A Proposed
National Qualifications Framework
for Vocational Education for India

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National Vocational Education Qualifications Framework*

Section 1: Introduction

The National Vocational Education Qualifications Framework (NVEQF) is a descriptive framework that provides a common reference for linking various qualifications. It is used for setting common principles and guidelines for a nationally recognized qualification system covering Schools, Vocational Education and Training Institutions, Technical Education Institutions, and Universities/Colleges. The NVEQF will act as a translation device to make qualifications more understandable to employers, students and institutions. It will promote transparency of qualifications, to facilitate workers and learners' mobility, both horizontally and vertically between different qualifications, thus encouraging lifelong learning.

In 2007, the Ministry of Human Resource Development (MHRD) initiated the process of revamping the Centrally Sponsored Scheme of Vocationalisation of Secondary Education, which was introduced in 1988 at +2 level in almost all the States and Union Territories. In the scheme it was proposed that there is a need to develop an NVEQF for establishing a system of clear educational pathways from school to higher education. It was also suggested that the revamped scheme should be flexible in nature so as to provide greater options to the students for choosing modules, keeping in view their aptitude and economic requirements. The National Policy on Skill Development 2009 (NPSD) of Government of India identifies NVQF as the main instrument for linking various education and training pathways. The NPSD inter alia states "National Vocational Qualification Framework will be created with an open flexible system, which will permit individuals to accumulate their knowledge and skills and convert them through testing and certification into higher diplomas and degrees. The NVQF will provide quality-assured learning pathways having standards, comparable with any international qualification framework. The NVQF will support lifelong learning, continuous upgradation of skills and knowledge" (NPSD-2009, p. 40).

Recognizing the high demand for skill in the country, the Central Advisory Board of Education (CABE) Committee in its 57th Meeting held on 19th June, 2010 in New Delhi highlighted the need for a NVEQF to provide a common reference framework for linking various vocational qualifications and setting common principles and guidelines for a nationally recognized qualification system and standards. The MHRD organized two meetings of the State Education Ministers on 14.12.2010 and 20.1.2011 to deliberate upon the various issues related to the implementation of the NVEQF. All the State Education Ministers unanimously supported the initiative of the MHRD in developing and implementing the NVEQF. It was agreed that NVEQF can bring about necessary changes in the education and training system of the country with an aim to bridge the gap between demand and supply of skilled workforce, leading to increase in the employability of the youth. It was resolved to set up an Inter-Ministerial Group which would also include representatives of State Governments to develop guidelines for such a National Framework. A Group of State Education Ministers was henceforth constituted to develop a road map for the implementation of national vocational education qualifications framework. A Coordination Committee consisting of officers of MHRD, Institute of Applied Manpower Research (IAMR) and National Skill Development Commission (NSDC) was also set up for submitting a report on NVEQF to the Group of State Education Ministers.

Box No. 1
General Education and TVET System in India

The present general education system in India comprises primary education, secondary education, higher (senior) secondary education and higher education. Elementary education consists of eight years of education. Each of secondary and senior secondary education consists of two years of education. Higher education starts after passing the higher secondary education or the 12th standard. Graduation can take three to five years, depending on the stream (e.g. Science, Commerce, Arts, Medicine, Engineering, etc.) Postgraduate courses are generally of two to three years of duration. After completing postgraduation, the scope for doing research in various educational institutes also remains open.

The Technical and Vocational Education and Training (TVET) in India operates at three levels:

- Certificate level training in various vocational trades offered by the +2 schools and Industrial Training Institutes (ITIs).

- Diploma level education and training in a variety of engineering/technological and other vocational disciplines; offered by Polytechnics, Colleges and Universities.

- Undergraduate and Post-graduate education in a number of engineering/technology disciplines, offered by Colleges and Universities.

More than 17 Ministries and Departments of the Government of India offer TVET courses or programmes. These include M/o Human Resource Development, M/o Labour and Employment,

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M/o Agriculture, M/o Food Processing, M/o Health and Family Welfare, M/o Heavy Industries and Public Enterprises, M/o Medium, Small and Micro Enterprises, M/o Social Justice and Empowerment, M/o Textiles, M/o Tourism, M/o Tribal Affairs, M/o Urban Development and Poverty Alleviation, M/o Women and Child Development. However, majority of the formal skill development programmes are with two Ministries, namely MHRD and Ministry of Labour & Employment (MoL&E). The MHRD has two departments, viz., Department of School Education and Literacy (for VET programmes in senior secondary schools) and Department of Technical and Higher Education (for Technical Education in Polytechnics and Higher Education in Universities and Colleges). The Directorate General of Employment and Training (DGE&T) looks after the vocational training programmes and schemes of MoL&E.

This document outlines the areas where major initiatives have to be taken for development of NVEQF. It contains some proposed actions that the Government will have to take to realize the goals and objectives of the NVEQF. A multi-stage Action Plan is laid out at the end of the document. If the conceptual framework provided in this document is agreed upon, it will need to be followed by a detailed and extensive discussion with various stakeholders to take decisions for realization on various aspects of the NVEQF. We should be explicit in stating at the outset that this is a 'working document' on NVEQF, which deals with the various issues of progression pathways and mechanisms for integration of TVET and Higher Education for providing clear cut pathways of career progression to learners. Once the framework and the outlines of implementation have been agreed upon by the various stakeholders, a detailed operational plan and guidelines on implementation of various elements of NVEQF will be developed for establishment and operationalisation of the framework. It is critical to mention here that the introduction of NVEQF in India should not be seen in isolation but as part of a broad strategy of reform of the education and training system and to improve progression of people within the TVET programmes.

Box No. 2
Definition of NVEQF

The NVEQF is a descriptive framework that organizes qualifications according to a series of levels of knowledge and skills. These levels are defined in terms of learning outcome i.e. the competencies which the learners must possess regardless of whether they were acquired through formal, non-formal or informal education and training. Qualifications are made up of a number of occupational standards. Occupational standards provide the basis for judgments and assessments that are made for specific areas of learning units (similar to modules, but more focused). This allows learners, education and training providers and employers to gain information about the broad equivalence of qualifications. It is, therefore, a nationally integrated education and training that will link one level of learning to another and enable learners to progress to higher levels from any starting point in the education and training system. The key elements of the NVEQF are to provide

(a) multiple entry and exit to TVET,

(b) *transfer* within and between TVET and general academic education, and

(c) *progression* within and between TVET.

Section 2: Why the term 'NVEQF'?

Several countries (around 60 of them) are in the process of developing NVQF to bring about necessary reforms in TVET, so that their workforce acquire globally benchmarked skills, thereby improving upon their productivity for national development and enhancing their access to the global employment market. In the Indian context, the employment scenario demands a different approach towards NVEQF. Since the majority of the workforce (about 90%) is in the unorganized sector, which possess lower levels of literacy and numeracy skills and there is no mechanism available for them to enter into the formal education system, it would be desirable to emphasize on developing the 'educational component' for building a sound base of TVET and providing clear educational pathways for progression. In addition, there is a need to build the general education element into the vocational training programmes and vice versa for a holistic approach to human resource development. The Ministry of Human Resource Development (MHRD), Government of India has, therefore, adopted the term National Vocational Education Qualifications Framework (NVEQF) as it will emphasize the importance of the integration of the vocational education and training and general education in all types of education and training.

Box No. 3
Do we need NVEQF: Food for Thought

International experience on NVEQF is very recent. Until 2004 almost no country in the world had an NVEQF. Even now just a dozen countries have an NVEQF, although more than 100 countries have initiated the process. An important consideration is that countries that have been very successful in building their education and training systems (e.g. Germany), or have experienced rapid economic growth (the East Asian 'tigers'), have done it without an NVEQF. In India itself, the IT and telecom industry and employment therein has grown rapidly in these sectors without an NVEQF in place. Therefore, it is absolutely critical that in India we think very carefully as to why we need an NVEQF and what are the problems that (a) the employers; and (b) the potential employees (i.e. students) are facing – which the NVEQF will supposedly address. Building an interface between the educational system and labour market is not the easiest of things, and is fraught with unintended consequences. We should attempt to anticipate as many of the consequences of implementing an NVEQF as possible.

Section 3: Critical Issues and Challenges that NVEQF can Address

(i) Lack of Uniformity in Qualifications across Institutions

In general, academic education, despite the common National Curriculum Framework (NCF), 2005, for schools designed at the national level by National Council for Educational Research and Training (NCERT), there are reasonable variations in the level and standard of courses and programmes offered by various Boards and Institutions. The students have very limited choice of courses or credits from different subject areas and to decide their career pathway. In addition, in the absence of a national level approach to TVET planning, implementation and monitoring, the courses and programmes lack uniformity in terms of duration, entry requirements for the course/programme and nomenclature of qualification across institutions. For example, in Plumbing sector, the duration for the Certificate course in Plumbing/ Sanitary Hardware/Fitter/Plumber through the face-to-face mode is 2 years, 1 year, 6 months and 4 months and the entry requirement ranges from SSC fail to 10 Std. pass (Table 1; Sl. Nos. 3-7). Similarly, the Certificate course in Plumbing/Plumber is offered for a duration of 1 year, 6 months and 3 months through the open learning system (Table 1; Sl. Nos. 9, 10 & 11) and the entry requirement ranges from 10th Std. to 12th Std. or an ITI pass. The Diploma programme in Plumbing offered through the open learning system is also of 1 year duration and the entry requirement is 10th Std. pass or those who have completed 15 years of age (these candidates will have to clear the Bachelor Preparatory Programme). In addition, the private sector training institutions are offering VET according to their own curriculum. As a result, there are wide variations in the quality of training imparted through these institutions.

Table 1: Vocational Courses offered in Plumbing Sector

S.No.	Course/ Programme	Institution offering the course/ programme	Mode	Duration	Eligibility	Certification
1.	Plumbing System Design Certificate Programme	Indian Institute of Plumbing, Pune	Face-to-face	1 year/ 2 semesters	Bachelor in Engineering	Certified Plumbing Systems Engineer (C.P.S.E.)
2.	Plumbing Construction Management Certificate Programme	Indian Institute of Plumbing, Pune	Face-to-face	1 year/ 2 semesters	Contractors, Construction Managers, and Supervisors (basic	Certified Plumbing Supervisors (C.P.S.)

(contd.)

					education+ minimum five yrs. experience)	
3.	Plumbing Technology Certificate Programme	Indian Institute of Plumbing, Pune	Face-to-face	2 year/ 4 semesters	Successful completion of Secondary School study	Certified Master Plumber (C.M.P.)
4.	Certificate Course in Plumber under Craftsman Training Scheme	Industrial Training Institutes	Face-to-face	1 year	8th Std. Pass	NCVT Certificate in Plumber
5.	Certificate Course in Sanitary Hardware Fitter under Craftsman Training Scheme	Industrial Training Institutes	Face-to-face	6 months	8th Std. Pass	NCVT Certificate in Sanitary Hardware Fitter
6.	Short term Vocational Certificate Course in Plumbing	Private Institutions/ NGOs	Face-to-face	6 months	SSC Fail	Certificate in Plumbing (from Board of Intermediate Education, Andhra Pradesh)
7.	Short term Certificate Course in Plumbing	Society for Self Employment, Govt. of NCT of Delhi	Face-to-face	4 months	10th Std. Pass	Certificate in Plumbing
8.	Diploma in Plumbing Technician	Tamil Nadu Open University, Chennai	Open learning	1 year	10th Std. Pass or those who have completed 15 years of age (these candidate will have to clear the Bachelor Preparatory Programme)	Diploma in Plumbing Technician
9.	Certificate in Plumbing (Water Supply and Sanitary Installations)	Annamalai University, Annamalai Nagar, Tamil Nadu	Open learning	1 year	10th Std. or ITI Pass	Certificate in Plumbing

(contd.)

| 10. | Certificate in Plumbing | National Institute of Open Schooling, Noida | Open learning | 6 months | From literate to 12th Std. pass, lower age limit is 14 yrs, but no upper age limit. | Certificate in Plumbing |
| 11. | Certificate in Plumber | Yashwantrao Chavan Maharashtra Open University, Nashik | Open learning | 3 months | Class XII Pass | Certificate in Plumber |

Note: Data collected from various sources. The list is not an exhaustive one *(Indian Plumbing Today, April Issue, 2011)*

(ii) Lack of clearly recognized pathways of learning

The NPE (National Policy on Education) 1986 envisaged vocational courses at the tertiary level for facilitating vertical mobility of students at +2 level. However, at present a majority of Technical and Vocational Educational and Training (TVET) programmes are terminal in nature as they have been designed without any clear-cut entry requirements and progression routes for vertical mobility and therefore, act as dead ends. One of the factors responsible for the low impact of vocational education in schools is the lack of opportunities for the vocational students for professional growth and career advancement. Provisions for vertical mobility of the students are not available for majority of the vocational courses at +2 level introduced by the Central and State Boards.

Vertical mobility should be provided to the vocational passouts at +2 level through specially designed diploma, degree and professional degree courses which are industry driven. However, there are no clearly agreed 'admission criteria' for students wishing to progress from a school vocational education programme to a programme offered by Polytechnics or Universities. Similarly, there are no arrangements for admission of passouts of courses offered under Modular Employable Scheme (MES) of Ministry of Labour & Employment, to those offered by higher education institutions. This issue has also been raised by the Report of the Committee to advice on "Renovation and Rejuvenation of Higher Education" under the Chairmanship of Prof. Yashpal published in 2009 which inter alia states: "the knowledge and skills covered by the vocational education sector have no linkages with institutions of higher education and research. Students who go for vocational and technical education after completing higher secondary education are deprived of any possibility of pursuing higher education after completing their vocational or technical training. Alienation of this sector can be overcome by bringing it under the purview of universities and by providing necessary accreditation to the courses available in polytechnics, industrial training institutions, and so on. In the context of the rural economy and livelihoods, certain institutions and programmes have attempted to provide opportunities for further education after the higher secondary stage. They also need to be brought under the purview of the university system. Such inclusion will create the possibility

of addressing long neglected issues of social justice and inequity arising out of the hierarchical social order and entrenched rural-urban disparities". Highlighting the importance of vocational education and training in the higher education, the report also states that "further growth will greatly depend on the guidance and leadership that universities will be able to provide for institutions of vocational and technical education, once they are brought into the domain of an all-encompassing system of higher education. Additionally, the barriers to entry into universities for students going through vocational training should be lowered to enable them to upgrade their knowledge base at any stage of their careers".

