



Islamic Republic of Pakistan
اسلامی جمہوریہ پاکستان
Islāmi Jumhūrī-ye Pākistān



Manual No. 1:
**Developing, Registering
and Reviewing NVQF
Qualifications**

National Vocational Qualifications Framework

NVQF

To deliver a skilled and qualified workforce in Pakistan

Version 2

October 2017

National Vocational and Technical Training Commission (NAVTTTC)

Manual-1:

Development of National Vocational Qualifications

Version 2

October 2017

Table of Contents

1.	Introduction	1
	Development of Competency Standards and Assessment Guides	1
	Development of Competency Based Curriculum	1
	Development of Trainers and Learner's Guides (TLGs)	2
2.	Guidelines for Labour Market Demand Analysis or Sector Studies or Training Need Analysis	3
3.	Guidelines for Development of NVQs	4
	Submission of Intent to Develop NVQ	4
	Constitution of a Qualification Development Committee (QDC)	4
	Undertaking Occupational Profiling	5
	Developing Competency Standards	5
	Developing the Assessment Guides	6
4.	Process for Registration of NVQs	7
5.	Development of Competency Based Curriculum	8
	Curriculum Development	8
	Procedure for Competency-Based Curriculum Development	8
6.	Development and Review of Trainers and Learner's Guides (TLGs)	10
7.	Reviewing NVQF Qualifications	11
	Feedback on Review of Qualifications	11
	Criteria for Review of the Qualifications	11
	Options for Review of NVQ	12
8.	APPENDICES	13
	Appendix-1: Qualification Development Form 1 (QDF-1) Indication of intent	13
	Appendix-2: Qualification Development Form 2 (QDF-2) Acceptance/non-acceptance	14
	Appendix-3: Guideline for undertaking Occupational Profiling	15
	Appendix-4: Guideline for Developing Competency Standards and CS Template	19
	Appendix-5: NVQF Level Descriptors	24
	Appendix-6: Assessment Evidence Guides Template and Guidelines to write Assessment Tasks	25
	Appendix-7: Guideline on Developing Competency-Based Curriculum and Template	28
	Appendix-8: Guidelines and Templates for Trainer's and Learner's Guide	31
	Appendix-9: Qualification Review Form (QRF-1)	38
9.	Glossary of Terms	39

Abbreviations used

CBT	Competency Based Training
CCIs	Chamber of Commerce & Industries
CSs	Competency Standards
CUs	Competency Units
DACUM	Developing A Curriculum
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ISD	Instructional System Design
MCQs	Multiple Choice Questions
NAVTTTC	National Vocational and Technical Training Commission
NOSS	National Occupational Skill Standards
NVQs	National Vocational Qualifications
NVQF	National Vocational Qualifications Framework
NSIS	National Skill Information System
OS	Occupational Standards
PSDF	Punjab Skill Development Fund
PVTC	Punjab Vocational Training Council
QABs	Qualification Awarding Bodies
QDC	Qualification Development Committee
QDF	Qualification Development Form
QRF	Qualification Review Form
SMEDA	Small and Medium Enterprise Development Agency
SS	Skill Standards
SSC	Sector Skills Councils
TEVTAs	Technical Education and Vocational Training Authorities
TORs	Terms of References
TLGs	Teaching and Learning Guides
TVET	Technical Vocational Education and Training
UNESCO	United Nations Educational Scientific and Cultural Organization
UNIDO	United Nations Industrial Development Organization
VQS	Vocational Qualifications

1 Introduction

Development of Competency Standards and Assessment Guides

The process for development of a new National Vocational Qualification (NVQ) shall start with undertaking a labour market demand analysis, which shall provide justification and rationale for development of the qualification. A Qualification Development Committee (QDC) shall then be constituted by NAVTTC and respective TEVTAs to develop and finalize the Competency Standards (CS) and Assessment Guides for that qualification. The Figure 1 below shows processes for development and finalization of competency standards and assessment guides for a new national vocational qualification.

