



NATIONAL
VOCATIONAL
QUALIFICATIONS

FRAMEWORK OF SRI LANKA

OPERATIONS MANUAL

MARCH 2021



TERTIARY AND VOCATIONAL EDUCATION COMMISSION

STATE MINISTRY OF SKILLS DEVELOPMENT, VOCATIONAL EDUCATION, RESEARCH & INNOVATIONS



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P R E F A C E

National Vocational Qualifications Framework of Sri Lanka (NVQSL) has been established to support the efforts in enhancing the development of an internationally competitive workforce in Sri Lanka. The framework is one of the key elements in unifying Technical and Vocational Education and Training (TVET) system bringing almost all providers under one regulatory and quality assurance framework. There are National Competency Standards set in consultation with the industry, national curricula and quality standards for teaching and assessment using a competency-based approach, and national certification of learners and workers. The entire system is internationally benchmarked with that of similar systems in developed countries.

This operations manual has been revised (third revision) and endorsed by the Tertiary and Vocational Education Commission (TVEC). During the revision, the TVEC consulted the State Ministry of Skills Development, Vocational Education, Research & Innovations, National Apprentice and Industrial Training Authority (NAITA), Vocational Training Authority of Sri Lanka (VTA), Department of Technical Education and Training (DTET), National Youth Services Council (NYSC) and University of Vocational Technology (Univotec) who are the largest training providers providing training in NVQ Level 1-6 at certificate and diploma levels. Private sector was also consulted as it plays a significant role in training delivery in the unified TVET system of the country. The national lead body is the Tertiary and Vocational Education Commission (TVEC), which is the apex and regulatory body for all aspects of implementation of TVET in Sri Lanka. The Manual outlines the agreed policies and processes for the implementation of all components of the National Vocational Qualifications system in Sri Lanka (NVQSL). This operations manual provides national guidelines for maintaining the quality in the process of development of National Competency Standards for fulfillment industry needs. The manual describes how national vocational qualifications are established in order to meet Sri Lanka's occupational requirements, how training providers are to prepare courses so that the trainees will receive the industry specified competencies and how assessment and certification will be conducted fulfilling the quality standards. This updated Operational Manual provides new outlook to current and future endeavors in TVET sector Sri Lanka. This operation manual reviewed and updated all the functions in TVET based on the International Consultant's Report and the views of the stakeholders consultation process.

Quality assurance is an important feature in the implementation of the NVQ system and training providers will have to establish their own quality management systems acceptable to the TVEC. Training providers shall be registered, accredited and audited by the TVEC on regular basis. The manual is a roadmap to ensure the quality in all the processes established for national vocational qualifications system.

In Sri Lankan context, the National Vocational Qualifications Framework has been established considering the international good practices and formed as a unified national system with “One TVET” concept. All the TVET providers are expected to transform their courses into the NVQ system so that the young persons and experience workers obtain NVQs within the “One TVET” concept.

The TVEC shall be working with the industry and countries which are major employment destinations for overseas workers, in order to ensure mutual recognition of competency standards and national vocational qualifications introduced in Sri Lanka. It will ensure employment security, improved employment terms and conditions for our workers going abroad for work.

This manual will assist all stakeholders to understand and implement the National Vocational Qualifications framework adhering to national quality standards. The manual will be used by officers in the industry and public, private and non governmental training agencies participating in TVET sector. It will be a valuable reference for those who wish to collaborate with the NVQ system. It will also be useful to industry and professional groups wishing to collaborate with the TVEC for the development of human resources as per the dynamic socio-economic needs of the country.

DR. K. A. LALITHADHEERA

Director General

Tertiary and Vocational Education Commission

November, 2021

CHAPTER ONE



NATIONAL VOCATIONAL QUALIFICATIONS (NVQ) FRAMEWORK IMPLEMENTATION IN SRI LANKA

1.1 EVOLUTION OF THE TVET SYSTEM IN SRI LANKA

The Technical and Vocational Education and Training (TVET) system in Sri Lanka evolves from ancient times where skills were taught by father to son or by an elder relative to a younger one to ensure a regular supply of skilled artisans to society. Sri Lanka had a very high standard of skills in construction, crafts, architecture and hydraulic technology during that time.

This harmonious system was disturbed during the period when Sri Lanka came under colonial rule due to changes in the pattern of skills required in a colonial society, with emphasis on the needs of the colonial administration for producing the manpower needed for lower level white collar jobs and Craftsman level jobs. With the passage of time, requirements arose for hard skills for manufacturing sectors due to industrialization. Formal TVET, as we know it today, had its beginnings in 1893 when the first Technical College was established to train skilled workers needed for the development of physical infrastructure such as the laying of railway lines and the construction of roads etc.

The period after independence (1948) saw a renewed and refreshed interest in the development of skills required for achieving the development objectives of a newly emerging nation. Accordingly, action was taken to establish a network of technical colleges and many other autonomous Vocational Training Institutes under different ministries. By the 1970s, unemployment had become a major issue and the expansion of the TVET system was looked upon as the solution to the unemployment problem. However, this expansion did not have an adequate focus on quality and relevance. Therefore, from 1990, an attempt was made to co-ordinate different training institutions to deliver training with quality and relevance according to a nationally agreed plan. This was symbolized by the introduction of the Tertiary and Vocational Education (TVE) Act No. 20 of 1990 (later amended by Act No. 50 of 1999) and the establishment of the Tertiary and Vocational Education Commission (TVEC), the apex body in the Technical and Vocational Education and Training (TVET) sector, in 1990. This was followed by the establishment of a separate ministry for TVET in 1994. At present, the TVET system of Sri Lanka has an Institutional Framework under the Ministry in charge of the subject of TVET and Institutions operating under the Ministry with primary responsibility for TVET, as well as Public Sector Agencies whose primary responsibility is not TVET, but function as training providers and Private and NGO Sector Training Providers.

1.2 ESTABLISHMENT OF THE NVQ FRAMEWORK

In order to expedite the TVET reform process, a Presidential Task Force on TVET was appointed in 1995 and the establishment of an unified qualification system for the TVET sector was one of its key proposals. The Ministry responsible for Vocational and Technical Training, with the assistance of the Asian Development Bank (ADB) established the Skills Development Project (SDP) to work on the recommendations of the Presidential Task force.

The TVEC has been empowered by the Tertiary and Vocational Education Act No 20 of 1990 to develop a national vocational qualifications award system. With that mandate, the TVEC together



with leading public sector TVET institutions under the guidance of the line ministry responsible for skills development undertook the task with the assistance of the SDP, to develop the NVQ Framework of Sri Lanka and launched it as the vocational qualification policy in Sri Lanka in 2004.

This document outlines the key policy and operational features of the National Vocational Qualifications System of Sri Lanka (NVQSL). The NVQSL provides the opportunity to provide sustainable, strategic solutions for national training needs as well as for remedying the employment mismatch for both the formal and the non-formal sectors. The NVQSL has been able to achieve national and international recognition for qualifications, knowledge, skills and attitudes of Sri Lankans in an increasingly globalised and competitive world. This will enhance the mobility of Sri Lankan workers nationally & internationally. The internationally benchmarked policies and processes adopted by the Tertiary and Vocational Education Commission (TVEC) will enhance the credibility of credentials awarded in Sri Lanka.

The Government of Sri Lanka is committed to ensure human resources development in keeping with the national and international labour market demands and recognizes the importance of the acquisition of competencies. The NVQ system that is based on the certification of competencies has been implemented in the Sri Lankan Technical and Vocational Education and Training sector with the assistance of Asian Development Bank funded Skills Development Project (SDP) and the Technical Education Development Project (TEDP). In order to sustain the achievements of the SDP and the TEDP, the Skills Sector Development Project was established in 2012.

The expectations sought from the establishment of a National Vocational Qualifications Framework relate to increasing the relevance and quality of Technical and Vocational Education and Training (TVET). Specifically, there shall be:

- Unified qualification framework which is recognized nationally and understood internationally
- Development of progressive qualifications for career advancement
- Greater alignment to national goals
- Strengthened linkages with industry, commerce and other external stakeholders
- Increased responsiveness to industry competency needs
- Convenient & flexible access for potential trainees
- More proactive education and training strategies

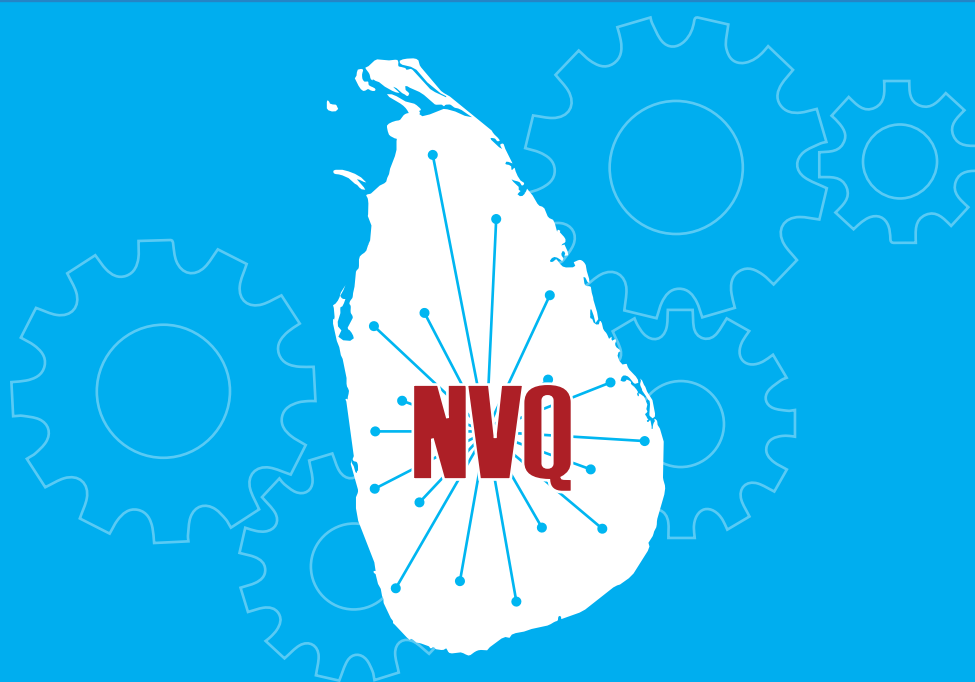
- Improved international linkages and recognition
- Collaboration and rationalization among the training agencies
- Enhanced quality, relevance, performance, effectiveness, efficiency and transparency
- An education and training culture of responsiveness and excellence

Developing the NVQSL will ensure that all current and newly emerging Technical and Vocational Education and Training (TVET) activities are well coordinated. Competency-Based Training (CBT) curricula and appropriate teaching, learning and assessment materials shall be available in the framework, together with requirements for Quality Assurance. The whole system shall be underpinned on acquisition of competencies with an emphasis on quality. The TVEC is the authority for the implementation of NVQSL and the active participation of all the TVET training Institutions is vital for the effective implementation of the National Vocational Qualifications Framework of Sri Lanka.

his system is linked with secondary and higher education to provide pathways for continuing worker education and lifelong learning. Technical and Vocational Education and Training may take place as “institutional training” (off the job training) as well as “industrial training” (on the job training).

At present, the NVQ Framework is becoming popular and well accepted by the TVET sector and the public. It has become necessary to reinforce this trend and make it well accepted by all stakeholders including industry. Many South Asian countries developed their qualification systems benchmarking the NVQ system of Sri Lanka.

CHAPTER TWO



NATIONAL VOCATIONAL QUALIFICATIONS FRAMEWORK OF SRI LANKA

2.1 INTRODUCTION

The National Vocational Qualifications (NVQ) Framework which has been implemented is a seven level qualification system. A Qualification is a package of competencies to suit requirements in a particular position in the labour market; accordingly, for each NVQ qualification, there should be employment in the labour market. How those qualification packages are formed, will be explained in the section on National Competency Standards. Each qualification developed under the NVQ Framework

contains the technical and employability competencies required to practice an occupation in the labour market. The NVQ Framework has developed mechanisms to incorporate industry relevance and quality assurance in the qualifications that are being awarded.

2.2 OVERVIEW OF THE QUALIFICATIONS SYSTEM

The National Vocational Qualifications Framework makes provisions for a nationally consistent Technical and Vocational Education and Training system in Sri Lanka relevant to economic and social development and comparable to international standards. The National Vocational Qualifications of Sri Lanka are based on National Competency Standards identified by the industry stakeholders. The Competency Standards include relevant technical and employability competencies. The system awards qualifications at seven levels as given in Table 1.

Table 2.1 Seven Levels of Qualifications

Level	National certificate	National Diploma	Credits for Certificates	Credits for Diplomas	Level descriptor
1	✓		Maximum 30 credits assigned at level 3 and 4		Level 1 recognizes entry level skills
2	✓				Level 2, 3 and 4 recognize increasing levels of competencies. Level 4 is at full craftsmanship.
3	✓				
4	✓				
5	✓	✓	40 credits of level 5 or above	60 credits out of which 40 at level 5 and balance from level 3 and 4	Level 5 and 6 Certificate levels recognize increasing levels of competencies of technicians including supervision and process management at narrow aspects of competencies with higher depth of knowledge of a specific field of work or study. Level 5 and 6 Diploma levels recognize increasing levels of competencies of technicians including supervision and process management in a wider range of concepts of a particular sector
6	✓	✓	40 credits of level 6 or above	120 credits out of which 40 at level 6, 50 at level 5 and balance 30 at level 3 and 4	
7	Degree level	Current system remains unchanged			Recognize vocational /technological level competencies at Bachelor's Degree level

Certification at 1 - 6 levels shall be carried out by institutions accredited by the TVEC. Certification at level 7 shall be carried out by the UNIVOTEC. They are nationally recognised qualifications and attest the achievement of a National Standard determined by industry. Competency Standard units can be acquired individually or progressively and lead towards a full award. The NVQSL encourages flexible skills acquisition both on and off the job and also recognises prior learning - formal and informal. These are established to allow knowledge and skills acquired informally to be assessed, and competencies recognized towards National Vocational Qualifications.

A broad framework has been developed integrating Technical/Vocational and Higher Education and further levels may be added. The framework allows for an interface with secondary education and provides a progression for Technical and Vocational Education qualified personnel to proceed to higher education. Industry and professional bodies participating in the development of the National Competency Standards are therefore in a position to plan for a smooth progression of qualifications from craft to technician to higher education.

Quality assurance is fundamental to all aspects of the NVQSL; it includes the determination of the National Competency Standards, training delivery to learners on and off the job, the assessment of competencies of candidates and the award of qualifications. Technical and vocational qualifications which comply with the national quality requirements are formally recognized through the National Vocational Qualifications of Sri Lanka. The framework is based on National Competency Standards which form the criteria for accreditation of courses. All other qualifications including foreign qualifications which conform to the requirements of the framework will be aligned with the NVQ system.

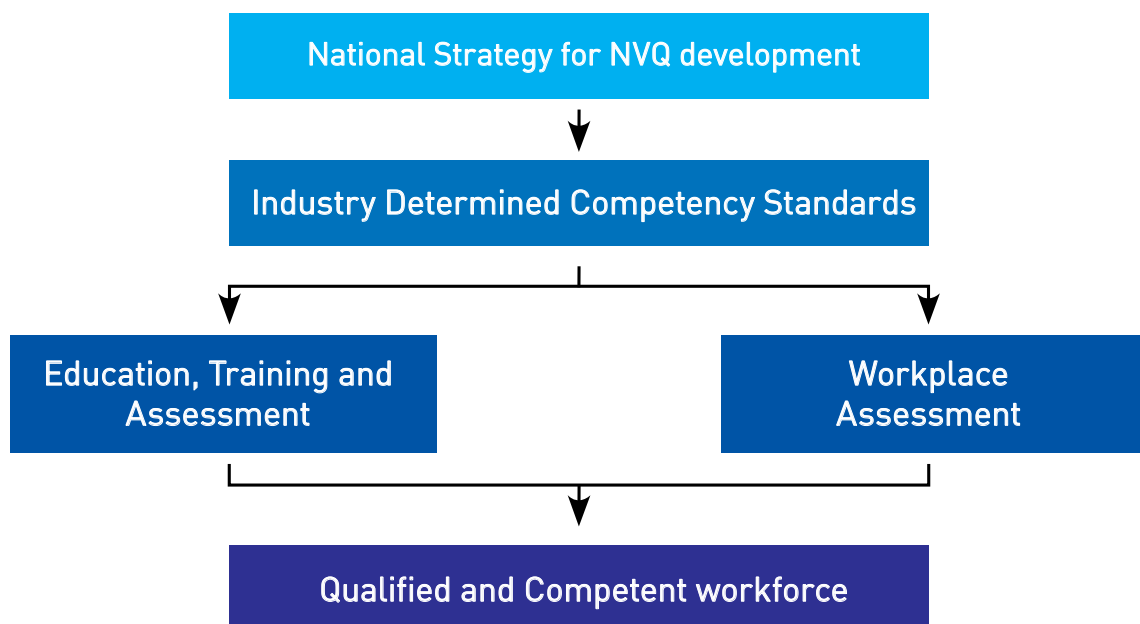


Figure 2.1: Strategy for Technical and Vocational Education and Training Development in Sri Lanka

2.3 QUALIFICATIONS UPGRADING PATHWAYS

The NVQSL is developed to assist trainees to join and leave the system at different stages with qualifications at different levels. The qualifications at different levels have been identified to suit employment requirements of the industry. Vertical upward mobility through the system is straightforward as seamless progression is facilitated. Lateral entry into the system is possible at certain levels for those who have work experience in an appropriate field and assessed to have Recognized Prior Learning (RPL). Gaining NVQ qualifications through RPL is described elsewhere in this manual.

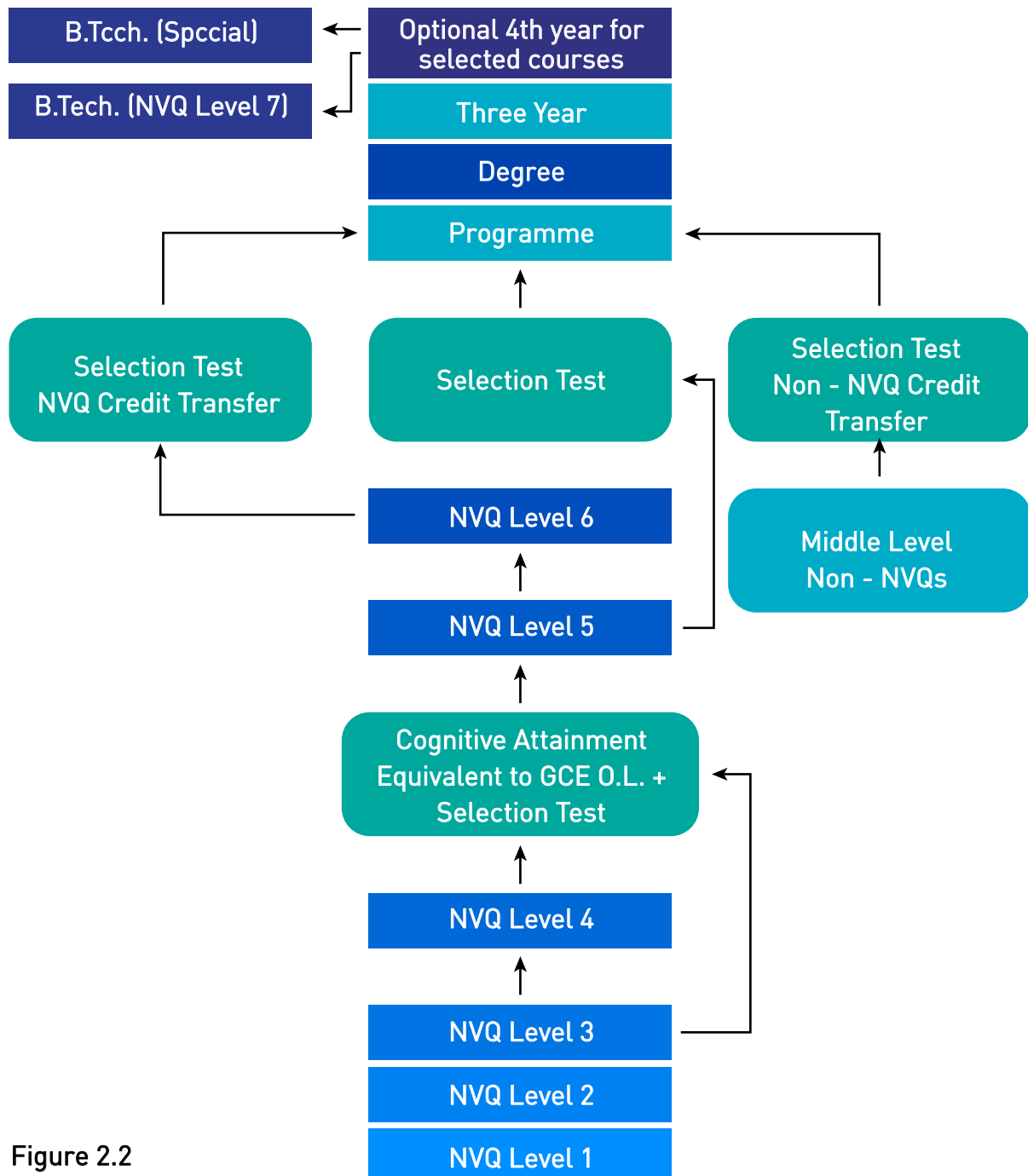


Figure 2.2

(a) NVQ Levels 1- 4

Qualifications at levels 1 - 4 allows for a trainee to upgrade competencies starting from unskilled stage to reach full or master craftsperson stage through the acquisition of competencies specified at each level. These competencies are incorporated into the units of competencies which are packaged appropriately to form the National Competency Standards of a particular occupation. The trainees follow a modular curriculum related to units of competency of a NCS and once the training is completed, a competency based assessment is conducted by the TVEC. Upon successful completion of the assessment he/she is eligible to receive the National Certificate in the relevant occupation at the applicable level. As it is also possible to achieve unit based qualifications as Records of Achievement, a trainee is able to upgrade his/her qualification level in a particular occupation through gradual acquisition of competencies as per the National Competency Standards.

(b) NVQ Levels 5 and 6

NVQ level 5 and 6 Competency Standards comprise of units of competency and each unit of competency is assigned a credit value. A trainee will be eligible to receive the NVQ level 5 qualifications once he/she earns the required number of credits specified in the relevant Competency Standard. A level 5 qualification allows direct entry to the NVQ level 6 training programme in the same occupation. NVQ level 5 and 6 diploma programmes allow a student to leave the system at the end of Level 5 with a National Diploma of NVQ level 5 or proceed and leave the system at the end of Level 6 with a Higher National Diploma of NVQ level 6. However, some diploma programmes may not have an exit at NVQ level 5. This is possible where the industry has identified that there is no employment category for a person with competencies achieved only up to level 5 in that technology area.

The programmes are developed so that persons with NVQ level 5 or 6 qualifications will have supervisory and/or process management competencies. These involve an increased percentage of the knowledge component compared to competencies at lower levels. It is therefore necessary to ensure that those entering NVQ level 5 programmes already have the necessary hands on skills to embark on a level 5 programme. The entry qualification to the Level 5 Diploma programme is therefore fixed at NVQ Level 3 or Level 4 in a relevant occupation. The list of relevant occupations for each level 5 diploma will be notified when applications are called for these programmes. There is also a path of lateral entry for students with non-NVQ qualifications mapped by the TVEC and assessed for their practical experience as well as for those who have work experience in an appropriate field and assessed to have Recognised Prior Learning (RPL) equivalent to NVQ level 3 or 4.

The programs are developed for those perform at supervisory/managerial level in narrow but deep application of competencies in the industry. The NVQF provides opportunities for such persons to get recognized such competencies at certificate level 5 and 6.

Candidates selected for entry to a NVQ level 5 programme may possess different skill and knowledge backgrounds. Even those coming through the NVQ system itself will have qualifications from different occupations. In order to ensure that all those selected to undergo a level 5 programme have the minimum skills and knowledge needed at entry, they will initially go through a bridging programme. This is carried out for the selected candidates after a selection test and an academic counselling session. The bridging programme provides the necessary knowledge and competence to the students selected to Level 5.

If there is a skill gap in a particular student that will be identified at the academic counselling session and the student is directed for necessary “Gap-Filling” programmes. The “Foundation Studies” programme is intended to provide the necessary mathematics, science and English knowledge and computer literacy needed to successfully embark on a level 5 programme. Some students may get full or part exemptions from Gap-filling. However, it is recommended that all students follow the Foundation Studies programme. There are four subjects under Foundation Studies with each subject having several Modules:-

- Communication Skills in English
- Mathematics for Technology
- Science for Technology
- Computer Literacy

(c) NVQ Level 7

NVQ level 7 programmes conducted by the UNIVOTEC allow students to acquire B.Tech. or B.Ed. technology related degree qualifications. Pathways from the National Diplomas will be available to students who have achieved the relevant NVQ qualifications at level 5 or level 6 to proceed to degree programmes. Those with NVQ level 6 qualifications are eligible to receive appropriate credit transfer towards the degree programme, to be determined by the Admission, Accreditation and Quality Assurance (AAQA) Council of the UNIVOTEC.