(iii) Lack of credibility among stakeholders

One of the problems that TVET currently faces is that it suffers from "low esteem". The vocational education system in secondary schools has very little credibility among employers, students and parents because the quality of instruction is poor, there is no practical industry-based internship, the curriculum has not been developed with the industry participation, and industry is not involved in the process of "certification of competencies". TVET, unlike general education, is supposed to lead to a certain level of competence to perform tasks. In fact, the notion of competency itself is absent from the current VE system in higher secondary schools.

(iv) Lack of horizontal mobility

There should also be the possibility of horizontal mobility so that the students from the vocational stream are able to enter the general education stream, if they so desire. The challenge therefore is to create a new system of secondary and higher education where all students develop vocational skills along with academic skills. Vocational education students in the schools should, therefore, be offered an option of taking general subjects. It could be achieved through modularization and credit transfer arrangements. The NVEQF will integrate the academic and vocational education sectors at school and higher education level through the same set of competence levels. It will make it easy to carry credit from Vocational Education to General Education and vice versa. It will thus promote quality through consistency in competency standards, and can help build the associated regulatory system of approval and monitoring of learning outcomes. However, this will require major changes in national policy initiatives, curriculum and organizational structure.

Box No. 4
Features of Credit Based System

The credit based system has several unique features: (i) enhanced learning opportunities, (ii) ability to match students' scholastic needs and aspirations, (iii) inter-institution transferability of students (following the completion of a semester), (iv) part-completion of an academic programme in the institution of enrolment and part-completion in a specialized (and recognized) institution, (v) improvement in educational quality and excellence, (vi) flexibility for working students to complete the programme over an extended period of time, and (vii) standardization and comparability of educational programmes across the country.

(v) No formal recognition of informal (prior) learning

India has had a long history of informal apprenticeship in the presence of a craftsmen or a senior technician. However, the problem has been that there is no certification (recognition) for such learning – which disadvantages the worker in the labour market, and constrains labour mobility between jobs. Indian education system so far has been planned and organized primarily to cater to the needs of the organized sector, which employs less than 10% of the workforce. Unorganized sector, which primarily deals with serving the community to provide repair and maintenance and other services as per felt needs employ 90% of the workforce. With the demand for high quality services, India will need highly skilled workforce as well as technician engineers, who have diagnostic capabilities and are able to provide repair and maintenance services. A majority of workers in the unorganized sector are with lower levels of literacy, as they have left the school at various stages of education. They face difficulty in returning to schools or training institutions to improve their skills, as the education or TVET system does not allow them to do so. The NVEQF can facilitate the recognition of informal learning, e.g., skills acquired at the workplace could be formally certified through an awarding body. The NVEQF can provide opportunities to the people working in the unorganized sector to gain recognition of their competencies for national and International mobility or join the formal education and training system.

Box 5
Employment Scenario in India

India has a population of over 1,155 million and a workforce of around 510 million. Sixty percent of India's workforce is self-employed, many of whom remain very poor. Nearly 30% are casual workers (i.e. they work only when they are able to get jobs and remain unpaid for the rest of the days). Only about 10% are regular employees, of which two-fifths are employed by the public sector. More than 90% of the labour force is employed in the "unorganized sector", i.e. sectors which do not offer social safety and other profit of employment in the "organized sector." In rural areas, agricultural workers form the bulk of the unorganized sector. In urban India, contract and sub-contracts as well as migratory agricultural labourers make up most of the unorganized labour force. Over 70% of the labour force in all sector combined (organized and unorganized) is either illiterate or educated below the primary level. With the current levels of unemployment being around 46 million it is likely to grow to anywhere between 50-60 million in the next 8-10 years. In terms of demographics, almost 35% of Indians are below 15 years of age, whilst 18% fall within the age group of 15-24. The median age of India is 24 years, which makes it one of the youngest populations in the world. This in itself throws up huge challenge in terms of demands on the education and employment.

(vi) Input based traditional education system that promotes rote learning

Input based or traditional education is all about what resources have been placed at the disposal of the students. Classes in schools and colleges have grown, but the educational

materials and delivery systems have changed only slightly. The major learning modes in schools and universities are lectures and textbooks; as a result, there is a lot of emphasis on rote learning than experiential learning. Both textbooks and lectures provide little individualization, so neither work well considering the wide range of background and experience of the students today. A blend of input and outcome based education would be promoted through the NVEQF which would be geared more towards looking at a student's performance as the factor in deciding how worthy he is of being granted passing marks on a subject/unit.

Section 4: Bringing in the Reforms through NVEQF

The NVEQF should be viewed as a modest reform that would rely on a range of crucial complementary policies and structural changes in the existing education and training system. Initially, the NVEQF should aim at developing a Competency Based Education and Training (CBET), a system based on the competency standards defined by the respective industry, with a transparent assessment and joint certification system. In order to implement the various elements of NVEQF, the structures and capacity in the present education and training system will have to be modified and expanded to bring about necessary changes in funding arrangements, governance, buildings, classrooms, tools and equipment, faculty, teaching-learning approaches and assessment and certification system. The existing administrative set up will have to be reorganized and made responsible for policy, norms and standards, planning, provision of budgetary resources and the management for implementing the guidelines of the NVEQF. Several new structures have been established in recent years to bring about necessary reforms in skill development through a coordinated action and qualitative improvements in implementation of skill development programmes offered through the various institutions across the country (Box 6). In addition, statutory bodies and structures of institutional governance based on appropriate democratic representation of stakeholders will have to be established to advise on policy issues and to assist in the implementation of elements of NVEQF.

Box 6
Government Initiatives for Promotion of Skill Development Policy

Prime Minister's National Skill Development Council

PM's Council on National Skill Development, constituted in 2008 has key representation of Union Ministers of M/o Finance, M/o HRD, M/o MSME, M/o Heavy Industries and Public Enterprises, M/o Rural Development, M/o Housing and M/o Urban Poverty Alleviation, M/o Labour & Employment, Deputy Chairman, Planning Commission, Chairperson, National Manufacturing Competitiveness Council, Chairperson of National Skill Development Corporation and six experts in the area of skill development. The main functions of the Council are:

(i)   To lay down overall broad policy objectives, financing and governance models and strategies relating to skill development.

(ii) To review the progress of schemes, and guide on mid-course corrections, additions and closure of parts or whole of any particular programme/scheme.

(iii) Coordinate Public Sector/Private Sector Initiatives in a framework of a collaborative action.

The Council has set a target of creating 500 million skilled person by 2022 with emphasis on inclusivity so as to deal with divides of gender, rural/urban, organized/unorganized, employment and traditional/contemporary workplace. It has laid down the core governing principles and operating strategies for skill development. The emphasis is on promoting multiple models of delivery that can respond to differing situations in various States and to utilize existing available infrastructure of educational institutions for skill development after school hours without affecting formal education. The State Governments are encouraged to set up the State-level coordination body for skill development.

National Skill Development Coordination Board (NSDCB)

The NSDCB is entrusted with the coordination and harmonization of the Governments' initiatives for skill development spread across more than 17 Central Ministries and State Governments with the initiatives of the National Skill Development Corporation (NSDC). It has 12 members which include Secretaries of Central Ministries of Labour & Employment, Rural Development, Finance, HRD; Chief Secretaries of Four States by rotation, for a period of two years; three Distinguished Academicians/Subject Area Specialists; and Chairperson/Chief Executive Officer of the National Skill Development Corporation besides Deputy Chairman, Planning Commission as Chairman and Secretary, Planning Commission as the Member Secretary of the Board. The Board has constituted five Sub-Committees to look into various aspects of the skill development viz. Curriculum Revision; Remodeling Apprenticeship Training; Evolving Vision on the Status of Vocational Education and Training in Educational System; Institutional Mechanism for Skill Mapping and Skill Inventory on Real Time Basis and Improvement in Accreditation and Certification System.

National Skill Development Corporation

The National Skill Development Corporation (NSDC), a non-profit Company under Section 25 of the Companies Act, has been set up under the Ministry of Finance. The Corporation has two-tier structure viz. a 15-Member Board and a National Skill Development Fund (NSDF) as a 100% government owned Trust to facilitate its mandate of coordinating and stimulating private sector initiative in the area of skill development with enhanced flexibility and effectiveness. NSDC, through the Sector Skill Councils being set up, would be a major player in bringing about synergy with industry.

Section 5: Design of NVEQF

A broad framework has been developed to integrate general education and technical vocational education and training qualification at various levels. Figure 1 shows the interface between the various education and training sectors.

Section 6: Levels in NVEQF

The proposed NVEQF will be organized as a series of levels of learning achievements, arranged in ascending order from 1 to 10 levels (Fig.1). Levels depend on the complexity of learning; 1 is the least complex and 10 the most complex. Levels 1-4 are of approximately the same standard as secondary education and basic vocational trades training. Levels 5-6 approximate to advanced trade certificate, diploma, and advanced diploma qualifications. Levels 7-10 approximate to advanced qualifications of graduate and postgraduate standard. The pathway for the qualifications is depicted in Figure 2.

Fig. 1: Qualifications by levels across the NVEQF

Level	General Education Qualifications	Registered National Technical Vocational Education and Training Qualifications	Proposed Certificate Awarding Bodies
10	Doctorates	National Competence Certificate 8 (NCC 8)	Universities
9	Masters	National Competence Certificate 7 (NCC 7)	Jointly by Colleges/Universities/ IGNOU and NSDC
8	Post Graduate Certificates, Post Graduate Diplomas and Bachelor Degrees (Honours)	National Competence Certificate 6 (NCC 6)	Jointly by Colleges/Universities/ IGNOU and NSDC
7	Bachelor Degrees and Graduate Diplomas	National Competence Certificate 5 (NCC 5)	Jointly by Colleges/Universities/ IGNOU and NSDC
6	Graduate Certificates/ Advanced Diplomas	National Competence Certificate 4 (NCC 4)	Jointly by Colleges/Universities/ IGNOU and NSDC
5	Diplomas	National Competence Certificate 3 (NCC 3)	Jointly by Polytechnics/Colleges/ Universities and NSDC

(contd.)

4	Class XII (GeneralAcademic/ Vocational Certificate) and NSDC	National Competence Certificate 2 (NCC 2)	Jointly by CBSE/CISCE/NIOS/ State Open School/State Boards
3	Class XI (Vocational)	National Competence Certificate 1 (NCC 1)	Jointly by CBSE/CISCE/NIOS/ State Open School/State Boards and NSDC
2	Class X (Pre-vocational)	National Certificate for Work Preparation 2 (NCWP-2)	Jointly by School/ NIOS/State pen School/ITI/VTPs and NSDC
1	Class IX (Pre-vocational)	National Certificate for Work Preparation 1 (NCWP-1)	Jointly by School/NIOS/State Open School/ITI/VTPs and NSDC

Fig. 2: Pathway for Qualifications
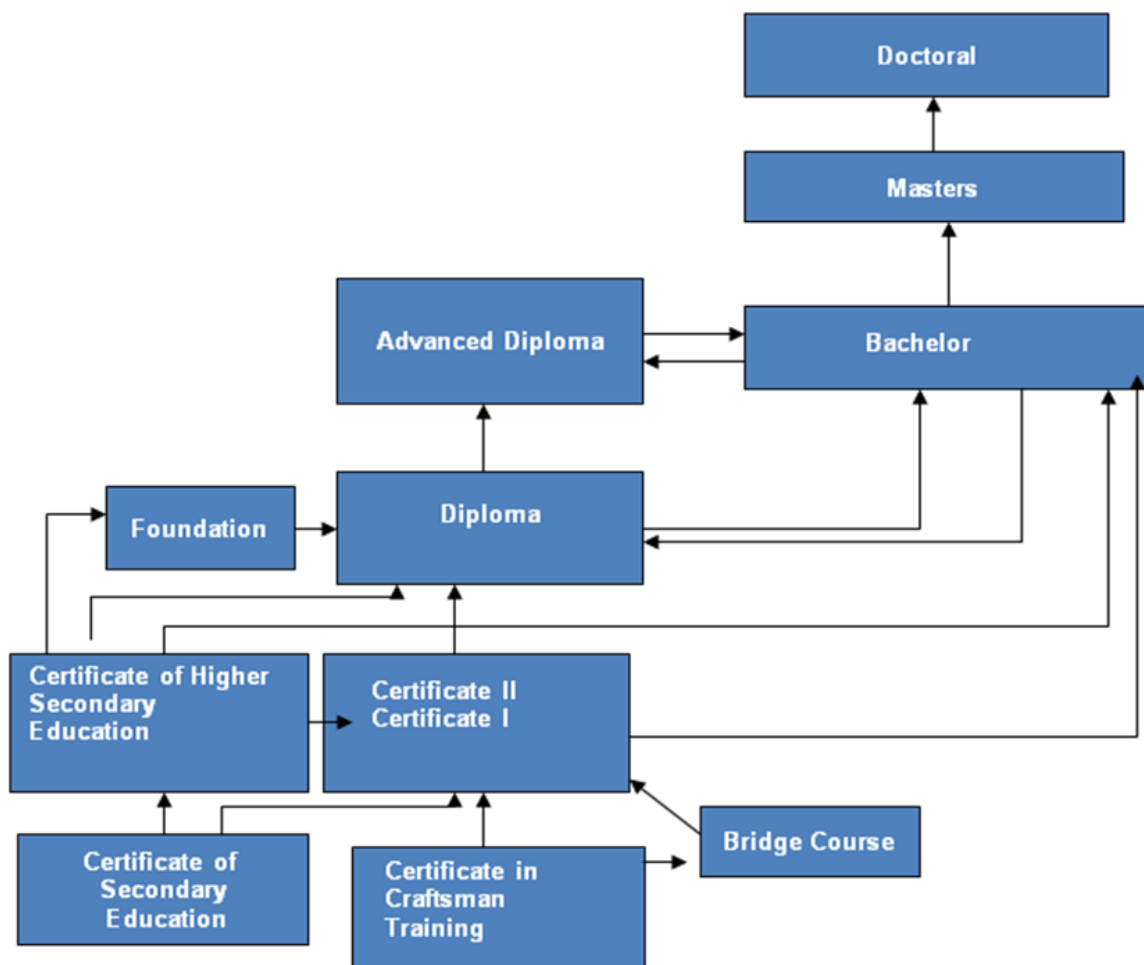
6.1 NVEQ Level Descriptors

National Vocational Education Qualification levels will be based on the level descriptors. Each level on the NVEQF is described by a statement of learning known as a level descriptor (Table 1). The parameters that are considered for description of levels include the following: (i) Process that a qualification holder is required to carry out, (ii) Competencies (knowledge, skills and ability) that a person should possess, and (iii) Responsibility that a person should own at that NVEQ level. The NVEQ level descriptor provides a broad indication of 'learning outcomes' specified in the National Occupation Standards (NOS), that are appropriate to a qualification at that NVEQ level. Once the requisite bodies are set up and the guidelines are made available to the Education and Training Providers (ETPs) and the public, it will be possible to compare levels of qualifications in different States/UTs against the NVEQ levels.