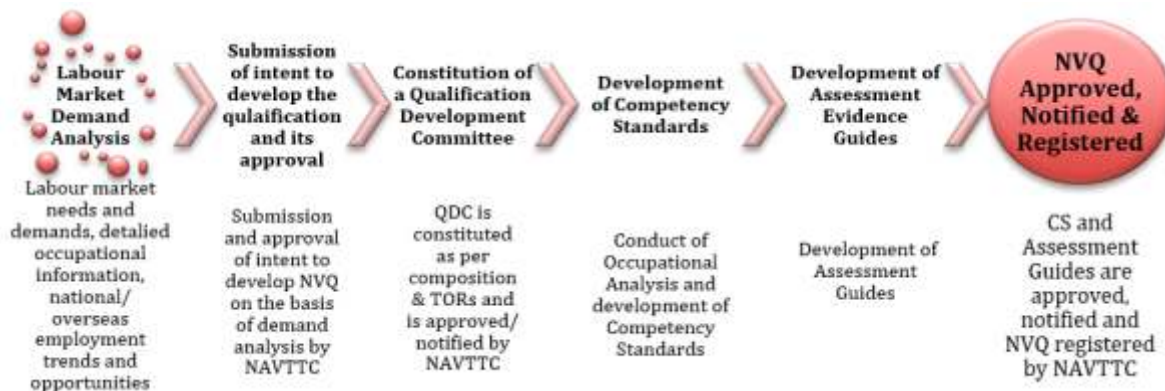


Figure 1: Process for development of NVQ

Competency Standards approved and notified would make the NVQ eligible for its registration in the NVQ Registry System.

This manual provides detailed procedures, guidelines and templates on undertaking labour market demand analysis, submission of intent, constitution of the Qualification Development Committee, procedures for conducting Occupational Analysis, development of Competency Standards and development of Assessment Guides and registration of the qualification in NVQ Registry System.

Development of Competency Based Curriculum

Competency Units, performance criteria and knowledge and understanding developed under the competency standards document provides basis for development of competency-based curriculum. The Figure 2 below shows processes for development of competency-based curriculum.

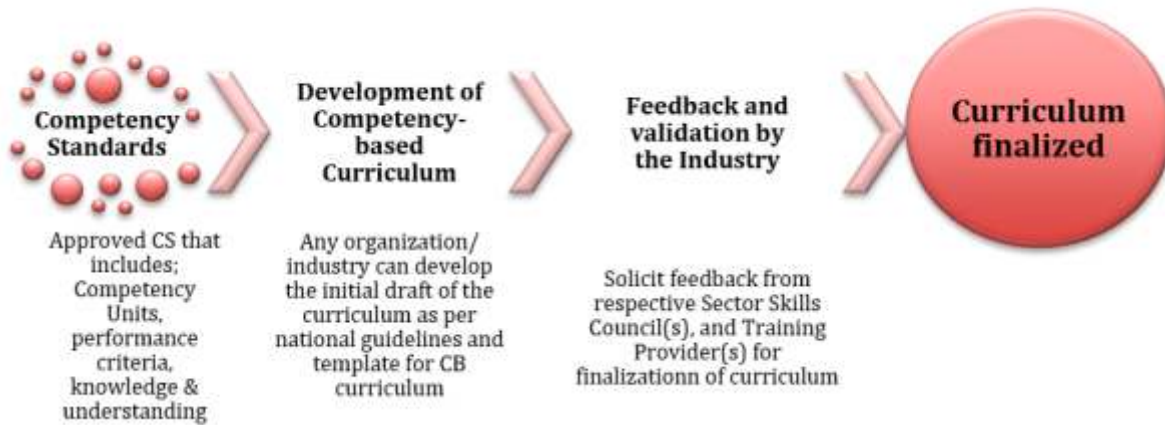


Figure 2: Processes for Development of Competency-Based Curriculum

Development of Trainers and Learner's Guides (TLGs)

The Trainers and Learner's Guides (TLGs) are developed on the basis of modules, learning units, learning outcomes and learning elements described in the curriculum. The Instructor's guide provides guidelines and instructions to the trainers on the approaches that are required for the effective training program and delivery of the competency-based curriculum contents. The Learner's Guide enables the trainees to achieve the competency standards that have been set by the relevant industry with the content-wise detail. The Figure 3 below shows processes for development of Trainers and Learner's guides.

