards, boost productivity, address emerging skill gaps and align training and research with industry needs.

Skilling in new and emerging technologies namely artificial intelligence, Blockchain, Big Data Analytics, Cloud Computing, Cyber Security, Internet of Things, Mobile Technology, Robotic Process, Automation, Virtual Reality and 3D Printing is being taken up on a large scale by the centres of excellence. So, I am going to talk about quality framework.

National Skill Qualifications Framework (Nsqf) :

So, the national skill qualifications framework was introduced in 2013 as a single unified framework for all vocational education training qualifications. Qualification means a formal outcome of the assessment and validation process which is obtained when a competent body determines that an individual has achieved learning outcomes through a given standards. This outcome is actualized in the form of formal certificate. The national skill qualification framework is a competency based skill framework that organizes qualifications according to a series of levels of knowledge, skills and aptitude. It establishes a basis for improving the quality, accessibility, linkages and labour market within the country and also internationally. The national skill qualifications framework has 10 levels. Level 1 is the most basic and level 10 is the most advanced. It is operationalized through the national skill qualifications committee of the national council for vocational education and training which is under the ministry of skill development and entrepreneurship. The national skill qualifications committee which meets every month approves the qualifications submitted by the various bodies. Honest efforts have been made by the organizations to implement NSQF aligned vocational education training programs through various institutions. So as you can see in the table given here, there is a comparison which has been done for the general education and the vocational education and training. If you look at the NSQF levels 3 and 4, there is a certificate program and the certificates are being given by the secondary boards which could be the state boards or the central boards. Then at NSQF level 5 where you can see the diploma, this diploma is being awarded by the technical boards, the polytechniques, the colleges or universities and you can see at the NSQF level 6 where you can also see the advanced diploma for both the general education as well as vocational education training and the certificate is awarded by the technical boards, polytechniques or colleges or universities. Now as you can see at the NSQF level 7, there is a Bachelor Degree and in case of Vocational Education Training, there is a bachelor in vocation and the degree is being awarded by the colleges and universities. Now coming to the level 8 where you can see the Post Graduate Diploma and this is also being awarded by the

colleges and universities and the Post Graduate Degree at NSQF level 9, there also if you see these the certification is being done by the colleges and universities that is the degree is being awarded by these colleges and universities. Now at level 10 where you can see the doctorate or the Doctor of Philosophy, the degree is being awarded by the universities. So as you can see in this table which depicts the comparison of Indian and Australian qualifications framework, on the left side you can see the national skill qualifications framework and on the right Australian qualifications framework. So as you can see at the level 4, we have certificate programs both in case of national skill qualifications framework as well as the Australian qualifications framework. However in Australian qualifications framework, it is certificate 1, 2, 3, 4 which the Indian skill qualifications framework does not have. But at level 6, they are both advanced diploma and at level 7 in both the cases it is Bachelor Degree. When we go to level 8, in the Indian national skill qualifications framework, it is post Graduate Diploma whereas in Australian qualifications framework, it is Bachelor's Honours Degree, Graduate Certificate and Graduate Diploma. When we go to level 9, in both the cases you will see Post Graduate Degree whereas in level 10, it is Doctorate or Doctor of Philosophy in both the cases.So it is the same at level 9 and 10. The government of India has notified common norms in 2015 for bringing about uniformity and standardization in the implementation of various skill development schemes by different central ministries or departments as there were over 70 odd skill development programs which are being implemented by Government of India each with its own norms for eligibility criteria, duration of training, cost of training, outcomes, monitoring and tracking mechanisms et cetera. Common norms seek to rationalize the whole spectrum of skill development processes and systems including inputs, outputs, funding or cost norms, third party certification and assessment, monitoring or tracking mechanism and impanelment of training providers. So the skill development ecosystem has the following dimensions, vocational education and training qualification standards, learning outcome curriculum and teaching learning resources, student support and progression, professional development of teachers or trainers, teaching and training, assessment, validation and certification and data management and monitoring and finally the placement. Now I am going to talk about Vocational Education Training Qualification Standards.

Vet Qualifications' Standards :

Which are occupation based are classified as per the national classification of occupations. The sector skill councils and other awarding bodies submit their information in a template called qualification file with supporting documents like

model curriculum, 30 industry validations from small, medium and large industries, accreditation and assessment norms, occupational map and evidence of the need for the qualification. The qualification file comprises task involved in the occupation together with the skills, knowledge, aptitudes and responsibilities that are required from the worker for the performance of the various task in the occupation. The qualification file template actually captures all the necessary information such as job description, national skill qualifications level, no still learning hours, entry requirements, progression pathways, national occupation standards, performance criteria et cetera to establish national skill qualification framework compliance for a qualification. Each national occupation standard defines one key function in a job role. National occupation standard is one of the main pillars of India's current efforts to develop a standardized and quality vocational education and training system. The qualifications are then approved or disapproved by the national skill qualifications committee anchored in the national council for vocational education and training of the ministry of skill development and entrepreneurship. National qualification register is the official national public record of all qualifications aligned to the NSQF levels and contains sector wise qualification files for the job roles.