NVEQ Levels 1-4

- Qualifications at NVEQ levels 1-4 will allow a learner to acquire entry level competencies (basic competencies) needed for "work preparation" (NVEQ levels 1-2) or "transition from an unskilled to a skilled person" (NVEQ levels 3-4).

- NVEQ levels 1-2 will prepare students for the work environment, generic competencies, understanding career options and pathways and develop positive attitude towards life, work and further education. National Certificate for Work Preparation 1 (NCWP 1) will be issued to those who have cleared NVEQ level 1, which would be equivalent to 9th Std, opting for vocational course units along with general subjects. The National Certificate for Work Preparation 2 (NCWP 2) will be issued to those who have cleared NVEQ level 2, which will be equivalent to 10th Std., again with a combination of general subjects and vocational course units.

- Learners will be able to acquire vocational qualifications in a particular occupation from level 3 onwards, i.e., 11th Std, and subsequently upgrade their qualifications through gradual acquisition of competencies.

- A "Selection Test" will be carried out by the accredited assessor for testing minimum levels of competencies prescribed for that NVEQ level. If there are "competencies gaps" identified in a candidate, then the candidate will have to undertake the required units through a " bridge course" to acquire those competencies.

- Guidance and counselling session will be an integral part of the admission procedure.

NVEQ Levels 5-6

- At NVEQ level 5-6, learners will acquire "technician" or "supervisory level competencies". They would be required to complete NVEQ level 3 or 4, as the case may be for entry into NVEQ level 5. The bridge courses will be offered by the same ETP which is offering other units of competencies. Open and Distance Learning Institutions such as NIOS and IGNOU will play a vital role.

- Those learners who wish to enter directly into a level will have to complete the pre-requisite level or pass through the system of Accreditation of Prior Learning/ Recognition of Prior Learning (RPL). Candidates possessing unrelated NVEQ level competencies will have to undertake required units through a bridge course for becoming eligible for the programme.

- Bridge or foundation courses will have to be offered to students to enable them to establish their competency levels to those who offer testing and certification. Such courses will have to be offered by the Registered Education and Training Providers (RETPs).

NVEQ Levels 7-10

The programmes under NVEQ levels 7-10 are to be offered by Colleges, and Universities offering General Education and TVET courses.

Table 2: Level Descriptors

Entry Level	Process required	Professional knowledge	Professional skill	Core skill	Responsibility
1	prepares person to carry out process that are repetitive and require no previous practice	familiar with common trade-related terminologies, words meaning & understanding	routine and repetitive, takes safety and security measures.	reading and writing, addition, subtraction personal financing, familiarity with social and religious diversity, hygiene and environment	no responsibility, always works under continuous instruction and close supervision
2	prepares person to carry out process that are repetitive on regular basis with little	Material tools and application in a limited context, understands context of	limited service skill used in limited context, select and apply tools, assist in	receive and transmit written and oral messages, basic	no responsibility works under instruction and close supervision

(contd.)

	application of understanding, more of practice	work and quality	professional works with no variables, differentiates good and bad quality	arithmetic, personal financing, understanding of social, political and religious diversity, hygiene and environment	
3 Semi-skilled worker	person may carry out a job which may require limited range of activities routine and predictable	Basic facts, process and principle applied in trade of employment	recall and demonstrate practical skill, routine and repetitive in narrow range of application	Communication: written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment	Under close supervision. Some responsibility for own work within defined limit.
4 Skilled - worker	work in familiar, predictable, routine, situation of clear choice	factual knowledge of field of knowledge or study	recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rule and tool, using quality concepts	language to communicate: written or oral, with required clarity, skill to basic arithmetic and algebraic principles, basic understanding of social political and natural environment	Responsibility for own work and learning
5 Super-visor	job that requires well developed skill, with clear choice of procedures in familiar context	knowledge of facts, principles, processes and general concepts in a field of work or study.	a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Desired mathematical skill, understanding of social, political and some skill of collecting and information, communication	responsibility for own work and learning and some responsibility for other's works and learning

(contd.)

6 Master techni-cian/ trainer	demands wide range of specialized technical skill, clarity of knowledge and practice in broad range of activity involving standard/non-standard practices	factual and the oretical knowledge in broad contexts within a field of work or study	a range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	Reasonably good in mathematical calculation, understanding of social, political and, reasonably good in data collecting organizing information, and logical communication	Responsibility for own work and learning and full responsibility for other 's works and learning
7 Grad-uates	requires a command of wide ranging specialized theoretical and practical skill, involving variable routine and non-routine context.	wide ranging, factual and theoretical knowledge in broad contexts within a field of work or study	wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study	good logical and mathematical skill, under-standing of social political and natural environment, good in collecting and organizing information, communication skill	full responsibility for output of group and development
8 Honours.	Comprehensive, cognitive, theoretical knowledge and practical skills to develop creative solutions, to abstract problem. Undertakes self study, demonstrates intellectual independence, analytical rigour and good communication.			Exercise management and supervision in the context of work/study having unpredictable changes, responsible for development of self and others.	
9 Masters	Advanced Knowledge and skill. Critical understanding of the subject, demonstrating mastery and innovation, completion of substantial research and dissertation.			Responsible for decision making in complex technical activities, involving unpredictable study/ work situations.	
10 Doctor -ate	Highly specialized knowledge and problem solving skill to provide original contribution to knowledge through research and scholarship.			Responsible for strategic decisions in unpredictable complex situations of work/study	

Source: Report on NVQ of DGET, MoL&E, GOI

Section 7: Curricular Changes

The reconstruction of the curriculum for schooling and higher education will be essential in order to provide necessary flexibility and to get rid of the redundant teaching-learning practices prevalent in our education system presently. In fact, a critical prerequisite for the success of NVEQF will be the participation of private industry in the selection of TVET courses and design of the curricula. Without this element, students passing out from VE courses in schools will find no employment – which is the current problem with the TVET system.

Emphasizing the need for major curricular reforms in higher education, the Report of the Committee to advise on "Renovation and Rejuvenation of Higher Education" (2009) has also pointed out that "Curricular reform in this regard would include compulsory exposure and engagement with different kinds of work, in the form of summer jobs or internships, according to the circumstances and surroundings of the particular university, and should include both manual and other kinds of work/occupations, with a certain minimum set of occupational exposure compulsory for all students, irrespective of discipline. Evaluating students on these fronts would necessarily have to analyze how well they have understood, and are as a result capable of applying themselves to work and be problem-solving in these situations…......One way of improving the quality of teaching of these additional disciplines and stimulating students' interest is to allow students for whom a subject is additional to study along with those for whom the same subject is primary. For instance, a mathematics student should study and undergo evaluation in philosophy as an optional subject along with students for whom philosophy constitutes the primary subject. In sum, there is a need to expose students, especially at the undergraduate level, to various disciplines like humanities, social sciences, aesthetics etc., in an integrated manner. This should be irrespective of the discipline they would like to specialize in subsequently".

The curricula changes that would be required at various NVEQ levels will have to be explicitly worked out with the concerned Ministries/Departments and Institutions. However, an attempt has been made here to outline the requirements for curricular changes for various levels of NVEQs.

School Education

The curricula changes that would be required at the secondary (NVEQ 1&2) and higher secondary levels are (NVEQ 3 &4) given in Table 3.

Table 3: Curricular changes needed for introduction of NVEQ levels 1-4

Qualification	Subjects	Time Allotment for Vocational Elective	NVEQ Certificate
NVEQ Level 1 & 2 (eq. to Class 9th & 10th)	**General Academic Education Stream:**		
	• Languages (2)		
	• Mathematics	30% theory	NCWP 1
	• Science	70% practical	NCWP 2
	• Computer Science		

(contd.)

	• Social Studies		
	• **Additional Vocational Elective (Units)** – with provision of credit accumulation and transfer (for example, in Construction Sector – Basic carpentry, basic masonry, basic plumbing, etc.)		
NVEQ Level 3 & 4 (eq. to Class 11th & 12th)	**A. General Academic Education Stream:**		
	• Language (1)		
	• Three streams: Arts (3 papers), Commerce (3 papers), Science (3 papers), and	40% theory 60% practical	
	• Optional Subject or **Vocational Elective (Units)**		
	B. Vocational Education and Training Stream: Credit based Units/Modules		
	Core components		
	(i) Languages (2)- Units		
	(ii) General Foundation Course- Units		
	Elective Component		
	Qualification Pack for NVEQ level 3 & 4 in an industry sector (For example, Organized Retail, Construction, Information Technology, IT enabled services, Horticulture, Agriculture, Forestry, etc.).	30% theory 70% practical	NCC 1 NCC 2

• A test of the competencies in literacy and numeracy will have to be taken by all students on completion of compulsory education at the end of the 8th grade, which would be used as a selection criterion for further educational progression. The processes would be in compliance with the Right to Education Act, 2009.

- The Centrally Sponsored Scheme (CSS) of Vocationalisation of Higher Secondary Education, which has been recently revamped by the MHRD, will serve the purpose of NVEQ levels 3 & 4. National Competence Certificate 1 (NCC1) will be issued to those who have cleared NVEQ level 3, which would be equivalent to 11th Std. The National Competence Certificate 2 (NCC 2) will be issued to those who have cleared NVEQ level 4, which will be equivalent to 12th Std.

Box 7
Present Scenario of VEP at +2 level in Schools

- No. of schools offering vocational courses: 6000
- No. of students enrolled in Classes XI & XII : about 6 lakhs
- No. of vocational courses offered: 150
- Entry qualification: 10th Std. pass

Industrial Training Institutes

- A test of the competencies in literacy and numeracy will have to be taken by all students on completion of compulsory education at the end of the 8th grade, which would be used as a selection criterion for further educational progression.

- Courses offered under the Craftsmen Training Scheme in ITIs will have to be revamped to suit the needs of the NVEQ levels 1- 4.

Box 8
Present Scenario of Craftsmen Training Scheme in ITIs/ITCs

- No. of ITI/ITCs offering vocational trades: 8,800
- Total seating capacity created: 12.2 lakhs
- No. of vocational trades offered: 116
- Entry qualification: 8th -12th Std. pass

Present Scenario of Modular Employability Skills Scheme in Vocational Training Providers

- No. of VTPs: 6,398
- No. of MES courses: 1,257
- No. of Independent Assessing Bodies: 41

NVEQ Levels 5-6

- At NVEQ levels 5-6, learners will acquire "technician" or "supervisory level competencies". They would be required to complete NVEQ levels 3 or 4, as the case may be for entry into the level 5.

- Those people who wish to enter directly into a NVEQ level will have to complete the pre-requisite level or pass through the system of Accreditation of Prior Learning/ Recognition of Prior Learning (RPL). Candidate possessing unrelated NVEQ level competencies will have to undergo a bridge course for becoming eligible for the programme.

- Bridge or foundation courses will have to be offered to students to enable them to establish their competency levels to those who offer testing and certification. Such courses will have to be offered by the Resisted Educational Training providers (RETPs).

Technical Education

Polytechnics are meant to provide skills after Class 10th and the duration of Diploma programmes is 3 years and Post Diploma and Advanced Diploma programmes is of 1-2 years. The present student intake in degree and diploma level technical institutions is 6.53 lakhs and 3.54 lakhs respectively.

- Arrangement for progression into the qualification offered by Polytechnics will have to be made uniform and explicit to suit the needs of NVEQ levels 5-6.

NVEQ Levels 7-10

Programmes under NVEQ levels 7-10 are to be offered by Colleges and Universities offering General Education and TVET courses. The academic system could be modified to allow students more flexibility in subject options viz., a mix of academics and vocational or a dedicated vocational specialization.

Higher Education

The University Grants Commission introduced the scheme of Career Oriented Courses in 1994, with the objective of providing graduates the knowledge, skills and attitude for gainful employment. The vocational subjects (about 36) are offered along with the B.A., B.Com. and B.Sc. programme. The successful students are awarded certificate/diploma/advanced diploma under this scheme.

- Universities have introduced the Choice Based Credit System. Arrangement for progression into the qualification offered by Universities will have to be made uniform and explicit to suit the needs of NVEQ levels 7-10.

Box 9
Number of Universities and Institutes of National Importance

- No. of Central Universities : 40
- No. of State Universities: 243
- No. of Private Universities: 53
- No. of Deemed Universities: 130
- Institutions of National Importance: 33
- No. of Colleges: 25, 951

Section 8: Role of Employers and Industry

As the ultimate consumer of the output of the education and training system, Industry has to play a proactive role in skill development initiatives and to support the action taken by other stakeholders in accordance with the current market needs. Greater involvement of industry and enterprises for shouldering responsibilities of financing and training would also be required to achieve the objective of providing quality education and training. Enterprises/Industries have to play a critical role both in the pre-employment training of youth through informal training and organized apprenticeship, and on-the-job training. They are the key players in providing technical and training support to education and training programmes; therefore, they will have to share greater social responsibility. It should, however, be recognized that without the acceptance of the elements of NVEQF by employers, students of VE will still find themselves in the same situation that they are at present i.e., without their education having relevance to the labour market. This aspect has also been highlighted in the Report of the Committee to advise on "Renovation and Rejuvenation of Higher Education", which states "Exposing students to the world of work plays two related and essential roles. First, by helping them to understand the reality of different kinds of work, and those who perform this work, ranging from manual labour to intellectual tasks, it sensitizes them to the conditions of a universe of persons outside of their own. Second, it allows them to apply what they have learnt in the classroom to real-world situations, and in doing so not only makes them better prepared for their own entry into the world of employment or academic research, but also strengthens their understanding of the underlying concepts they are supposed to have learned". For this situation to be corrected, private employers have not only to be engaged in the design and roll-out of the NVEQF, but see themselves as active partners. The private sector will be encouraged to play the role of catalyst, promoter, supporter, financer and regulator of the training programmes under the NVEQF to satisfy the unmet skilled manpower needs.