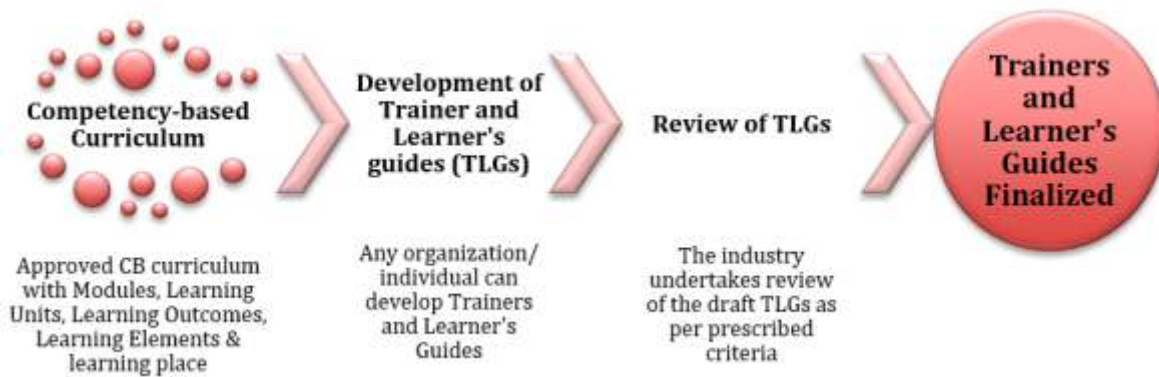


Figure 3: Processes for development of Trainers and Learner's Guides

This manual provides procedures, guidelines and templates for developing the competency-based curriculum and trainers and learner's guides.

2 Guidelines for Labour Market Demand Analysis or Sector Studies or Training Need Analysis

In order to begin development work, labour market demand analysis is preferred. It can be done through data of National Skill Information System (NSIS), Sector Studies, Labour Force Survey and statistics of skilled workforce yearly published by the government of Pakistan etc. and may encompass following information:

- Types of employers in the sector (such as number of large, small and medium enterprises)
- Detailed occupational information (including career paths, entry point and salaries)
- Self-employment trends
- Vacancies information
- Employment exchange program/Apprenticeship training
- Local information and trends
- Regional data and trends
- Overseas employment trends (where appropriate)
- Qualification levels of the sector's workforce
- Current developments in education and training
- Tracer studies

The following sources of data can be used:

- National Skills Information System (NSIS)
- Provincial TVET Fora
- Chambers of Commerce and Industry (CCIs)
- Trade Associations
- Sector Skills Councils (SSCs)
- Public and private training providers
- Findings and recommendations of research wings of the Boards of Technical Education and TEVTAs/PVTC/PSDF or SMEDA etc.
- Pakistan Labour Force Survey
- Statistics of skilled workforce by Pakistan Bureau of Statistics
- International labour data sources (e.g. International Labour Organisation (ILO), World Economic Forum, World Bank, Asian Development Bank, UNIDO, UNESCO etc.)
- Documents/Information published by;
 - ☞ Government of Pakistan
 - ☞ Population Association of Pakistan
 - ☞ Pakistan Trade Information Portal
 - ☞ Trade Development Authority of Pakistan
 - ☞ Overseas Employment Corporation
 - ☞ Ministry of Overseas Pakistanis and Human Resource Development

The list of recommended data sources are only examples. Agencies may consider other sources as well. **In some of the cases Labour Market Demand Analysis can be exempted, as it is an optional step.**

3 Guidelines for Development of NVQs

Submission of Intent to Develop NVQ

On completion of labour market demand analysis, the organizations intending to develop NVQ will submit intention on the prescribed Qualification Development Form i.e. QDF-1: Indication of intent to develop a qualification (Appendix-I) along with labour market demand analysis in support of their justification and rationale to develop the NVQ.