2.3 NATIONAL COMPETENCY STANDARDS

Competency is the application of knowledge and skills relative to an industry standard of performance. The concept of competency focuses on what is expected of an employee in the workplace, rather than on the learning process, and embodies the ability to transfer and apply skills and knowledge to different situations and environments. Therefore, in Competency - Based Training (CBT), emphasis is placed on what a person can do in the workplace as a result of completing a programme of training.

Competency Standards are industry-determined specifications of performance that set out the skills, knowledge and attitudes required to operate effectively in a specific industry or profession. Competency Standards are made up of units of competency, which are themselves made up of elements of competency, together with performance criteria, a range of variables, and an evidence guide. Competency Standards are an endorsed component of a training package.

For a person to be assessed competent they need to demonstrate the ability to perform tasks and duties to the standard expected in employment. CBT focuses on the development of the skills, knowledge and attitudes required to achieve those Competency Standards.

One of the primary features of CBT is that each learner's achievement is measured against the Competency Standards rather than against the achievement of other learners.

The Competency Standards are a basis for curriculum development, the preparation of teaching, learning and assessment materials, as well as training plans. The framework shall progressively include new qualifications based on National Competency Standards. It is envisaged that over time, many areas of Technical and Vocational Education and Training shall be covered by National Competency Standards.

The Competency Standards approach allows continuous review of National Vocational Qualifications and shall together with the international benchmarking bring coherence to competency standards-setting at all levels.

The intellectual property contained in the National Competency Standards and the NVQSL is copyright to the Government of the Democratic Socialist Republic of Sri Lanka and shall be available through the Tertiary and Vocational Education Commission (TVEC).

The TVEC shall make available a full listing of all accredited courses with their level and purpose for the information of learners and employers. This ensures comprehensive coverage of a sector and coherent identification of competency standards/qualifications including a sensible match adjusted to the labour market.

Guidelines are available to advise the developers of competency standards and qualifications in order to outline technical requirements for the format and content of the National Vocational Qualifications.

2.4 QUALITY ASSURANCE

Quality underpins all components of the NVQSL. A quality assurance model based on institutional self-assessment and continuous development has already been adopted. Quality assurance requires that all training agencies take responsibility for required performance and demonstrate to stakeholders that quality management systems are to the standard required by the TVEC.

The TVEC is responsible to facilitate and regulate quality assurance and has four clusters of activities to support the NVQSL.

1. Policy development and planning
2. Industry liaison, NCSs and training / learning resources
3. Registration, Accreditation and QMS
4. Assessment Quality Assurance

2.5.1 POLICY DEVELOPMENT AND PLANNING

The TVE Act No. 20 of 1990 provides a mandate for the TVEC to develop policies related to TVET and undertake planning accordingly to ensure that a competent workforce is trained as per economic and social needs of the Sri Lankan economy. In addition, the vision of the Government in power needs utmost attention in drafting TVET policies. The funding of donors' and other national agencies' requirements shall be given attention in TVET policy development by the TVEC. The TVE Act requires the TVEC to prepare development plans for specific tasks and prepare industry based and province based Vocational Education and Training (VET) plans to be able to drive TVET as per overall national plans.

2.5.2 INDUSTRY LIAISON, NCSS AND TRAINING/LEARNING RESOURCES

It is vital that the TVEC sets policies in TVET as per industry aspirations. Employers are the key customers who provide employment for trained youth and as such, close liaison is required between the TVEC and the employers. Therefore, industry liaison has been identified as one of the critical functions of the TVET sector. Through liaison with industry, the voices of the industry employers are tapped for preparation of National Competency Standards and other learning resources.

2.5.3 REGISTRATION, ACCREDITATION AND QMS

Registration, accreditation and QMS are the integral parts of quality assurance which is a prerequisite for regular registration of training providers. Registration of training providers may lead to accreditation of courses and programmes. Accreditation ensures that training providers adhere to active internal quality management systems with particular reference to the course for which accreditation is being sought.

The Quality Assurance system is subject to monitoring and audit by the TVEC. This process systematically verifies registration and accreditation through institutional quality audit. Training providers must have satisfactory audit results in order to maintain the status of registration and accreditation.

In addition, the TVEC shall undertake monitoring, evaluation and research during the implementation of the vocational qualifications system, in order to modify policies and procedures in the light of Sri Lankan experience and international developments. An implementation, monitoring and research committee with external stakeholder representation shall be established by the TVEC.

2.5.4 ASSESSMENT QUALITY ASSURANCE

Upon completion of training delivery and the OJT, the institutions are supposed to organise assessments for certification. It is vital that quality of assessment is ensured and assured by the TVEC as the regulatory authority. National, unified and country-wide measures shall be implemented by the TVEC to assure assessment quality which is crucial, looking at the certification within the NVQ framework. NVQ is accepted by the national and international agencies as the national quality assured vocational certification system and thus needs further strengthening of assessment quality through innovative methods.

2.5 CERTIFICATION

Accredited training providers and establishments are authorised to award national qualifications jointly with TVEC. The certification of national qualifications shall be maintained in a central database at the TVEC. This will facilitate ready verification of the authenticity of qualifications.

The national certificate will carry the logo of the Democratic Socialist Republic of Sri Lanka and the logo of the TVEC, together with the logo of the respective training agency. The government of Sri Lanka will promote the NVQSL through benchmarking and official communication with relevant international agencies.

2.6 FLEXIBLE SKILLS ACQUISITION

The NVQSL framework which is based on National Competency Standards is flexible with regard to worker/trainee competency acquisition. Training providers may develop modularised courses, which are offered either full-time or part-time. Accordingly, institutions are allowed to offer Records of Achievement for trainees who were found competent in some units of competencies but not in all units of a given package qualification. Thus progressive competency acquisition is provided in the NVQSL. A worker/trainee achieving some of the units and not all the competencies specified in the respective National Competency Standard is provided with a Record of Achievement. Once a worker/trainee successfully completes all the units of a particular package, he/she will be awarded the full NVQ certificate in that occupation.

2.7 FLEXIBLE LEARNING MODE

The Flexible Learning Mode (FLM) provides for award of Records of Achievement or unit certificates in courses conducted in the CBT/EBT mode for employed persons. FLM is not allowed in pre-employment training as it will be hard to find employment for newcomers in narrow areas of competency. Accumulation of RoAs for all the units in a given package by employed persons through FLM will eventually yield full qualification in a given occupation. However, this is applicable only up to Level 4 in the NVQ framework.

QUALITY STANDARDS FOR FLM PROVIDERS

A. Already registered institutes that conduct an accredited course:

- Recognize them as providers of FLM with Board approval
- Provide them access to the online system to upload candidates' details, assessment results and submit to the TVEC for certification.

B. New institutes and establishments:

- Request them to apply online for institute registration and unit accreditation
- Make one visit to the institute and evaluate both registration and accreditation.
- Obtain Board approval and issue registration number and accreditation number effective on the same day.
- Provide them access to the online system to upload candidates' details, assessment results and submit to the TVEC for certification.

C. Assessment quality:

CB Assessors (Existing Assessors)

- In the occupations/trades which already have NCS codes, it was decided to allow existing assessors in the relevant area to do the FLM unit assessments.
- Update assessor registry with assessors identifying specific units in which they are capable of doing assessments.

New Assessors

- Recruit and train new assessors in new occupational units in FL mode

D. Unit Certificate (Record of Achievement)

- Obtain approval from the Ministry and the Board of the TVEC for unit certificate and make arrangements for pre-printing required number of certificates from the Government Press.

Processing and issuing of Record of Achievement certificate

- Give approval by the Assessment division to do the assessment through the Automated Assessment Scheduling System. The same procedure of giving approvals as practiced in CBT, EBT and RPL modes shall be followed.
- Print and issue RoAs as practiced in other modes
- Certificate details uploaded to the national certificate database

Flexible learning in units where there are no NCSs

- Allow batch entry in Non-NVQ at the beginning
- Develop a prototype NCS during the FLM period before the assessment scheduling
- Upload prototype NCS to the web to facilitate assessment scheduling and certification
- Complete the prototype NCS to a formal NCS
- Replace prototype NCS with formal NCS

E. Online system

Online System adjustments:

- Develop FLM providers with an online registration and accreditation application system by making adjustments to the NVQ online system
- Develop a FLM portal enabling them to upload student details, assessment details and submission for certificates - access for non-FLM providers to this special portal should be denied
- Link the automated assessment scheduling system (AASS) to the FLM portal - AASS may need adjustments to select units for assessments

- Link results uploading interface to the FLM portal
- Develop report formats for certificate counts, assessment count, assessor's count etc.
- Develop a certificate inquiry interface with search options of NIC, unit code/ name etc.

F. EBT Centre Database

Similar to the registered institute database, an online database of EBT centres shall be developed. Thus, assessment centres of FLM mode in the EBT category shall be chosen from this online database. Therefore;

- Develop an online EBT centre database linked to the automated assessment scheduling system
- Assign a number similar to registered institute number eg E01/xxxx Colombo, E02/xxxx Gampaha etc.

G. FLM RoA Database

Similar to the NVQ certificate database, a FLM RoA database shall be developed with search and report generation facility as spelled out above.

2.8 AWARDING NVQ LEVEL 5 EQUIVALENCE QUALIFICATION THROUGH THE MATURE CANDIDATE ROUTE

Public Administration Circular 02/2009 specifies National Vocational Qualification (NVQ) Levels for different categories of employment in the public sector. The NVQ Level 5 specifies middle level technical employment. Craftsmen with long years of experience who perform supervisory functions in middle level employment could be assessed and certified for award of NVQ Level 5 qualification which may be useful in their career and employment opportunities. This is an alternative path for obtaining NVQ Level 5 equivalency through their maturity/experience in the relevant sector as per the NVQ circular 01/2019 introduced by the Tertiary and Vocational Education Commission (TVEC).

Eligibility

A Candidate must not be less than 35 years of age and should be qualified through one of the routes mentioned below.

Table: 2.2 Routes for selecting eligibility

Route 1	A minimum of 10 years' experience including minimum of 3 years supervisory experience in the relevant industry and having NVQ Level 4 certificate or NCT/NCIT in the relevant field
Route 2	A minimum of 10 years' experience including minimum of 3 years supervisory experience in the relevant industry and having a Diploma certificate (with a duration of more than 6 months) or any other higher qualification accepted by the TVEC in the relevant field
Route 3	A minimum of 12 years' experience including minimum of 3 years supervisory experience in the relevant industry and having a certificate (with a duration of more than 6 months) accepted by the TVEC in the relevant field
Route 4	A minimum of 15 years' experience including minimum of 3 years supervisory experience in the relevant industry

The following figure shows the process of the Mature Candidate Route.

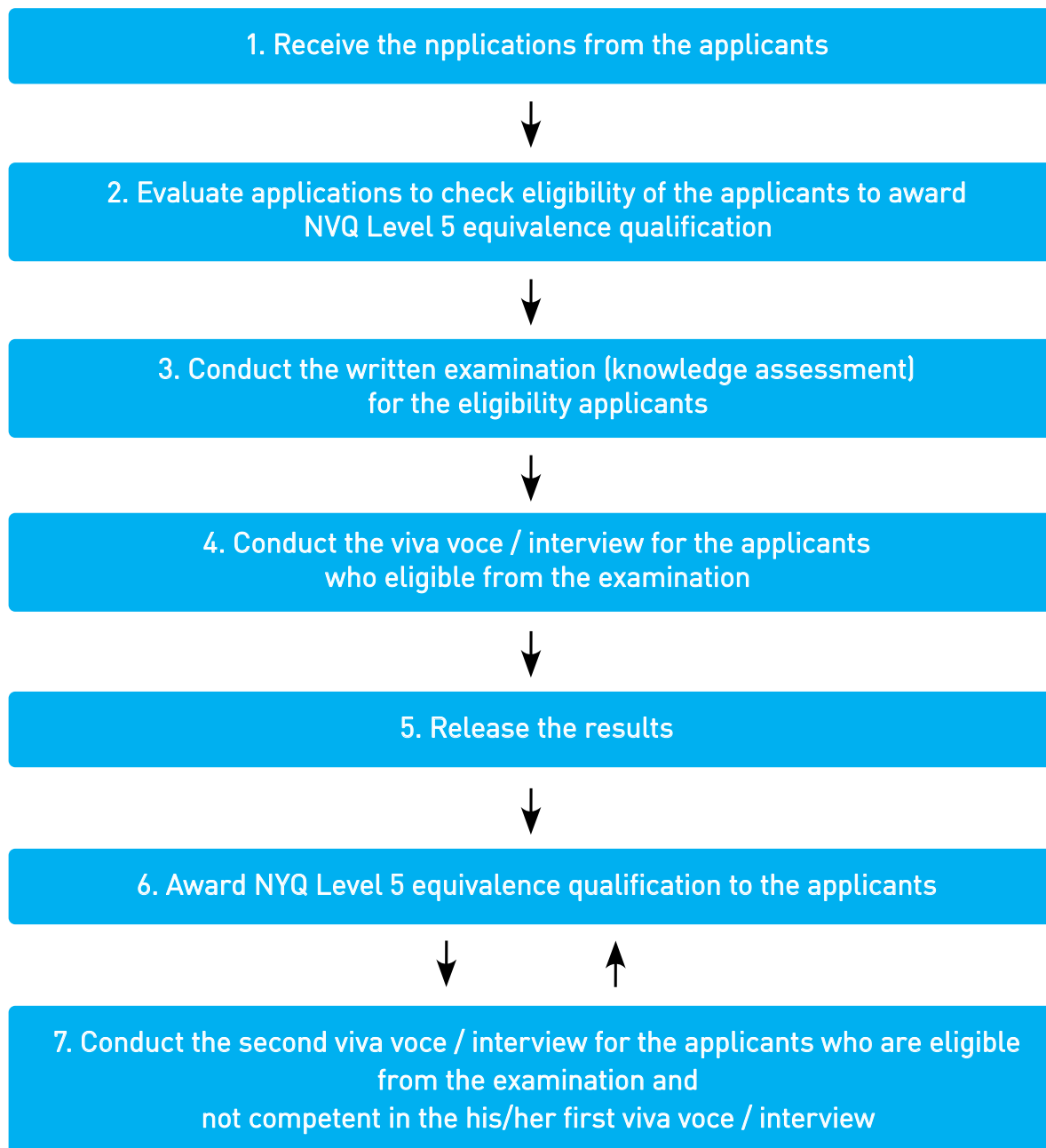


Figure 2.3: process of the Mature Candidate Route

2.9 MAPPING OF NON NVQ COURSES TO NVQ LEVEL 5 & 6 PROCESS

In view of the large number of requests submitted to the TVEC by different vocational training providers and different vocational training certificate holders to assign NVQ levels to the foreign qualifications awarded by them and foreign qualifications held by them, a mechanism was developed to accommodate these requests. The mapping process is a formal process to equate this type of Non NVQ Qualification to NVQ levels.

The following procedure is used in the Mapping process for assessing Non NVQ Qualification.

1. Desk evaluation of the duly completed application form submitted with supporting documents
2. Applications for mapping of qualifications will be entertained only from institutes with TVEC registration to continue the mapping process. However, this condition is not applicable to qualifications awarded by foreign institutions.
3. Identification of available NCS for mapping-if available continue the process
4. if not available, obtain approval from the relevant Committee established by the TVEC (National competency standards Development Monitoring Committee) for competency standards development based on the industry requirements
5. Selection of 3 member panel to develop the mapping process (composition is one person should be current industry expert/ practitioner of relevant competency standard, one person should be a representative from TVET sector and one person should be from the relevant TVEC division (to chair the panel).
6. Obtain approval from the panel established by the Director General, TVEC
7. Assigning to mapping of competency standards and Curricula to relevant Organisation which has good industry linkages and capacity
8. Assist Development of "Mapping Grid" with respective the NVQ standards by industry expert/subject expert
9. Mapping Meetings/ Workshops are arranged for appointed organisation to initiate work on preparation of report and Grid.
10. The Mapping Grid is submitted to the panel members appointed by the TVEC for consideration and feedback.

11. The panel thereafter prepares the draft mapping report.
12. Mapping audits are conducted to evaluate the relevant awarding institutes for the following.
 - A. Physical facilities - classrooms, labs, library and other facilities
 - B. Records of students
 - C. Evaluation methods
 - D. Records of staff
 - E. Course manuals
 - F. Timetables
 - G. Safety & Health
13. The Mapping exercise finalised by a panel consisting of two permanent members and a subject specialist and TVET expert with the assistance of member from the TVEC.
14. Once the panel has finalised the mapping report, it is submitted to the TVEC.
15. The TVEC shall obtain the Commission approval for the mapping of the particular qualification to be recognised by the TVEC as deemed to be equivalent to NVQ Level 5 or 6 as appropriate
16. Draft circular and/ declarations together with comments, if any, shall be referred to the appointed panel for formulation of the mapped qualifications.
17. Update Website with circular/ published in the list as per the declarations and mapping report

Non- NVQ Mapping Process

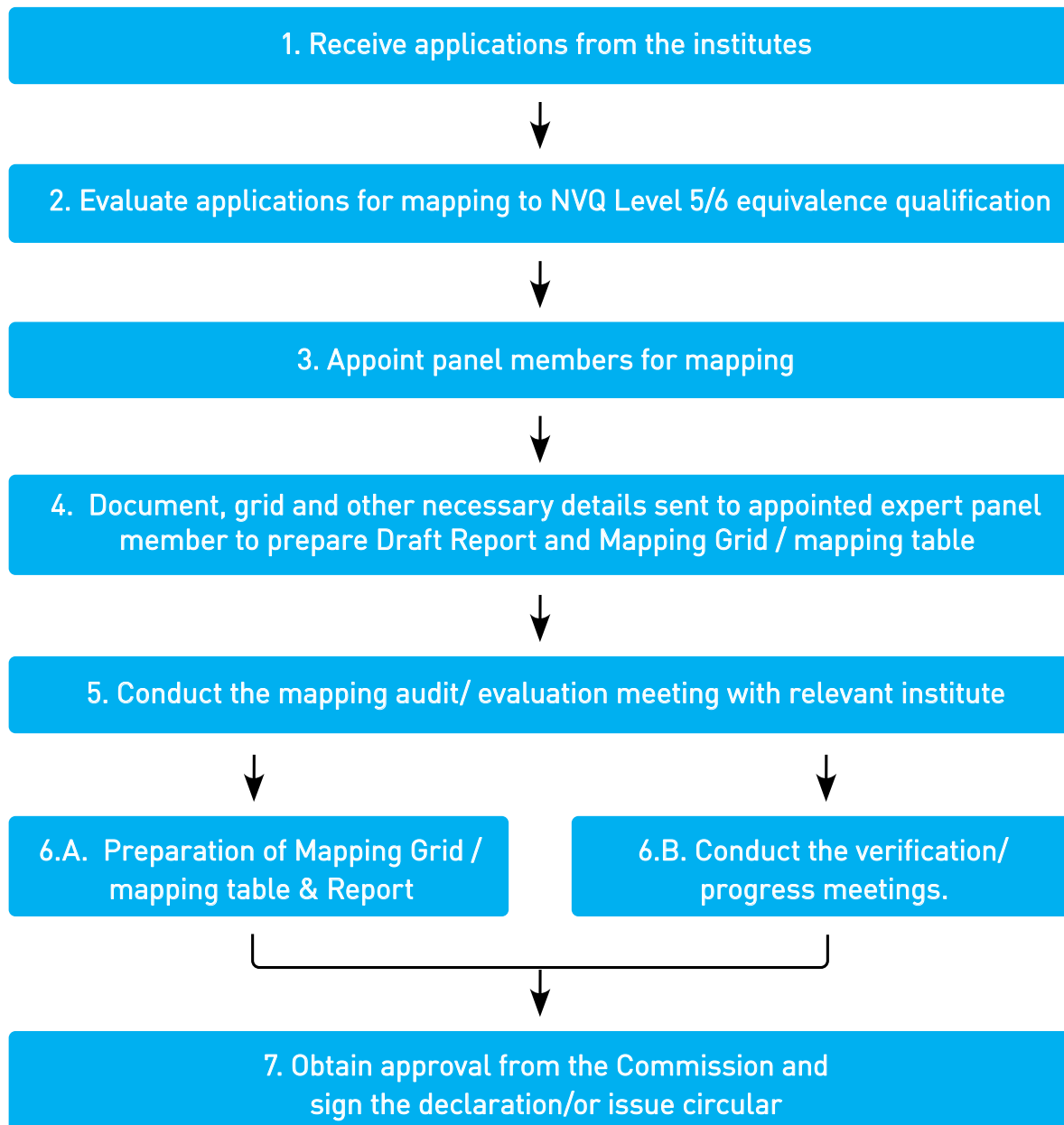


Figure 2.4: Process of mapping non- NVQ courses

2.11 LEVEL DESCRIPTORS OF NATIONAL VOCATIONAL QUALIFICATIONS

Table 2 provides information on the level descriptors for the “National Vocational Qualifications”. The units of the Competency Standards are individually assigned a level and vocational qualifications are also assigned levels.

The factors to be considered in the assignment of levels for the units of competency standards are as follows;

- Process that a qualification holder will carry out
- Learning demand
- Responsibility

CERTIFICATE LEVELS

Table 2.3: Level descriptors for the national vocational qualifications framework- Certificate Levels

Level 1	Carry out processes that: -are limited in range -are repetitive and familiar -are employed within closely defined contexts -are single processes	Employing : -recall -a narrow range of knowledge and cognitive skills -no development of new ideas	Applied : -in directed activity -under close supervision -with no responsibility for the work or learning of others
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Level	Process	Learning Demand	Responsibility
Level 2	<p>Carry out processes that:</p> <ul style="list-style-type: none"> -are moderate in range -are established and familiar -offer a clear choice of routine responses -involve some prioritizing of tasks from known solutions 	<p>Employing :</p> <ul style="list-style-type: none"> -basic operational knowledge and skill -readily available information -known solutions to familiar problems -little generation of new ideas 	<p>Applied :</p> <ul style="list-style-type: none"> -in direct activity -under general supervision and quality control -with some responsibility for quantity and quality -with possible responsibility for guiding others
Level 3	<p>Carry out process that:</p> <ul style="list-style-type: none"> -require a range of well developed skills -offer a significant choice of procedures requiring prioritization -are employed within a range of familiar contexts 	<p>Employing :</p> <ul style="list-style-type: none"> -some relevant theoretical knowledge -interpretation of available information -discretion and judgment -a range of known responses to familiar problems 	<p>Applied :</p> <ul style="list-style-type: none"> -in directed activity with some autonomy -under general supervision and quality checking -with significant responsibility for the quantity and quality of output -with possible responsibility for the output of others.
Level 4	<p>Carry out processes that:</p> <ul style="list-style-type: none"> -require a wide range of technical or scholastic skills -offer a considerable choice of procedures requiring prioritization to achieve optimum outcomes - are employed in a variety of familiar and unfamiliar contexts 	<p>Employing :</p> <ul style="list-style-type: none"> - a broad knowledge base incorporating some theoretical concepts - analytical interpretation of information - informed judgment - a range of sometimes innovative responses to concrete but often unfamiliar problems 	<p>Applied :</p> <ul style="list-style-type: none"> -in self - directed activity -under broad guidance and evaluation - with complete responsibility for quantity and quality of output responsibility for the quantity and quality of the output of others

Level	Process	Learning Demand	Responsibility
Level 5	<p>Carry out processes that:</p> <ul style="list-style-type: none"> - require a narrow range of aspect(s) of a specific field of work or study - involve a narrow choice of standards and non - standards procedures - are employed in a variety of routine and non routine contexts 	<p>Employing :</p> <ul style="list-style-type: none"> - a narrow knowledge base with substantial depth in aspects in some areas - analytical interpretation of a narrow range within an aspect(s) of a specific field of work or study. - the determination of appropriate methods and procedures in response to a range of concrete problems with some theoretical elements 	<p>Applied :</p> <ul style="list-style-type: none"> - in self - directed and sometimes directive activity - with broad general guidelines or functions - with full responsibility for the nature, quantity and quality of outcomes - with possible responsibility for the achievement of group outcome
Level 6	<p>Carry out processes that:</p> <ul style="list-style-type: none"> - require a command of highly specialised technical or scholastic skills of aspect(s) of a specific field of work or study - involve a wide choice of standards and non standards procedures, often in non standards combinations - are employed in highly variable routine and non routine contexts 	<p>Employing :</p> <ul style="list-style-type: none"> - specialised knowledge with depth in in aspects of a specific field of work or study - the analysis, reformatting and evaluation of a narrow range of information in aspects of a more than specific field of work or study - the formulation of appropriate responses to resolve both concrete and abstract problems in aspects of a specific field of work or study 	<p>Applied :</p> <ul style="list-style-type: none"> - in managing processes in aspects of a specific field of work or study - within broad parameters for defined activities in aspects of a specific field of work or study - with complete accountability for determining and achieving personal and / or group outcomes

DIPLOMA LEVELS

Table 2.4: Level descriptors for the national vocational qualifications framework- Diploma Levels

Level 5	Carry out processes that: - require a wide range of aspect(s) of a specific field of work or study - involve a wide choice of standards and non - standards procedures	Employing : - a broad knowledge base with substantial depth in aspects in some areas - analytical interpretation of a wide range within an aspect(s) of a specific field of work or study.	Applied : - in self - directed and sometimes directive activity - with broad general guidelines or functions
	- are employed in a variety of routine and non routine contexts	- the determination of appropriate methods and procedures in response to a range of concrete problems with some theoretical elements	- with full responsibility for the nature, quantity and quality of outcomes - with possible responsibility for the achievement of group outcome

Level	Process	Learning Demand	Responsibility
Level 6	<p>Carry out processes that:</p> <ul style="list-style-type: none"> - require a command of highly specialised technical or scholastic skills of aspect(s) of a specific field of work or study - involve a wide choice of standards and non standards procedures, often in non standards combinations - are employed in highly variable routine and non routine contexts 	<p>Employing :</p> <ul style="list-style-type: none"> - specialised knowledge with depth in in aspects of a more than specific field of work or study more than one area - the analysis, reformatting and evaluation of a wide range of information in aspects of a more than specific field of work or study - the formulation of appropriate responses to resolve both concrete and abstract problems in aspects of a more than specific field of work or study 	<p>Applied :</p> <ul style="list-style-type: none"> - in managing processes in aspects of a more than specific field of work or study - within broad parameters for defined activities in aspects of a more than specific field of work or study - with complete accountability for determining and achieving personal and / or group outcomes

DEGREE LEVEL

Table 2.5: Level descriptors for the national vocational qualifications framework- Degree Levels

Level 7	<p>Carry out processes that:</p> <ul style="list-style-type: none"> - require a command of highly specialised technical or scholastic skills of aspect(s) of a specific field of work or study highly specialised technical or scholastic and basic research skills across a major discipline - involve the full range of procedures in a major discipline - are applied in complex, variable and specialised contexts 	<p>Employing :</p> <ul style="list-style-type: none"> - knowledge of a major discipline with areas of specialisation in depth - the analysis, transformation and evaluation of abstract data and concepts in aspects of a more than specific field of work or study - the creation of appropriate responses to resolve given or contextual abstract problems in aspects of a more than specific field of work or study 	<p>Applied :</p> <ul style="list-style-type: none"> - in planning, resourcing and managing processes - within broad parameters and functions in aspects of a more than specific field of work or study - with complete accountability for determining, achieving and evaluating personal and/ or group outcomes
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(The permission of the New Zealand Qualifications Authority for the use of their descriptors as a basis for the development of descriptors in Sri Lanka is gratefully acknowledged.)