Learning-Outcomes Based Curricula And Resources :

The vocational education and training curricula can be broadly categorized as competency based and non competency based curricula. The learning outcome based curricula have explicit learning outcomes to be achieved for performing the task in the occupation as per the National Occupation Standards. It is a combination of a series of modules with corresponding learning outcomes, assessment criteria, content, learning conditions, instructional methodologies and assessment methods. These curricula are being developed in consultation with academicians, experts from the industries and representatives from sector skill councils and vocational education and training institutes. The vocational curriculum for grades 9 to 12 includes employability skills and vocational skills. The employability skills curriculum has been made a mandatory part of the vocational course for developing communication skills, self management skills, information and communication technology skills, entrepreneurial skills, green skills, life skills which also include yoga, physical fitness, health and hygiene, personality development and 21st century skills such as decision making, problem solving, creativity, innovation et cetera.

Digital Platforms For Vocational Education And Training

The digital skilling solutions national skill development corporation focuses on the facilitation and aggregation of learning resources for the skilling ecosystem, thereby

Resources :

enabling structure and consistency across the skilling endeavors in the country. In addition to facilitation, aggregation and capacity building, the team invests on leveraging technology to enhance the reach, speed and scale of learning resources. Bharat Skills, e-skill India and PM eVidya have been created as the central repository of resources for skill development. The digital platforms provide national skill qualifications framework aligned curricula, course material, videos, question banks and mock tests for trainers and students. The e-skill India portal links business to consumer learning sites that operate digitally to track the life cycle of the training process of candidates which includes enrollment, training, assessment, certification, post certification tracking and monitoring on a real time basis linked with Aadhaar enabled biometric attendance and providing e-learning content on platforms such as digital infrastructure for knowledge sharing, e-path shala and Swayam Prabha TV channel.

Digital Platforms For Vet Resources :

Skill India portal is a comprehensive technology platform that enables administration of Pradhan Mantri Kaushal Vikas Yojana and non PMKVY schemes run by both the central and state governments. The skill India portal supports rapid scaling up of skill development efforts in India by creating an end to end outcome focus implementation framework which aligns to the demands of the establishment for a well trained skilled workforce with aspirations of Indian citizens for sustainable livelihood. Apprenticeship portal was developed in 2016 by the national skill development corporation with a mandate to implement government of India's prestigious national apprenticeship promotion scheme. Now, I am going to talk about student support and progression.

Student Support And Progression :

Career guidance and placement cell in vocational education and training institutions and the various departments organize guidance and counseling. Short courses through which a learner may or may not be able to get awards for the credits towards a qualification depending upon the purpose of the program are also conducted. Bridge courses and enrichment courses are offered to improve the skills of the students. Workshops are being conducted for writing curriculum vitae and preparing students for the interviews. India skills, the country's biggest skill competition is designed to demonstrate the highest standards of skilling and offering a platform to young people to showcase their talent at the national and international level. Career guidance contributes to the lifelong learning as it helps a student to plan his or her

career, decide career choices and manage career changes. Career counseling helps in addressing the career issues and changes required for advancing in a career. There are several challenges in career guidance and counseling. These challenges can be addressed by the teachers as they are directly in contact with the students most of the time. The teacher should be well prepared in helping their students in career awareness, career orientation and exploring the various opportunities in the world of work. There are state vocational guidance unit in some states which coordinate with the district education offices, district employment exchange centers and heads of the institutions for organizing career guidance programs. Teachers help students progression to higher education by providing guidance and counseling on skill development courses such as Bachelor in Vocation and Master's in Vocation which are aligned to the national skill qualifications framework. Career Fairs, Skill Exhibitions, Seminars and orientation programs are being conducted to make teachers and students aware of higher education options available in the vocational education and training. The national career service portal which serves as one stop guidance center has been created by the government of India with the dashboard for providing access to information related to career guidance and job opportunities for skilled people. The portal facilitates online registration of job seekers, information related to job providers and skill training providers, career counselors available et cetera. The skill loan scheme was launched in July 2015 to provide institutional credit to individuals for skill development courses aligned to the national occupation standards and the qualification packs and leading to a certificate or diploma or degree by training institutes as per the national skill qualifications framework. This scheme is applicable to all member banks of the Indian Banks Association and any other bank and financial institution as may be advised by the Reserve Bank of India. Under the scheme, the loan is provided by banks to those who are seeking to attend skill development programs. The National Handicapped Finance and development corporation under the Ministry of Social Justice and Empowerment Government of India extend the loan to persons with disabilities for the upgradation of their skills. Vocational teachers or trainers and instructors do not belong to a clearly defined profession and work in various vocational education systems, but they are expected to possess teaching competence and competence related to a specific work or life vocational practices. Teacher education consists of Pre-service and in-service education. Pre-service education can be either concurrent to the general education or consecutive or after the general education. Teaching and training of vocational students are being done both by the regular and contractual vocational teachers or trainers. Off the job training for students is being organized by the teachers using both traditional and modern pedagogical methods in school, colleges or universities. On the job training includes field visits, hands-on learning at the workplace, internship,