NAVTTTC upon receipt of the qualification development intent will;

- Check its NVQ registry system/database for duplication with any existing, under development and/or in the pipeline NVQ; and
- Verify the justification/rationale/skill demand analysis and documents provided. NAVTTTC upon its satisfaction will give go-ahead to develop the qualification or may indicate missing information/documents in case information and documentation provided is not complete. The prescribed format QDF 2: Acceptance/Non-Acceptance of intent to develop NVQF qualification (Appendix-2) will be used by NAVTTTC and response given within a fortnight after receipt of their proposal

Constitution of a Qualification Development Committee (QDC)

Once the intent to develop the NVQ is cleared by NAVTTTC, the NAVTTTC will constitute a Qualification Development Committee (QDC) in consultations with industry and applicant, which will be approved and notified by NAVTTTC. The composition and terms of reference of QDC are given below.

Composition of QDC

- Representative from NAVTTTC
- 6 members with wide experience in occupations within the industry sector who are current practitioners (nominated by industry, SSC, CCIs, Trade Associations etc.)
- 6 representatives from private and public training providers (from TEVTAs, PVTC, QABs, and private training institutions as appropriate)
- A Certified CBT Assessor of the same sector (Allied sector)

Terms of Reference of QDC

- Identify and nominate Occupational Analysis Panel and a Facilitators for occupational profiling
- Conduct workshops and finalize the chart (s)

- Identify suitable practitioners to take part in competency standards development and the development of assessment guides
- Conduct competency standards and assessment guides development workshops.
- Undertake industry validation of competency standards and assessment guides and finalize documents for submission and notification of NAVTTC

Undertaking Occupational Profiling

The Qualification Development Committee (QDC) will be responsible for occupational profiling. Since it involves high-performing incumbent workers to analyse their own job and identify the duties and tasks that make up their jobs, the QDC will constitute a panel, appoint a competent facilitator, and get an occupational profile prepared in a chart format, which describes various levels of an occupation in terms of specific jobs, duties and tasks that competent workers must perform.

The detailed procedures, guidelines for undertaking occupational profiling and a filled template are given at Appendix-3.

Developing Competency Standards

The competency standards developed are the result of a consultation process that includes industry practitioners and academicians. Competency standards focus on what is expected from a worker in the workplace rather than during the learning process. It describes the skills, knowledge and attitudes that a competent worker in the occupation shall demonstrate at a work place. The QDC on the basis of occupational profiling chart will:

- Develop and finalize Competency Standards (CSs) and Competency Units (CUs) on the basis of major duties and tasks listed in the chart and develop the full package of the competency standard document including performance criteria, underpinning knowledge and understanding, level, requirements for progress and achievement, pathways, equivalences and other conditions as per guidelines and template of Competency Standard document given at Appendix-4.
- Cluster competency standards in to “Generic”, “Functional” and “Technical”
- Assign each competency standard a NVQF level (from level 1 to 5) using the NVQF level descriptors (Appendix-5).
- Package the qualification with competency standards required for that level.
- An occupation may have one or more qualification package (Level-1 Qualification, Level-2 Qualification etc.) dependent upon the level of the competency standards.
- Consult with the relevant industries to confirm the accuracy of the competency standards, level of competency standards and get their feedback and endorsement.
- Finalize the competency standards on the basis of industry feedback for submission to NAVTTC for approval.

Developing the Assessment Guides

Qualification Development Committee (QDC) shall also develop assessment guides based on the critical evidences listed in the finalized competency. Following steps will be taken in the development of assessment guides for single CS and for summative assessment.