A guide on assigning levels is in Appendix 10.3

CHAPTER THREE



NATIONAL COMPETENCY STANDARDS AND QUALIFICATIONS OF NVQ

3.1 POLICY

The national competency standard specifies the competencies that a person has to acquire to get qualified and obtain national vocational qualifications in a particular industry sector or in an occupation. The national competency standard illustrates realistic workplace outcomes. The competency standards are developed as the result of a consultation process that includes industry practitioners and any other key

stakeholders. The TVEC shall identify the industry sectors or occupational areas for which National Competency Standards are to be developed by the National Competency Standards Development Monitoring Committee. After identification, the TVEC shall direct the development institution to commence the development of the National Competency Standards. NAITA, UNIVOTEC or other development institution will be appointed by the National Competency Standards Development Monitoring Committee. Appointed Institutions shall develop competency standards according to the processes and procedures described in this manual and submit developed competency standards to the NAITA for validation. The validated competency standards shall be sent to the TVEC for endorsement.

3.2 IDENTIFICATION OF INDUSTRY SECTORS/OCCUPATIONS FOR DEVELOPMENT OF NATIONAL COMPETENCY STANDARDS

Identification of industry sectors/ occupations for development of competency standards shall be done with the guidance of the National Competency Standards Development Monitoring Committee based on requests from industry bodies, industry lead bodies, government departments and/or according to the government policy initiatives. The National Competency Standards Development Monitoring Committee shall approve feasible requests for development of Competency Standards and inform the relevant organisations for development. Labour Market information, Vocational Education and Training (VET) Plan, Skill Gap Analysis and Industry Surveys shall be used as information sources to identify industry sectors/ occupations for development of competency standards.

The criteria for the selection of industry sectors / occupations shall be:

- Significant employment opportunities both current and future.
- Significant social and economic contributions to society.
- Formal skills currently recognised in the TVET system through Functional Analysis
- Potential for foreign employment
- Feasibility of providing training and assessment in the training institute and the workplace
- Completion of a feasibility study to confirm the need for competency standards
- Request from Skill Sector Council, industry bodies and/or professional bodies with an acceptable justification

3.3 COMPONENTS OF NATIONAL COMPETENCY STANDARDS

National Competency Standards (NCSs) define the competencies required for effective performance in a particular industry sector or in an occupation. An occupation is a collection of job functions (competency units). A job function is a job of work which could be performed by a single person and assessed as a separate entity.

The important features of Competency Standards and their applications are:

Competency standards:

- focus on what is expected from a worker in the workplace rather than on the learning process.
- stress upon the ability to transfer and apply skills, knowledge and attitudes to new situations and environments.
- concern with what people are able to do and the ability to carry out a task within a given range of context.
- package into qualifications corresponding to existing jobs and occupations in the industry sectors.
- Include the qualifications corresponding to specific levels in the National Vocational Qualifications Framework of Sri Lanka (NVQFSL).

The competency standards and qualifications, together with training implementation standards and assessment arrangements comprise the National Training Development Plan (NTDP) introduced by the TVEC. The NTDPs serve as the basis for development of Competency Standards and CBT curricula for the specific qualification, registration and delivery of TVET programmes, competency-based assessment and NVQ certification.

NCSs are developed based on NVQ level/s as follows:

- NCSs of NVQ Levels 1 to 4 are certificate levels which are developed for occupation names as the titles
 - Occupation names such as Automobile Mechanic, Bar Bender, Electrician and Plumber are universally used worldwide. NCSs for those occupations are developed with occupation names as the titles.

For example, the name of the NCS for automobile mechanic would be **“NCS for Automobile Mechanic”**

- Some occupations do not have such widely used names. For example, in tea factory operations, different factories may use different job titles. Therefore, NCSs for such occupations would be named by subject or by the main functional area.

For example, the name of the NCS in Tea Factory Operation would be **“NCS for Tea Factory Operation”**

- NCSs of NVQ level 5 & 6 are at diploma level and they cover wider areas of processes and responsibilities. Therefore, NCSs at NVQ levels 5 & 6 are developed with the focus on industry or technology sectors or Sub sectors.

As examples (for sector) NCSs of NVQ level 5 & 6 would be titled as **“NCS for Construction Technology”, “NCS for Mechatronics Technology”** etc., (Sub sector) **“NCS for Building Construction Technology”, “NCS for Irrigation Technology”** etc.

The combination of units for an industry sector / occupation must cover the following five components of competency:

- Task handling skills
- Task management skills
- Problem solving / contingency management skills
- Job / role / work environment skills
- Transfer Skills (competencies for performance of a particular job which can be used in the performance of another job)

3.3.1 CATEGORISATION OF COMPETENCY UNITS

(i) For Level 1 - 4 Competency standards Occupation Specific Competency Units:

Under this category a set of compulsory competency units are to be offered. These are specific to the occupation of the certificate and the core competencies in the occupation which the holder of the qualification must possess.

Basic Employability Competency Units:

These are generic competency units including soft skills which are required by all employees in order to perform functions effectively in the workplace.

(ii) For Level 5 & 6 Competency Standards Sector Specific Core Competency Units:

Under this category a set of compulsory competency units are to be offered. These are specific to the main area of the qualification and the Core competencies in that sector which the holder of the qualification must possess.

Employability competency Units:

These are generic competency units which are required by all employees to perform functions effectively in the workplace. These include those generally referred to as soft skills. For example:- problem solving and decision making.

Elective Competency Units:

These units focus on specific areas of the sector or on related areas from other sectors. The option is given to select elective units in addition to the compulsory core units in order to specialize in a particular area.

Note: The NCS developed must be the result of a consultation process that includes industry practitioners and any other key stakeholders identified during development.

3.3.2 STRUCTURE OF THE NCS

The units of Competency in the standard developed shall have the following mandatory components in NVQ Level 1-4.

- Unit title
- Unit descriptor
- Unit level
- Unit code
- Elements of competence
- Performance criteria
- Range statement (Relevant Work area and work functions)
- Elaboration of Terms in Performance Criteria
- Critical aspects
- Machinery, Equipment, tools and materials
- Relevant /standard documents
- Assessment guide
- Underpinning skills, Underpinning knowledge and Attitudes

The units of Competency in the standard developed shall have the following mandatory components in NVQ Level 5 and 6.

- Unit title
- Unit level
- Credit value
- Unit descriptor
- Unit code

- Elements of competence
- Performance criteria
- Range statement (Relevant Work area and work functions)
- Elaboration of Terms in Performance Criteria
- Critical aspects
- Machinery, Equipment, tools and materials
- Relevant /standard documents
- Assessment guide
- Underpinning skills and Underpinning knowledge

Individual units of competence within each industry sector /occupation shall be packaged by industry to form one or more qualifications under the “National Vocational Qualifications of Sri Lanka”.

The Competency Standard developer should refer to the Competency Standards Development Manual.

3.4 SOURCES OF INFORMATION FOR COMPETENCY STANDARDS

The Competency Standards Development Manual shall describe in detail the processes to be followed in the preparation of “National Competency Standards” and provide details of the technical requirements of Competency Standards. This manual shall contain copies of templates that shall be followed in the development of national competency standards and a copy of the relevant endorsement application forms.

The purpose of the Competency Standards Development Manual is to guide the Competency Standard developers on the quality requirements of the TVEC for its final endorsement, and the following:

- The National Vocational Qualifications Framework of Sri Lanka
- Quality Assurance System
- The Competency Standards Endorsement Process
- The Assessment Policy
- Assessment Guides

3.5 PROCESS OF THE DEVELOPMENT OF NATIONAL COMPETENCY STANDARDS

The following steps shall be adopted in the development of National Competency Standards:

1. Industry sectors/ occupations for competency standards development shall be identified based on the industry requirements and government policies
2. Approval for the identified Industry sectors/ occupations shall be obtained from the relevant Committee established by the TVEC (National Competency Standards Development Monitoring Committee)
3. Identified industry sectors/ occupations shall be forwarded to NAITA / UNIVOTEC or other relevant organisation which has good industry linkages and capacity for development of competency standards and curricula
4. The assigned organisation shall select 6-12 resource persons to develop the competency standards. At least two thirds of the members of the competency standard development committee shall be current industry practitioners. Priority should be given to the representatives from relevant bodies. Thereafter, 6-12 resource persons shall be selected to develop the curriculum. At least two thirds of the members of the curriculum development committee shall be relevant academic staff.
5. The development group shall conduct a Functional Analysis / Occupational Analysis and a “Functional Map”/ “Competency Profile” shall be developed thereafter.

6. The Functional Map/Competency Profile, Unit Titles and Unit descriptors are submitted to the committee with TVET experts appointed by the TVEC for consideration and feedback during the development process
7. The development group prepares the draft Competency Standard and Curriculum.
8. The Competency Standard and Curriculum shall be sent for industry comments from stakeholders such as industry bodies.
9. The Qualification Packaging Committee appointed by the TVEC reviews the proposed qualification packages in keeping with the packaging policy.
10. The draft Standard and Curriculum shall be forwarded to the NAITA together with the functional map/competency profile for validation.
11. Once the National Industry Training Advisory Committee (NITAC) has validated the National Competency Standard and Curriculum and qualification packages the competency standard together with the functional map/competency profile shall be submitted to the TVEC for endorsement.
12. The TVEC shall endorse the competency standard or return it to NAITA for review, with reasons for not endorsing the competency standard.
13. The Competency Standard and Curriculum shall be sent for wide industry comments from stakeholders such as industry bodies, trade unions, technical experts and practitioners and also shall be made available for public review and comments after the endorsement

Note: For the Endorsement process, NAITA has to forward the Master Copy and original soft copies along with the checklist.

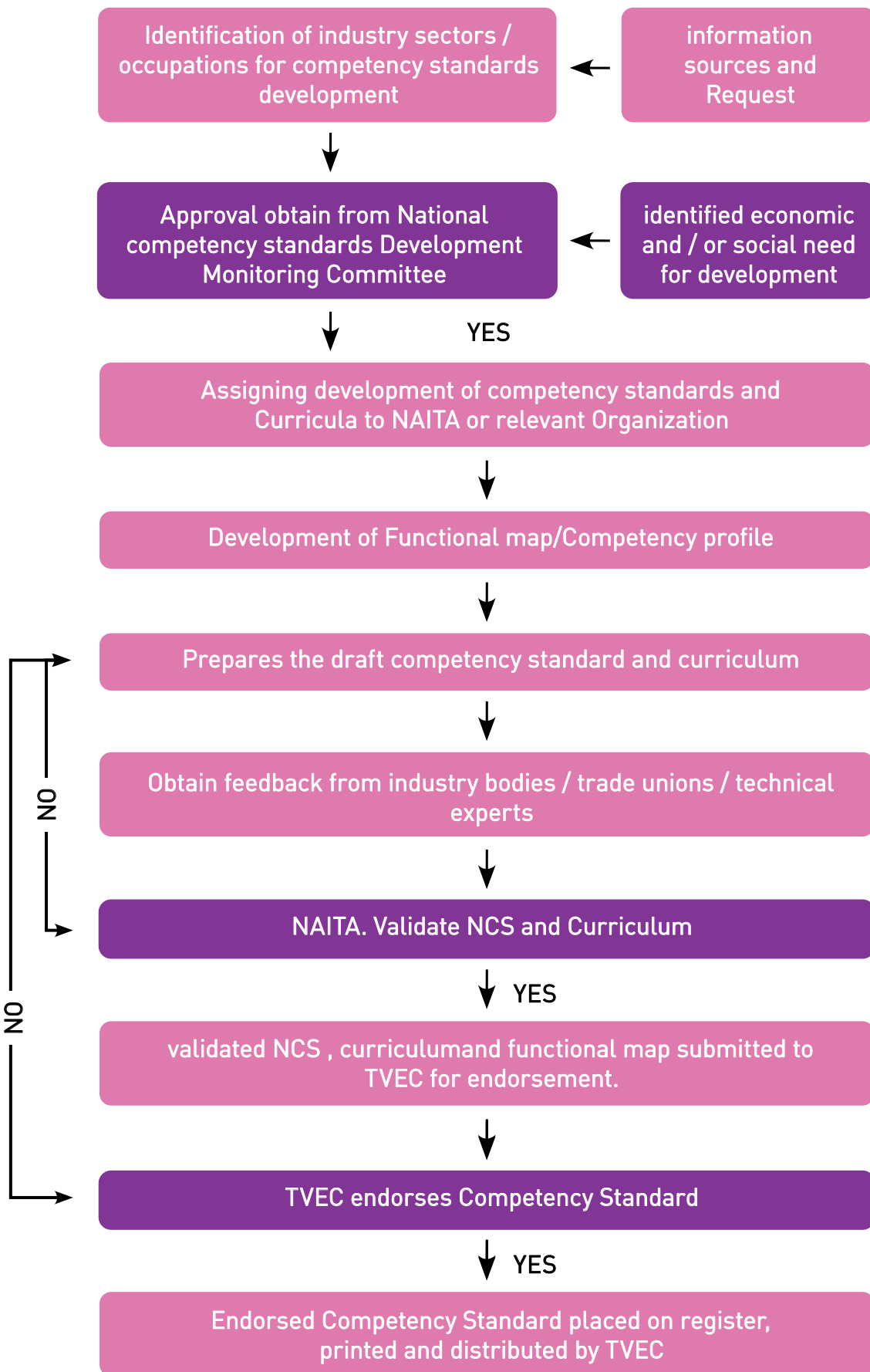


Figure 3.1: Competency Standards Development Process

3.5.1 OCCUPATIONAL ANALYSIS FOR NCSS OF LEVEL 1 - 4

The ultimate objective of an occupational analysis is to identify the Job Functions (Competency Areas (units)), elements of Job functions and Tasks performed by practitioners of an occupation.

Tasks analysis for NVQ levels 1 -4

A task analysis simply defines a job in terms of Knowledge, Skills and Attitudes (KSA) necessary to perform tasks. Task analysis is a detailed analysis of how a task is accomplished, including Performance Procedure, Industry Specific Performance Standards, Safety and Critical Areas, Related Knowledge, Tools, Equipment and Materials, Supportive Skills, Attitudes, Practical Applications, Prerequisites, Target time, Conditions and Range under which performance occurs and any other unique factors involved in or required for one or more people to perform a given task. Task analysis is performed by Industry representatives and subject matter experts.

3.5.2 INDUSTRY/ TECHNOLOGY SECTOR ANALYSIS FOR LEVEL 5 & 6 NCSS

NVQ Level 5 & 6 NCSs are developed for an Industry or Technology Sector. An industry sector is a very broad area and it is impossible to develop one diploma at NVQ Level 5 or 6 competency level to cover all competencies of an industry sector. Any industry sector may have many sub-sectors and each sub-sector has relevant technology areas. Further, any industry is based on a technology set and how those sub-sectors are formed is depicted below. Figure 3.2 depicts the general analysis of an industry sector and Figure 3.3 depicts the analysis of the Construction Industry sector.

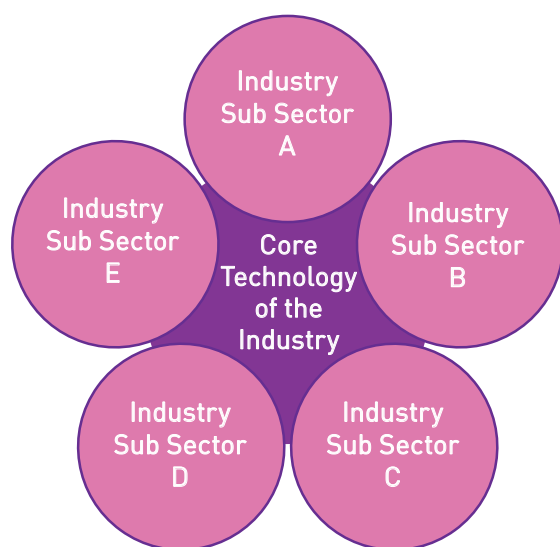


Figure 3.2

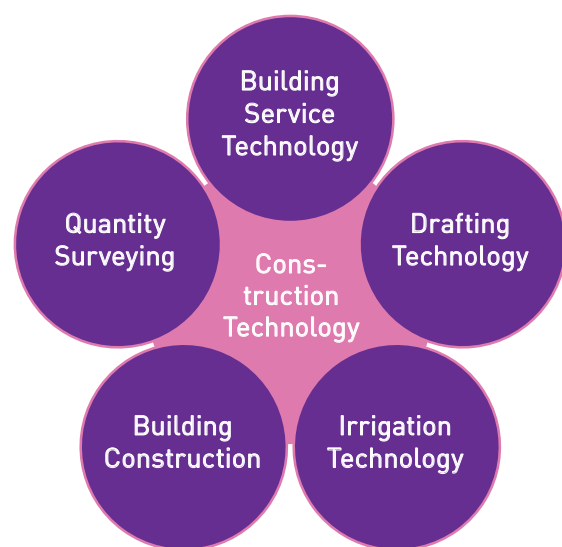


Figure 3.3

Though there are a number of industry sub-sectors, the labour market may not be wide enough to have diplomas for each industry sub-sector. In this scenario, the following factors should be taken into consideration when developing diplomas for an industry sector.

- Cover all or core functions of an industry sub-sector within credit policy.
- Cover all or core functions of multi-sectors of the industry within credit policy.
- Cover all or core functions of an industry sub-sector with key modules taken from other sectors to facilitate career navigation within credit policy.

The industry sub-sectors have two types of technology domination as listed below.

- Hard Technology dominant industry sub-sectors
- Soft Technology dominant industry sub-sectors

Development of Job Functions

- All Job Functions (Competency Units) are developed with the following details.
- Title of Job Function (Title of Competency Unit)
- Performance Outcome of the Job Function (Unit Descriptor)
- Code of Job Function
- Level of the Job Function
- Sub-Job functions and Performance Standards Expected
- Range Statement (Relevant Work area)
- Equipment, Machinery and Materials
- Relevant documents
- Assessment Guide with critical aspects

- Underpinning knowledge and underpinning skills relevant to Elements of Job function
 - The depth of Underpinning knowledge and skills shall be described at three levels.
 1. Basic knowledge and understanding
 2. Good knowledge and understanding and performance ability at basic level
 3. Thorough or comprehensive knowledge and understanding and good performance ability

3.5.3 FORMULATION OF QUALIFICATIONS

The National Vocational Qualifications Framework of Sri Lanka which is being internationally benchmarked has assigned qualifications to seven levels as described in Appendix 6. The descriptors of each level describe the process, learning demand and the responsibility applicable to each level of performance. Accordingly, individual units of competencies shall be assigned appropriate levels based on where they fit in the ladder of level descriptors.

The procedure for grouping of units of competence to form National Vocational Qualifications for Levels 1 to 4 and for Levels 5, 6 and 7 are given below.

Qualifications at Levels 1 to 4

For Level 1 to 4 qualifications, units shall be clustered into a package to form an occupation in the labour market and/or according to the industry requirements as well as to include sufficient competencies and learning content. The level of the job (Qualifications package) shall be determined by considering the following factor:

The levels of units practised most frequently in a package will decide the level of the qualification.

Naming of Level 1 - 4 Qualifications

Qualification packages are usually given the name of the NCS and Level such as Level 3 Welder or Level 3 Motor Mechanic. However, there are instances where the qualification package does not reflect a broader occupation. For example, in the Automobile NCS, there could be a qualification package of Diesel Engine Mechanic and instead of naming it as level 'n' Automobile Mechanic, it could be named as Diesel Engine Mechanic.

Qualifications at Levels 5 and 6

The units of competence considered for NVQ Levels 5 and 6 are assigned a Credit value in addition to a Level. The Degree at level 7 is based on the Curricula prepared in terms of learning outcomes.

The Credit System used in the Sri Lankan NVQ system for NVQ levels 5, 6 and 7 is the European Credit Transfer and Accumulation System (ECTS). The number of notional hours per credit ranges from 20 to 30 in the ECTS, whereas in Sri Lanka, 25 notional hours are considered to be one credit. As this is a student centred system based on the student workload required to achieve the objectives of a higher education programme, objectives are preferably specified in terms of learning outcomes and the competencies to be acquired.

Similar to the ECTS, the Sri Lankan credit system is based on the principle that 60 credits measure the workload of an average full-time student during one academic year.

In the Sri Lankan credit system, the student workload of a full time study programme is defined as 1500 notional hours per year. The number of notional hours includes direct contact time with teachers and trainers ("Directed Learning"), time spent in studying and doing assignments ("Self - Directed" or "On -Task" learning), and time spent on assessments.

Notional learning time can then be expressed in terms of credits where 01 credit point is equivalent to 25 notional learning hours (1500/60). Credits can only be earned after successful completion of the work required and appropriate assessment of learning outcomes. Thus, qualifications at NVQ Levels 5, 6 and 7 require the learner to earn a specified number of credits at specified levels in a training programme in order to qualify for the qualification.

One academic year may consist of two semesters. Each semester having 20 weeks and thus one academic year consists of 40 weeks.

3.5.4 PACKAGING LEVEL 5 AND 6 QUALIFICATIONS

At levels 5 & 6, qualifications are set based on the credit policy of diploma programmes outlined in Chapter 2.

- Level 5 qualification should have a minimum of 60 credits. One credit is equal to 25 notional hours
- Level 6 qualification should have minimum of 120 credits of 25 notional hours each.

A diploma course focuses on a large variety of jobs in the labour market. Therefore, NCSs set NVQ Level 5 & 6 qualification Packages considering available jobs in the Labour market based on the following credit criteria.

- Minimum of 2/3 of total credits should be of relevant sub-sector competencies
- Minimum of 1/6 of total credits should be of employability competencies (Soft Skills) identified under underpinning knowledge and skills.
- Balance to make up the total required credits should be from other sub – sectors of the industry to facilitate career navigation.

Naming of Level 5 and 6 Qualifications

NCSs should be named by the name of industry sub-sector. For example, the NCS for the Building Construction, Irrigation and Drafting sub-sector should be named as NCS for Building Construction Sector, Irrigation Sector, Drafting Sector and not as NCS for Construction Sector.

3.5.5 CRITERIA FOR DETERMINING QUALIFICATIONS OF LEVELS 5 & 6

NVQ Level 5 Diploma

The minimum number of credits required for the NVQ level 5 diploma is 60, of which at least 40 credits must be at level 5 or above and the remaining (up to 20) credits at level 3 or above.

NVQ Level 6 Diploma

The minimum number of credits required for the NVQ level 6 diploma is 120 of which

- At least 40 credits must be at level 6 or above
- At least 50 additional credits must be at level 5 or above
- The balance 30 (or fewer) credits to make up the total of 120 credits may be from level 3 or above

A maximum of 60 credits earned towards a level 5 qualification in the relevant technology area can be counted towards the credit requirement of level 6 qualifications.