8.1 National Skill Development Corporation (NSDC)

The NSDC through the Sector Skill Councils being set up, would be a major player in bringing about synergy between the NVEQF and industry.

8.2 Sector Skill Councils (SSCs)

The SSCs will be formed in all industry sectors by NSDC. The SSC will have members from Industry, government bodies, Industry associations, distinguished business leaders, training providers, NSDC and Trade Unions. In association with other institutions (e.g. ITI) SSC will impart training to trainers for vocational schools and industry, for building capacity and upgrading skills of existing workforce. The SSC will provide certificates to successful candidates and will ensure acceptance of the qualification by the industry. Assessment of

training and providing credible certification will allow employers to use it as a proxy to fast track job applications. The functions of SSCs laid down in NSDP 2009 are as follows:

- Identification of skill development needs including preparing a catalogue of types of skills, range and depth of skills to facilitate individuals to choose from them.

- Development of a sector skill development plan and maintain skill inventory.

- Determining skills/competency standards and qualifications.

- Standardization of affiliation and accreditation process.

- Participation in affiliation, accreditation, examination and certification.

- Planning and executing training of trainers.

- Promotion of academies of excellence.

- Establishment of a well-structured sector-specific Labour Market Information System (LMIS) to assist planning and delivery of training.

A list of the SSCs constituted so far is given in Table 4.

Table 4: List of Sector Skill Councils

Sl. No.	Sector	Sector Skill Council
1.	Automobile	Automotive Skill Development Council (ASDC)
2.	Security	Security Knowledge and Skill Development Council (SKSDC)
3.	Energy	Indian Energy Skill Development Council (IESDC)
4.	Retailing*	Retailers Association Skill Council of India (RASCI)
5.	Film, Media, Broadcasting, Entertainment and Animation*	Film, Media, Broadcasting, Entertainment and Animation Skill Council (FMBEASC)
6.	Information Technology and IT enabled Services*	Information Technology and IT enabled Services Skill Development Council (IT & ITES SDC)

(* at the proposal stage)

Section 9: Operationalisation of NVEQF

The ten level qualifications framework is to be implemented in the following 3 stages:

Stage One: NEVQ levels 1-4 will be implemented in Schools/ITIs/ITCs/VTPs.

Stage Two: NVEQ levels 5-6 will be implemented in Polytechnics/Private TVET providers

Stage Three: NVEQ levels 7-10 will be implemented in Colleges and Universities.

However, development of guidelines, setting of National Occupation Standards (NOS)/ competency standards and development of Competency based Curriculum (CBC) and training packages is to be done simultaneously for all levels.

Open Learning Institutions like National Institute of Open Schooling (NIOS), State Open Schools (SOS), Indira Gandhi National Open University (IGNOU), and State Open Universities (SOUs) will not only have to align their courses to suit the requirements of NVEQ levels, but will also play a major role in offering bridge or foundation courses for seamless progression of students from one level to another.

Box 10
National Institute of Open Schooling (NIOS)

The National Institute of Open Schooling (NIOS) provides opportunities to learners by making available the following Courses/Programmes of Study through open and distance learning (ODL) mode. At present, there are about 2,264 study centres catering to more than 18.5 lakh students all over the country.

- Open Basic Education (OBE) Programme for children upto 14 years, adolescents and adults.
- Secondary Education Course
- Senior Secondary Education Course
- Vocational Education Courses/Programmes (1,313 Accredited Vocational Institutes offering about 80 vocational courses)
- Life Enrichment Programmes

Box 11
Indira Gandhi National Open University (IGNOU)

The IGNOU at present offers 338 programmes of study through over 3,500 courses to cumulative student strength of over 30 lakh students. The programmes are offered by the University at the doctorate, masters and bachelors degree, post-graduate and under-graduate diplomas and certificates. IGNOU is promoting skill development and vocational education. It has set up a School of Vocational Education and Training (SOVET). The University offers Certificate, Diploma, Advance Diploma, Undergraduate, Post-graduate and Doctoral programmes in different areas of vocational education and training through its Community Colleges and in collaboration with other education and training institutions. Out of the seven lakh qualifications awarded by the University in the last five years, 2.5 lakh (35 percent) were graduates and above, and 4.5 lakh (65 percent) were Certificate and Diploma holders.

9.1 Sectoral Framework

A 'sectoral framework' or if required, sub-sectoral frameworks, will have to be developed to map out all existing skills and qualifications held by the current workforce, analysis of the future skill requirements, training requirements, national occupational standards relevant for the sector and design for clear-cut progression pathways and provisions for seamless vertical mobility of a student. A sector could be an industry sector (e.g., organized retail, plumbing, etc.) or an education sector (e.g. teacher preparation, special education, etc.). This would require initial agreements by the various stakeholders on levels, description of each level, requisites for mobility between different levels, etc.

9.2 Classification of Qualifications

The NVEQF will serve as an instrument for classifying 'qualifications' according to a set of criteria for levels of learning outcomes. Qualifications will be classified and registered, according to a set of nationally agreed standards/criteria for different levels of learning. A qualification can, however, be customized to meet the specific needs of clients by adding, substituting or modifying units of competency. This must be done in accordance with the qualification packaging rules which are set out in the relevant training package.

9.3 Registration of Qualifications

Each qualification will be registered by the identified body (e.g. qualifications related to automobile will be registered by Automobile Skill Development Council) for the sector. The comprehensive listing of all qualifications will be represented on the "Register" in terms of title, levels, credits, outcome statements and subject classification. A clear set of common definitions will assist understanding of the qualifications on the register.

The Register will

- show the relationship between different registered qualifications.

- facilitate learners' ability to transfer credit.

- assist in the international recognition of Indian qualifications.

9.4 Accreditation

A single statutory body like "Indian Qualifications Authority" for policy level planning, taking strategic decisions and to ensure quality of TVET under the NVEQF will be needed. However, till such body is formed, the responsibility can be assigned to the National Boards of Accreditation under AICTE. The existing Boards under AICTE are as follows:

- All India Board of Vocational Education

- All India Board of Technician Education

- All India Board of Undergraduate Studies in Engineering & Technology

- All India Board of Post Graduate Education and Research in Engineering & Technology

- All India Board of Management Studies

The AICTE may establish such other Boards of Studies in other areas in consultation with the NSDC.

9.5 National Occupation Standards (NOS)

One immediate step that needs to be taken is to develop learning outcomes, which describe what people will be able to do at the end of a learning programme. The learning outcome can be linked to employment outcomes defined in National Occupation Standards (NOS). The NOS specify the standard of performance an individual must achieve when carrying out a function in the workplace, together with the knowledge and understanding they need to meet that standard consistently. Essentially NOS are benchmarks of good practice and they must be established directly by the private sector employers; they cannot be pre-determined by instructors employed by the Government or Education and Training Institutions.

This is an entirely new requirement upon the TVET system. Currently, National Occupation Standards do not exist and therefore, they will have to be created. NOS for each Industry Sector would be laid down by the respective SSC. NOS are dynamic and can change based on changes in workplace, technology or processes. Occupational standards need to be developed around occupations; and not jobs which are time-bound, and tied to individual employers.

The NOS would assist in achieving the following:

- Emphasis on learning outcomes as opposed to inputs in qualifications descriptors

- Develop workers' skills that better match labour market needs

- Establish learning pathways through clear-cut entry and exit points for qualifications, thus facilitating access to learning and lifelong learning

- Increase the transparency and comparability of qualifications to assist students, providers, and employers

- Provide a means for quality assurance capable of enhancing the public confidence in qualifications

- Facilitate the international recognition of qualifications, and ultimately educational and labour market mobility.

The NOS will have outcome based performance (learning) objectives. The learning objective has three parts:

1. Task or competency that the learner should be able to do

2. Range Statement: Conditions under which the performance is expected to occur, and

3. Performance Criteria for successful performance (through reference to an appropriate measure)

Every NOS will, therefore, be accompanied by a set of performance criteria which defines the outcomes of that NOS. This performance criteria define the curriculum, pedagogy, assessment and certification norms for achieving a particular NOS. NOS will be reviewed and updated in a 2-3 year cycle, therefore, it can assist in improving the quality of education and training programmes. Translation of NOS, CBC and training packages into Hindi and regional languages will be done.

Box 12

National Occupation Standards: International Scenario

Most countries have NOS, and many of these are linked to one of the international classifications such as the International Labor Organization (ILO) International Classification of Occupations (ISCO), and United Nations Industrial Development Organization (UNIDO), International Classification of Industries (ISCI).

9.6 Sector Occupational Mapping

The Sector Occupational Mapping is a process which involves an occupational analysis of a representative segment. It is dynamic in nature, and has to be continuously upgraded based on changes in people, process or technology. Once the Sector Occupational Mapping is completed, the NSDC and SSC will map the role holders to various level descriptors and assign them levels on the NVEQF.

The Retail Sector Scenario: An Example

The Sector Skill Councils in "Organized Retail" will carry out occupational mapping of the Sector to define the nature of the sector and the occupations that make it up**.** The following information will be particularly helpful in developing an occupational analysis:

- the size and profile of its sector/occupation, sub-sectors and geographical location of organizations and workers

- the types of occupations within the sector and anticipated changes in employment patterns

- the link between the sectors/occupations

- key trends, developments and drivers within the sector/occupation

- opportunities for progression and typical career routes

- employers and other key stakeholders.
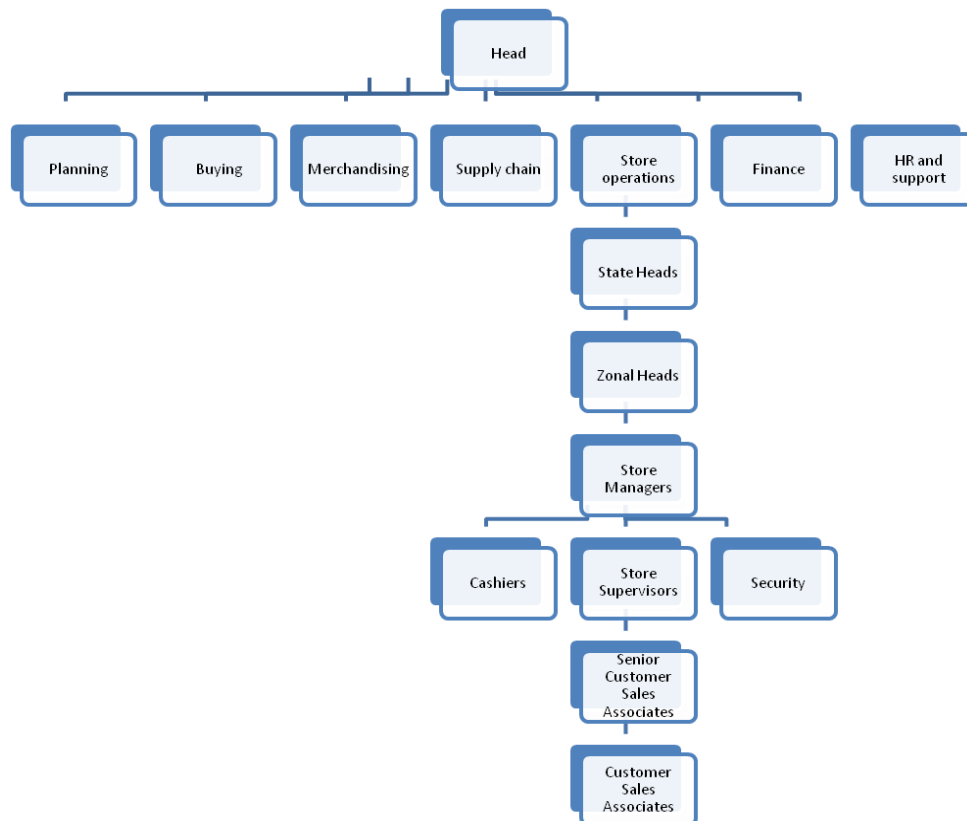
9.7 Qualification Packaging

The industry, represented by NSDC and SSCs, will lay down the Qualifications Pack for each level of NVEQF. These qualifications would be the basis for creation of curriculum, training pedagogy, assessments and certification. The SSC will also select the set of NOS for each role, and would create a 'Qualifications Pack', giving it a unique number. This Qualifications Pack will be used by all training providers to align their curriculum and pedagogy to NVEQ levels. For example, the Store Supervisor may be assigned Level 5, and the SSC may create a qualification pack comprising NOS A1, A2, B1 to B3, and C1, C3. This implies that for an individual to apply for the job of Store Supervisor, he should have achieved a certification on these NOS. This set of NOS would be known as 'Qualifications for Store Supervisor'. Of course, there would be more NOS in the areas of customer service, merchandising, managing store, etc.

Qualifications Pack

Qualifications A/23/Retail

- Role description – Store Manager

- Experience – Minimum 2 years as Store Supervisor/equivalent

- NVEQ Level 5

- NOS required – 23/A1, 23/A2 (Merchandising), 22/B1, 22/B4 (Customer Service), 32/A4 (Planogram for Store), 45/B3 (Leadership and Management), 23D4 (Store Operations)

- Performance Criteria – as laid down in NOS document

An example of NOS for Customer Sales Associate (Retail) is given below:

Table 5: Occupation Standards for Customer Sales Associate (Retail)

Function*	Competency to be achieved	NOS (NOS A1 to A 5 are indicated here)
Merchandising (Role Holder – Customer Sales Associate in a Retail Store)	Merchandise Products	A1. Place and arrange merchandise A2. Prepare, display label tickets A3. Prepare, arrange and display price tickets and labels. A4. Maintain displays. A5. Protect merchandise.