- a) The QDC develops the first draft of the assessment guides as per the national template and guidelines at Appendix-6. One assessment guide for every competency standard and an summative assessment guide for assessment of full qualifications shall be developed. QDC must ensure that the assessment guides are also validated by the industry.
- b) The QDC submits both assessment guides (single and summative) to NAVTTC for approval along with the finalized competency standards.
- c) NAVTTC approves the competency standards and assessment guides of the NVQ and process for registration of NVQ as part of the NVQ Registry System

4 Process for Registration of NVQs

After approval of NVQ, NAVTTC shall register the qualification as part of the NVQ registry system, assign NVQ a review date, assign code as per ISCED and inform the relevant stakeholders. The process for registration in the NVQ registry system is given below.

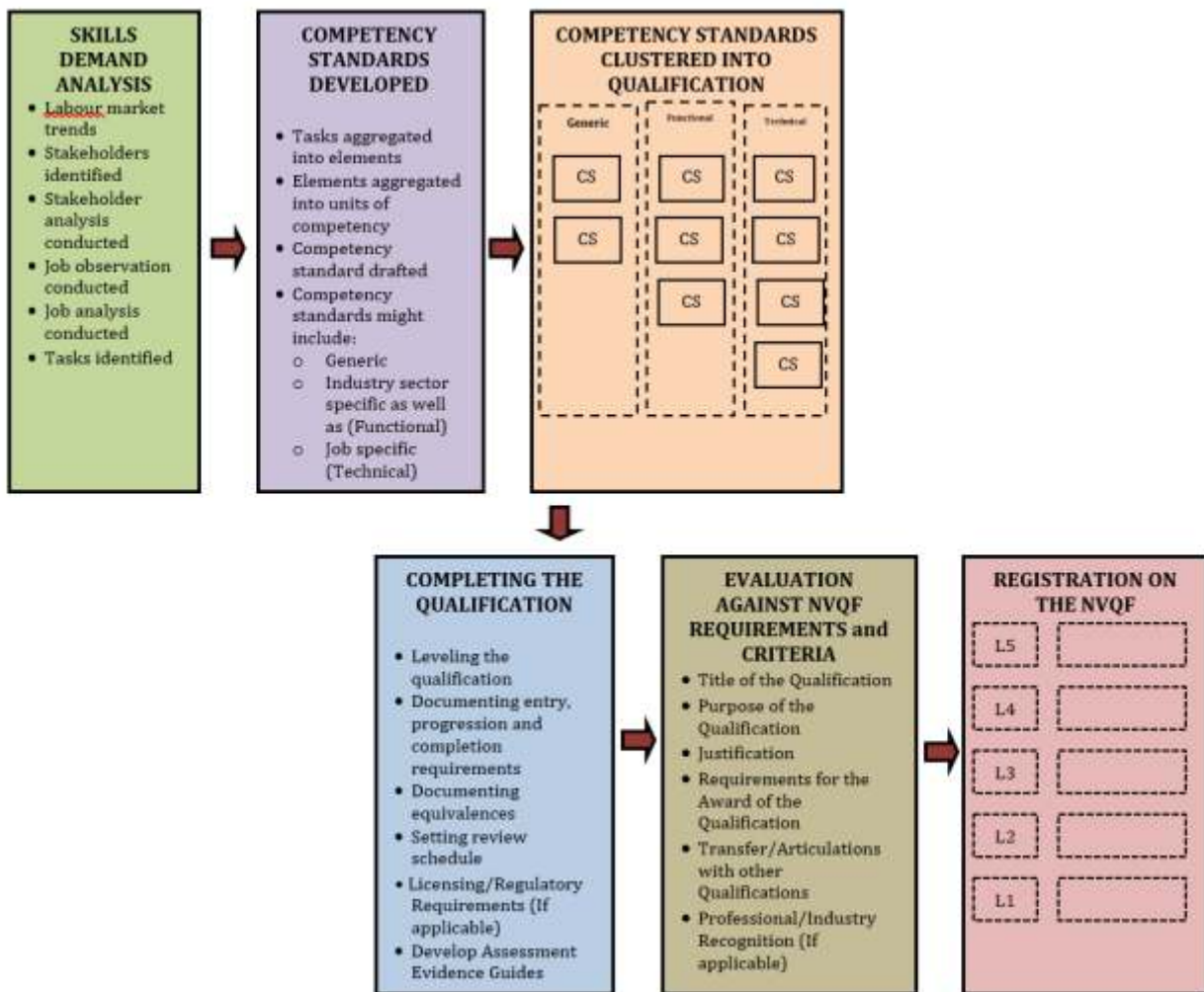


Figure 4: Registration in the NVQ Registry System

5 Development of Competency Based Curriculum

Competency-based curriculum provides overall course guidelines in relation to teaching and learning and act as the key instrument in supporting standardized formal, non-formal and informal training. Curriculum development thus aims at providing a bridge between competency standards and actual delivery of the training/teaching program and hence is an important source in the development of Trainers and Learner's Guides.

Curriculum Development

NAVTTTC or TEVTAs or any other agency may constitute a Curriculum Development Committee (CDC) with the following composition and TORs (optional).

Composition of CDC

- Representative of NAVTTTC
- Industry representatives/SSCs
- Experts from private and public training providers
- Instructors from TVET institutions with experience, knowledge and writing skills from the relevant sector
- Certified CBT Assessor of the same sector (Allied sector)

Terms of Reference of CDC

- Examine the qualification, competency standards and level to identify requirements for curriculum
- Devise the curriculum that will support the achievement of the competency standards and the qualification
- Define the credit value of the qualification after assigning credit value to each learning unit.