NVQ Level 7 (Degree level)

The Degree at level 7 is based on the Curricula prepared in terms of learning outcomes.

The Credit system used in the Sri Lankan NVQ system for NVQ levels 7 is also the European Credit Transfer and Accumulation System (ECTS), with the same criteria as for Level 5 and 6.

It is expected that the majority of students enrolling for the degree programmes at the UNIVOTEC will have NVQ qualifications. As the new NVQ levels and 6 qualifications are endorsed, the TVEC intends to negotiate a formal articulation agreement with the UNIVOTEC, so that pathways, with appropriate credit transfer from the National Diplomas, will be available to students who have achieved the relevant NVQ qualifications at levels 5 and 6 through accredited TVET courses. The articulation negotiations will also identify any requirements for a bridging programme for students entering UNIVOTEC with NVQ qualifications.

The degree at the UNIVOTEC will meet international norms for first degrees and will consequently be a systematic, research-based, coherent, introduction to the knowledge, ideas, principles, concepts, chief research methods and to the analytical and problem-solving techniques of a recognized major technology subject or subjects. The programme leading to this qualification will involve major studies in which significant knowledge is available. The programme content will be taken to a significant depth and progressively developed to a high level, which can provide a basis for professional careers and post graduate study. The bachelor's degrees at the UNIVOTEC will require a minimum of 180 credits (the equivalent of three years' full-time study). The credit transfer negotiated by the TVEC may reduce that.

Special degree

The minimum requirement for successful completion of a Special Degree shall be 240 credits earned after NVQ Level 5. A maximum of 180 credits may be given exemption on credits earned in the General Degree.

3.6 FORMAT OF THE NATIONAL COMPETENCY STANDARD

The body of the Competency Standard document consists of three parts; the key information section, list of units of competency and the unit descriptors. The Key information section provides following information:

Title of qualification

This shall specify whether the qualification is a certificate assigned to levels 1-4 or a diploma assigned to levels 5-6, following the NVQ guidelines. The title of the qualification should accurately describe the scope of the learning areas covered in the qualification standards. For national and international consistency the TVEC is adopting the ILO international occupational classification for the naming of qualifications at Levels 1 - 4.

Endorsement date

This shall be the date on which the TVEC officially endorses the qualification as representing the national industry standard.

Date for review

This shall be the date selected by industry by which the qualification shall be reviewed to ensure continuing relevance. It shall usually be 3 years from the date of endorsement, but in areas where technologies are advancing rapidly or where major changes are expected it can be less than 3 years and where technologies are advancing slowly it can be more than 3 years as decided by the Development Committee and the NITAC.

Qualification code

This will be the qualification identifier assigned by the TVEC to the national vocational qualification.

Development Group and National Industrial Training Advisory Committee (NITAC)

This should contain a full list of all members with their contact details for on-going involvement in the management of the qualification and for its future review. This consists of names of the members of the development group and of the National Industrial Training Advisory Committee (NITAC).

Purpose of the qualification

This shall state precisely what the holders of the qualification shall be expected to know and be able to do. It will guide learners as they consider study options and employers as they consider the competency levels of certificated workers or potential employees.

Prerequisites

Competencies which must be acquired before beginning the qualification/unit.

Regulations for the qualification and schedule of units

This section shall outline the regulation/s applicable for the award of the particular qualification as per the Policy including foundation programmes and work experience.

Accreditation requirements

This section provides guidance to the TVEC when training establishments seek accreditation and industry assessors identify suitable workplaces for assessment. The TVEC has determined the generic quality management requirements of establishments. In addition, any specific industry requirements for the units in the package must be met before accreditation can be granted. In particular, this applies to matters of health and safety for specific units or sets of units. Industry may determine that some units may only be assessed in realistic work environments and this must be specified here.

Transitional arrangements

This section provides for trainees whose programmes are incomplete at the time of transition to the new or revised qualification. The TVEC shall develop a concept so that all trainees can be dealt with fairly and are not disadvantaged.

Requirement of conducting Knowledge Assessment

The development group and National Industrial Training Advisory Committee (NITAC) have to decide the requirement of assessing the knowledge part by a written test separately or at the final assessment stage.

Note : Refer Appendix I – Level 1-4 National Competency Standard and Competency Based Curriculum Format

Refer Appendix II – Level 5&6 National Competency Standard and Competency Based Curriculum Format

3.7 NATIONAL INDUSTRIAL TRAINING ADVISORY COMMITTEES (NITAC)

The National Industrial Training Advisory Committees (NITACs) for different Industry sectors are constituted as interfaces or links between NAITA and different industry sectors. NITAC members shall be appointed by the NAITA board of management for a period of three years. The NAITA board of management has the authority to replace NITAC members from time to time.

As a minimum, each NITAC includes:

- 5 members with wide experience in occupations within the industry sector, who are current practitioners (at least sixty percent of these members should be from industry).
- One representative from a trade union (To be nominated by the Ministry of Labour, if required).
- One representative from the Ministry of Labour.
- 5 representatives from private and public training providers (one each from VTA, NAITA, DTET, NYSC and a private training institution as appropriate).
- One representative from UNIVOTEC.
- One representative from the Ministry of Public Administration (if required)
- One representative from NAITA who will act as the NITAC executive officer.
- One representative from the TVEC

Each NITAC will appoint a chairperson from among the members who are industry practitioners.

NITACs may co-opt additional ex-officio members from time to time as they see fit.

The quorum for a NITAC meeting is a minimum of 1/3 of the membership; however, a minimum of 3 members from the industry sector must be present.

The terms of reference for NITACs are as follows:

- Assist NAITA in identifying suitable practitioners to take part in competency standards development and the development of assessment materials.
- Undertake technical validation of competency standards prepared for TVEC endorsement after wide circulation to industry and the public.
- Recommend competency standards to the TVEC for endorsement.
- Recommend assessment materials to the TVEC for endorsement.
- Consider industry comments on the continuing validity of competency standards and assessment materials.
- Assist NAITA in the review of competency standards and assessment materials.
- Assist NAITA in identifying work placements for trainees.
- Facilitate the provision to NAITA of technical advice in their occupations on various matters as and when requested by NAITA.

3.8 SECTOR POLICY AND TRAINING ADVISORY COUNCILS (SPTACS)

The Sector Policy and Training Advisory Councils (SPTACs) for different Industry sectors are constituted as interfaces or links between the TVEC and different industry sectors.

SPTAC members shall be appointed by the Commission of the TVEC for a period of five years. The Commission of the TVEC has the authority to replace SPTAC members from time to time as appropriate.

Terms of Reference of SPTACs are as follows.

The SPTACs will:

- Provide strategic advice to the TVEC on the human resource development requirements of their sector.
- Promote effective and efficient resource utilisation
- Facilitate on the job training and public/private partnerships

The Membership of the SPTACs

- Four representative from Trade associations
- Four representative from Professional associations
- Two representative from Education and Training providers
- One representative from the TVEC
- Chair of the relevant NITAC/s

To promote pathways between the diplomas and higher education it is suggested that one of the education and training provider representatives should be from a University

3.9 INDUSTRY SKILLS SECTOR COUNCILS

3.9.1 BACKGROUND OF THE INDUSTRY SKILLS SECTOR COUNCIL

In order to obtain greater participation and increased involvement of the Private Sector towards the development of TVET, it was proposed to establish Industrial Sector Skills Councils (ISSC) by the Ministry of Skills Development and Vocational Training (MSD&VT) with the assistance of the Asian Development Bank (ADB) and the World Bank (WB) through the Skills Sector Development Programme (SSDP) .

ISSCs function within the guidelines provided by the TVEC and with the power delegated as per the tripartite agreement signed by the TVEC, the NAITA and the Councils

3.9.2 ROLES AND RESPONSIBILITIES OF ISSC.

The main objective for establishing ISSCs is to ensure that Industry will have sufficient skilled persons at all times and that the quality of products of Vocational Training Providers are relevant to the demands of industry to make them more productive and competitive.

The ISSC will work with the industry it represents to identify skill requirements and ensure that training provided by Vocational Training providers will fulfil industry needs. To achieve this, ISSCs will

- Identify mechanisms to establish the current needs and future requirements of skills in the relevant sector and prepare a Sector Skills Plan to be submitted to the TVEC for implementation.
- Advise the ministry and training providers on industry training needs and productivity trends of the sector. ISSCs will ensure that training providers are appropriately informed, knowledgeable and that they deliver the required skills training.

3.9.3 THE ULTIMATE OBJECTIVES OF ISSCS ARE

- Identify & propose actions to reduce skill gaps
- Alleviate skill shortages while improving productivity and quality through the enhancement of industry-relevant competencies of the workforce
- Address the mismatch between the supply and the demand relating to TVET.
- ISSC will represent the interests of the Industry on skills development and guide all aspects of TVET.
- ISSC will represent the industry on all matters of TVET, determine skill requirements taking into account changes in technology, labour market and the economy, assist in developing Competency Standards, facilitate apprentice and on the job training, promote National Vocational Qualifications (NVQ) among employees and project the image of the industry among youth.
- The Industry Working Group or a Subcommittee will be the principal means of ensuring that industry drives the training agenda of the nation by:
 - Assist in developing National Competency Standards (NCS) and qualifications or new skill areas and assist to review existing NCSs, in accordance with the NVQ framework, as outlined in the Sector Skills plan.
 - Develop assessment guides
 - Support the curriculum development process (of NAITA, UNIVOTEC and other VT providers) to ensure delivery systems meet Industry skill requirements in technical skills as well as in 'soft skills'.

- Ensure the compliance of VT providers with the Quality Assurance system as outlined in the National Vocational Qualifications (NVQ) manual.
- Develop a database of all training providers of the respective sector in order to monitor training delivery.
- Coordinate with industry personnel and nominate them for NVQ Assessors' Training in consultation with the TVEC, NAITA and UNIVOTEC.
- Identify re-training and further training /skill upgrading requirements of skilled workers and arrange with VT providers to impart such skills on full-time, part-time or weekend basis to enable them to obtain NVQ qualifications
- Contribute for the development of the TVET Sector in the Country.

3.10 ENDORSEMENT PROCESS FOR NATIONAL COMPETENCY STANDARDS

The TVEC is the national authority responsible for the endorsement of National Competency Standards. The endorsement is a formal declaration by the Commission that Competency standards and "National Vocational Qualifications" are procedurally correct and comply with the requirements of the "National Vocational Qualifications Framework of Sri Lanka. If the standards or qualifications are not endorsed, they are to be returned to NAITA with reasons, for revision.

Competency standards together with the functional map shall be submitted by NAITA to the TVEC after the validation by the relevant NITAC. The TVEC shall:

- Ensure that the competency standards are procedurally correct and reflect the instructions provided by the TVEC
- Endorse NITAC validated competency standards; if not they shall be returned to NAITA with reasons.
- Maintain a register of endorsed competency standards and National Vocational Qualifications.

The following steps shall be adopted in the endorsement of National Competency Standards:

- NAITA confirms that the competency standards have met the technical requirements and the format outlined in the operations manual and requests TVEC for the endorsement of the standards.
- The TVEC endorses the competency standards and then informs NAITA on successful endorsement. Competency standards which are not endorsed by the TVEC will be sent back to NAITA with the observations and recommendations.
- The TVEC makes arrangements to ensure availability of the endorsed Competency Standards to stakeholders and interested parties.
- The National Competency Standards shall be coded and entered on the TVEC database and made available to the public, NVQ assessors and accredited providers.

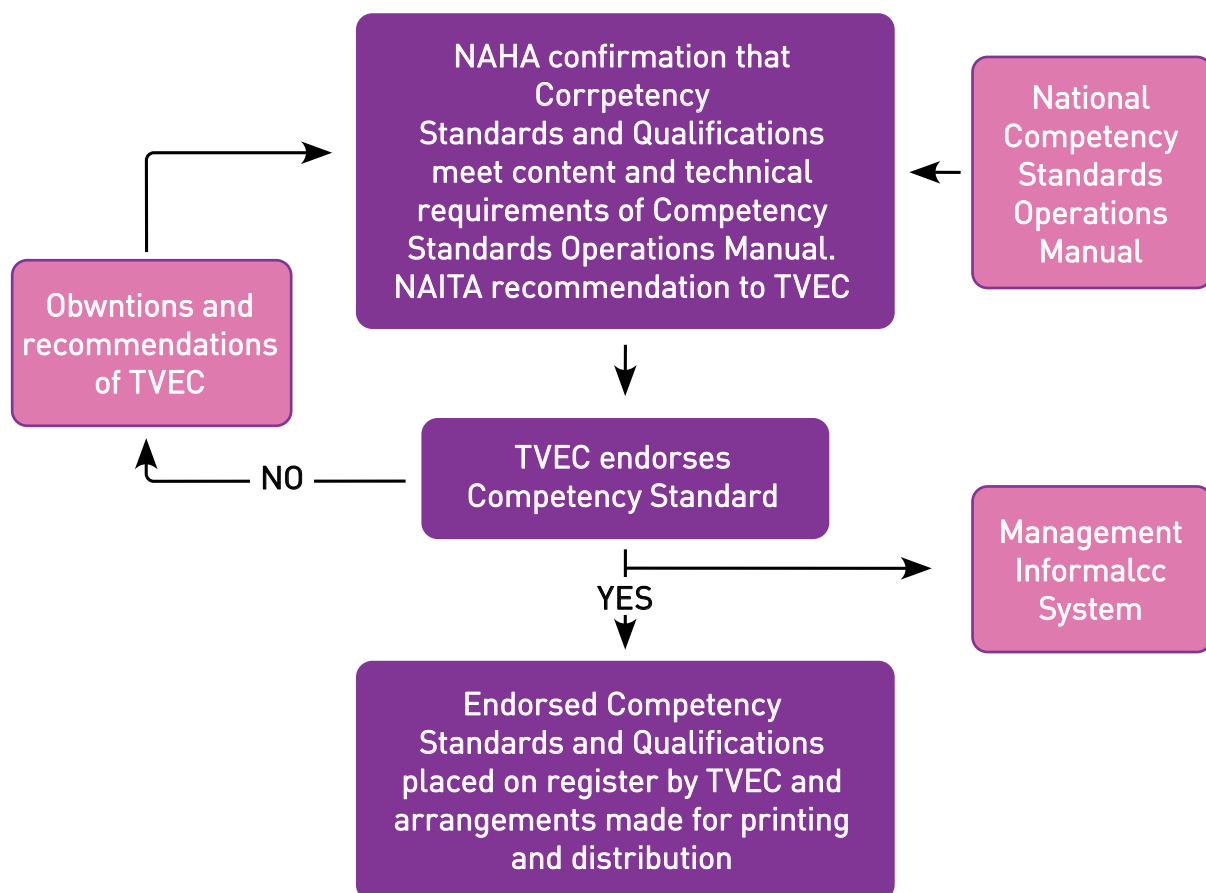


Figure 3.4: Process for Endorsement of Competency Standards

3.11 REVISION OF NATIONAL COMPETENCY STANDARDS

National Competency Standards are to be reviewed (Periodic revision) at least every three years or whenever necessary or development team specified period for revision. The TVEC will take comments from stakeholders and recommend revisions of the standards according to the priority order.

Minor Revisions within competency units

Revisions within a Job Function (competency units) are considered as minor revisions and such revisions could be carried out by the TVEC. These revisions are to be validated by two industry representatives of NITAC or ISC and two trainers.

Major Revisions

Adding or removing of a competency unit and revision of qualification packages are considered as a major revision. All issues that need major revisions are required to be attended to by NAITA followed by validation of ISC or NITAC as relevant.

Periodic Revisions

At the time of validation and endorsement of each NCS, the date of revision shall be specified. The TVEC shall be required to have a feedback mechanism to get proposals from training centres and industry on revision and for improvement of each NCS. A revision proposal shall be compiled 5 months before the date of revision and forwarded to NAITA 4 months before the date of revision.

3.12 NCS DEVELOPMENT MONITORING COMMITTEE

The NCS Development Monitoring Committee is responsible for monitoring of the development process of NCSs and other relevant documents from request to endorsement of these documents in the National Vocational Qualification (NVQ) system. The committee shall meet every month and the convener of the meeting is Director (NVQ), TVEC. The Committee is responsible for approving the identification of industry sectors/ occupations for competency standards development requested by industry bodies, industry lead bodies, government departments and/or according to government policy initiatives. Also, the committee has to refer the labour market information system, Vocational Education and Training (VET) Plan, Skill Gap Analysis and Industry Surveys used as information sources to identify sectors /occupations in demand. The committee shall approve feasible requests for Competency Standards development by sharing development guidance of National Competency Standards and inform the relevant organizations for development.

The committee shall consider when selecting industry sectors / occupations, whether significant employment opportunities exist both current and future, evaluating the Need Analysis and Justification Form published by the TVEC, filled by the requesting organisation. The committee shall consider social and economic contributions from the requested sectors / occupations, potential for foreign employment with an acceptable justification.

NCS Development Monitoring Committee members shall be appointed by the Director General of the TVEC and as a minimum, the committee shall include:

- Deputy Director General, TVEC - Chairman
- Four representatives from the TVEC including the relevant HOD
- One TVET expert
- One representative from NAITA
- One representative from UNIVOTEC
- One representative from the Line Ministry

CHAPTER FOUR



COMPETENCY BASED TRAINING (CBT) CURRICULA

4.1 POLICY

NVQSL shall ensure that training and competency assessments are based upon standards required by industry. The competency based training curricula should be developed based on the National Competency Standards.

4.2 INTRODUCTION

A Curriculum is a “Plan for Training” designed to provide learning experiences.

A Competency Based training (CBT) curriculum is an integral component in a unified TVET system.

The Institute which developed the relevant NCS, may develop competency based national curricula with the concurrence of the TVEC, for the unified national TVET system and submit to the TVEC for endorsement.

The TVEC shall make arrangements to validate CBT curricula developed through NAITA and NAITA shall submit it to the relevant NITAC for validation. Upon receipt of validated curricula, the TVEC shall endorse them accordingly.

The Basis of CBT Curricula

The “Competency Standard” of any given industry sector/occupation describes the skills, knowledge and attitudes that a competent worker in the sector /occupation shall demonstrate at a workplace.

Competency Standards focus on what is expected from a worker in the workplace rather than on the learning process.

Hence, in the case of development of curricula for the certificate levels (NVQ 1 to 4) competency units specified in the Competency Standards are transformed into “Module Aim/s”, “Learning Outcome/s” and “Competencies (knowledge, skills and attitudes)” that the learner has to complete during learning. In the case of development of curricula for diploma levels (NVQ 5 & 6) competency units specified in the units are transformed into “Module Aim/s” and “Learning Outcome/s” in the CBT curricula.

Learning Modules

For convenience in the teaching-learning process, competencies or learning outcomes specified in CBT curricula are sequenced into distinctly identifiable independent building blocks, referred to as “Modules”.

Note: Format of Module Annex IV- “Curriculum Format NVQ Level 1-4” & Annex V- “Curriculum Format NVQ Level 5-6”.

Mapping of NCS units to Curriculum Modules

NCS units are mapped with modules of the Curriculum and the mapping sheet is developed to illustrate the relationship.

Qualification	Relevant Units	Relevant Modules	Relevant Competencies
F45S001	U01	M01, M05, M07	A1, A2, B1, B2, B3

Mapping will be one unit mapped with one module or one unit mapped with two or more modules or two or more units mapped with one module.

Note: NCS unit: Curriculum module in 1:1, 1:N, N:1

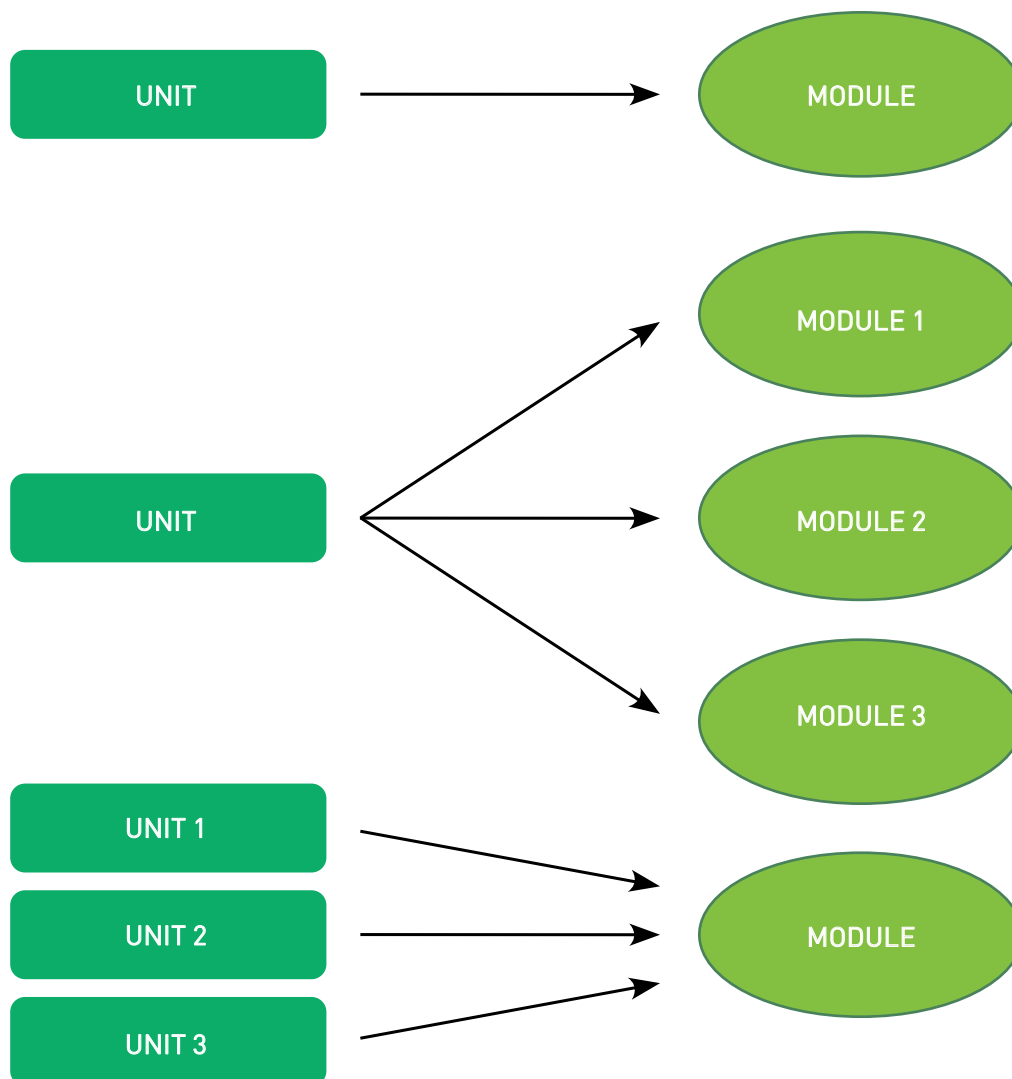


Figure 4.1: Mapping styles of Units and modules

Concept of CBT curricula

The CBT curriculum shall necessarily satisfy the following requirements, which adequately describe the dimensions of “Competency”

- **Task Handling** - The requirement to perform individual tasks to the required performance standards and output standards.
- **Task Management** - The process of managing a task through its life cycle, including planning, testing, tracking and reporting. Effective task management includes managing all aspects of a task, including its status, priority, time, human and financial resources assignments, recurrences, notifications and so on.
- **Contingency management** - The capacity for flexibility in varying responses and attitudes to meet the needs of different situations and ability to respond to unexpected situations.
- **Job / role / work environment handling** - The requirement to deal with responsibilities and expectations of the work environment including interacting appropriately with others in the workplace
- **Transfer skills** - Competencies in the performance of a particular job which can be used in the performance of another job. The capacity for flexibility and the ability to respond to meet the needs of different work contexts

A CBT curriculum shall encompass the essential aspects of “Competency” as outlined in the national competency standards.

4.2 CBT CURRICULUM DEVELOPMENT PROCESS

The CBT curriculum development process entails a wider analytical phase with the involvement of “Industry and Academia Participation”. Besides, the training based on these curricula shall be directly relevant to the work performed at the real workplace situation in the industry.

Thus, the curriculum development process leads to a system which is based on learners’ outcomes rather than the completing of a specific amount of training.

The CBT curriculum development process shall be initiated with the use of the same “Functional map/Competency profile” and the details of Task analysis developed for the relevant NCS.

For writing the curricula documents, the involvement of well trained, experienced training persons is essential.

Curriculum Developers shall use Functional Analysis/ Competency Profile/ Task Analysis to conform to industry requirements.

4.2.1 CBT CURRICULUM DOCUMENTS

(a) Curriculum documents for NVQ levels 1 to 4

For NVQ Levels 1 to 4 the CBT curriculum consists of 3 documents, namely,

- Curriculum outline
- Learner's guides (one per each module) and
- Trainer's guide

For consistency of content and structure, formats have been developed for each type of curriculum document.

Curriculum outline is the basic document useful for anyone to learn, at a glance, what is in the given curriculum. It is a modular based document with tasks, performance standards and knowledge requirements of each module. Further, it outlines the entry requirements of trainees, equipment and training facilities and time duration required for teaching and learning activities.

This can be used even by administrators when planning their training activities or in budgeting for the training programmes.