apprenticeship training, industrial visits, study tours and campus placement interviews which give an opportunity to the students to interact with the personal working in enterprises, workshops or industry.

Faculty Professional Development :

Teacher training is a continuous process. Vocational teachers or trainers training programs in vocational pedagogy, domain specific skills and for promoting new learning methods such as experiential learning and use of digital tools like massive open online courses, flipped learning and virtual learning methods are being organized by the PSS Central Institute of Vocational Education, National Institute of Open Schooling, Central Board of Secondary Education, State Education Department, Sector Skill Councils, Vocational Training Providers, Universities, etc. The pedagogy of the pre-vocational education and vocational education has been made part of the National Initiative for School Heads and Teachers Holistic Advancement, in short NISHTHA which is an initiative of the Department of School Education and literacy, Ministry of Education, Government of India and the National Council for Educational Research and Training to train teachers, teaching students at the elementary stage and secondary stage so that they develop competencies for holistic education. Training of craft instructors of industrial training institutes is the responsibility of the Directorate General of Training and it has been operational since the inception of the Craftsman Training Scheme. The comprehensive training both in skills and training methodology is being imparted to the instructor training to make them conversant with the techniques of transferring hands-on skills to train skilled manpower for the industry. The National Education Policy 2020 has recommended that each teacher will be expected to participate in at least 50 hours of continuous professional development opportunities every year for their own professional development driven by their own interests. The training will be done on national professional standards for teachers and will also include competency based education and work experience through work based learning in the workplace or the industry.

Assessment, Validation And Certification :

Now I am going to talk about assessment validation and certification. Competency based assessment and evaluation process is being implemented and skill certification is being done by the awarding bodies recognized by the National Council for Vocational Education and Training. The guidelines for validation of assessment are being developed for ensuring that the assessment and evaluation of learners in different programs are being done as the national occupation standards and meet the

requirements of the national skill qualifications framework. Program monitoring and database management systems have been developed for periodic and regular monitoring and review of the implementation of vocational education and training programs and institutions at various levels. It includes monitoring of vocational education and training provider institutions, licensing, registration, accreditation and award conferrals.

Data Management And Monitoring :

Daily candidate attendance monitoring through Aadhaar enabled biometric attendance system, in short AEBAS have been mandated and AEBAS machines have been installed in institutions to keep track of candidates during the training duration.To ensure compliance to this, payment to the training centers have been linked to the attendance of the candidates. Key performance indicators are being constructed to enable the collection of data on the performance of institutions that would also help to measure outcomes for quality vocational education and training. Now, I am going to talk about the placement of the vocational passouts.

Placement Of Vocational Passouts :

To bridge the demand and supply of skilled manpower, high quality curated and digital profiles of all skilled workforce are being maintained on the Aatmanirbhar Skilled Employees Employee Mapping Portal, in short ASEEM which acts as a directory of skilled workforce. National Skilled Development corporation implementing the Pravasi Kaushal Vikas Yojana, PKVY in short for youth seeking global mobility for jobs. The qualifications under the NSQF are being aligned to the globally recognized qualifications framework for ensuring quality and international workforce mobility. India International Skills Center provides skill training and certification benchmark to the international standards.

Funding :

The National Skill Development Fund was set up in 2009 by the Government of India for raising funds from the government and non-government sectors for skill development in the country. Contribution to the National Skill Development Fund comes from various sources including government and donors to enhance, stimulate and develop the skill ecosystem and institutions. A public trust set up by the Government of India is the custodian of the fund. The fund is being utilized through National Skill Development Corporation which has an industry led not for profit company, set up for building skill development capacity and forging strong linkages with the market. The fund is operated and managed by the board of trustees.

Integration of Vocational Education with general education will pave the way for providing holistic education and the development of learners. It will help learners to equip themselves with the competencies required for the world of work and prepare themselves for lifelong learning.