- Provide supportive notes on trainers and learner's guides' writers, assessment context, critical aspects, assessment conditions and resources required for assessment.
- Ensure industry validation of the curriculum.

Procedure for Competency-Based Curriculum Development

The CDC or curriculum development agency may adopt following procedure for the development of competency-based curriculum.

- a) Designates a curriculum facilitator and under his/her leadership and guidance, develops initial draft of the curriculum as per guidelines and national template for curriculum attached as Appendix-7.

- b) Seeks feedback on the initial draft curriculum from relevant stakeholders Sector Skills Council (s), and Training Provider (s).
- c) In order to ensure the quality of the curriculum document developed, the CDC arranges a workshop with participation of relevant industry to scan the curriculum draft on the following aspects:
 - Overall purpose and objectives of the course are clearly described.
 - Sequencing, description of aims of each module are correct and time frame for each module has been specified appropriately.
 - Entry level of trainees and trainer's qualifications are specified as per qualification and level requirements.
 - Learning outcomes and learning elements are appropriately described and are observable and assessable.
 - Accurate and descriptive language has been used.
 - List of appropriate/necessary tools, equipment and consumables are given.
 - Assessment guidelines are provided.
- d) Finalize the curriculum on the basis of industry feedback and submit it to NAVTTC for uploading on the NVQ registry system.

6 Development and Review of Trainers and Learner's Guides (TLGs)

- a) The Qualification Development Committee (QDC) may assign development of Trainers and Learner's Guides to any relevant institution/organization/group of professional writers/individual (s) through a contract giving them a fixed timeline.
- b) The trainers and learner's guides are developed as per guidelines and templates attached at Appendix-8
- c) Once the draft Trainers and Learner's Guides are developed, the CDC in consultations with NAVTTC and TEVTAs shall constitute a TLG review committee with the following composition and TORs.