The CBT curriculum provides specific instructions to the "Learner" through "Learner's Guides".

In order to meet this requirement, the format of the Learner's Guide, makes provision for inclusion of major learning objectives, guidelines for performance of tasks- (performance guides), practical applications, probable problem situations and projects. The Learner's Guide format facilitates the self-learning process, as far as possible.

The trainer's guide provides instructions to the trainer in order to deliver effective training.

In addition, effective and appropriate instructional methodology and effective media for “Trainee Centred learning” are included in this document.

Besides, supplementary “Instructional material” shall be provided to the trainee in order to enhance “self-learning”, which is an inherent feature in CBT methodology.

(b) Curriculum documents for NVQ levels 5 & 6

Competency based curricula for NVQ levels 5 & 6 have only one document; that is, the curriculum outline. The curriculum outline consists of module descriptors prepared for modules. The module descriptor has the following components:

List of Modules

Module Structure (Semester-wise)

Mapping of NCS Units and Curriculum Modules

Module Descriptors

Module Title

Module Code

Module Type

Relevant Units of Competencies

Pre-Requisites

Module Aim(s)

Learning Outcomes

Learning Content / Topics

Resource Requirement

Prescribed and Recommended References

Suggested Teaching - Learning Activities

Assessment and Weightings

Duration

The curriculum outline format used for NVQ 5 and 6 is given in the Annex- v.

MODULE STRUCTURE

The module structure displays a breakdown of modules per semester in the following format. This shall be used as a guideline by the Trainers in planning training delivery. The amount of time an average learner at that level has to spend to achieve the learning outcomes specified in the given modules is given as notional hours. Therefore, the notional hours consist of the time spent on directed learning activities such as Lectures/Tutorials/ Laboratory Practicals and Industry Visits, and Self –directed activities such as self-study, take-home assignments, etc.

Table 4.2: Sample Module Structure

MODULE STRUCTURE NVQ Level 5/6 Qualification

Semester

				Directed study		Self- directed study
Module Code	Module	Type C/E	Notional hours	Lectures/ Tutorials	Practical/ Industry visits	Take home assignments / reading supplementary materials
Eg. F45C001 M04	Hydraulics 1	c	100	60	20	20
F45C001 M06	Surveying & Levelling	c	150	40	80	30

Assessment Guides in CBT Curriculum

The National CBT curriculum shall indicate the following assessment guides as per each module for assessing knowledge, skills and attitudes during the “continuous assessment process” (formative assessment) which is a vital component in competency based training delivery.

Level 1 to 4 curricula provide;

- Performance guides (check lists indicating steps together with relevant performance standards)
- Product rating instruments for rating the product
- Rating scales for assessment of attitudes
- Sample questions for knowledge assessments (these are given in Learner’s Guides).
- Exercises to be performed in the class room /workshop. (These are specified in the Trainer’s Guide)

Assessment guidelines in the national CBT curriculum for levels 1 to 4 shall be used for “formative assessments” during the institutional training phase and as well as in the industrial attachment phase.

Level 5 and 6 Curricula:

For NVQ levels 5 and 6, guidance is provided in the module descriptors as to the expected learning outcomes, modes of assessment and their weightings. formative and summative assessments are conducted based on the learning outcomes of the modules. Training Providers shall centrally manage course based formative assessments and the TVEC conducts summative assessments.

Industrial Training Phase

The industrial training phase that follows immediately after a satisfactory institutional training phase, provides ample opportunities for the trainee to develop competencies in contingency management, job/role environment handling and transfer skills to different situations. Besides, it exposes the trainee to a real workplace environment, enabling him/her to acquire and enhance industry specific performance standards, in line with CBT concepts. Duration for the Industrial Training phase should be determined as specified in the NCS and referring to requirement of regulatory authorities.

4.3 REVISION OF CURRICULA

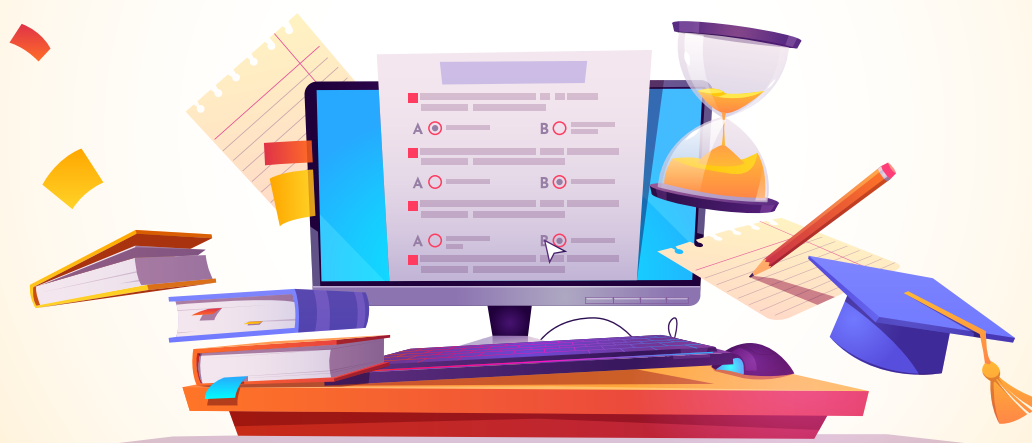
A CBT Curriculum once developed shall first run on a pilot (trial) basis, during which period it is subjected to continuous improvement through a feedback process. National CBT Curricula shall undergo periodic revisions in order to comply with requirements of the National Competency Standards.

4.4 CBT CURRICULUM VALIDATION AND ENDORSEMENT

NAITA is delegated to validate the curriculum developed by an assigned Institute. The following process shall be followed:

- Draft “curriculum outline document” shall be submitted to NAITA through the TVEC.
- The TVEC shall officially request NAITA to initiate the validation process.
- NAITA shall convene the NITAC Curriculum validation meetings and coordinate the activities.
- The Curriculum developers shall assist the NITACs explaining the process, procedures and if necessary, the contents of the curriculum.
- The NITAC shall consider the following for validation.
 - The Curriculum is based on a “Functional Map /Competency profile” derived from competency standards if any.
 - Profiles of the curriculum developers who participated at the workshops and curriculum writers.
 - Curriculum format.
 - Evidence of matching the NVQ with the curriculum or units of qualifications with the curriculum.
- The validated curriculum shall be submitted to the TVEC for endorsement together with the validation recommendations of the NITAC. If the curriculum does not meet the requirement for validation it shall be returned to the relevant Institute with observations.
- The TVEC will take steps for endorsement of Curricula
- The TVEC will translate the Competency Standards and course
- curricula/teacher’s guide/learner’s guide.

CHAPTER FIVE



ASSESSMENT

5.1 NATIONAL POLICY ON ASSESSMENT AND CERTIFICATION OF COMPETENCE

5.1.1 INTRODUCTION

The national Policy on assessment of competence uses two different methods of assessment. For the award of Level 1 – 4 qualifications the competencies are assessed through competency based assessments focusing on the performance criteria specified in the respective units of competencies.

For Level 5 and 6 qualifications, two stages of assessment are employed. Modular based (Formative and Summative) assessments are conducted for the assessment of learning outcomes as specified in the curricula. Whether the trainee is competent or not yet competent shall be decided through a competency based assessment with respect to all units of competence stated in the relevant National Competency Standard that constitutes the qualification, which shall be conducted by a panel of registered / licensed assessors. Records of the continuous assessments and the summative assessment conducted shall form part of the evidence used in deciding the competence of the trainee. A viva-voce conducted by an assessment panel nominated by the TVEC shall be a mandatory part of the CBA pertinent to Level 5 and 6 courses. The assessment panel shall consist of two members with at least one member representing the industry which deals with the relevant area of technology. The final outcome of the assessment shall be determined by the assessment panel.

5.1.2 OVERVIEW OF THE ASSESSMENT SYSTEM

A: Competency Based Assessment for Awarding the Qualification

A competency based assessment system must be based upon clear and unambiguous benchmarks. These benchmarks are supplied by the National Competency Standards which specify the skills, knowledge and attitudes to be applied in various industry sectors / occupations to the minimum standard of performance expected by the industry.

Assessor/s must collect sufficient evidence of competence from candidates in order to be able to reach a decision on an assessment. Sufficiency can be defined as evidence which has demonstrated that the candidate can:

- Perform task skills
- Perform task management skills
- Perform contingency management skills
- Perform according to specific workplace environments, and
- Transfer skills to different situations

The assessment system must enable assessors to document that the evidence presented for assessment really is the work of the candidate. It is necessary for assessors to validate the current evidence included in the portfolio/set of evidence ensuring the competency of the candidate. The system must be cost effective for both the establishments conducting the assessments and for candidates.

Criterion referenced assessment assumes that the assessment decision is based upon a collection of evidence gathered over a period of time (Evidence based judgment) rather than on one event, such as a test or exam. A combination of formative and summative assessment shall be used in order to reach a decision on an assessment.

To facilitate the process, the assessor may use the following assessment guidelines and materials:

- Outlines for candidates to guide them in collecting their evidence
- Self-Assessment guide
- Test items and specifications if required
- Instructions to candidates
- Assessment guides for assessors
- Record keeping instruments for recording the formative and summative assessments results

The assessment system shall be flexible enough to consider candidates':

- Socio-economic background
- Religion
- Ethnicity
- Gender
- Language
- Disabilities

This may involve making reasonable adjustments to assessment techniques for individual candidates as long as the national competency standards are not compromised. Assessment shall take into account the limitations of industry in relation to administration of assessment such as:

- Availability of assessors
- Workplace policies and procedures
- The need for specialist tools, equipment and materials
- Time constraints
- The inability of some candidates to gather direct workplace evidence of competence
- Candidates from geographically isolated locations

B: Assessment Resources

In the preparation of assessment materials, the needs of the intended target group shall be taken into account, especially in the areas of language, literacy and numeracy. Any technical language used shall reflect the technical language of the industry. Assessment resource materials shall be produced for each unit of national competency standards.

Successful achievement of a qualification by a candidate will be decided based on competency in all the units clustering the qualification package in case of Level 1 – 4 and accumulation of the required number of credits in the case of levels 5 and 6.

5.1.3 PRINCIPLES OF COMPETENCY BASED ASSESSMENT

In a competency based system, skills, knowledge and attitudes are assessed by using national competency standards as a benchmark for assessment. Formal testing and examinations are also ways of assessment. A competency based assessment system uses multiple sources of evidence upon which judgment is based to decide whether a candidate is competent or not. An assessment decision is based upon a combination of formative and summative assessments. Competency-based assessment is criterion-based and criterion-referenced assessment measures the performance of an individual against a set of standards. Candidates are measured against standard

criteria or benchmarks, such as National Competency Standards or learning outcomes. The purpose of the assessment is to determine whether or not a candidate can apply skills, knowledge and attitudes identified in national competency standards to the level of performance that is specified in the standards.

Usually, a number of pieces of evidence are collected and submitted by a candidate to demonstrate how he / she can apply the skill, knowledge and attitudes. This is sometimes referred to as a “portfolio” or set of evidence which may include one or more of the following.

- Trainees’ progress record book
- Test and exam results
- Product/s produced
- Testimonials from work supervisors
- Evidence of successful completion of training courses
- Verified work experience
- The results of direct observation by an assessor
- Project reports, assignments carried out
- Photographs, video clips etc.
- Certificates, awards, medals and other credentials
- Any other relevant authentic evidence which supports to qualification

In competency-based assessment, candidates are generally assessed as competent or not yet competent. Results are not expressed as a percentile, a grade or a score. The four guiding principles of competency-based assessment are validity, reliability, fairness and flexibility.

- An assessment process is said to be **valid** when the assessment measures only the skills, knowledge and attitudes identified in the national competency standard.

- An assessment process is **reliable** when there is consistency in results between assessors. That is, when two or more assessors give the same result based upon the same evidence.
- **Fairness** refers to the transparency of the assessment system. Candidates shall be aware of how they shall be assessed, when and by whom and what the national competency standards are and what they will be assessed against.
- **Flexibility** refers to reasonable adjustments in the administration of the assessment process.

Formative assessment is an ongoing (continuous) assessment. They are the pieces of evidence a candidate collects over a period of time and are included in the portfolio described earlier. The assessment panel may decide to conduct a summative assessment based upon their judgment of the portfolio provided by the candidate which may include formative assessment records. Summative assessment refers to an assessment conducted collectively at the end of a unit or set of units.

Competency of a candidate is decided by the panel of assessors based upon:

- Evidence through documented formative assessment or
- Through summative assessment demonstrated at a formal testing
- A combination of the above

5.1.4 NANO QUALIFICATIONS

National qualifications shall be awarded for a unit or set of units a candidate successfully completes either in pre-employment training or the recognition of prior learning pathway. These “Nano qualifications” makeup the full qualifications once the candidate completes successful assessment of all relevant units of a qualification package of a given occupation/trade. The TVEC shall issue a national certificate in recognition of such qualification which shall be fed to the national database of qualifications maintained by the TVEC .

5.1.5 PRACTICAL ASPECTS OF CONDUCT OF ASSESSMENTS

a. Selecting National Assessors

Trainees are assessed by assessors registered in the TVEC for the respective occupation (level 1 -4) or field of study (level 5 & 6), who had no involvement in the training process of the trainees to be assessed. The TVEC or Institutions to which such powers are delegated shall select two registered assessors for the assessment. Both assessors shall be physically present for assessment of all NVQ levels and shall verify documentary evidence and certify. Both the accredited private and public sector institutions shall obtain the approval of the TVEC for the selected assessors. The NVQ level 5 and 6 qualifications may require the appointment of a specialist assessor for the relevant area of technology for the viva-voce conducted at the end of the course.

b. Knowledge assessment prior to pre-assessment

This shall be an island-wide common examination for the respective occupation. The TVEC in consultation with relevant Industry Sector Councils (ISCs) shall decide the occupations for which such all island knowledge assessment is required based on the nature of occupation/s. If the ISC relevant to an occupation is not established and operating, the TVEC shall consult the National Industrial Training Advisory Committee and take the decision on conducting such an island-wide examination.

The TVEC shall call for applications for knowledge assessment. Students who are following the accredited courses will be eligible to appear for the knowledge assessment after completion of training, and those who have registered for RPL assessment will also be eligible. Relevant institutes shall forward applications to the TVEC.

The TVEC shall set the question paper for assessing each unit separately based on learning outcomes in the relevant NCS and curriculum. Knowledge Assessment (examination) shall be conducted in selected examination centres.

c. The Pre-assessment

A pre-assessment meeting should be conducted where final assessment is to be conducted and shall be held with all the selected candidates to see whether the candidates are fit to appear for the final assessment. During the pre-assessment, the assessors check and verify the continuous assessment record books, result of common knowledge assessment and other evidence presented by the candidates. The assessors need to provide relevant information to candidates, complete relevant documents at the pre assessment and shall bring them for the final assessment. One of the assessors of the panel may do the pre assessment. Dates for the final assessment event can be scheduled and required tools, equipment and facilities (on and off-site) identified and informed to relevant parties.

d. The final summative assessment

The final summative assessment shall be conducted by a panel of two registered / licensed assessors of relevant level appointed by the TVEC. Final Assessment shall be scheduled from 3 days to 30 days from the pre-assessment thus facilitating a minimum of 3 days preparation time. For programmes which involve off-site training as well as assessment, there could consequently be several summative assessment events. It is also possible that for some programmes, students may not achieve all the competencies at the first assessment and further assessments may be necessary. Assessment results, feedback on positive and negative aspects of performance and recommendations for further training and learning required in case of a 'not yet competent' decision are communicated in writing to candidates.

e. Assessment Judgment

- In knowledge assessment, minimum pass marks shall be 40% and in competency/psychomotor assessment, the candidate should demonstrate the ability to perform all the tasks relevant to competencies specified in relevant National Competency Standards.
- In formative competency assessment, judgment shall be recorded as 'Competent' or "Not Yet Competent" against each task in the Trainee's Progress Record Book with respect to competencies (expected standards of tasks) indicated in curriculum modules.
- In summative competency assessment, judgment shall be made considering five dimensions of competency and then recorded as "Competent" or "Not Yet Competent" against each performance criterion /expected performance standards in the Assessment Record Book/form) with respect to Elements of Job Function (Competency elements).

f. Transfer of Results to the TVEC

The assessors shall submit the results of their assessment to the institution on the same day of assessment for sending on to the TVEC. A summary of the assessments conducted will be prepared using the prescribed format and transmitted to the institution's head office and then to the TVEC.

g. Awarding the National Vocational Qualifications

Under the NVQ Framework, the TVEC works as the Vocational Qualification Authority and therefore the TVEC shall scrutinise, print and issue NVQ certificates to the training institutions and assessment bodies. The TVEC shall safeguard the interest of the state as directed by the Attorney General's Department in relation to issuing of NVQ certificates.

Therefore, National Vocational Qualifications are awarded and Record of Achievement certificates for Nano qualification are issued through the TVEC based on submitted results. Records of Achievement shall be awarded for individual units or part completion of a NVQ qualification and there will be different formats for different certificates. All results are transmitted to the TVEC national database.

5.1.6 MODULE BASED CONTINUOUS AND SUMMATIVE ASSESSMENTS FOR NVQ LEVEL 5 AND LEVEL 6 DIPLOMA PROGRAMMES

Continuous and summative assessments are to be based on the modules of the curricula, and assessment of the achievement of learning outcomes and the knowledge component based upon the relevant National Competency Standard.

Assessment resources for continuous assessments developed by the Trainers of the institution and the mode of assessment for each learning outcome should be in accordance with the assessment evidence matrix developed for the module. Trainers of the institution are responsible for the development of the module assessment evidence matrix which indicates the modes of assessment most suitable for assessing each learning outcome.

The training institution is responsible for the conduct of continuous assessments. The records of all continuous assessments should be kept by the institution for future reference. Assessment resources for the summative assessments are developed by the external panel and should be moderated by external moderators appointed by the TVEC. A minimum mark of 50% must be attained in the continuous assessments for a trainee to be eligible to face the summative assessment. Any trainee who does not satisfy this requirement should obtain the minimum mark of 50% in a subsequent assessment before appearing for the summative assessment. A minimum mark of 40% must be attained in the module based summative assessments for a trainee to be qualified to face the competency based assessment (viva voce) for the award of the qualification. However, the TVEC may impose higher qualifying marks on the recommendation of the relevant NITAC for summative assessment of areas that it considers necessary.

5.2 ASSESSMENT RESOURCES

Under the unified national TVET system of Sri Lanka, NAITA shall be responsible for the development and updating of the assessment resources. Assessment resources for each unit may include:

- Evidence Matrix
- A description of a problem to be solved or a workplace application.
- An outline of the task/s to be completed in order to solve the problem or complete the application.
- The tools, equipment and materials made available and other assistance required (such as helpers, reference materials etc.).
- A justification as to why the problem was solved in the way it was, or how the application was carried out.
- Areas in which questions should be asked in order to assess the underpinning knowledge.

For each unit of the national competency standards, a number of workplace problem solving exercises (test items and specifications) shall be developed in consultation with industry. These shall be based upon real workplace issues. Candidates shall be expected to solve the problems by giving practical demonstrations of the skills involved; demonstrating their understanding of why they are performing the skills in a particular manner and answering a series of questions relating to the underpinning knowledge as specified in the national competency standards. Assessment tools are the evidence gathering instruments themselves. They shall consist of:

- An outline of the problem/s to be solved.
- A description of the task/s they need to perform
- Any associated specifications
- A scenario in which they will need to demonstrate their understating of the task/s performed
- A list of the areas in which they will be asked questions
- The Competency standards unit that is being assessed

The assessment resources shall facilitate maintaining the principles of assessment. An important part of record keeping is the reporting of the assessment results. Consistent with the principle of criterion referenced assessment there are only two possibilities of outcomes i.e competent or not yet competent. This shall not preclude the assessor from providing feedback to the candidate on his/her performance. It can include the results of any formative assessments that were used in reaching the final assessment decision. Where the qualification is a National Certificate or National Diploma, there may be some national requirements to satisfy to assure the consistency of assessment nationwide.

The “collecting of evidence” approach means that learners should have more than a single opportunity to demonstrate competence.

For Levels 1 to 4, resources for assessors include:

- Relevant version of NCS
- Guidelines for competency based assessment
- The set of assessment resources
- Checklists to be used by assessors, when assessing the performance of the practical demonstration of skills, including the specifications of understanding methodology, principles etc.
- A set of questions to be used for the knowledge based assessment

A final (summative) record keeping instrument shall also be required for each unit covered by the national competency standard.

These instruments shall be standardized in order to follow the same format as the Competency Standards.

For Levels 5 and 6, resources for assessors include:

- Relevant version of NCS
- Guidelines for Competency based assessment
- The set of assessment resources
- Checklists to be used by assessors, when assessing the performance of the practical demonstration of skills, including the specifications of understanding methodology, principles etc.

- A set of questions to be used for the knowledge based assessment
- Results of formative and summative assessments and supporting evidence

Every outcome or competence does not require a separate assessment activity. Assessment can often be integrated to provide evidence for several outcomes or competencies in one or several units of a qualification. Assessment activities should be appropriate to the nature and objectives of the learning programme and the qualification it leads to. Assessment activities can often reflect and reinforce the way students have been learning.

5.2.1 ASSESSMENT RESOURCES DEVELOPMENT PROCESS

The term “Assessment Resources” is used to indicate the broader scope of competency based assessment when compared to more traditional assessment of learning outcomes. Whilst formal skills, knowledge and attitudes testing may be a part of the assessment process there shall also be an ongoing “evidence of competence” recorded, which shall contribute to a final decision on whether a candidate has demonstrated the skill, knowledge and attitudes specified in the competency standards. An important principle is that Assessment Resources shall be developed for each unit of the national competency standards. This allows for single unit assessment and award of a record of achievement. Once all units that cluster a qualification have been successfully assessed, the candidate is eligible to receive a National Vocational Qualification. The process used for developing assessment resources shall be very similar to the process used for developing national competency standards. Assessment Resources shall be produced once the competency standards have been endorsed and the qualifications packaging finalised. The development of assessment resources in this manner shall require substantial on-going funding to sustain development and to continually update the assessment materials. The National Apprentice and Industrial Training Authority (NAITA) shall be the lead agency for the development of assessment resources. The development process of the assessment resources shall be as outlined below:

- Once the draft competency standards have been prepared to the stage of final NITAC validation, NAITA appoints an assessment resource person/team.
- The assessment resource person/team in consultation with members of the Competency Standards development group clarifies appropriate assessment methods for each unit, which are identified in the standard itself.

- The assessment resource person/group develops draft assessment resources including,
 - Evidence matrix
 - Evidence gathering instruments
- The final draft of the assessment resources is presented to the relevant NITAC for final approval.
- Once approved by the NITAC, the assessment resources are forwarded to the Tertiary and Vocational Education Commission (TVEC) for endorsement.

A validation from the NITAC is required in order to ensure that the assessment resources are aligned to the requirements of the competency standard.

In Modular Based Assessment for Levels 5 and 6, the following steps shall be adopted in developing assessment resources.

- Trainers of the institution shall develop assessment evidence matrices for the respective modules based on the information and guidance given in the module descriptors.
- Assessment resources for formative (continuous) assessments shall be developed by the Trainers of the institution and for summative assessment shall be developed by the panel appointed by the TVEC.
- The TVEC appoints moderators for summative assessment resources.
- The assessment resources for summative assessment developed by the panel appointed by the TVEC are checked for their appropriateness, adequacy, correctness and suitability by the moderators, and changes proposed if necessary.

5.2.2 ENDORSEMENT PROCESS OF ASSESSMENT RESOURCES

The Tertiary and Vocational Education Commission (TVEC) is the national authority responsible for the endorsement of Assessment Resources. The endorsing body may rely on the expertise of NAITA and the NITACs in recommending that assessment resources meet the requirements of the relevant

Competency Standard. The endorsement is to ensure that the assessment resources meet the criteria and the development process specified in the NVQ Operations Manual. Accordingly, the TVEC shall verify that the policies and procedure in the manual have been followed. The following steps are adopted in the endorsement of Assessment Resources:

- NAITA confirms that the assessment resources have met the content and technical requirements of the competency standard based upon the validation of the relevant NITAC and requests the TVEC that the assessment resources be endorsed.
- The TVEC verifies that the assessment resources comply with the development procedure specified in the NVQ Operations Manual.
- The TVEC, endorses the assessment resources forwarded by NAITA, if not they are returned to NAITA with reasons.
- The TVEC informs NAITA of successful endorsement of assessment resources.
- The assessment resources shall be coded and entered in the TVEC database and made available to assessors on a confidential basis.