Integrating Vocational Education With General Education :

Integration of vocational education with general education will also help in elevating the social status of vocational education and removing the stigma attached to it by instilling the feeling of equality, self-worth, respect and dignity of labor.

Responding To Needs Of Labor Market Requirements, Individuals And Society :

Now, let us see what are the key takeaways from this whole session. We need to respond to the needs of the Labor Market Requirements, Individuals and the Society. Therefore, the skill development schemes and programs have to be designed for closing the gap between skills required by the industry, that is the demand, and the skills people possess for availing employment opportunities, that is the supply. So the supply and demand patterns are being studied for preparing demand-based skilled manpower in almost in all the states in India. Jobs are now best matched with skill sets and interests. The focus of all skill development programs is on building workplace competencies rather than giving people mere qualifications or certificates.

Facilitating Stakeholders' Engagement And Support :

There is a need for facilitating stakeholders' engagement and support. And therefore, active engagement of private sector and social partners in different sectors of the economy is required for building a strong public-private partnership in skill development, as also has been highlighted in the National Skill Development and Entrepreneurship Policy 2015 and the National Education Policy 2020. This is being ensured by the various agencies involved in the vocational education training and skill development.

Fostering Capabilities Through Employability And Lifelong Learning Skills :

We need to foster capabilities through employability and lifelong learning skills. Therefore, there is a need to focus on improving the employability of the youth so that they are developed as entrepreneurs and also get job employment. Offering opportunities for lifelong learning by developing skills through higher education courses, invocation education and training is also the need of the hour.

Creating Better Opportunities For

We need to create better opportunities for rural livelihood. As you know, India has a

Rural Livelihood :

rural-based economy and therefore an important hallmark is rural India skill, under which skill training is provided for traditional employment opportunities in occupations like farmers, weavers, cobblers, carpenters, welders, masons, blacksmiths, nurses, etc. to promote indigenous knowledge and skills and at the same time empower them with future skills such as the use of artificial intelligence, internet of things, drone technology, mobile applications, use of computers in designing, etc. We need to leverage the potential of information and communication technology for promoting skill development activities.

Leveraging The Potential Of Information And Communication And Technology For Promoting Skill Development Activities :

Therefore, India is advocating the skill development programs through print media, electronic media and state government campaigns on a large scale at the national, state, district and block level for reaching the unreached and taking skill training to the doorstep of the learners.

Building Capacity Of Vocational Teachers Or Trainers Through Continuous Professional Development :

We need to build capacity of vocational teachers or trainers through continuous professional development programs. Therefore, the teachers' career progression should be uniform with respect to the qualification for eligibility, tenure, professional development, salary, promotion, incentives and recognitions. We also need to build the capacity of the vocational teachers or trainers on employability skills, 21st century skills, entrepreneurial skills, green skills, inclusive education, vocational pedagogy, vocational skills, ICT skills and indigenous knowledge and skills. Teacher training institution should therefore collaborate with specialized institutions, industry and community for garnering their support of local experts, craftspersons or masters for developing the competencies of teachers.

International Collaboration For Recognition Of Qualifications And Preparing Global Workforce :

International collaboration for recognition of qualifications and preparing the global workforce should be at the top of the agenda. The National Council of Educational Research and Training has signed a memorandum of understanding with South Korea and Finland for strengthening vocational education and training in schools. The Ministry of Skill Development and Entrepreneurship has signed MOUs with 11

countries, Australia, Belarus, China, Denmark, France, Germany, Japan, Qatar, Switzerland, United Arab Emirates and the United Kingdom in the field of skill development and vocational education and training. The National Skill Development Corporation has signed B2B MOUs with countries like Australia, Canada, Germany, Japan, Malaysia, the Kingdom of Saudi Arabia, United Arab Emirates et cetera.

Prof. Vineeta Sirohi : Thank you Professor Mehrotra for such an informative session highlighting on the various aspects of the national skills qualification framework, quality assurance, skill development programs and curriculum. The stakeholders engagement and support is quite significant because by holding hands and working together we can achieve much more shouldering the responsibilities collectively. On the other hand, learning from sharing of good practices and experiences through international collaborations can work a lot in replicating efforts and models which have proved to be successful in various countries. In addition to these fostering employability skills and offering lifelong learning opportunities would help in adapting and responding in the rapidly changing nature of work. I am sure the takeaways from this session would be quite useful to VET providers. I express my deep sense of gratitude to the Australia India Institute and the Australian Government Department of Education and NIEPA for their support for the master class. I am also grateful to CIET, NCERT for providing technical support in recording and editing of the master class. We close the session now. Thank you all, have a good day.