* There may be more such functions – e.g., manage stocks, customer service, etc. (Source: Reliance Retail)

Once the process of NVEQF, Level Descriptors, Sector Occupational Maps, NOS and their Performance Criteria is complete, there will be clarity on:

- Industry Sector-wise profiling of job roles
- Career paths to every job role
- Where does each job role fit in the NVEQF?
- What are the NOS which are aligned to each job role?
- What are the performance criteria?
- What is the qualifications pack for each job role?

In Table 6, a NOS (A1) has been further detailed to elaborate on the Performance Criteria. NSDC and SSC will lay down similar performance criteria for all NOS of each industry segment.

Table 6: Performance Criteria for the NOS "Place and Arrange the Merchandise" of Merchandising (Role Holder - Customer Sales Associate in a Retail Store)

NOS	Performance Criteria
A 1 Place and arrange the merchandise	Unpacks the merchandise as per store procedures. Moves the stock directly to the respective aisles and does not unload it in backroom.
	Audits stock carefully before packing. Ensures audited stocks are kept separate from the unaudited ones to avoid double counting.
	Stacks the stocks received on the shelves as per shelf edge, ticket displayed on the shelf trip.
	Removes the old crates of the shelves e.g., new arrival of carrots must be put in the place of the existing crate of carrots. From existing crates, removes the unsalable products and place in a different "salvage crate".
	Ensures that salvaging at the store aisle can be done up to 10:00 AM, thereafter ensures that all the crates are moved to the backroom. Ensures that extra crates are stacked underneath the respective bays in the store.
	Ensures that stacking is completed at 10:00 AM everyday. If the stacking is incomplete before 10:00 AM, move all crates and the cartons to the backroom. Thereafter, move one carton/crate to the shop floor for stacking.

9.8 Competency Units

A competency unit will be utilized for conducting competency based education and training and assessment. It includes performance criteria and evidence guide for assessing the competencies of an individual. A cluster of core and optional competency units will form the training package for an occupation. The description of the various components of competency unit is given in Table 7.

Table 7: Components of Competency Unit

Unit code: This is a code assigned to indicate the level of the competency.

Unit of Competency title: It indicates what the employee needs to do in the workplace.

Unit Descriptor: The unit descriptor provides additional general information about the Unit of Competency

Element of Competency: These are actions or functions that a person working in the area can perform. Elements are demonstratable and assessable.

(contd.)

Performance Criteria: These indicate what is to be assessed and the level of performance required in the workplace for each element of competency.

Range of Variables: This provides guidelines on different situations and contexts in which the competency applies.

Evidence Guide: This also provides guidelines for the assessment of the Unit and how it links to other Units of Competency: critical aspects, methods of assessment, interdependence of units, methods of assessment, etc.

9.9 Categorization of Competency Units at various NVEQ levels

Levels 1-4

- Occupational Competency Units: These will be a set of compulsory and optional units specific to the occupation/subject area.

- Generic Competency Units: These will be set of compulsory units that would be required for development of generic and employability skills to function effectively at workplace and to secure employment.

Levels 5-10

- Sector Specific Core Competency Units : These will be specific to the core competencies of that sector, For example, Organized Retail.

- Elective Competency Units: These will be optional units of the sector or related sector. For example, a person may take sector specific competency units in plumbing sector and elective competency units in construction sector for multi-skilling.

- Generic Competency Units: These will be set of compulsory units that would be required for development of generic and employability skills to function effectively at workplace and to secure employment.

9.10 Career Progression/Mobility

Vertical coordination, which is the process of sequencing units in a single theoretical subject or practical activity (e. g. milling, drilling, forging, etc.) in time relatively independent of other subjects or other practical activities, will have to be done. Similarly, horizontal coordination, which is the process of coordinating teaching and learning units between different subjects, will have to be done. Units under the NVEQF will have to be coordinated (sequenced) and aligned in order to arrange the contents of individual subjects and individual areas of learning. This occurs on three levels:

- The curriculum for a particular area of training or specialized subject

- Individual teaching and learning units

- The overall training programme for a trainee

9.11 Credit Framework

A 'credit framework' will be developed to facilitate the measurement and comparison of learning outcomes achieved in the context of different qualifications, programmes of study and learning environment on the basis of student workload measured in time. A student is said to have earned credits of a course/subject, if he/she completes the relevant study of a course/subject (as per prescribed curriculum both in theory and practicals independently) with requisite and prescribed attendance and qualify the condition of assessment. Appropriate credit recognition, accumulation and transfer are critical to support learners along the learning pathway and consequently will be the core element of the NVEQF.

(i) Allocation of credits to a programme/course

Credits allocation is an important aspect of NVEQF, and their integration to the framework will need detailed deliberation of all stakeholders, before implementation. The clustering of units and allocation of credits will be done by the Registered Education and Training Providers on the departmental/faculty level, which would be responsible for the structure of programmes and courses. The RETPs should, however, ensure that there is a representation of all the stakeholders when credits are allocated to a programme. At the University level Boards of Studies and Academic Councils will determine the level of competencies and cluster of units required for different qualifications.

(ii) Credit requirements

Learners would be required to complete a given number of units. Some units would be core compulsory units, while others would be optional. The optional units would be selected from a basket of academic and vocational units. The selection of the optional units will be done by the student under the guidance of the mentor/counsellor. The student may also be required to undertake non-credit units to overcome any deficiency in his/her academic standard. The accumulation of sufficient credits would enable learners to achieve a national qualification.

> **Box No. 13**
> **Credits**
>
> Credit of a course is usually expressed as a numerical value linked to (notional) learning time (credit accumulation value). Generally, 1 credit point is allocated for 10 notional hours of learning.
>
> 1 Credit=1 hour lecture and 1.5 - 2 hours practical
>
> Bachelor (3-4 years) - 180 credits/240 credits
>
> Master   (2 years) - 300 credits

Ph.D. (2-4 years) (with or without course work)

The credit hours are denoted by two digits within brackets with a hyphen in between. The first digit represents the theory part while the second (right side) digit represents the practical part. Thus, 3(3-0) means three credit hours of theory, while 4(3-1) means a total of four credit hours, of which three are of theory and one credit hour is for practical. It is based on the general assumption that the global workload of an academic year of study is equal to 60 credits. The 60 credits are then allocated to course units or modules to describe the proportion of the student workload required for achievement of the related learning outcomes.

(iii) Credit exemption

In multipoint entry and exit system, the entry of students with different qualifications can be at different points on a credit scale. Based on the entry qualifications, appropriate credit exemptions will be given to the students having higher qualifications. Depending upon their previous academic achievements students with higher qualifications can be exempted from the study of few course units.

(iv) Credit transfers

Credit transfer is a process whereby credit already achieved is recognized towards a new qualification or for entry and selection to courses. Credit transfer arrangements through the granting of course credits for recognized studies previously undertaken, are an important facet of "articulation arrangements". Credit transfer may occur when institutions agree to formally recognize studies undertaken by students in a sending institution, with the granting of an agreed amount of credit in a particular course, or courses, by the receiving institution. For example, students will be permitted to transfer their course credits from Open and Distance Learning Courses (ODLC) of School/University to regular stream and vice-versa. In some instances it may be possible to transfer credit points to other learning programmes to ensure that a learner does not have to repeat any learning they have already undertaken. Articulation arrangements which would facilitate students' mobility between RETPs will have to be worked out between the institutions.

Credit transfers can take various forms such as:

(i) Block credit – Where students gain credit for a whole year or stage of a university or other higher education qualification for a whole qualification. It does not depend on completion of any specific units of competency.

(ii) Specified credit – Where credit given is based on completion of the qualification including specified units of competency which have been mapped to particular components of the university or other higher education qualification.

(iii) Unspecified credit – Where credit is given for components of a university or other higher education qualification, comprising elective or other optional components only. It may be up to the equivalent of a whole year but usually not all of the first year of the qualification.

9.12 Current Policies supporting Articulation Arrangements

Some examples of policies that can contribute to supporting progression into, within, and from TVET are mentioned below:

Vocational passouts in engineering courses at 10+2 level can get admission into the 2nd year of Polytechnic (3 year programme).

Few States, such as Goa, provided vertical mobility to the ITI passed candidates in pursuing their studies in the various fields of engineering, corresponding to their trades, through the seats remaining vacant in the Polytechnics in the State; provided the trainees have passed SSC examination and secured 60% of marks in the final ITI examination.

Polytechnic passouts can get admission into the 2nd year of B.Tech. (4 year programmes). For example, in Kerala, 2% seats have been reserved by some Polytechnics for admission of +2 vocational passouts who have taken optional general academic subjects (e.g., PCM, PCB, etc.) along with vocational electives to a Diploma course (3 year duration).

Some of the Universities have made provisions for admission of students of 10 + 2 vocational stream to BA/B.Sc./B.Com. (General Academic) courses. For example, University of North Bengal has made such provision.

Some of the Universities have reserved seats for admission to the vocational passouts of +2 level. For example, Tamil Nadu Agriculture University (TNAU) has exclusively reserved 5% of total seats for candidates from vocational stream at +2 level. They are not considered under general merit and any of the other reservation categories. The list of eligible courses for various degree programmes are as follows:

a. For B.Sc.(Agri.), B.Sc.(Horti.), B.Sc.(Forestry), B.Sc.(Home Sc.): Vocational passouts of courses in Agricultural Chemicals/Crop Production/Crop Protection/Small Farm Management/Sericulture & Apiculture/Vegetables and Fruits /Spices & Plantation Crops/ Floriculture & Medicinal Plants

b. For B.Tech. (Agri. Eng.): Vocational passouts of courses in Agro-based Industry/Farm Mechanics and Post-harvest Technology/Soil Conservation & Rural Construction Technology.

Example of Articulation Arrangements in Australia

A typical example of articulation arrangement in the Retail sector from TAFE New South Wales to Australian Universities and Higher Education Providers is given in Box 14.

Box No. 14
Articulation Arrangements in Australia

Articulation pathways for TVET courses are evident in almost all countries, though such provisions vary with the linkages between the TVE and higher education institutions. In Australia, a small number of 'dual sector' educational institutions exist that have both VET and higher education components. These institutions are Swinburne University of Technology, RMIT University, Victoria University of Technology (all in Victoria), the Australian Maritime College in Tasmania, and the Northern Territory University. These institutions have developed comprehensive policies to enhance articulation arrangements. Higher education programmes offered through the distance education mode provide significant articulation opportunities for VET course graduates, particularly those in remote geographic locations, or those who otherwise find it difficult for various reasons to attend classes. Generally, courses offered through off-campus studies have the same entry requirements and course credit arrangements that apply in respect of courses conducted on-campus, including allowances made for the entry of mature age applicants to courses. In many cases, students can enrol in single subjects without prerequisites (UNESCO-UNEVOC & RMIT University, 1999).

Reverse Articulation Arrangements in Australia

In Australia there is widespread articulation of individuals from the university sector to vocational education programmes at TAFE colleges. This might be described as 'reverse articulation'. The two-way nature of articulation between VET and higher education in Australia is such that there is now more traffic between higher education and VET than the other way round (UNESCO-UNEVOC & RMIT University, 1999).

Approved Articulation Agreements in Retail Sector
From TAFE NSW to Australian Universities and Higher Education Providers

TAFE NSW Course
Qualification
Higher Education Provider
Faculty
Course Credit Transfer Agreement
Expiry Date

9941 WRR40102 Retail Management	**17486 SIR40207 Retail Management**
Certificate IV	Certificate IV
University of Western Sydney	University of Western Sydney
Bachelor of Business & Commerce	Bachelor of Business & Commerce
30 credit points (3 unspecified elective units)	30 credit points of Advanced Standing for the BA of Business & Commerce Degree with Key Programme in Retail Management
Current, to be reviewed annually	Current, to be reviewed annually

(contd.)

9942 WRR50102 Retail Management
Diploma
University of New England
Bachelor of Professional Studies
Block Credit: One year of a 3 year degree
Current, to be reviewed annually

17487 SIR50107 Retail Management
Diploma
Australian Catholic University
Bachelor of Business or Bachelor of Commerce
80 credit points of 240 credit points towards
the degree
Period of accreditation

17487 SIR50107 Retail Management
Diploma
University of Western Sydney
Bachelor of Business & Commerce
70 credit points of Advanced Standing for the BA of
Business & Commerce Degree with Key Programme in
Retail Management
Current, to be reviewed annually

9942 WRR50102 Retail Management
Diploma
University of Western Sydney
Bachelor of Business & Commerce
70 credit points (units 200083, 200300 plus 5
unspecified elective units)
Current, to be reviewed annually

17487 SIR50107 Retail Management
Diploma
University of Western Sydney
Bachelor of Business and Commerce Key
Programme in Retail Management
80 credit points of 240 credit points towards
the degree
Period of accreditation

9.13 Qualifications Packaging for NVEQ Levels

Qualifications Packs will be developed by the SSCs for their respective industry sector. For education and other sector not covered by the SSCs, qualification packs would be developed by the specialized Institutions. NSDC will coordinate the activities of the development of qualification packs for uniformity and consistency. The units of competency will be assigned a credit value. The learner would be required to complete minimum number of credits for attaining a qualification.

NVEQ Levels 1-2

Vocational Electives

NVEQ Levels 3-4

The minimum number of credits required for NVEQ level 3 & 4 will be 60 credits (this will be equivalent to 600 hrs or 16 hrs/week of study over a 9-month period).

NVEQ Level 5

The minimum number of credits required for NVEQ level 5 will be 180 credits of which, at least 120 credits must be at NVEQ level 5 or above and remaining 60 credits at 3 or above.

NVEQ Level 6

The minimum number of credits required for level 6 will be 120 of which, at least 80 credits must be at level 6 or above, 20 additional credits at NVEQ level 5 or above and the remaining 20 credits may be from level 3 or above.

NVEQ Level 7

The entry qualification to the NVEQ level 7 will be NVEQ level 5 or NVEQ level 6. The minimum number of credits required for NVEQ level 7 will be 240 credits. A NVEQ level 6 or advance diploma holder may be granted exemption to a maximum of 90 credits, depending on the relevance of the units to the qualification.

NVEQ Level 8

The entry qualification to the NVEQ level 8 will be NVEQ level 7 or Bachelor degree. The minimum number of credits required for NVEQ level 8 will be 240 credits. A NVEQ level 7 or holder may be granted exemption to a maximum of 90 credits, depending on the relevance of the units to the qualification.