PROCESS FOR ENDORSEMENT OF ASSESSMENT RESOURCES

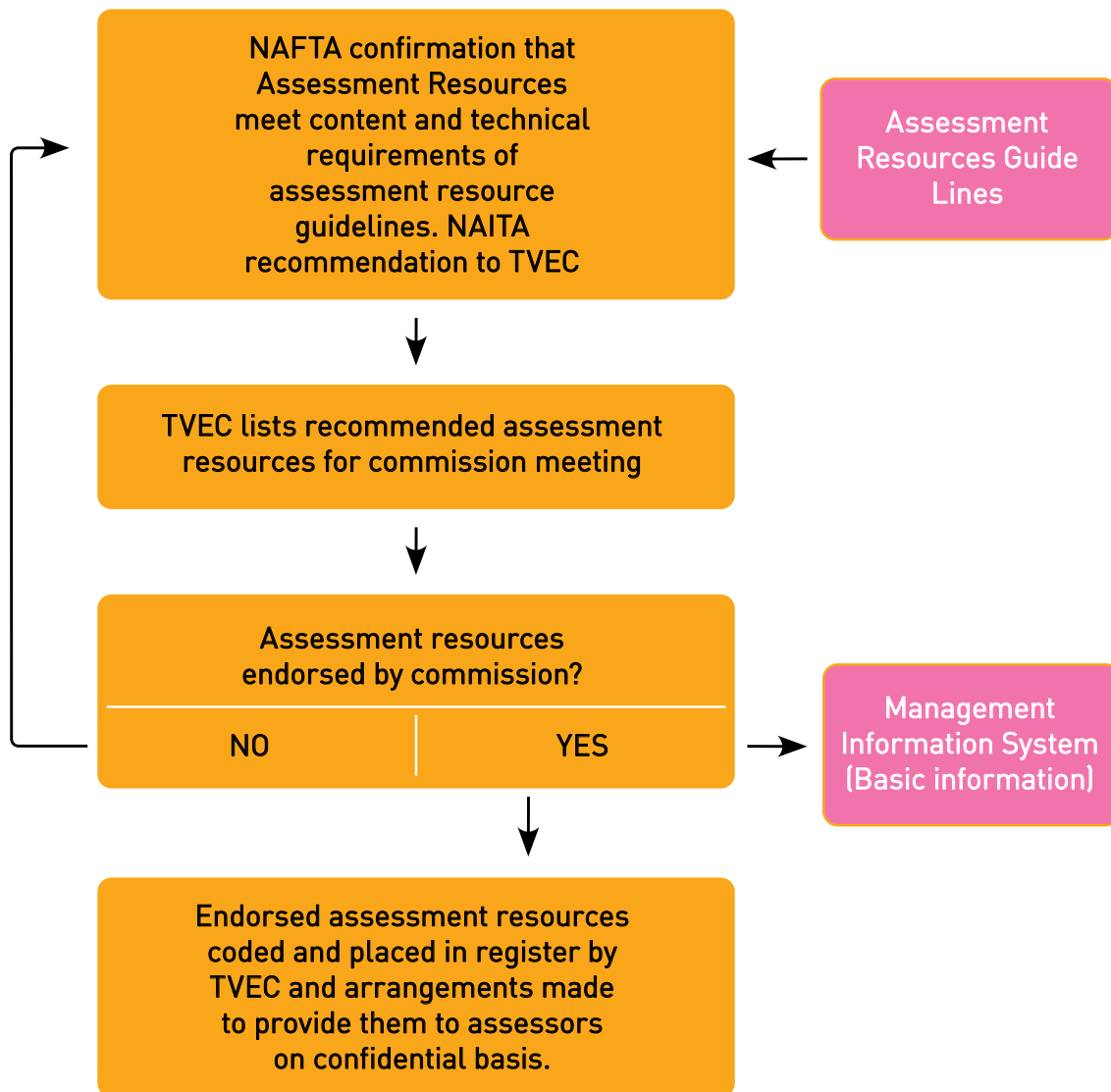


Figure 5.1: Process for endorsement of Assessment Resources

5.3 ASSESSORS

The TVEC shall be responsible for maintaining a register of authorized assessors and for distributing information to training providers, delegated assessment centres and industry, of the availability of qualified Assessors. The hallmark of CB assessment is that Assessors of the training centre where the trainee has undergone training shall not be involved in the Competency Based Assessments conducted for awarding National Vocational Qualifications.

A database of assessor details based on occupations shall be maintained by the TVEC. The UNIVOTEC shall be responsible for conducting assessor training programmes as and when necessary. It is recommended that a professional body of assessors be formed that deals with matters such as recognition, code of ethics for assessors, professional development of assessors etc.

5.3.1 ASSESSOR QUALIFICATIONS

Through the unified national TVET system of Sri Lanka, the TVEC shall be entrusted to select and appoint assessors.

Assessments shall be carried out by a panel of registered assessors. When assessors are not available for a given occupation/technology area, a “Licensed Assessor” who is competent in the industry sector / technology area of the assessment process can be appointed with an industry expert in the relevant occupation/technology area to conduct the assessment.

The following pre-qualifications have to be satisfied to be trained as an Assessor:

- Have at least three years verifiable practical and current work experience in the technology area being assessed
- Hold a recognised qualification accepted by the TVEC in the technology area being assessed, which is at least one level above the level being assessed.

5.3.2 ASSESSOR TRAINING

The UNIVOTEC is responsible for conducting assessor training programmes as and when necessary. After the successful completion of training, they will be registered as assessors for a nominated scope of assessment. The scope will specify the field, and the NVQ level within that field, for which they are registered to assess. Following provisional registration and satisfactorily taking part in the assessment of 25 candidates with an appointed assessment panel, a new assessor will be eligible to be registered as an assessor.

The UNIVOTEC is also responsible for training staff of the training institutions to develop assessment resources for formative and summative assessments.

5.4 NATIONAL CONSISTENCY IN COMPETENCY BASED ASSESSMENTS

Consistency in competency based assessment involves the achievement of comparable outcomes. An assessment process would be considered to deliver consistent outcomes if assessors assessing trainees against the same unit of competency in different contexts made comparable assessment results. Assessment of trainees must be fair, valid, and consistent and conform to competency based assessment policy. Achieving consistency requires understanding what is being assessed, what evidence is needed and how the assessment decision should be made. Consistency can only be achieved when assessors share a common understanding of the unit(s) of competency which are being assessed.

5.4.1 OPTIONS FOR MAINTAINING CONSISTENCY IN ASSESSMENTS

The TVEC and industry partners shall have several options available for achieving and maintaining fair, valid, consistent assessment to the required standard within the national qualifications as detailed below:

- The panel of the monitoring team may visit training providers, monitor assessments and provide training and advice if necessary.
- Samples of assessments done may be submitted to the TVEC for scrutiny; leading to advice and further staff training as necessary.
- In-service training programmes may be convened to ensure the consistency of assessment.

The use of endorsed assessment resources shall assist in the standardisation of interpretation of standards and promote consistency in assessment procedures.

5.4.2 TVEC PROCESSES IN THE MAINTENANCE OF CONSISTENCY

The TVEC shall establish policies and procedures to ensure consistency of assessment for national qualifications endorsed by the TVEC. The TVEC shall request the UNIVOTEC to conduct in-service training on assessment consistency.

5.4.3 THE TVEC UNIT RESPONSIBLE FOR CONSISTENCY IN ASSESSMENT

The TVEC shall establish a unit with qualified staff to implement processes, procedures and activities in connection with the consistency in Assessment.

5.5 RECOGNITION OF PRIOR LEARNING WITHIN TVET

5.5.1 INTRODUCTION

Recognition of Prior Learning is a process that recognizes a learner’s current competencies which may have been achieved through means that include any combination of formal or informal training and education, work experience or general life experience. Recognition of uncertified learning may be combined with any formal certification to enable assessment decisions to be made. The national vocational qualifications system shall recognise prior learning based on national competency standards and determine the extent to which an individual has achieved the required competencies for partial or total completion of a national vocational qualification. The NVQSL Provides RPL only up to NVQ level 4.

5.5.2 PRINCIPLES OF RECOGNITION OF PRIOR LEARNING

Recognition of prior learning shall be accessible to anyone with relevant competencies achieved through means mentioned earlier that can be validated against the national competency standards. In the absence of any formal training, the minimum industrial exposure requirement to become eligible for RPL is stated in the relevant NVQ circulars.

Prior learning can be acquired from:

- The workplace
- Life experience
- Self-directed study

- Non-certificated study
- Formal uncertified learning
- Informal or undocumented understudy/mentoring schemes
- In-service training
- Distance education or open learning
- Community-based education
- Overseas education, training or experience

5.5.3 AUTHORITY FOR CONDUCTING RPL ASSESSMENTS

The TVEC shall be the authority for granting permission to institutions to conduct RPL assessments, if and when such national needs arise. Only establishments that have been formally accredited by the TVEC may seek permission to conduct RPL. Each training institution conducting RPL assessments shall appoint an RPL Coordinator who will coordinate all RPL related activities. An establishment that wishes to conduct RPL assessments shall apply to the TVEC with sufficient evidence of staffing, policies and procedures as well as the necessary infrastructure and resources. The application to the TVEC shall specify the scope of RPL assessments the institution is planning to conduct and provide documentary evidence of the following:

- A written commitment to the principles of the recognition of prior learning
- Licensed assessors and administrators who have undergone appropriate training to deal fairly and sensitively with candidates
- That internal policies and systems allow timely and accurate decisions as well as reasonable/accessible fees
- That candidate support policies guarantee the right of appeal
- Willingness to join in partnership with local and regional establishments in order to provide required pathways to candidates and workers.
- Information on any formal articulation and equivalence arrangements with other establishments

5.5.4 PUBLIC AWARENESS

Appropriate information to promote public awareness about the recognition of prior learning shall be made available.

5.5.5 ASSESSMENTS FOR RECOGNITION OF PRIOR LEARNING

It is the task of the assessor, to match the evidence of the relevant prior experience to the performance criteria of the specified units of competency of the qualification for which recognition is being sought. It is important that the assessment be carried out in a comfortable environment with necessary equipment, tools and machinery required for the assessment. This environment shall be conducive to participation and contribution by the candidate throughout the assessment process. For NVQ Level 4 the RPL assessments should be done by a panel of assessors consisting of two assessors. The assessments should be conducted as per the criteria, guidelines and methodology specified by the TVEC. If the RPL assessments are conducted in training institutions, those institutions should have accreditation obtained from TVEC for the relevant occupations. If it is carried out in industry, it must have an environment conducive to assessment with the necessary equipment, tools and machinery. The NAITA shall register these industry places and maintain a list with updated information. Variety in the methods of assessment is encouraged i.e demonstration, attestation, interview, or the evaluation of work samples or projects shall be commonly used. Attestation is a method of assessment, where the assessment decision is supported by a formal recommendation from a recognised group having sufficient depth and breadth of knowledge as well as respect/esteem, to execute a fair, valid and consistent assessment.

The following procedure shall be implemented in conducting RPL assessments.

Table 5.1: Procedure for RPL assessment

Step	Activity	Responsibility
1	Provide RPL information to prospective candidates	RPL Coordinator
2	Complete RPL application and forward to RPL Coordinator along with any supporting evidence/ documents	RPL Coordinator/ RPL Candidate

Step	Activity	Responsibility
3	Appoint panel of assessors	RPL Coordinator/ Relevant Director
4	Obtain approval from the TVEC	RPL Coordinator
5	Forward copy of RPL Application and portfolio to Assessors	RPL Coordinator
6	Contact candidate to commence RPL assessment process and Assessors prepare assessment plan	Assessors
7	Provide evidence of competence	RPL Candidate
8	Assess candidate's evidence against unit(s) requirements and record outcomes	Assessors
9	Provide feedback to candidate on RPL assessment outcome and obtain signed acknowledgement from candidate	Assessors
10	Submit duly completed and signed RPL Assessment record book to RPL Coordinator	Assessors
13	Forward the duly completed form and formats to the TVEC for issuing the Qualification	RPL Coordinator

5.5.8 DOCUMENTATION AND RECORD KEEPING

Documentation of the assessment, recommendations and any appeal shall be completed in respect of each candidate. A file shall be kept by the establishment for each candidate. It shall include all relevant information including application form, the name of the assessors, the method(s) of assessment and rationale, and the assessor's notes describing the assessment process and recommendations. The file shall contain a description of (or actual) evidence submitted. It is the responsibility of the establishment concerned to maintain confidentiality and integrity of the above records.

5.6 GUIDANCE

After the assessment is completed and outcome has been determined, guidance shall be available from the provider or by referral to an organisation with the appropriate services. Assistance is often necessary for making decisions relating to:

- Entering or continuing education and training
- Identifying training or education entry and exit points
- Identifying gap-filling courses
- Exploring possible career paths

5.7 RE-ASSESSMENT AND APPEAL ACCESS

If a candidate is found not yet competent in one or more of the units, an immediate feedback on the assessment results shall be given to the candidate with the specific areas on which he/she needs further improvement, together with timelines for possible reassessment. Candidates shall be informed of their right to appeal when they enter the process. The right to appeal is as follows:

- In case of a disagreement on the assessment result it shall be recorded in the candidate's competency based assessment record book with due signatures of the candidate and the assessor/s.
- Appeal shall be forwarded in writing to the person in charge of Examinations/ Assessments with a copy to the Director General (DG) of the TVEC
- The respective organisation verifies the assessment record with a representative of the DG TVEC.
- Based on the verification, the respective organisation shall inform the candidate about the success of the appeal or otherwise, and inform the candidate of the right to re-assessment with another assessor.

Appeals must be lodged within two weeks from the date of release of assessment results.

5.7.1 ASSESSMENT FEES IN CASE OF AN APPEAL

There shall be an appeal fee which is to be decided by the DG TVEC. On scrutiny, if the assessment process is found faulty, the candidate's appeal fee shall be refunded. The institution should arrange for the trainee to be reassessed with no fees charged. Funding for assessment shall be arranged by the respective organisation/institution responsible for the conduct of the assessment.

CHAPTER SIX



AWARD OF NATIONAL VOCATIONAL QUALIFICATIONS

- 6.1** CRITERIA FOR THE USE OF TERMS 'NATIONAL CERTIFICATE',
'NATIONAL DIPLOMA', 'HIGHER NATIONAL DIPLOMA' AND
'BACHELOR'S DEGREE'

6.1.1 NATIONAL QUALIFICATIONS

The term “National” will be used for endorsed qualifications. National qualifications are available from registered training providers, who offer accredited courses. The “National” certificates and Diplomas shall not be issued for new courses without the approval of the TVEC. National qualifications shall have internationally recognised characteristics.

They shall:

- Have a clear purpose
- Be internally coherent
- Recognise broad transferable and generic skills as well as specialised industry and professional skills
- Be internationally credible
- Have clear indications of entry requirements wherever applicable
- Specify quality assurance requirements for training delivery and assessment (unified and impartial)
- Provide an indication of the relationship to other qualifications wherever applicable
- Specify clearly the competencies to be achieved for the award of the Qualification

6.2 TYPES OF QUALIFICATION

There are four types of NVQ qualifications.

- a. National Certificate
- b. National Diploma and Higher National Diploma
- c. Record of Achievement
- d. Bachelor’s degree

6.2.1 NATIONAL CERTIFICATE

National Certificates are awarded to those who are fully competent in a particular occupation at NVQ levels 1 to 4. The “National Certificate” has a listing of units of competencies achieved on the reverse side of the certificate. This will be helpful information for employers or for trainees seeking further studies. All certificates carry provision for the logo of the training provider or accredited establishment along with the logo of the TVEC and National emblem. The NVQ level of the certificate is dependent on the level(s) of the unit(s) of competency in a qualification package. An occupation may have one or more qualification packages. National Certificates are awarded jointly by the TVEC and accredited training providers. All data of NVQ certificate holders are stored in the TVEC database.

6.2.2 NATIONAL DIPLOMA AND HIGHER NATIONAL DIPLOMA

National Diplomas and Higher National Diplomas are awarded to those who are competent in a particular technology area at NVQ level 5 or 6. The units of competencies comprising a “National Diploma or Higher National Diploma” are listed on the reverse side of the certificate. All certificates carry provision for the logo of the accredited training provider or establishment along with the logo of the TVEC and the National emblem.

Competencies for National Diplomas are in two categories, viz. Core competencies and Elective competencies. Core competencies are compulsory while elective competencies can be selected by the trainee to fulfil the credit requirement for the qualification. NVQ level 5 needs a minimum of 60 credits whereas level 6 needs 120 credits.

The details of the units of competence forming a qualification can be found in the corresponding competency standard. Approval to conduct NVQ Level 5 and 6 programmes is awarded to training institutions by the TVEC subject to the following conditions; National Diplomas are awarded jointly by the TVEC and approved training providers. ;

- The curricula of the courses have been accepted as on par with the national standard endorsed by the TVEC
- The equipment needed for training is in required order and in required quality
- The training centres/institutions have qualified teaching staff

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- The training institutes have the necessary classroom and laboratory facilities
- The training institutes possess adequate financial, physical and human resources to conduct NVQ Level 5 and 6 courses
- The training institutes have a proven track record over a period acceptable to TVEC

All data of NVQ certificate holders are stored in the TVEC database.

6.2.3 RECORD OF ACHIEVEMENT

Records of Achievement are awarded for those who demonstrate competence in some but not all of the units of competence forming a National Certificate. The awarding body for Records of Achievement is the respective training provider who should be eligible to conduct NVQ courses. However, necessary data shall be transmitted and stored in the TVEC database. Records of Achievement are useful as an individual reference for learners and employees who have yet to attain all the requirements to be awarded a National qualification.

6.2.4 CRITERIA FOR AWARDING NATIONAL CERTIFICATES AND NATIONAL DIPLOMAS

The following criteria shall be adhered to by training providers to be able to award national certificates and diplomas.

- Training centres/institutions should be registered and the relevant courses should be accredited with an approved QMS
- Assessments should be conducted according to the National Competency Standard
- The certificates should be printed by the TVEC
- The certificates should contain the signature of the Director General of the TVEC and the signatures of the Head of the training institution and the Head of examinations of the institution

6.2.5 BACHELOR'S DEGREE

Bachelors' degrees at NVQ level 7 are awarded by the University of Vocational Technology, the Ocean University of Sri Lanka and any other institute with degree awarding status which will be accepted by the TVEC. Development of curricula, conduct of assessments and awarding certificates are under the purview of the respective University or institution. The Admission, accreditation and Quality Assurance Council of the UNIVOTEC is chaired by the DG of the TVEC. Quality assurance of the qualification awarded by the respective University/institutions shall be compatible with the national quality assurance policies relevant to awarding of degrees.

6.3 PROCESS FOR AWARDING NVQ QUALIFICATIONS

TVEC should receive accurate assessment data from approved training providers for printing of NVQ certificates. These data should be scrutinized by Director (Assessment Quality Assurance) before they are transferred to the certificate printing unit for printing of NVQ certificates. Details of name, National Identity Card (NIC) number, qualification code and effective date of the NVQ certificate should be accurate to proceed for printing. TVEC shall not proceed to issue NVQ certificates unless the above information is provided in the approved manner. The NIC number is the key item of data for traceability of the accuracy of certificate. However, Passport number is accepted in place of NIC number for foreign students.

6.4 MAINTENANCE OF RECORDS AND VERIFICATIONS

Pre-printed certificates with adequate security measures shall be obtained from the Government Press and then printed with necessary details of the holder at the TVEC. Necessary stocks of pre-printed NVQ certificates may be maintained at the TVEC. The certificate printing activity shall be carried out in a well secured room with controlled access. A bi-annual audit shall be conducted by the TVEC in order to verify stocks of materials and issue of certificates. A complete database of certificate holders shall be maintained by the TVEC and three backup copies of the data should be updated as follows.

- A backup shall be updated soon after every operation of certificate printing and same to be kept in the relevant officer's custody.
- A backup kept with Director (AQA) shall be updated as per the standard backup procedure.
- A backup under the custody of DG TVEC shall be kept at a different location and shall be updated as per the standard backup procedure.

Records of certificate printing shall be kept at the TVEC for reference.

CHAPTER SEVEN



QUALITY ASSURANCE SYSTEM OF TVET PROGRAMMES

7.1 INTRODUCTION

The quality assurance policies and processes of the TVEC promote a high quality TVET sector in Sri Lanka, responsive to the requirements of industry, learners and other stakeholders. The Tertiary and Vocational Education (TVE) Act No 20 of 1990 and TVE (Amendment) Act No 50 of 1999 have mandated the TVEC to establish systems for maintaining standards and quality assurance of tertiary and vocational education, training institutions and programmes.

The TVEC established and has been implementing a three tier quality assurance system in the TVET sector. The three tiers are;

- Registration of TVET institutions;
- Accreditation of TVET courses to award NVQ certificates; and
- Installation of Quality Management Systems

7.2 REGISTRATION OF INSTITUTIONS

7.2.1 RELEVANT SECTIONS OF THE TVE ACT

According to the Tertiary and Vocational Education (TVE) Act No 20 of 1990, all TVET institutions are required to be registered with the TVEC by achieving the standard specified by the TVEC to enter the TVET education and training market. CHAPTER III of TVE Act describes the legal requirement of registration. They need to be properly established and organised with the explicit intention of offering education and training services.

7.2.2 The Training provider registration policy of the TVEC is:

- Strictly adhere to the registration process defined by the Tertiary and Vocational Education Act, No. 20 of 1990 and subsequent amendment to the Act.
- Ensure that no person shall establish, manage, run or control any institute for the provision of tertiary education and / or vocational education without being registered under the Tertiary and Vocational Education Act, No. 20 of 1990.
- Implement the provisions in the development plan published in the “Gazette of The Democratic Socialist Republic of Sri Lanka No. 887/8 - Thursday, September 07, 1995”, on the categories of persons and establishments providing tertiary education and / or vocational education as the case may be, for the purpose of registration.

7.2.3 CRITERIA FOR REGISTRATION

To be considered for registration, the applicant should satisfy the Commission that the institute applying for registration

- a. Has an established location and a regular office or place of business
- b. Has caused the name of the institute and the address painted or affixed in legible characters in the language in which the courses are conducted, in a conspicuous place at or near the entrance to the institute
- c. Provides classroom accommodation, workshops, library and recreation area and office rooms commensurate with the student population and the nature of courses conducted
- d. Provide basic amenities such as drinking water, light, fire protection facilities, first aid, sanitation etc., commensurate with the student population and the nature of courses conducted
- e. Uses curricula and syllabi which are valid and adequate, and conforming to established standards accepted by the Commission
- f. Utilizes machinery, equipment, tools etc. required to effectively impart the knowledge and skill contents of each course
- g. Employs appropriate teaching methods and aids in the teaching process
- h. Employs valid and adequate methods for testing and measuring of achievement levels of students and maintains accepted norms and standards in issuing certificates for different competency levels
- i. Employs qualified teaching staff Has a sufficient number of management personnel including Principal, Director of Studies, etc., as the case may be, commensurate with the size of the student population and the level of the course
- j. Has consistently abided by the provisions of the constitution under which the institution has been established.
- k. Employs effective methods of selection which ensures recruitment of applicants with the correct aptitude for each course
- l. Adheres to accepted norms and guidelines issued by the Commission in exhibiting notices and advertisements offering courses of studies

- m. Provides counselling and guidance services to students, arranges on the job/hands-on experience with industry wherever applicable and evaluates the effectiveness of the training programme and
- n. The institute is properly managed adhering to sound management approaches and maintaining effective academic, financial and administrative methods and procedures

Note: Procedure for registration is given in ‘The registration Manual for Registration of Training Providers/Institutions’ published by the TVEC

7.3 ACCREDITATION OF COURSES

In the Technical and Vocational Education and Training (TVET) system, accreditation is the formal recognition of a course by the Tertiary and Vocational Education Commission in accordance with the National Vocational Qualifications Framework of Sri Lanka. (NVQSL)

To obtain accreditation for a course a training institution needs to satisfy certain essential requirements. These include the ability/capability of the institution to deliver the training to a satisfactory level of quality, and availability of resources needed. Accreditation is considered as a quality assurance measure and a useful management tool for continuous improvement of a training course or training institution. Therefore, it is considered to be one of the primary methods for maintaining and improving standards of education and training.

7.3.1 REQUIREMENTS FOR ACCREDITATION OF COURSES

Accreditation of a course is done through assessment of the course in relation to the respective National Competency Standard and Competency Based Curriculum (NCS and CBT Curriculum). Assessment for accreditation is done by a panel of assessors comprised of a trade expert and a representative of the TVEC.

Courses conducted according to the NCS and CBT Curriculum would be accredited based on the following criteria.

- The training centre should have valid registration
- The training course should have equipment specified in the NCS relevant to the qualification. Training on equipment not available at the training centre may be covered during on the job training period
- Availability of qualified academic staff
- Structured training delivery with proper Training Plan and lesson plans
- Trainer-Trainee ratio and Equipment-Trainee ratio maintained as per NVQ circular of the TVEC , given in the website www.tvec.gov.lk
- Conduct of continuous assessment (formative assessment) with records of evidence.
- Proper system for enrolment of trainees
- Arrangement for on the job training
- Proper maintenance of records
- Proper system for assessment and certification

7.3.2 ACCREDITATION OF COURSES, WITHOUT CBT CURRICULA BUT COMPATIBLE WITH NCSS

There are some courses conducted for a long time successfully and their curricula are compatible with the relevant NCS. For accreditation of such courses, it is necessary to organize the course to meet all the conditions required for course accreditation as specified in the section 7.3.1.