Composition

- Subject matter experts
- Trainers and instructors from the training institutions who possess relevant academic background and teaching experience
- 2-3 industry representatives for that trade

Terms of Reference

The TLG review committee will check that guides don't have spelling, grammatical and technical mistakes and ensure:

- The compliance of TLGs with CBT curriculum
 - TLGs supports the Learning Outcomes of the curriculum
 - That the images used are proper and legally allowed
 - Learning activities are aligned with learning outcomes
 - Learning activities reflect the performance criteria/ skills identified in the competency standards
 - Learning activities support the knowledge and understanding specified against those skills
 - That the trainees have adequate time to practice or apply the desired learning
 - That it facilitates in getting/ providing feedback on the TLGs
- d) Training and Learner's Guides are finalized and copy of the finalized TLGs are sent to NAVTTC for information and record.

7

Reviewing NVQF Qualifications

All new qualifications developed under NVQF will have a specific date of review (minimum review period is after 3 years). An early review may also be initiated on the basis of monitoring and evaluation report that suggests for review of the qualification. The date of review is entered in to the NAVTTC database and is also displayed on the website. As the date of review approaches, the process for review is initiated by NAVTTC or by the organization that developed that qualification. The stakeholder's feedback will form basis for review of the qualification. Following is the process for review of NVQ.

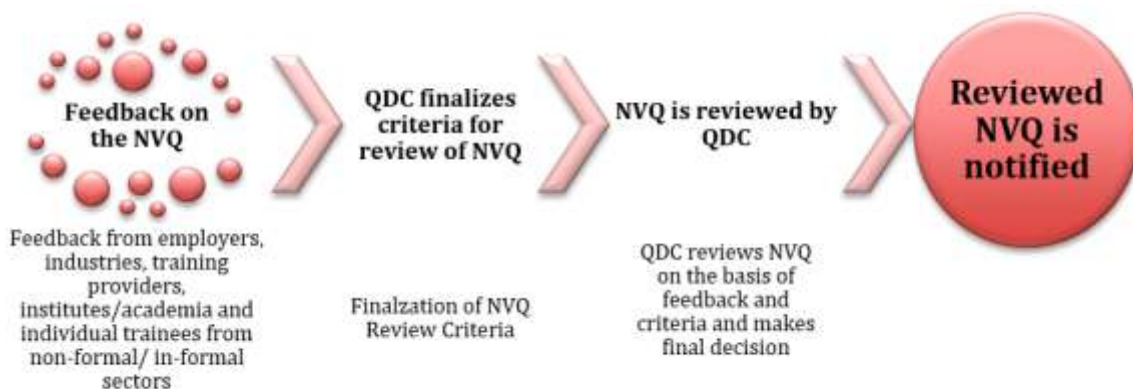


Figure 5: Process for Review of NVQs

Feedback on Review of Qualifications

The most important part of revision is the feedback from relevant stakeholders that includes the employers, industries, training providers, institutes/academia and individual trainees from non-formal or in-formal sectors.

- a) NAVTTC gets feedback from stakeholders on the prescribed form QRF-1: Qualification Review Form (Appendix-9).
- b) Consolidate feedback for submission to the QDC and convene meeting of the QDC to review the qualification in the light of feedback.

Criteria for Review of the Qualifications

- a) QDC may consider the following areas for review of NVQ.

Demand

Demand for the qualification is sufficient

- a) Employers/Market Demand
 - i. Employers are satisfied with the quality of the graduates
 - ii. Employment rating are satisfactory

- b) Uptake
 - i. The number of training institutions providing training is satisfactory
 - ii. Achievement rates are satisfactory in meeting demand

Qualification

- a. Relevance
 - i. The overall intent of the qualification is still relevant at local, national, regional and international levels.
 - ii. The occupational profiling chart is still relevant and does not need modification
- b. Competency
 - i. Competency standards are appropriate and reflect currently required skills
 - ii. Coverage of the skills is appropriate
 - iii. Clarity is sufficient