NVEQ Level 9

The entry qualification to the NVEQ level 9 will be NVEQ level 7 or NVEQ level 8. The minimum number of credits required for NVEQ level 9 will be 300 credits. A NVEQ level 7 or Bachelor degree holder may be granted exemption to a maximum of 90 credits and the NVEQ level 8 holder may be granted exemption to a maximum of 120 credits, depending on the relevance of the units to the qualification.

NVEQ Level 10

The entry qualification to the NVEQ level 10 will have to be decided by the UGC and Association of Indian Universities.

9.14 Registration of Education and Training Providers

The existing education/training providers or new educational institutions providing formal education and training can get themselves registered as ETPs under NVEQF, if they want to conduct accredited training programmes against NOS. Formal approval and recognition of the ETPs will be done by a national registering body in accordance with the norms and standards for registration.

Interested institutions will have to submit a detailed proposal for registration and accreditation through the state agencies or national agencies, as applicable.

Box No. 15
Education and Training Providers

The various categories of ETPs will be

1. Schools, covering general and vocational education from Classes IX to XII

2. Industrial Training Institutes (ITIs) offering vocational training under the Craftsmen Training Scheme leading to diploma

3. Polytechnics, offering technical education and training programmes leading to diploma

4. Colleges, covering certificate, diploma, advanced diploma, graduation and postgraduation programmes, including professional courses

5. Universities, covering graduation, postgraduation, doctoral and post-doctoral courses, including professional courses

6. National Institutes such as Indian Institutes of Technology, National Institutes of Information and Technology, Indian Institute of Sciences, Indian Institutes of Management, etc.

7. Community Colleges started by Madras Centre for Research and Development of Community Education, Chennai and Indira Gandhi National Open University (IGNOU)

8. Private Education and Training Providers offering professional courses

9. Vocational Training Centres

10. Specialized Training Institutes under Central and State Government Ministries

11. Private Industry-led Training Organizations

12. Jan Shikshan Sansthans.

Education and training providers will have to become learning organizations with (i) a vision and mission for integrating education and training, (ii) define goals and objectives to be achieved in a specified time, (iii) a strategy for achieving the objectives, (iv) partnership policies and principles for developing linkages with the stakeholders and share information with them in a transparent manner, (vi) develop flexibility in administration and delivery of education and training, (vii) promote learning environment by providing necessary resources, flexibility in work and rewards, and (viii) develop a mechanism for quality assurance in teaching-learning through outcome based approach.

9.15 Register

A database repository of information about the RETPs will be maintained on a Register. The registry will contain information that the administrators and learners can continually refer, such as:

- Programmes and modules offered by RETPs

- Career pathways for the programmes offered

- Admission requirements, etc.

9.16 Recognition of Prior Learning (RPL)

Currently, India's VET system has almost no system where the prior learning of someone who may have worked in the unorganized sector for decades is recognized and certified. This is specifically relevant to the diverse traditional occupations of the various parts of the country. Recognition of Prior Learning (RPL) will be particularly useful to those who are seeking employment in other countries as well as in bringing about necessary improvements in traditional forms. Institutions with requisite experience will be authorized to conduct assessment through RPL. Under the NVEQF, RPL will be done for two purposes: (i) recognition of prior learning or qualifications acquired outside the learning path, and (ii) recognition of credits obtained through formal learning. This would lead to career progression and skill upgradation of the learners as well as engagement of the experienced practioners as resource persons.

(i) Recognition of prior learning or qualifications acquired outside the learning path

Learners will have to provide evidence to support their prior learning claim that they have the required knowledge and skills outside the learning path if they expect the VE provider to give them formal recognition or to waive off some credits. Such evidence may include:

- Work experience (for example, 1-5 years work experience for NVEQ levels 2 and 3 and further 2 years for NVEQ 4).

- Certificates of completed courses and qualifications awards

The experiences or qualifications will be measured against the NVEQ level an individual would like to do. The candidate would be required to fill the application form, provide evidence against each of the performance criteria in a unit of competency and appear for competency based assessment.

(ii) Recognition of credits obtained through formal learning path

The recognition of credits obtained through the formal learning path within the NVEQF will be guaranteed automatically within RETPs. Decisions on recognition will be made within a reasonable time limit specified beforehand by the competent recognition authority.

9.17 Competency based Curriculums

Competency based curriculums relevant to the world of work will be developed to communicate the desired outcome to both the teachers and students. This innovation is likely to create tension between educators/instructors on the one hand, and the potential employers (i.e. the private sector) on the other. Mechanisms will have to be developed through mutual consultation for this process to succeed. It should not be understood as an attempt to centralize the development and implementation of curriculums, but should be taken as a modest reform in bringing about a quality assurance system through alignment and benchmarking of curriculums. Organizations like PSSCIVE, NITTTR, CST&RI in association with SSC's will be integral to the creation of competency-based curriculums. The vocational curriculums developed by PSSCIVE, CBSE, CICSE and State Boards will have to be aligned to the NVEQF levels 3-4. Polytechnics and VTPs will have to redesign their curriculums to suit the requirements of the NVEQ levels 5-6. Similarly, UGC and Universities will have to redesign their curriculum to align their courses with NVEQ levels 7-10.

9.18 Competency Based Education and Training

The mode of teaching and learning in courses under NVEQF will be Competency Based Education and Training (CBET). The CBET provides learners with the skills, knowledge and understanding to demonstrate competence against standards and performance criteria in an applied context. It implies that meaningful learning opportunities are created for individuals to develop integrated performance oriented competencies and capabilities for handling jobs at workplace. It involves learning in institution and workplace environment.

(i) Blended Education and Training

Blended education and training, which provides an educational and training design that utilizes various forms of teaching/learning will be used as a tool for overcoming the limitations of teaching and learning methods currently in use.

(ii) Workplace Learning

Workplace learning, which links classroom instruction with structured work experiences by providing a practical context for academic subjects and by grounding course work in practical realities of work will be an integral part of the teaching-learning process. Other teaching-learning methods such as brainstorming sessions, demonstration, case study method, role playing, conversation, simulation exercise, seminars, group work, group discussion, study visits and experience sharing would form part of the CBET.

> **Box No. 16**
> **Competency Based Education and Training**
>
> The various methods that would be utilized for CBET will include the following:
>
> 1. Interactive Lectures: Sharing of knowledge, with question-answer sessions
>
> 2. Tutorials: A period of instruction given by a tutor aimed at exploring in greater depth, revising and discussing material and topics presented within a course unit or module.
>
> 3. Project Work: Selection of a topic for project work, with relevance to the need of the Industry
>
> 4. Work-integrated learning: Enables learning to take place at, through and be centred on the working environment. It is learning through doing, with support and expert input at appropriate times.
>
> 5. Resource-based learning: Allows learners to learn from their own engagement with information and learning resources.
>
> 6. Collaborative learning: Interaction between learners who are engaged in a common task. Learning is focused on tasks and learner decision making.
>
> 7. Problem-based learning: Active role of learners as problem solvers, simultaneously developing higher order thinking skills.
>
> 8. Off-the-job training: Vocational training undertaken away from the normal work situation.
>
> 9. On-the-job training: Vocational training given in the normal work situation; it may constitute the whole training or to be combined with off-the-job training.

9.19 Assessment and Certification

At present, there are different types of examination systems i.e., Annual and Semester, being followed by the Schools, Industrial Training Institutes, Colleges and Universities. Pointing to the issues of the entrenched examination system under which the student is asked to face a question paper at the end of the year, or in some universities, at the end of the semester, the Report of the Committee to advice on "Renovation and Rejuvenation of Higher Education 2009 *inter alia* states "This archaic examination system, ostensibly used as a means of certifying the ability of students, unfortunately does not really test the kind of skills they require to be successful in either the pursuit of pure theoretical knowledge or in practical real world situations. Similar to what happens at the school level, university-level evaluation practices also simply broaden the scope of memory-based questioning, with the occasional rote-based 'application' question masquerading as real-world problem solving. In doing so, they entrench the student's lack of ability to examine and understand the real world, as a result of which their engagement with people or issues remains scarce once they enter the world of work, with implications for their abilities as workers and citizens".

Fig. 3: A unified framework to be driven by coordinated efforts of Government and Industry for development of competencies suited to the needs of individuals and the employers
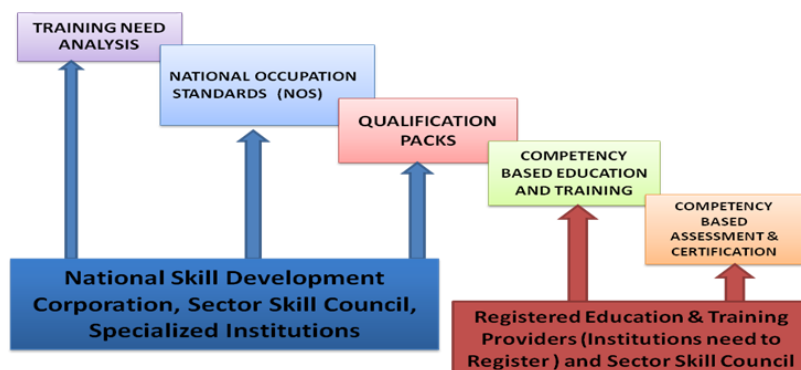
A unified system of assessment based on NOS will be applied for assessment of 'learning outcomes' (Fig. 3). A total range of written, oral and practical tests/examinations, projects and portfolios will be used to evaluate the student's progress in the course unit or module. The Competency based Assessment (CBA) is about achieving standards rather than performance in a set task or over a whole course. It involves the collection of evidence of what learners know, understand and can do. That evidence is then judged against criteria expressed in NOS. The criteria for assessment would be established by NSDC/SSCs based on the knowledge and skill levels for technical competencies at each level of qualifications. Achievement standards for generic competencies will be developed by the National level Institutes. Assessments must comply with the assessment guidelines included in the applicable qualifications pack or the assessment requirements specified in accredited NOS. The objective of the assessment will be transformation of assessment from resource-oriented to result-oriented learning outcomes. All assessment criteria for a specified task, indicated in the unit, should be demonstrated by the learner in order to be assessed as 'competent'. The learner will have achieved competence, if what is demonstrated by him/her through performance meets the NOS specified in the unit.

ETPs or organizations accredited by a Statutory Body/NSDC will organize the assessment.

People who are experts in the respective field will be accredited as assessors. Assessors should be proficient in the subject matter and possess necessary skills to assess and evaluate candidates. They should meet the unit standard requirements or qualifications for which they are to be registered to assess. A person who wishes to be an assessor will have to provide evidence that he/she has the expertise, knowledge and experience in assessment, as well as prove that he/she will be able to assess a particular unit standard, set of unit standards, or qualification. The same RETPs and assessors, within a learning institution or in the workplace will also assess candidates for RPL.

The assessor will have to undergo the process of accreditation and training (if required). Accredited assessors will judge all evidence against NOS, regardless of where the evidence came from. The number of units that can be assessed by an assessor in a day will vary with the type of occupation.

Awarding bodies in association with NSDC will issue qualifications (certificates, diplomas or degrees) formally recognizing the achievements of an individual, following a standard assessment procedure, for all TVET learning. They will adopt the national guidelines for continuous competency based assessment and guide the learners towards assessment of their existing skills and knowledge. A policy of complete transparency will be adopted where candidates are given an opportunity to discuss the marks awarded to them with the concerned teacher or trainer. Evaluation report will be prepared by the assessor in the prescribed format and sent to the Awarding body and NSDC for issuance of "National Competence Certificate" (NCC) for that qualification. Learners who do not require complete qualification will be issued "Nationally Recognized Statement of Attainment" (NRSA) for completion of one or more units of NOS. Achievements recognized by Statements of Attainment can accumulate towards a qualification within the NVEQF. The NVQ certificates issued through accredited courses would be different than those issued through RPL. The NSDC will monitor standards of achievement through accreditation, audit and moderation.

Assessment at various NVEQ levels

Levels 1-4

Continuous and Comprehensive Evaluation with focus on learning outcomes/performance criteria will be done and grades will be awarded.

Levels 5-10

Competency based assessment of learning outcomes will be done by accredited assessors or ETPs as per the guidelines given in the Unit and specific guidelines provided by the Awarding Bodies and NSDC.

Awarding Bodies

Existing accreditation agencies like AICTE will work with NSDC to grant accreditation as per NVEQF guidelines. Certificates will be issued jointly by the Head of the RETP, Head of Awarding Body and the authorized representative of NSDC.

Section 10: Establishment and Management of NVEQF

The MHRD and MoL&E together will be responsible for creating the NVEQF, and implementation of norms and standards of NVEQF in school, technical education institutions,

vocational education and training institutions and higher education institutions. The MHRD will work in close co-operation with MoL&E, other Ministries, Statutory Councils, Boards, and NSDC to formulate policies, rules and guidelines in consultation with the representatives of various stakeholders for establishment of NVEQF.

Reforms in the area of governance in education and training to include key stakeholders in the strategic decisions and in management of policies and services will have to be undertaken by the Government. It also requires the development of accountability mechanisms and decentralization to ensure efficiency, relevance and quality in the delivery of education and training services.

Box No. 17
New Zealand's National Qualifications Framework

New Zealand appears to have the most articulated and comprehensive system of occupational skill standards in the Commonwealth. The core of its system is the National Qualifications Framework (NQF), which is developed and maintained by the New Zealand Qualifications Authority (NZQA) (website address: www.nzqa.govt.nz). All qualifications currently recognized in the Framework are composed of registered unit standards: statements that describe what a learner knows or can do. Standards specify learning outcomes. Because there are national definitions of unit standards, learners' achievements can be recognized in a number of contexts, transferred across training providers, and applied to related occupations. All unit standard credits, National Certificates and National Diplomas achieved in a year are entered into individualized Records of Learning that are maintained by the NZQA. The expert groups which set standards and take part in the accreditation of education and training providers are known as standards-setting bodies (SSB) of which there are four types: National Standards Bodies (NSBs), Industry Training Organizations (ITOs), Standards Implementation Bodies (SIBs), and Whakaruruhau or advisory groups for the Maori. National Standard Bodies represent fields of learning, e.g., humanities, science, and business; while ITOs represent industries, e.g., forestry, manufacturing, and tourism.