7.3.3 ACCREDITATION OF APPRENTICESHIP/ENTERPRISE BASED TRAINING PROGRAMMES

The criteria developed by the TVEC in consultation with NAITA to accredit workplaces to facilitate awarding of NVQ certificates to NAITA apprentices are laid down in the relevant NVQ Circular published in the TVEC website of www.tvec.gov.lk. Accordingly, NAITA is required to ensure the meeting of following criteria in workplaces of apprentices.

I. Facilities in workplaces

- Machinery and Equipment as specified in National Competency Standards
- Infrastructure
- Competent supervisors to supervise the apprentices
- Availability of a training schedule to cover relevant training modules
- Maintenance of training records and
- Adequacy of safety and health requirements

II. Course duration and Entry qualification

As apprenticeship training occurs based on the job functions existing within workplaces, it needs a longer duration than structured institutional training. Therefore, entry qualifications and durations of training for apprenticeship in different occupations shall be decided jointly by NAITA and the TVEC.

III. Continuous Assessment

Continuous assessment is a formative assessment which is compulsory to make sure of the attainment of required competency levels during the training. Therefore, all NAITA apprentices in NVQ Programmes are required to record results of continuous assessment in the Trainee's Progress Record Book. However, for convenience, NAITA may prepare an "Apprentice's Daily Diary" by amalgamating TVEC Trainee's Progress Record Book and the NAITA Daily Diary.

IV. Knowledge inputs

In order to acquire the competency levels under the NVQ framework, trainees should be given sufficient knowledge on relevant theory of the subjects. Therefore, apprenticeship should include a sufficient period for basic training. Or else, apprentices should be given relevant theoretical knowledge through distance education or face to face instructions. Knowledge should have been assessed under continuous assessment and recorded in the daily diary.

V. Monitoring of Apprentices

The success of apprenticeship programmes is highly dependent on the monitoring of apprentices by NAITA Inspectors. Therefore, evidence of periodic monitoring should be recorded in the Daily Diary.

NAITA is required to train NAITA inspectors in the implementation of NVQ with apprenticeship in cooperation with the TVEC. NAITA shall provide the Workplace Assessment Report for each workplace within two months from the date of enrolment of the first student in the apprenticeship programme intended for accreditation. The TVEC evaluates the report with or without a visit to the workplace and acceptance of the workplace assessment report by the TVEC is considered as an indication of its suitability for accreditation status and the TVEC shall issue an accreditation number. Procedures of final assessment are laid down in Chapter 6; Assessment Policies and Procedures under NVQ Framework.

7.3.4 ACCREDITATION OF DUAL TRAINING PROGRAMMES

A training course could be delivered in the dual training mode where part of the training is delivered in a training centre and rest of the training is delivered under 'On the Job Training'. CBT curricula specify the learning duration of each module in notional hours and part of the notional hours could be delivered under 'On the Job Training.' Learning time in 'On the Job Training' is varied with the degree of supervision and learning environment of the workplace. Therefore, it is required to set the learning time in consultation with the TVEC. For accreditation of such courses, it is necessary to organise the course to meet all the conditions required for course accreditation as specified in section 7.3.1.

7.3.5 ACCREDITATION OF COURSES CONDUCTED BY INDUSTRIAL ENTERPRISES

Industrial Enterprises could obtain accreditation for courses conducted in a workplace with appropriate instructional facilities. For this purpose, theoretical instructions and basic practicals should be facilitated with qualified trainers within the workplace. For accreditation of such courses, it is necessary to organise the course to meet all the conditions required for course accreditation as specified in section 7.3.1.

7.3.6 ACCREDITATION OF SKILLS UPGRADING COURSES

Skills upgrading courses which enrol people with work experience in the relevant field may have comparatively shorter duration. Criteria for accreditation of skills upgrading courses are listed below.

- i. Course curricula should specify the relevant competencies in relevant National Competency Standards
- ii. Competency levels of the target group of students to be enrolled should be well specified. (Number of years of experience may be a vague criterion)
- iii. Competency levels of trainees should be verified through RPL assessment at the enrolment
- iv. Other conditions should be matched with general accreditation conditions specified in Section 7.3.1

In case of enrolling mixed groups of students, course duration should be fixed considering the learning requirements of the lowest qualified group.

7.4 QUALITY MANAGEMENT SYSTEM

At the time of registration, or at least during the first year of operation, there must be in place a coherent quality management system within the institution, of policies and procedures, with mechanisms for evaluation that ensure the continued relevance, appropriateness and effectiveness of the education and training services offered.

7.4.1 TRAINING PROCESSES AND PARAMETERS

Registration of a training centre ensures that the outputs of key processes meet the standards expected for successful operation. Accreditation ensures that a training course has facilities required to conduct a NVQ course. But the NVQ Framework emphasises the maintenance of process quality including the inputs and outputs.

In order to fulfil these requirements, based on the mandate given by TVE Act, the TVEC has developed a Quality Management System (QMS) based on ISO 9001:2008 and as per SLS IWA 2: 2007; Guidelines for the application of ISO 9001:2008 in Education.

7.4.2 QUALITY PROCEDURES

A QMS needs to ensure quality in all parameters of these processes and 6 procedures listed below shall be adopted in line with ISO 9001-2008 Quality Management System to assure quality in these parameters of training processes.

- i. Proper Maintenance of Documents of Training Processes
- ii. Maintenance of Records of Training Processes
- iii. Internal Audit / Management Review (Review & Verify above processes and standards)
- iv. Control of Non-conformities (Deficiencies / variations identified and monitored for their effects)
- v. Corrective Actions (Deviations corrected)
- vi. Preventive Actions (Make improvement to prevent future deviations)

7.4.3 PREPARATION FOR ESTABLISHMENT OF A QUALITY MANAGEMENT SYSTEM

In order to establish a Quality Management System, it is required to take the following actions.

I. Appointment of Quality Management Staff

Quality is a culture of an organisation. Therefore, all the staff should be committed to achieve quality in an organisation. However, under a Quality Management System, some staff members are required to be assigned to undertake key responsibilities in the QMS, in addition to their responsibilities in the training processes.

a. Head of Quality Management System

The head of the training centre is the head of the QMS and his commitment is vital for implementation of the QMS.

b. Quality Management Representative

Each training centre with a separate QMS should have a person to coordinate all QMS activities and he/she is named as Quality Management Representative (QMR).

c. Quality Management Review Committee / Management Review Meeting

Quality Management Review Committee should be comprised of the Head of the Training Centre, QMR and all heads of divisions or courses. QMR is the convener of this committee and the Head of the Training Centre chairs the meetings. This committee should have at least two meetings per annum to sort out all quality related issues.

d. Internal Quality Auditing staff

All training centres with a QMS should have a team of internal auditors. They are the internal officers who have successfully completed a training programme in Internal Quality Auditing. They are required to carry out quality audit as per audit plan prepared by the QMR.

Detailed duties of these staff and committees are well explained in the Quality Management System Handbook developed by the TVEC

II. Documents to be developed

It is necessary to develop the following documents for successful implementation of a QMS.

- Quality Plan for each training process identified at the registration of the centre with following components
 - * Input
 - * Activities
 - * Output
 - * Performance standards
 - * Reference documents and Records
- Six Quality Procedures with the following details
 - * Objective & scope of the process
 - * Responsibility for the process
 - * The operation and control of the process
- Work instructions, check lists, forms, formats, flow charts required to maintain the standards of the process
- Compiled Quality Manual with the following details
 - * Table of Contents
 - * Abbreviations
 - * Amendment Sheet
 - * Distribution list
 - * Introduction to Training Centre with its profile
 - * Scope of QMS and exclusions

- * Quality Plans
- * List of documents including work instructions, check lists, forms, formats, flow charts required to maintain the standards of processes
- * Six Quality Procedures
- * Management Responsibility
 - Quality Policy and Objective
 - Review Meetings
 - Responsibility Matrix

7.4.4 INSTALLATION OF QMS

While making all the above preparations, a training centre is required to take the following actions to install a QMS at the training centre.

- Train the team of staff members identified for internal auditing
- Conduct a round of internal auditing, have management review meeting and rectify the reported non-conformities (NCR)
- Conduct 2nd round of internal auditing
- Submit QMS application to TVEC
- Coordinate with the TVEC and facilitate external auditing

7.4.5 ROLE OF THE TVEC

The TVEC will be the certifying body for QMS and it shall take the following measures to facilitate the installation of QMS in training centres.

- Develop, print and circulate a Quality Management System Handbook
- Make the heads and senior staff aware of QMS and train Management
 - representatives on preparation of Quality Manual
- Evaluate Quality Manuals and give feedback to improve them to acceptable level.
- Train the internal quality audit teams of the training centres on internal quality auditing.
- Train and maintain a pool of lead auditors and get approval for an appropriate payment scheme for them.
- Develop an application form and other documents required for implementation of QMS.
- Conduct certification audits and surveillance audits of QMS installed in training centres and award QMC certifications.

CHAPTER EIGHT



IMPLEMENTATION OF THE NVQSLA

8.1 REGULATORY FUNCTIONS OF THE TERTIARY AND VOCATIONAL EDUCATION COMMISSION

The TVEC has adopted the following regulatory functions to support the delivery of training, competency assessments and certification of vocational qualifications in Sri Lanka.

- Develop policies and guidelines on NVQSL implementation
- Identify occupations/ sectors to develop Competency Standards
- Endorse competency standards, assessment resources and CBT curricula.
- Register training providers.
- Ensure establishment and implementation of Quality Management Systems at institutions in the TVET sector
- Accredite courses where NCSs are available
- Recognise and approve establishments for competency based assessment.
- Recognise and approve establishments to carry out assessment for the recognition of prior learning for award of NVQ
- Award National Vocational Qualifications
- Monitor and audit registration, accreditation and QMS
- Audit assessment and certification process leading to award of NVQ

Endorsement of national competency standards, competency based assessment resources and CBT curricula are a key process undertaken by the TVEC. The purpose of this process is to ensure that the national competency standards (the individual units and the national vocational qualifications packages), the competency based assessment resources and the CBT curricula meet the standards specified by the TVEC and comply with the guidelines of the NVQSL.

Registration of training providers is the process undertaken by the TVEC to ensure that the training providers meet the requirements of legislation. The establishment of quality management systems shall regularize the registrations.

Course accreditation for training providers is undertaken by the TVEC to ensure that courses conducted by registered training providers meet the accreditation standards. The establishment of Quality Management Systems shall regularize the accreditation.

Recognition of establishments for competency based assessment is the process through which the TVEC shall allow establishments to conduct assessments in the workplace directly against the competencies of the competency standards and to award NVQ to successful candidates.

Recognition of establishments to carry out the assessments for recognition of prior learning shall be allowed for training establishments that have been successfully audited by the TVEC.

Monitoring of registration and accreditation refers to the process by which the TVEC ensures that registered and accredited agencies continue to comply with the accepted standards.

Audit of registration and accreditation refers to the formal process to be undertaken on a scheduled cycle by the TVEC in order to verify that quality is being maintained or enhanced.

8.2 PROCEDURES FOR THE IMPLEMENTATION OF NVQ FRAMEWORK BY THE TRAINING PROVIDERS

The following is the step by step approach in the implementation of NVQSL by the training providers.

1. The potential training provider shall ensure that the respective teaching staff are aware of the national competency standards in the respective industry sectors / occupations.
2. The training providers shall use the curricula on the following basis.
 - a. The training providers shall use the CBT curricula based on the national competency standards as endorsed by the TVEC.
 - b. The training providers may use their own curricula, provided that the TVEC has approved that they comply with the national competency standards.
 - c. The curricula for industry sectors / trades for which national competency standards are not available; they shall be referred to the TVEC for development of standards with appropriate justifications.
3. Curricula of Non- NVQ courses shall be submitted to the TVEC for possible recognition.
4. The training providers shall ensure the establishment of a “Quality Management System”.

5. The training providers shall ensure the registration of the training centre with the TVEC and its continuation. The training providers shall ensure the accreditation of courses.
6. The training providers shall report achievements of trainees to TVEC through the MIS of the TVEC.
7. The trainees who have completed the institutional training may be placed in industry for on the job training through NAITA.

8.3 MANAGEMENT OF THE NVQ SYSTEM BY TRAINING CENTRES

Training providers shall be requested to appoint an NVQ officer from the senior management, in the case of the National Apprentice & Industrial Training Authority (NAITA), Vocational Training Authority (VTA), the UNIVOTEC, Department of Technical Education & Training (DTET), National Youth Services Council (NYSC), Ocean University and other training providers. The appointee shall be responsible for all aspects of the NVQ framework for all training centres within the agency. The Officer shall be responsible for management and coordination of the following areas of activities.

1. Management of NVQ

- NVQSL Policies, processes and resources such as national competency standards, curricula and assessment resources etc.
- Competency Based Assessment.
- QMS Activities
- Internal & external NVQ staff development programmes.
- Inter-Agency Steering committee meetings.

2. QMS Manual and operations

- Liaison with QMS officer.

3. Management of accreditation

- Course accreditation process.
- Accreditation submissions to the TVEC and follow up

4. Preparation for audit

- Completion of TVEC format for self-review.
- Arrangements for TVEC audit team visit.
- Follow up of audit reports and resolution of non-compliances.

5. Use of competency standards

- Advise and train staff in the use of competency standards.
- Communicate revisions of competency standards to relevant staff.

6. Use of CBT Curricula

- Be aware of the mandatory industrial training components in the courses.
- Be aware of industry components in courses, including any competency acquisition and ensure assessment in the workplace.
- Organise training on CBT methodology.

7. Use of assessment resources

- Ensure that relevant unit assessment resources are supplied

8. Participation in assessment consistency programmes

- Ensure modalities for assessment consistency.
- Ensure staff participation in workshops as required by TVEC.
- Follow-up activities.

9. Course development and course modification

- Assist staff preparing new courses for accreditation.
- Assist course modification processes.

10. Unit Completion Record & Certification

- Secure record of unit achievement.
- Secure record of qualifications awarded.
- Promote issuance of “Records of Achievement”, “National Certificates “National Diplomas” and Higher National Diplomas.
- Ensure maintenance of valid courses accreditation and registration for the award of NVQ
- Promote recognition of industry experience to award NVQ through flexible learning mode
- Regular submission of trainees’ data to the TVEC
- Ensure timely award of certificates to trainees
- Maintain data backup of all training information

8.4 TVEC DATABASES AND ONLINE SYSTEMS TO SUPPORT THE NVQ FRAMEWORK

8.4.1 CLASSIFICATION AND CODING:

- The complete competency standards package.
- Competency standards units.
- National Vocational Qualifications.
- Assessment resources.
- CBT curriculum.

i. For NVQ Level 1 – 4 occupations

The ILO “International Standard Industrial Classification” of all economic activity, as amended by the Department of Census and Statistics, 2001, Sri Lanka, shall be utilised for the classification of occupations.

NAITA shall comply with the above classification for the competency standards development process. Competency standards submitted by NAITA to the TVEC for endorsement shall carry the official classification. The UNIVOTEC shall classify the NCSs and CBT curricula using the above classification.

When the endorsed competency standard and CBT curriculum are entered into the TVEC database, the occupational classification shall provide a central reference point for the location and tracking of all data. Qualification titles shall be derived from the occupation/sector.

The NVQSL shall use the ILO sector coding system “International Standard Industrial Classification of all economic activities” (ISIC) as shown below:

- **Competency standards Code :15S001**

Sector letter and two digits followed by prefix S and three digits which identify the occupation.

- **Competency standards Unit Code : D15S001U01**

Competency standard code followed by prefix U and two digits indicating the number of the unit.

- **Assessment Resource Code : D15S001U01A**

Competency standard unit code followed by the letter A.

- **National Vocational Qualification Code: D15S001Q1L1**

Competency standard code followed by the prefix Q and qualification package number followed by the letter L and a digit indicating the level assigned to the qualification.

ii. **For NVQ Level 5 & 6 Industry Sectors**

The ILO “International Standard Industrial Classification” of all economic activity, as amended

A similar coding system shall be used that reflects the industry sector.

- **Competency standards Code : D15T001**

Sector letter and two digits followed by the prefix ‘T’ and three digits which identify the occupation.

However, there are six competency units common to all National Competency Standards, called Employability units and they are coded as,

EMPU01, EMPU02, EMPU03, EMPU04, EMPU05, EMPU06

- **Competency standards Unit Code : D15T001U01**

Competency standard code followed by the prefix U and two digits indicating the number of the unit.

- **Assessment Resource Code : D15T001U01A**

Competency standard unit code followed by the letter A.

Training Providers and assessing agencies seeking accreditation shall use these codes, which shall be assigned through the development process.

The classification and codes shall be used by the TVEC in managing the NVQ through to final certification. Training providers shall also use the codes to track activities and results of trainees.

8.4.2 INCLUSION OF NVQ INFORMATION IN THE TVEC DATABASE

The TVEC database shall contain the following:

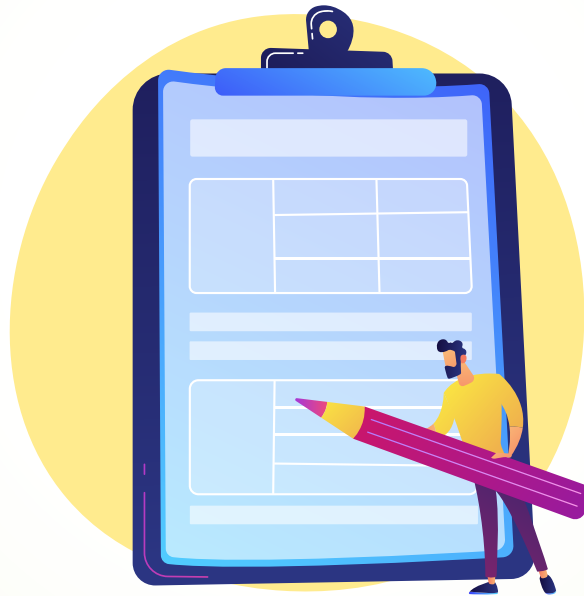
1. unit titles and national vocational qualification packages
2. registered training providers with full details of their course accreditations.
3. NVQ policies, guidelines and circulars of the NVQ framework.
4. recognised trade associations and NITACs.
5. providers and agencies accredited to assess prior learning.
6. Detailed information for trade associations willing to be recognised by the TVEC .
7. A schedule of all resources available to education providers to support the introduction of CBT.
8. Information for learners on national certification: “National Certificates”, “Diplomas” and the “Records of Achievement”.

Supplementary notes:

1. The course accreditation database shall distinguish between national and local qualifications and courses based on competency standards and those not based on competency standards.
- The database of registered providers shall enable tracking of their accredited courses and all of the endorsed units and qualifications which providers are authorised to assess and award. This is a vital resource for the maintenance of the validity and credibility of national certification in Sri Lanka.

- Applications for endorsement shall only be accepted from recognised bodies.
- Unit and qualification results shall only be accepted from accredited providers of education services and agencies accredited to authorise assessors.
- The database of results shall enable tracking and verification of qualification completion and the awarding of qualifications and records of achievement by the TVEC.
- The database shall accommodate old, as well as revised, versions of units and qualifications until revised units and qualifications gain full validity.
- The TVEC intranet will enable TVEC work teams to be informed on the following:
 - * The accreditation team shall know that applications can be expected and can verify the status and combinations of endorsed units and packages.
 - * Accreditation will trigger action by the assessment consistency team.
 - * The consistency of assessment team shall use the database of accreditations to link providers and agencies to its services and to track performance of providers and agencies in their national assessment standards and their use of NAITA assessment resources.
 - * The TVEC intranet shall enable combined tracking of all accredited providers and agencies so that institutional profiles are able to be built up leading to a monitoring visit or, if necessary, to an unscheduled audit.
 - * The certification team shall be able to verify the legitimacy of results submitted and track completion of qualifications.
 - * The TVEC newsletter editor will include summary information on new endorsements in the newsletter.
 - * The TVEC website shall capture all data to enhance stakeholders access to endorsed materials.
- Providers, workplace assessors and other stakeholders will be able to follow up from the notification of official endorsement in order to secure access to the full set of endorsed units, qualifications, assessment resources and CBT curricula.

CHAPTER NINE



APPENDICES

9.1 GLOSSARY OF TERMS

Accreditation:

Status awarded when an institution is judged capable of delivering a course leading to the award of a national vocational qualification

Assessment:	Process of collecting evidence and making judgements as to whether a person can perform according to the knowledge, skills and attitudes specified in the national competency standard
Assessment guide:	A component of a competency unit used to help teachers, students and assessors understand how, and under what conditions, assessment will be carried out
Assessment resources:	Materials to assist assessors in judging evidence of competence
Assessors:	Persons authorised to conduct national competency based assessments to determine if the competencies specified in the units have been acquired and to award unit and qualifications completion; assessors are initially registered; and may be licensed after completion of 25 assessments and meeting the requirements of the TVEC assessment standard
Audit:	A systematic, independent and documented process to determine whether the certified quality management system, the accredited teaching and learning, and assessment services, comply with planned arrangements, whether these arrangements are implemented effectively, and are suitable to achieve goals and objectives
Bachelor's degree:	Awarded after satisfactory completion of, and achievement in, a course that provides a systematic, research-based introduction to a coherent body of knowledge, its underlying principles and concepts, associated usages and applications, and analytical and problem-solving techniques
Certificate:	Document which signifies that a qualification has been awarded (see also Diploma and Bachelor's Degree)
Certification (of QMS):	Status awarded to an institution when the QMS has been assessed as conforming to ISO, or other, specified standards

Cognitive skills:	The basic mental abilities used to think, study, and learn and include mental processes used to analyse sounds and images, recall information from memory, make associations between different pieces of information, and maintain concentration on particular tasks.
Consistency of Assessment	Promoting fair and valid assessment, to the required standard
Competence	The possession by workers of what they are expected to know and to be able to do together with the capacity to apply that skill and knowledge in new situations and environments
Competency-based Training	A flexible learner-centred approach to training based on the national competency standards
Credit:	A numerical value assigned to a competency unit and national vocational qualification that represents the estimated time needed for a typical learner to demonstrate that all specified competencies have been acquired
Curriculum:	Specification of how knowledge, skills and attitudes from the competency standards can be transferred through structured education and training
Descriptor:	Component of a national competency standard; provides further information about a unit in terms of context and parameters
Diploma:	Qualification made up of at least 1500 learning hours with its advanced learning broadly equivalent to NVQ level 5/6 descriptor.
Element of competence:	Component of a national competency standard specifying learning outcomes; the building blocks of individual units; collectively the elements constitute the title of the unit
Employability Competencies:	Foundation skills, portable across all industries, developed to enable employees at all levels to better adapt to new job demands, work challenges and changing work environments
Endorsement:	The formal process by the TVEC of giving official recognition to competency standards, qualifications, curriculum and assessment resources

Function	Function is an activity necessary for achieving the key purpose of the sector, occupation, or an area of work, which can be carried out by a person or a group of persons. Functions are identified through functional analysis and form the basis of OS.
Generic skills:	Competencies common to an industry sector and often forming the core of several related qualifications
In plant training:	Training in a real working environment (usually in industry) that allows the trainee to gain hands on experience.
International benchmarking:	Aligning standards to commonly accepted international norms
Job role	Job role defines a unique set of functions that together form a unique employment opportunity in an organisation
Monitoring:	On-going surveillance to verify that the delivery processes continue to meet or exceed the standard demonstrated upon initial registration and accreditation
National Certificate	Qualification awarded at levels 1-4 of the national vocational qualifications framework
National Diploma	Qualification awarded at levels 5 and 6 of the national vocational qualifications framework
National qualification:	The education and training prerequisites identified nationally by industry for employment or to enter a course at a higher level
National Competency Standard:	The nationally identified knowledge, skills and attitudes required for effective workplace performance
National Vocational Qualifications Framework:	Sri Lanka's system for national technical and vocational qualifications
Qualifications Package (QP)	QP comprises the set of OS, together with the educational, training and other criteria required to perform a job role. A QP is assigned a unique qualifications package code
Occupation	Occupation is a set of job roles, which perform similar/ related set of functions in an industry

Performance criteria:	Component of a national competency standard which specify the critical evidence required to meet the competencies in the elements. Collectively the performance criteria provide the standards against which the elements are assessed.
Qualification:	The education and training prerequisites for entry to employment or a course at a higher level
Quality assurance:	The processes identified by a regulatory body to ensure that education providers or organisations are meeting or exceeding specified quality standards
Quality Management System:	An integral part of the management system of a training provider or organisation that focuses upon all the processes used to ensure that the training institution or organisation has adequate and appropriate good governance and management to achieve its goals and objectives; and to satisfy the expectations and requirements of its stakeholders, including the TVEC
Range statement:	Provides clarification of a competency standard; sets out the contexts and limits for work performance and the range of information, tools and equipment required for that work performance; may apply to all competencies in a unit, to one or several elements or to one or several performance criteria
Recognition of prior learning:	Process of awarding credit for competencies achieved outside of formal accredited training
Registration:	Permission for an education institution to be established and to teach, assess and award qualifications which are not national vocational qualifications
Sector	Sector is a conglomeration of different business operations having similar business and interests. It may also be defined as a distinct subset of the economy whose components share similar characteristics and interests
Sub-sector	Sub-sector is derived from a further breakdown based on the characteristics and interests of its components.
Surveillance audit	An independent assessment, based on institutional self-review reports followed by an institutional visit if required, to determine whether the certified QMS is being maintained and improved

Unit:	Component of a competency standard; a coherent set of the competencies specified in a full national competency standard
Validation:	Process of confirming that a national competency standard, CBT curriculum, and assessment resources meet the requirements of industry or relevant professional bodies

9.2 TERMS OF REFERENCE FOR THE INTER-AGENCY STEERING GROUP FOR THE IMPLEMENTATION OF THE NATIONAL VOCATIONAL QUALIFICATIONS FRAMEWORK IN SRI LANKA

9.2.1 INTRODUCTION:

NVQ is a unified national system for Technical and Vocational Education and Training in Sri Lanka. A key feature of this system is the National Vocational Qualifications Framework. The National Vocational Qualifications Framework is now being implemented with the assistance of public and private training providers and under the leadership of the Director General of the Tertiary and Vocational Education Commission (TVEC). The National Vocational Qualifications Framework will include all qualifications which have been quality assured by the TVEC and benchmarked to international standards, representing the skills of the high performance workplace.