10.1 Management at Grassroots Level

Management at the grassroots level will enable the framework to align to the local requirements (Fig. 4). As shown in Fig.4, two hubs have to be set up at District level, which will work in close coordination with each other. One is the office of the District Education Officer (DEO), and other is Skill Development Center (SDC) to be set up by NSDC with support from MHRD and MoL&E. All education and training establishments in the District will be gridded to DEO and SDC. The SDC will provide inputs on job opportunities, certification, on-the-job training, industry interface, while the DEO's office will provide curriculum, training packages and aids, teachers, trainers, tool rooms and materials for training. The SDCs will have backward linkages to NSDC and SSC for real

time inputs, and will be connected to local industry for coordinating internship, on-the-job training and other activities.

The DEOs, in consultation with the school, college, ITIs and all other VET management teams of the District will assign vocational programmes to different institutions, based on demand received from the SDC, and requirements of the local population. Many students would be facilitated to join the programmes at these levels and SDC would help them with placement.

A National Management Information Service (NMIS) will be established which will collect and disseminate information on various aspects of NVEQF related products and services. The information would be easily accessible, circulated and disseminated through the web services. Governance of the NMIS system will be replicated at state and district level. Local committees will facilitate the co-ordination and co-operation of all NMIS activities within a geographic area through Geographic Information Services (GIS). Every RETP will provide its learners with access to NMIS through web services. At the institutional level, a committee will be set up to assist in developing and maintaining the Institutional Management Information Service (IMIS).

10.2 Involvement of Stakeholders

Stakeholders will have to be actively involved in identifying skill gaps, CBET, and making investments in buildings and material resources for setting up education and training institutions. They will be encouraged to play a constructive role in the effective implementation and promotion of programmes under NVEQF.

(i) Head of the Institutions

The Head of the Institution would be trained and motivated periodically for initiatives and successful establishment of NVEQF.

(ii) Teachers and Trainers

There are several colleges and universities which conduct teacher education programmes, both in the Government and private sector. However, there are no competency standards for training teachers, trainers and instructors. A completely new approach is needed for pre-service and in-service education or teacher development which should be linked to the concept of mechanism of recognition of competencies rather than just the qualifications. Teacher education curriculums and programmes will have to be redesigned to respond adequately to the demands for new teachers and trainers for transaction of competency units of NVEQs. Teachers and trainers will have to prepare their students for the new realities of the workplace and labour market by ensuring that the competencies imparted to them

are attuned to the labour market requirements. The present system of teaching-learning in majority of education and training institutions is highly teacher centric. The shift must take place to make teaching-learning process more student centric through participatory workshop experiences, project work and assignments. This will indeed require extensive training of teachers. Because of high degree of automation on the shop-floor, use of computer and management skills should be an essential part of the teachers' and trainers' training programmes.

Three different types of teachers and trainers would be needed for effective transaction of competency units: (i) teachers and trainers for general, cultural or scientific subjects (e.g., language, environmental education, information and communication technology, health science, entrepreneurship development, sustainable development, rural development, etc.); (ii) teachers and trainers for specialized theory (for explaining scientific principles, facts and figures, etc.); and (iii) instructor for vocational practice (e.g., operation of tools, equipment, machines, safety aspects, etc.). Programmes on preparation of teachers and trainers should, therefore, equip them with the competence and commitment to do their work. Teachers and Trainers will have to undergo induction training for teaching courses and guiding project work.

A national core curriculum for teachers and trainers will be developed which will meet the developmental plans for teachers' and trainers' competencies. Open and distance learning mode for providing pedagogical skills and basic skill training for preparation of vocational teachers and trainers will have to be used as a viable alternative or to supplement face-to-face programmes. The requirement for qualifying as teachers and trainers will be modified keeping in view the needs of the CBET, incorporating the most appropriate experience in multimedia distance education, institution-based face-to-face instruction, self-study, monitoring, supervision, action research, and other modes of learning.

Common rules for recruitment based on competencies and qualifications, conditions of service (salary and benefit structures, criteria and processes for the appraisal, evaluation, promotion of teachers, etc.), professional norms, standards and ethics, and code of conduct will have to be developed for full-time, part-time, and contract teachers. Promotions and incentives will have to be linked with the performance of teachers and trainers and their participation in lifelong learning.

(iii) Parents

Parents provide care and guidance to their children and therefore, their cooperation in motivating children and youth to take up vocational courses is of utmost importance in advocacy of TVET programmes. Formation of Parent -Teacher Associations (PTAs) will be encouraged to seek constructive criticism and feedback for improving the scope of NVEQF.

(iv) Community Leaders

In order to launch a massive nation-wide social support, community leaders and members will be mobilized at State, district and block level. They will be encouraged to work as agents of change for altering the mindset of parents and other stakeholders.

10.3 Role of Private Sector Organizations and Industry

The private sector-led by NSDC is expected to participate substantially in policy planning, development of National Occupation Standards, curriculum design, credit frameworks, accreditation and assessment. In addition, in both industry and services sectors, it will arrange three kinds of training: in-plant training of trainees in the form of on-the-job training; (a) internships to VE students; and (c) apprenticeship training. Partnerships in education and training should be more localized to promote involvement of local stakeholders and local implementation of the policy initiatives and directions. Partnership at various levels will include the following:

i)   Partners in public policy: Partnerships in public policy will be collaborative efforts at the national, state or local level among Government officials, industry, ETPs, and other stakeholders that shape the public and political debate and bring about substantive changes in legislation.

ii) Partners in management: Partnerships in management will address administration and organization reforms in matters such as strategic planning and goal setting, increased autonomy to principals and teachers, flexible personnel and incentive systems, purchasing equipment, management information system, finance, accounting, monitoring of performance standards, public relations, etc.

iii) Partners in teachers' training and development: Local industry and businesses will be involved in teachers' and trainers' training so that the teachers and trainers can upgrade their knowledge, skills and competence. They could also supplement deficit of qualified teachers from among their own human resources.

iv) Partners in special services: Special-service partnership will provide short-term projects or student-specific activities or resources to deal with a specific problem or need, such as sharing equipment, recognition of programmes, scholarships and other incentives, sponsoring career fairs or book fairs, sponsoring student teams, etc.

Section 11: Quality Assurance

A quality assurance system for CBET and CBA will be developed under a Quality Assurance Framework (QAF) for providing nationally consistent high quality education and training. The NVEQF will have a three-pronged quality assurance system:

- National standards are registered.

- National standards are used by accredited organizations.

- A moderation system ensures national consistency.

The quality assurance will be provided in the following domains:

- Training packages developed by experts in their fields.

- Training resources

- Training conditions

- Teachers/Trainers and Instructors

- Education and training quality

- Work readiness of trainees

- Effective assessment

- Overall satisfaction of learners

Efforts will have to be made to involve key stakeholders, including professional societies in related sectors as partners for improving upon quality of education and training. In engineering and technology sector, for example, The Institution of Engineers (India), The Institution of Chemical Engineering (India), The Institution of Electronics and Tele-Communication Engineers (India), The Indian Institute of Metals, The Institution of Industrial Engineers (India), The Institute of Town Planners (India), and The Indian Institute of Architects needs to be involved in bringing about qualitative improvements in education and training.

Section 12: Funding

Government revenue will be the main source of fund for public expenditure on NVEQF. A partnership between Central and State governments, industry, employers, and communities should become the new foundation of the financing system. There will undoubtedly be a need for net additional public expenditures on the setting up of institutional mechanisms and systems over the next few years. Financial assistance will be provided to the States/ UTs for establishing ETPs at district and block level. Mobilization of local resources through partnership with local industries and organizations would be encouraged. Marketing of products and services would be encouraged in RETPs through Production-cum-Training Centres (PTCs) for generating resources for the programmes. The Sector Skill Councils will initially be funded by the NSDC, but latter on these will become fully self-reliant financially, for providing services to enterprises in the respective sectors they deal with.

Section 13: Changes in Recruitment Policies

The recruitment policies, rules and procedures will have to be amended by the Central and State Governments and Employers for giving preference to students with competencies rather than just qualifications. It would require changes in recruitment and employment

policies for hiring 'competent' rather than just 'qualified' people for a job. The financial institutions will also have to align their policies of funding to encourage people with 'skills' rather than just 'qualifications'.

Fig. 4: A District Level Education and Training Plan Based on NVEQF and Industry- Academia Association
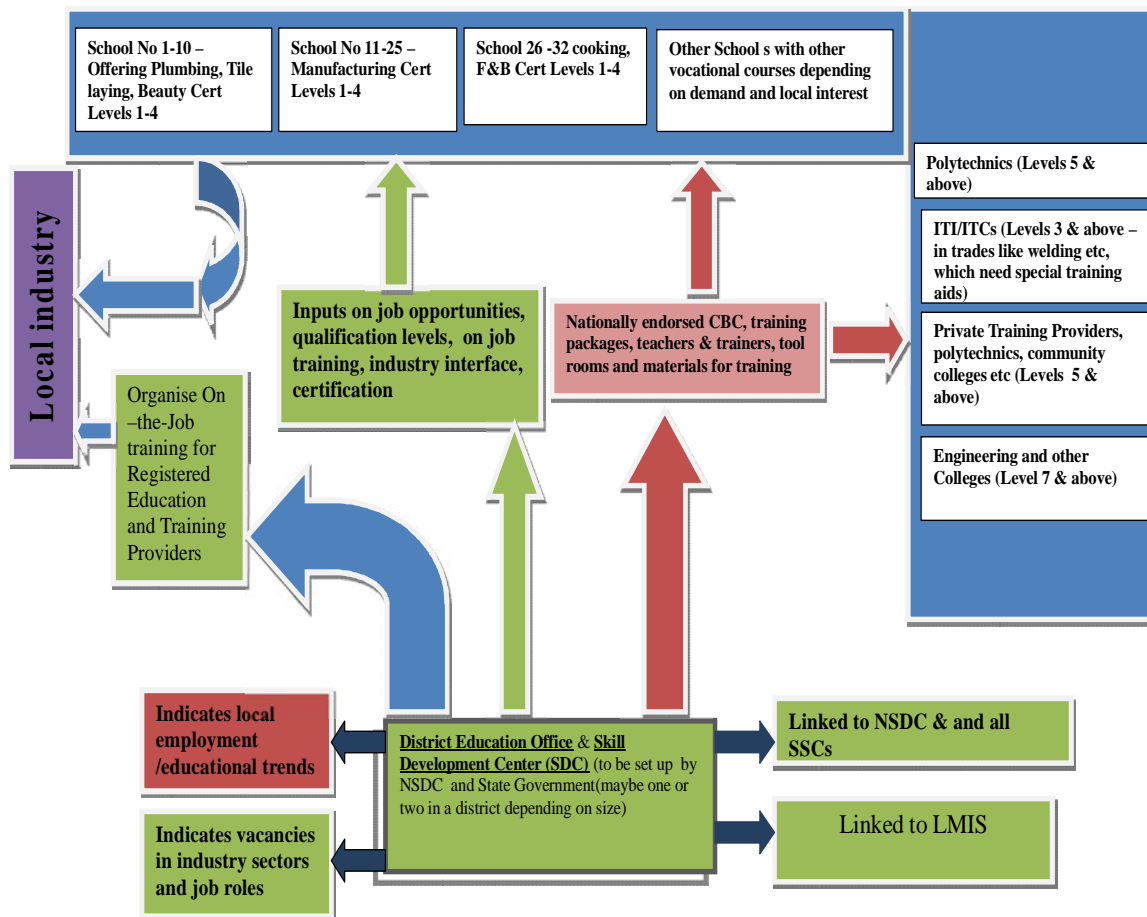
Section 14: Action Plan

Phase 1: *Development of NVEQF*

A National Steering Committee (NSC) for development of NVEQF will be set up jointly by the MHRD and MoLE to develop and establish NVEQF. Institutions for management of implementation of integrated education and training system will be set up by the Government in collaboration with other stakeholders.

The following is a partial list of the major initiatives that needs to be taken up for development and implementation of NVEQF:

- Establishment of Sector Skills Councils (SSCs).

- Development of Sector-wise Framework

- Development of Policies & Strategies governing NVEQF.

- Development of National Guidelines

- Development of Sector-wise National Occupational Standards by SSCs.

- Development of Sector-wise Qualification Pack by SSCs.

- Modifications in the existing infrastructure and management structures

- Provision for quality education and training in institutions and workplace

- Quality assurance through monitoring and evaluation

- Encouraging various target groups, including workers to participate in NVEQF

- Provision and regulation of employment services.

Phase 2: *Circulation of Draft Model of NVEQF to various stakeholders for comments and suggestions.*

Nation-wide awareness campaigns will be organized to inform about the benefits of NVEQF, the implications it will have on education and training, and the opportunities it will provide to individuals, organizations, industries and other stakeholders.

A model NVEQ framework for sectors like Energy, Private Security, Retail, IT/ITES, Media and Automobile; which will describe the NOS and Performance Criteria for various qualifications, help develop 'progression routes' for individual to follow, and allow individuals to make the most of the opportunities to transfer credit points between qualifications will be developed for piloting.

Phase 3: *Presentation of Model NVEQF and consultations with Key Players*

To create a better understanding of the policy guidelines and roles of various key functionaries or key stakeholders, the model NVEQF would be presented in workshops and uploaded on website of MHRD. Consultation meetings would be held with the stakeholders of the sector to take their views and to finalize the NVEQF.

Phase 4: *Implementation*

NVEQF is a voluntary framework, so there would be no formal legal obligations on the States/UTs to adopt the framework. However, 2014 is recommended as target year for States to relate their qualifications systems to the NVEQF to ensure that qualification certificates bear a reference to the appropriate NVEQF level.

NVEQF Advisory Group will have to be constituted by the State/UT to advise and oversee the implementation of the NVEQF in the State/UT. It is expected that by 2016 all participating States/UTs will have referenced their education and training system against the NVEQF.

Role of States/UTs

The various roles and functions envisaged for the States/UTs are as follows:

- Adoption of NVEQF
- Allocation and management of resources
- Employment of staff
- Institutional mapping and adoption of specifications
- Construction and maintenance of building for RETPs
- Development of education and training delivery systems.
- Information collection, processing and management
- Development of a quality assurance system.