9.2.2 RESPONSIBLE LEAD AGENCY:

The TVEC has been named as the lead agency for the implementation of NVQ system.

9.2.3 MAJOR OBJECTIVES OF THE NVQ FRAMEWORK:

- i. To develop an internationally competitive workforce by improving the quality and relevance of skills training;
- ii. To achieve high quality and consistency in all aspects of training, assessment and the awarding of certificates;

- iii. To reduce the present skills mismatch and youth unemployment;
- iv. To unify TVET in Sri Lanka through the implementation of competency standards and CBT curricula and to assist all implementing training providers and workplace assessment agencies to deliver training and assessment to an internationally recognised standard.

9.2.4 COMPOSITION OF THE NATIONAL COMMITTEE

There are two committees to follow-up the NVQ system

1. NVQ Inter Agency Steering Committee 1 (NVQ Policy Making)
2. NVQ Inter Agency Steering Committee 2 (NVQ Implementation)

Composition of NVQ Inter Agency Steering Committee 1(NVQ Policy Making)

- Chairman, TVEC (Chairperson)
- Director General, TVEC
- Additional Secretary (VT), Line Ministry
- VC, UNIVOTEC
- VC, Ocean University
- Director General, DTET
- Chairman, NAITA
- Chairman, VTA
- Chairman, NYSC
- Chairmen of Sector Councils/Industry committees
- One Representative for all University Colleges
- Deputy Director General, TVEC (Convener)

- Director (Planning and Research), TVEC
- Director, (Accreditation and Quality Assurance), TVEC
- Director (Information Systems), TVEC
- Director (NVQ), TVEC
- Director (Industry Liaisons), TVEC
- Director (Assessments), TVEC

Composition of NVQ Inter Agency Steering Committee 2(NVQ Implementation)

- Director General, TVEC (Chairperson)
- Director (NVQ), TVEC (Convener)
- Director (VT), Line Ministry
- Director (Academic Affairs), DTET
- Director (Planning and Research), DTET
- Director (Examinations, DTET)
- Director, (Training), NAITA
- Director, (Planning and Development), NAITA
- Director (Quality), NAITA
- Director (Training), VTA
- Director (Evaluation and Testing), VTA
- Director (Development), NYSC
- Dean (VT) Ocean University
- Relevant Director from MOE
- Director (Training), Department of Agriculture

- One Representative for all University Colleges
- Director General, VTA
- Director General, UNIVOTEC
- Director Admission, Accreditation, and Quality Assurance, UNIVOTEC
- Director SDC, UNIVOTEC
- Vice Chairman, NAITA
- Managers from Industry Sector Skills councils.
- Deputy Director General, TVEC
- Director, (Accreditation and Quality Assurance), TVEC
- Director (Information Systems), TVEC
- Director (Industry Liaisons), TVEC
- Director (Assessments), TVEC
- Deputy Director (NVQ), TVEC (Secretary to the Committee)

In addition, the following members will also attend to the Committee meetings to support and fulfil the requirements of the programme until the project is completed:

- Project Director, Relevant Project
- Project Manager (NVQ) – Relevant Project
- National and International Consultants for the NVQ Framework, Competency Standards, Curriculum Development, Quality Management and Quality Assurance.

Meetings:

Committee 1 will meet once in 03 months.

Committee 2 will meet once a month.

Main responsibilities of the Inter-Agency Steering Committee 1:

The Inter- Agency Steering Committee will

- a. Monitor the progress of the implementation of the NVQ Framework for all TVET in Sri Lanka;
- b. Identify solutions in order to ensure an effective implementation of the NVQ system;
- c. Submit a quarterly report to the relevant Project Director, giving detailed progress on implementation, issues, problems and recommendations to resolve the problems for the effective and smooth implementation of the NVQ system;
- d. Provide policy guidelines and support to institutionalise the NVQ system in participating training providers;
- e. Monitor and regularly review all aspects of the NVQ Framework with a view to modification of policies and implementation, and new policy development as necessary

Main responsibilities of the Inter-Agency Steering Committee 2:

The Inter-Agency Steering Committee will

- a. Coordinate and monitor the progress of the implementation of the NVQ Framework for all TVET in Sri Lanka;
- b. Identify major implementation issues, constraints and problems faced by the NVQ implementing training providers and identify solutions and if needed forward to Committee 1 to identify solutions in order to ensure an effective implementation of the NVQ system;
- c. Submit a monthly report to the Committee 1, giving detailed progress on implementation, issues, problems and recommendations to resolve the problems for the effective and smooth implementation of the NVQ system;
- d. Monitor and regularly review all aspects of the NVQ Framework with a view to modification and forward proposal of modifications for new policy development to Committee 1 as necessary

9.3 FRAMEWORK LEVEL DESCRIPTORS

INTRODUCTION

This document consolidates previous work on the development of new level descriptors for the Sri Lankan National Vocational Qualifications Framework. The document is adapted, with permission from the New Zealand Qualifications Authority. Its plan is relatively straightforward. Each section relating to a particular level contains.

- existing descriptors from sources relating to a range of proposed and established frameworks
- a discussion of some other relevant descriptors; and
- new descriptors for the level.

The purpose of the descriptors is to provide a means by which the units of endorsed standards (and the qualifications aggregated from those) may be assigned with confidence and consistency to levels of what is essentially a conventional framework. The method is, therefore, based in pragmatism, although an attempt has been made to maintain a decent correspondence with philosophy.

The basic assumptions made are:

- Units of endorsed standards, and the qualifications derived from those, may be assigned to levels according to their incremental complexity of knowledge, skills and attributes; tasks and procedures; and accountability. Complexity of knowledge, skills and attributes is determined by the mental and physical processes, and the knowledge base, that must be utilised to achieve a standard and to apply its learning outcomes.
- Complexity of tasks and procedures is determined by the nature of the processes that must be performed successfully to achieve the learning outcomes of a standard repeatedly and consistently.
- Complexity of accountability is determined by the degree of autonomy that is customarily associated with the application of the learning outcomes of a standard

USING THE GUIDE

STEP 1

Consider the intention of the unit - what occupation, activity or learning process is the person qualified to undertake when the learning outcomes, and those related to them at the same level, have been achieved? Check the answer against all the criteria for that level.

STEP 2

If STEP 1 does not provide a satisfactory result, consider the range of levels within which the standard falls. Engage the collective professional expertise of the standards-setting group in debating and identifying the particular level to which it should be assigned. Check the answer against all the criteria for that level.

STEP 3

If STEP 2 also fails to resolve the issue, use the method detailed in the APPENDIX 10.4

New standards-setting groups and writers should consider applying all three steps to the first few units they produce.

References:

Perry, William G "Authorities know, and if we work hard, read everything, and learn Right Answers, all will be well", quoted in "Different Worlds in the Same Classroom" from Ramsden et al "Improving Learning", Kogan Page Ltd 1988 Professor John Edwards, of James Cook University, Queensland, Australia is the author and co-author of a number of publications on the Scale of Cognitive Demand, on which discussions reflected in this document were based.

LEVEL ONE

EXAMPLES OF DESCRIPTORS AT LEVEL 1

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Recall in a narrow range of areas
Practical skills:	Basic practical skills
Problem solving:	Not critical
Information management:	Receive and pass on messages and information

TASKS AND PROCEDURES

Contexts:	Closely defined - highly structured and self-referenced; managing single tasks.
Processes:	Limited in range - repetitive and familiar - established and predictable - perform a sequence of routine tasks given clear direction.
Roles and functions:	Limited range of roles.

ACCOUNTABILITY

Autonomy:	Directed activity - under close supervision
Output:	Externally monitored
Quality:	Externally monitored

LEVEL TWO

EXAMPLES OF DESCRIPTORS AT LEVEL 2

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Range of knowledge applied
Practical skills:	Range of skills applied
Problem solving:	Known solutions to familiar problems.
Information management:	Assess and record information from various sources, readily available information.

TASKS AND PROCEDURES

Contexts:	Foundation of competencies ... in a limited range of predictable and structured contexts.
Processes:	Clear choice of routine responses; able to prioritise tasks by selecting from known solutions.
Roles and functions:	Coordination may be involved if working with a team.

ACCOUNTABILITY

Autonomy:	Some discretion and judgment about possible actions.
Output:	With some responsibility for quantity.
Quality:	With some responsibility for quality - under general supervision and quality control.

- Level 2 has greater complexity of knowledge, skills and attributes; task management and procedures; and accountability than Level 1.
- The descriptors above identify those characteristics which are found at Level 2 and not at Level 1.

Knowledge, skills and attributes

Terms employed currently also include basic theoretical knowledge - understanding of process - developed practical skills - knowledgeable applications - standard answers from independent thought - comprehension of a range of simple cognitive problems - known processes - readily available information.

The implication is that the level requires a knowledge base without which the tasks and procedures cannot be undertaken, but that it consists of a discrete and limited set of data and known responses - a table of Right Answers, as it were.

Tasks and procedures

These are also characterised by, according to existing definitions, predictability with variation - a small range of variety - a defined range of roles and contexts - a clear choice of actions with limited scope - established or known routines and procedures. Some discretion and judgment, limited complexity and limited variation.

The problem of relative, as opposed to level-specific statements is immediately apparent. The essential differences between this level and Level 1 appear to be in the admission of a limited range of complexity and choice.

Accountability

Included in the definitions are, in addition, general supervision - some individual discretion - no financial control - routine guidance with intermittent checking - (greater) individual responsibility and autonomy - and self-directed activity.

Implied is that the person is able to operate independently in familiar contexts and take some responsibility for the tasks and procedures, but continues to require external direction and quality control.

LEVEL THREE

EXAMPLES OF DESCRIPTORS AT LEVEL 3

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Knowledge with depth in some areas – some relevant theoretical knowledge
Practical skills:	A broad range of skills
Problem solving:	A range of known responses to familiar problems
Information management:	Interpretation of available information

TASKS AND PROCEDURES

Processes:	A significant choice of procedures prioritizing of multiple tasks
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ACCOUNTABILITY

Autonomy:	Directed activity with some autonomy – under general supervision
Output:	Achieving outcomes within time constraints
Quality:	External quality checking

- Level 3 has greater complexity of knowledge, skills and attributes; task management and procedures; and accountability than Levels 1 and 2
- The descriptors above identify those characteristics which are found at Level 3 and not at Levels 1 and 2

Knowledge, skills and attributes

Other key phrases in the existing definitions are theoretical knowledge and understanding, - well developed practical skills (conveying the idea of progression) - complexity in the extent and choice of actions - some discretion and (limited) judgment - resolution of specific problems - uncertainties and different opinions - comprehension and comparison of different ideas.

The major perception is that the person has progressed from providing well-rehearsed responses to given situations, to thinking about and selecting appropriate responses to less familiar input.

Tasks and procedures

Other terms used to characterise tasks and procedures include: predictable with variation - common tasks with some complexity - small range of variety - some depth in a broad range of skills - selection of equipment, work organisation and services - known routines, methods and procedures - predictable routines with wide variation - prioritizing tasks to achieve planned outcomes.

The increase in complexity relates more to variety of skills and their purpose than to any change in the intrinsic nature of the skills. The individual knows more and can apply what is known across a greater range of activities.

Accountability

Existing definitions extend accountability to include little supervision – significant individual responsibility - works with others - effective networking – limited guidance with checking related to overall progress - technical skills and leadership - some responsibility for others - responsibility for own outputs with external quality monitoring.

There is a focus on individual accountability for outputs within a managed environment, which accords with the discretion and judgment elements within learning

LEVEL FOUR

EXAMPLES OF DESCRIPTORS AT LEVEL 4

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	More complex range of competencies, knowledge and understanding. Informed judgment.
Practical skills:	Wide range of technical or scholastic skills
Problem solving:	Apply solutions to a defined range of unpredictable problems. A range of sometimes innovative responses to concrete but often unfamiliar problems.
Information management:	Analytical interpretation of information

TASKS AND PROCEDURES

Contexts:	Variety of familiar and unfamiliar contexts.
Processes:	Considerable choice of procedures; prioritizing tasks to optimise output.
Roles and functions:	Some discretion and judgment for both self and others in planning.

ACCOUNTABILITY

Autonomy:	Under broad guidance and evaluation
Output:	Take responsibility for own outputs
Quality:	Specified quality standards

- Level 4 has greater complexity of knowledge, skills and attributes; tasks and procedures; and accountability than Levels 1-3.
- The descriptors above identify those characteristics which are found at Level and not at Levels 1-3.

Knowledge, skills and attributes

Existing definitions add substantial application of new knowledge and understanding to new areas - knowledge with depth - evaluate and analyse - develop criteria and procedures - comprehension and comparison of principles underlying concrete ideas - low level analysis to support judgment – readily available information.

The key factor appears to be that the person is moving towards generating responses and away from selecting routine responses from a given range. This involves some understanding of theoretical concepts and the ability to analyse or extrapolate, though at a relatively low level.

Tasks and procedures

Other key phrases used in the existing definitions are complex - non-routine - broad range of variety - substantial use of practical skills - wide range of tasks and roles – prioritizing tasks for optimum performance - complexity in the range and choice of actions - broad range of varied (work) activities - wide variety of contexts.

Increased complexity at this level appears to be defined in terms of the range of skills and activities, rather than of any increased difficulty in the activities undertaken.

Accountability

At this level, people are expected to become fully self-directed and, in some areas, accept a leadership role. Concepts listed elsewhere include completes programme without direct supervision - self-directed - full responsibility for quality standards - control of amount and quality of output – supervisory role/competence - planning and selection of equipment, work, organisation, etc - only general guidance - teams guided - leadership - limited organisation of others.

These are logical levels of accountability, for example, an entry level tertiary student, a qualified craftsman or a senior employee in a process industry.

LEVEL FIVE

EXAMPLES OF DESCRIPTORS AT LEVEL 5

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Broad knowledge base incorporating theoretical concepts, with substantial depth in some areas.
Practical skills:	Wide range of specialised skills
Problem solving:	Apply solutions to a defined range of unpredictable problems. A range of sometimes innovative responses to concrete but often unfamiliar problems.
Information management:	Evaluate information, using it to forecast for planning or research purposes.

TASKS AND PROCEDURES

Contexts:	Variety of routine and non-routine contexts
Processes:	Transfer and apply creative skills to a range of situations
Roles and functions:	Judgment required in planning and selecting equipment, services techniques and work organisation for self and others

ACCOUNTABILITY

Autonomy:	Self-directed and sometimes directive activity within broad general guidelines or functions
Output:	Take responsibility for own outputs
Quality:	Specified quality standards

- Level 5 has greater complexity of knowledge, skills and attributes; tasks and procedures; and accountability than Levels 1-4

- The descriptors above identify those characteristics which are found at Level 5 and not at Levels 1-4.

Knowledge, skills and attributes

The characteristic of cognitive activity at this level is the requirement that judgment is made on a basis of information that is not always useable in its raw form. It is necessary to analyse, and to compare the results of analysis with at least a simple theoretical model, to arrive at a viable method or process for completing the activity.

Tasks and procedures

Other key phrases used in the existing definitions are range of technical and other skills - varied and highly specific contexts - highly technical contexts – creative and routine activities. Increased complexity at this level involves a shift towards either very varied methods and procedures or those that are specialised and technical. The student in full-time tertiary education, for example, will be focusing subsequently on a major topic of study. In industry, learning may be contributing to an advanced trade or technical certification. In either case the outcomes are not necessarily predictable or pre-determined. The work or learning process involves resolving appropriate responses to a variety of information and in multiple contexts.

Accountability

At this level, people are expected to be fully self-directed and responsible for all outcomes of a process, and the leadership role is likely to be extended. Definitions include self-directed application - competencies are normally used independently - applied under broad guidance - the work of others may be supervised or teams guided - prescribed responsibility under general guidance for specified outputs in work and learning, including quality standards and/or the work and learning of others. The difference between level 4 and level 5 is more to be inferred than positively determined from these existing descriptors. There is an implication that the outputs of the process are less specific and that there is accountability for determining the nature and quality of the output within more loosely prescribed specifications.

LEVEL SIX

EXAMPLES OF DESCRIPTORS AT LEVEL 6

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Generate ideas through the analysis of information and concepts at an abstract level.
Practical skills:	Command of wide ranging, highly specialised technical, creative or conceptual skills.
Problem solving:	The formulation of appropriate responses to resolve both concrete and abstract problems.
Information management:	Reformatting and evaluation of a wide range of information.

TASKS AND PROCEDURES

Roles and functions:	Diagnose, design and execute judgments across a broad range of technical, management, research or scholastic functions. Significant judgment in planning, designing, technical and supervisory functions related to products, services, operations or processes.
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ACCOUNTABILITY

Autonomy:	Complete accountability for determining and achieving personal and/ or group outcomes.
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- Level 6 has greater complexity of knowledge, skills and attributes; tasks and procedures; and accountability than Levels 1-5.
- The descriptors above identify those characteristics which are found at Level 6 and not at Levels 1-5.

Knowledge, skills and attributes

There is greater emphasis on the knowledge base at this level, and some learning may focus exclusively on the acquisition of knowledge. This is supported by other descriptors: development of knowledge with substantial in-depth use of theoretical and applied knowledge to provide solutions from a wide range of alternatives - complex and unpredictable problems - analysis of information and concepts at an abstract level.

Tasks and procedures

Essential differences between this and previous levels are found in the emphasis above on judgment and in such other descriptors as mastery of a specialised area with a range of skills and command of a specialised area. This indicates a move from wide versatility within the context of the operation to a relatively high degree of specialisation in some or all of its aspects. An illustration may be found in the workplace, where the skilled worker builds on an industry background to focus on an area of high technology, or in tertiary education, where the academic student moves from the generic studies of a discipline to a specialist “major”.

Accountability

It is likely that at this level accountability will be defined more in terms of a function than a task, and that it may be implicit in that function. It is the area of the job description rather than the job list. This is reflected in the autonomy described above and in prescribed responsibility and accountability within broad parameters for defined activities - applied under limited guidance in line with a broad plan, budget or strategy. In general education, students acquire the ability to negotiate themes and topics under general guidance and to take personal responsibility for short term work planning and delivery of „outputs”.

LEVEL SEVEN

EXAMPLES OF DESCRIPTORS AT LEVEL 7

KNOWLEDGE, SKILLS AND ATTRIBUTES

Knowledge:	Systematic and coherent body of knowledge - review, consolidate, extend and apply the knowledge and techniques learned.
Practical skills:	Command of highly specialised technical or scholastic and basic research skills across a major discipline – academic skills and attributes necessary to comprehend and evaluate new information, concepts and evidence from a range of sources.

TASKS AND PROCEDURES

Processes:	Transfer and apply creative skills to a range of situations
Roles and functions:	Significant high level judgment required in management functions, including resourcing.

- Level 7 has greater complexity of knowledge, skills and attributes; tasks and procedures; and accountability than Levels 1-6.
- The descriptors above identify those characteristics which are found at Level 7 and not at Levels 1-6.

Knowledge, skills and attributes

Learning here focuses on a command of knowledge and creative judgment. These attributes are amplified in the self-directed development and mastery of broad and/or specialised areas of knowledge - significant high level judgment – creation of solutions to given or contextual problems - creation of ideas, including those that are new to the learner, through analysis and transformation of information at an abstract level.

Tasks and procedures

It is clear that at this level the tasks and procedures have a high level of complexity requiring the exercise of significant judgment, as is also evidenced by a range of skills – major broad and/or highly specialised activities in a wide range of specialised contexts – complex and variable contexts.

Distinguishing between the complexity of this and the flanking levels is not easy however, because complexity varies from learning area to learning area and within learning areas. Knowledge, skills and attributes, and accountability are likely to be more reliable indicators.

Accountability

There are fewer existing descriptors at this level, presumably because complete personal accountability is expected from Level 6 onwards. Other descriptors used at the level are normally used independently and are non-routine - applied in accordance with a broad plan, budget or strategy - broad-ranging accountability for the structure, management and output of the work of others – full responsibility and accountability for all aspects of work and learning including planning, resourcing, quality standards and/or secondary responsibility for the work and learning of others. These could be applied, for example, to a newly qualified professional or a graduate in an academic field.

9.4 ASSIGNING LEVELS BY THE ELIMINATION OF OUTLIERS

If it proves difficult to assign a level by direct determination, a useful approach is to eliminate those levels that a competency standard unit or qualification does not fit (the outliers). The process suggested below progressively identifies and excludes the outliers, leaving a focused choice of two levels which can be considered in detail.

Construct the following diagram.

1 2 3 4 5 6 7

Beginning with 7, circle those levels into which the unit does not fit. Mark the next consecutive level downwards with a question mark.

Beginning with 1, repeat the process in the reverse direction.

Select the two outer levels (indicated by question marks). Determine which of the two the unit fits least well and eliminate it.

If more than two levels remain, add a question mark next to the level you have just eliminated.

Repeat the process until there are two levels remaining. If no firm decision can be reached, eliminate the level with the question mark attached to it.

The competency standard unit is allocated to this level.

9.5 RELEVANT INTERNATIONAL WEBSITES

<p>Australia</p>	<p>Department of Education, Science and Training www.dest.gov.au</p> <p>Australian Qualifications Framework www.aqf.edu.au</p> <p>National Training Information Service https://training.gov.au/</p> <p>Tertiary Education Quality and Standards Agency (TEQSA) www.teqsa.gov.au/</p>
<p>Basque (region of Spain)</p>	<p>Basque Vocational Training Plan www.euskadi.net</p>
<p>Botswana</p>	<p>Botswana Training Authority www.bota.org</p>
<p>European Union</p>	<p>European Qualifications Framework http://ec.europa.eu/education/policies/educ/eqf/index_en.html</p> <p>The Bologna Process http://ec.europa.eu/education/policies/educ/bologna/ https://www.ehea.info/</p> <p>European Association for Quality Assurance in Higher Education www.enqa</p>

Fiji	Training and Productivity Authority of Fiji www.tpaf.fiji
Hong Kong SAR, China	Hong Kong Qualifications Framework Hong Kong Education and Manpower Bureau www.hkqf.gov.hk
Ireland	National Qualifications Authority of Ireland www.nqai.ie
Jamaica	National Training Agency www.heart-nsta.org National Qualifications Register www.jtec.gov.jm National Council on Technical and Vocational Education and Training www.nctvetjamaica.org
Malaysia	Malaysian Qualifications Agency www.mqa.gov.my National Vocational Training Council (NVTC) www.nvtc.gov.my
Maldives	Maldives Accreditation Board www.mqa.gov.mv
Malta	Malta Qualifications Recognition Information Centre www.ncfhe.mt Malta Further and Higher Education Authority www.mfhea.mt
Mexico	National Council for Standardization and Certification of Labour Competencies www.conocer.gob.mx The Mexican National System of Competency Standards, Skills Testing and Certification
Namibia	Namibia Qualifications Authority www.op.gov.na

<p>New Zealand</p>	<p>New Zealand Qualifications Authority www.nzqa.govt.nz</p> <p>KiwiQuals www.kiwiquals.govt.nz</p> <p>Industry Training Federation www.itf.org.nz</p> <p>Tertiary Education Commission www.tec.govt.nz</p>
<p>Philippines</p>	<p>Technical Education and Skills Development Authority www.tesda.gov.ph</p> <p>Commission on Higher Education https://ched.gov.ph/</p>
<p>Saudi Arabia</p>	<p>Technical And Vocational Education www.moe.gov.sa</p> <p>National Commission for Academic Accreditation and Assessment www.ut.edu.sa</p>
<p>Scotland</p>	<p>Scottish Qualifications Authority www.sqa.org.uk</p> <p>Scottish Credit and Qualifications Framework www.scqf.org.uk</p>
<p>Singapore</p>	<p>Workforce Development Agency www.ssg-wsg.gov.sg</p>
<p>South Africa</p>	<p>South African Qualifications Authority www.saqa.org.za</p>
<p>UK (except Scotland)</p>	<p>The Office of Qualifications and Examinations Regulation (Ofqual) and Standard and Testing Agency www.abeuk.com/ofqual</p> <p>https://www.gov.uk/government/organisations/standards-and-testing-agency Sector Skills Development Agency www.ssda.org.uk</p>
<p>Vanuatu</p>	<p>Vanuatu National Training Council</p>

Tertiary and Vocational Education Commission

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