Roles & Functions at State level

A separate Directorate of Vocational Education and Training (DVET) will be set up by the State Governments to implement NVEQF.

Roles & Functions at District Level

District Education Office (DEO) or District Vocational Education Office (DVEO) will develop linkages with the Skill Development Centre (SDC) and local resource institutions/ industries/ employers to promote NVEQF. These would also drive the district level engagement of the entire NVEQF ecosystem as explained earlier through the figure.

Roles & Functions at Institutional Level

Institutional Advisory Committees (IACs) will be constituted by the RETPs for establishing linkages with various local institutions/ organizations/ industries for arranging work benches, internship, on-the-job training, etc. A Guidance and Entrepreneurship Development Cell (GEDC) will be established to provide guidance to the students on NVEQF.

Phase 5: *Review of the progress of NVEQF*

The progress of the pilot phase of the NVEQF will be monitored and reviewed to assess the impact of the framework and changes in the education and training system. It will be followed by redesign and implementation of the changes.

Time Frame for Implementation

2011		Working Document on NVEQF
2011-12	(i)	Setting up of Sector Skill Councils
	(iii)	Development of NVEQF Operational Manual and Guidelines
	(iii)	Development of NOS, CBC, and Training Packages for NVEQ levels 1 -4(iv) NVEQF promotion through awareness and training programmes
2012-13	(i)	Official launch of NVEQ as pilot in few states
	(ii)	Publication of success stories and publicity
	(iii)	Development of NOS, CBC, Training Packages for NVEQ 5-7
2013-14	(i)	Establishment of NVEQF by other States
2014-15	(i)	Accreditation of ETPS
	(ii)	Incorporation of NVEQs in recruitment schemes
2015-2016		Mapping of Indian NVEQs with NVQs of other countries for International recognition

GLOSSARY

Accreditation: It is a process of accrediting an education and training provider, a programme of study, or a service, showing it has been approved by the relevant legislative and professional authorities by having met predetermined standards.

Articulation: Articulation is the arrangements, which facilitates the movement or progression of students from one course to another, or from one education and training sector to another.

Assess: To judge a person' ability to perform a skill or competence.

Assessment Criteria: Descriptions of what the learner is expected to do, in order to demonstrate that a learning outcome has been achieved (Source: ECTS Guide, 2005).

Assessment: The total range of written, oral and practical tests/examinations, projects and portfolios, used to evaluate the student's progress in the course unit or module, form an assessment. These measures may be used by the students to evaluate their own progress (formative assessment) or by the institution to judge whether the student has achieved the learning outcomes of the course unit or module (summative assessment) (Source: ECTS Guide, Directorate General for Education & Culture, 2005).

Assessor: A person judging the candidate's performance and knowledge evidence deciding whether the candidate has demonstrated competence against the chosen standards.

Candidate: Individuals seeking recognition of their educational achievements and current competence against national competency standards.

Competence: Competence means the proven ability to use knowledge, skills and personal, social and/or methodological abilities in work or study situations and in professional and/or personal development (CEDEFOP).

Continuous Assessment: Continuous assessment refers to the situation where assessment as described above takes place within the normal teaching period and contributes to the final assessment (Source: *ECTS Guide, 2005*).

Core course: It is a compulsory course in a subject related to a particular degree programme.

Course Unit or Module: A self-contained, formally structured learning experience. It should have a coherent and explicit set of learning outcomes, expressed in terms of competences to be obtained, and appropriate assessment criteria (*ECTS Guide, 2005*).

Course: Course is a planned series of learning experiences in a particular subject matter or set of skills, usually offered by an educational or training institution or programme for one or more pupils (UNESCO). It means a unit of instruction or a segment of a subject matter to be covered in a semester. Each course is assigned a specific number, title and credits.

Credit Accumulation: In a credit accumulation system a specified number of credits must be obtained in order to complete successfully a semester, academic year or a full study programme, according to the requirements of the programme. Credits are awarded and accumulated only when the successful achievement of the required learning outcomes is confirmed by assessment (*ECTS Guide, 2005*).

Credit Framework: A system that facilitates the measurement and comparison of learning outcomes achieved in the context of different qualifications, programmes of study and learning environments on the basis of student workload measured in time (*ECTS Guide, 2005*).

Credit Hour: Credit hour, also written as "credits" in short form imply that each credit hour will represent one hour of lecture and one hour of tutorial/assignments, etc. or two to three hours of laboratory/field practicals each week spread over sixteen weeks in a semester.

Credit Level: Credit level is an indicator of the relative demands of learning and of learner autonomy. It can be based on the year of study and/or on the type of course content (for example, Basic/Advanced/Specialized) (*ECTS Guide, 2005*).

Credit Type: Credit type provides an indicator of the status of a course unit or modules in the study programme. It can, for example, be described as Core (major course unit), Related (unit providing instrument/support) or Minor (optional course unit) (*ECTS Guide, 2005*).

Degree: Degree describes the qualification awarded by a higher education institution after successful completion of a prescribed study programme. In a credit accumulation system, the programme is completed through the accumulation of a specified number of credits awarded for the achievement of a specific set of learning outcomes (*ECTS Guide, 2005*).

Diploma: A diploma is worth 37 credits or more, so it takes at least 370 hours to complete.

Doctorate or Doctoral Degree: A high level qualification which is internationally recognized as qualifying someone for research or academic work may be designated as a doctorate or doctoral degree. It will include a substantial amount of original research work which is presented in a thesis. It generally refers to the degree awarded after completion of third cycle studies. (*ECTS Guide, 2005*).

Employability skills: Employability skills are those skills which enable people to gain, keep and progress within employment, including skills in the clusters of work readiness and work habits, interpersonal skills and learning, thinking and adaptablity skills.

Evaluation: It is the process or result of any assessment or appraisal in relation to stated objectives, standards or criteria.

Examination (Exam): The term examination normally refers to a formal written and/or oral test taken at the end of a course unit or module or later in the academic year. Other assessment methods are also in use. Tests within the course unit or module are classed as continuous assessment if they contribute to the final assessment (*ECTS Guide, 2005*).

Flexible delivery: Flexible delivery includes a range of approaches to provide education and training, giving learners a greater choice of when, where and how they learn. Flexible delivery may include distance education, mixed mode delivery, on-line education, self-paced learning, self-directed learning (NCVER).

Formal education: Formal education refers to education provided in the system of schools, colleges, universities and other formal educational institutions that normally constitutes a continuous ladder of full-time education for children and young people, generally beginning at age 5, 6 or 7 and continuing up to 20 or 25 years of age.

Generic skills: Generic skills are those skills which are not specific to work in a particular occupation or industry, but are important for work, education and life, generally including communication skills, mathematical skills, organizational skills, computer literacy, interpersonal competence, and analytical skills (NCVER).

Higher Education: Higher education applies to programmes of study that may be entered by students holding either an appropriate school leaving certificate from an upper secondary

school in general, after twelve years of schooling or other relevant professional qualifications or other approved prior learning and/or prior experience. Providers may be universities, universities of professional studies, higher education institutions, colleges, polytechnics, etc.

Informal Learning: Learning that takes place through life and work experience, which may also be referred to as experiential learning. Often, it is learning that is unintentional and the learner may not recognize at the time of the experience that it contributed to his or her knowledge, skills and competence.

Instructor: Instructor is a person responsible only for the practical instruction within a given educational programme.

Knowledge: Knowledge means the outcome of the assimilation of information through learning (CEDEFOP).

Learning Outcomes: Learning outcomes are statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning. Learning outcomes must be accompanied by appropriate assessment criteria which can be used to judge that the expected learning outcomes have been achieved. Learning outcomes, together with assessment criteria, specify the requirements for the award of credit, while marking is based on attainment above or below the requirements for the award of credit. Credit accumulation and transfer is facilitated if clear learning outcomes are available to indicate with precision the achievements for which the credit will be awarded (*ECTS Guide, 2005*).

Learning Time: The number of hours an average student will need to achieve specified learning outcomes and gain credits to be awarded after assessment (*ECTS Guide, 2005*).

Modular Course: A modular course comprises a number of modules of different credits. It has a title and specific number of credits.

Non-formal education: Non-formal education refers to any organized and sustained educational activities that do not correspond exactly to the above definition of formal education. Non-formal education may take place, both within and outside educational institutions, and may cater to persons of all ages. Depending on country context, it may cover educational programmes to impart adult literacy, basic education for out-of-school children, life skills, work skills, etc.

Non-formal Learning: Learning that takes place alongside the mainstream systems of education and training. It may be assessed but does not normally lead to formal certification. Examples of non-formal learning are: learning and training activities undertaken in the workplace, voluntary sector or trade union and in community-based learning.

Optional Course: A course unit or that may be taken as part of a study programme but is not compulsory for all students is referred to as optional (*ECTS Guide, 2005*).

Part-time Teachers: Part-time teacher is the one whose working load and associated financial remuneration are less than of a full-time teacher.

Performance criteria: The part of a competency standard specifying the required level of performance in terms of a set of outcomes that need to be achieved in order to be deemed competent.

Progression: It is the process by which learners may transfer from one programme of education and training to another where each programme is of a higher academic level than the preceding programme.

Qualification: Qualification means a formal outcome of an assessment and validation process, which is obtained when a competent body determines that an individual has achieved learning outcomes to given standards.

Registration: It means the formal approval and recognition of the education and training organization by a national registering body in accordance with the norms and standards for registered training organization.

Sector: Sector means a grouping of professional activities on the basis of their economic function, product, service or technology (CEDEFOP).

Semester: It is an academic term of not less than 17 weeks of instructional days and includes one week of final semester examination.

Skill: Skill means the ability to apply knowledge and use know-how to complete tasks and solve problems (CEDEFOP). It is an ability to perform a particular mental or physical activity which may be developed by training or practice (NCVER).

Standard: It is a level or measure of achievement; a statement of performance or outcome criteria.

Statement of Attainment: It is a certification issued to a student for partial completion of a qualification, including where relevant, the units of competency achieved under nationally endorsed standards. Achievements recognized by statements of attainment can accumulate towards a qualification within the National Vocational Qualification Framework.

Study Programme: It is an approved set of course units or modules recognised for the award of a specific degree form a study programme and can be defined through the set of

learning outcomes to be achieved for the award of a specified number of credits (*ECTS Guide, 2005*).

Teacher in VET: (i) A person whose function is to impart knowledge or know-how to students or trainees in a vocational school or training centre (CEDEFOP) and (ii) A vocational teacher's function tend to overlap with those of the trainer; the teacher usually works in a school situation and gives both related instruction and some, if not all, of the practical training (ILO).

Teachers: Teachers are persons who in their professional capacity, guide and direct students' learning experiences in gaining knowledge, attitudes and skills that are stipulated by a defined curriculum programme.

Trainer: Anyone who fulfils one or more activities linked to the (theoretical or practical) training function, either in an institution for education or training or at the workplace (CEDEFOP).

Workload: The workload includes all learning activities required for the achievement of the learning outcomes (i.e., lectures, practical work, information retrieval, private study, etc.) (*ECTS Guide, 2005*).

Abbreviations

A

ASDC   :   Automotive Skill Development Council

C

CABE   :   Central Advisory Board of Education

CBA   :   Competency based Assessment

CBET   :   Competency Based Education and Training

CBET   :   Competency Based Education and Training

CBS   :   Competency based Curriculum

CSS   :   Centrally Sponsored Scheme

D

DEO   :   District Education Officer

DC   :   Development Council

| DGE&T | : | Directorate General of Employment and Training |
| DVET | : | Directorate of Vocational Education and Training |

E

| ETPs | : | Education and Training Providers |

F

| FMBEASC | : | Film, Media, Broadcasting, Entertainment and Animation Skill Council |

G

| GEDC | : | Guidance and Entrepreneurship Development Cell |
| GIS | : | Geographic Information Services |

I

IACs	:	Institutional Advisory Committees
IAMR	:	Institute of Applied Manpower Research
IESDC	:	Indian Energy Skill Development Council

R

| RAS | : | Retailers Association Skill Council of India |

I

IGNOU	:	Indira Gandhi National Open University
ILO	:	International Labor Organization
IMIS	:	Institutional Management Information Service
ISCI	:	International Classification of Industries
ISCO	:	International Classification of Occupations
IT & ITES SDC	:	Information Technology and IT enabled Services Skill
ITIs	:	Industrial Training Institutes
ITOs	:	Industry Training Organizations

L

| LMIS | : | Labour Market Information System |

M

| MES | : | Modular Employable Scheme |
| MHRD | : | Ministry of Human Resource Development |

N

NCC	:	National Competence Certificate
NCERT	:	National Council for Educational Research and Training
NCF	:	National Curriculum Framework
NCWP	:	National Certificate Work Preparation
NESA	:	Nationally Recognized Statement of Attainment
NIOS	:	National Institute of Open Schooling
NMIS	:	National Management Information Service
NOS	:	National Occupation Standards
NPE	:	National Policy on Education
NPSD	:	National Policy on Skill Development
NQF	:	National Qualifications Framework
NSBs	:	National Standards Bodies
NSC	:	National Steering Committee
NSDC	:	National Skill Development Commission
NSDCB	:	National Skill Development Coordination Board
NSDF	:	National Skill Development Fund
NVEQF	:	National Vocational Education Qualifications Framework
NZQA	:	New Zealand Qualifications Authority

O

| OBE | : | Open Basic Education |
| ODL | : | Open and Distance Learning |

ODLC	:	Open and Distance Learning Courses

P

PTAs	:	Parent -Teacher Associations
PTCs	:	Production-cum-Training Centres

Q

QAF	:	Quality Assurance Framework

R

RETPs	:	Registered Education and Training Providers
RPL	:	Recognition of Prior Learning

S

SDC	:	Skill Development Center
SIBS	:	Standards Implementation Bodies
SKSDC	:	Security Knowledge and Skill Development Council
SOS	:	State Open Schools
SOUs	:	State Open Universities
SOVET	:	School of Vocational Education and Training
SSC	:	Sector Skill Council
SSCs	:	Sector Skills Councils

T

TNAU	:	Tamil Nadu Agriculture University
TVET	:	Technical and Vocational Education and Training

U

UNIDO	:	United Nations Industrial Development Organization

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