NVQF Level

- a. The assigned NVQF level remains appropriate

Assessments

- a. Assessment requirements are appropriate to the level of the qualification and are sufficient to demonstrate achievement against the competency standards
- b. Any required assessment sequence is logical and supports the development of competency
- c. Assessment decisions are being moderated through national moderation systems and achievement appears to be consistent in all pathways

Curriculum

- a. Curriculum supports the achievement of the required competencies
 - i. Learning sequence is appropriate
 - ii. The curriculum is well balanced and timing guidelines are appropriate

Equivalences

- a. Equivalences with other NVQF qualifications are reasonable, appropriate, facilitate vertical and horizontal movement and do not create unreasonable barriers

Options for Review of NVQ

- a) The QDC on the basis of above-mentioned criteria may consider the following options.
 - Where the committee makes no changes to the qualification, the committee recommends NAVTTC to re-notify the qualification and informs all stakeholders with a next review date;
 - Where some minor changes are made in the qualification, the committee may approve the minor changes made and recommends NAVTTC to re-notify the reviewed qualification along with a new review date.
 - Where major changes are made in the qualifications due to emerging technologies, occupational trends, or other reasons, the committee recommends NAVTTC to allow for major review of the qualification or even considers the qualification as no more valid.
- b) NAVTTC re-register the reviewed qualification on NVQF and inform relevant stakeholders and upload on the NAVTTC's website.

8 Appendices

Appendix-1

Qualification Development Form 1 (QDF-1) Indication of intent

1. Name of the organization _____
2. Type of organization _____
3. Contact details:
 - a. Address of the organization _____
 - b. Name of contact person _____
 - c. Designation _____
 - d. Phone number _____
 - e. Email _____
4. Title of the proposed qualification to be developed (NVQ title format): _____

5. Description of focus, scope and characteristics of the proposed qualification (A general statement)

6. Justification of the qualification.
 - a. Summary of the occupational skill areas that it would cover.

 - b. Evidence of support from relevant industry and community groups for the proposed qualification development.

Date: _____

(Signature of Head/ Authorized Person)

Appendix-2

Qualification Development Form 2 (QDF-2) Acceptance/non-acceptance

1. Title of the qualification: _____
2. Name and address of the Organization _____
3. Date proposal received in NAVTTC _____
4. Date proposal reviewed in NAVTTC _____
5. NAVTTC Decision (Check one box) (NAVTTC response will be given within a month time from the date of receipt of proposal)

1. The proposal to develop the qualification is approved.
2. The organization may proceed further to develop the qualification in the light of guidelines and templates provided in this manual.
3. The full qualification package may be submitted by (date) _____

- The proposal submitted is incomplete and requires following further information/ documents.
1.
 2.
 3.
- The revised document be submitted within 15 days for reconsideration

- The proposal to develop the qualification is not approved on the basis of following reasons.
1.
 2.
 3.

The proposing organization may proceed further in the light of above-mentioned decisions.

Date:

Signature

Appendix-3

Guideline for undertaking Occupational Profiling

Occupational profiling is a widely used method all over the world for job/occupational analysis. The final outcome of the exercise is a chart in which duties, tasks and related information about the job such as worker's traits, career paths, and entry requirements, related knowledge and tools and equipment required is given. This chart provides foundation for development of competency standards. This cost-effective method provides a quick and thorough analysis of any job.

Occupational Profiling Process

In this exercise, high-performing incumbent workers analyse their own job and identify the duties and tasks that make up their jobs. Under the direction of a competent facilitator, analyses their job-related tasks while using a modified brainstorming process that encompasses a storyboarding technique. The final result is an occupational profile presented in a chart format, which describes various levels of an occupation in terms of specific jobs, duties and tasks that competent workers must perform. Following steps may be performed.

Constitution of Occupational Profiling Panel

A panel by seeking 10-15 nominations from respective Industry (Sector Skills Councils, Trade Associations, selected Chambers of Commerce and Industry, relevant employers, Labour and Manpower departments, public and private sector training providers, Employers Federation of Pakistan and/ or any other relevant group) may be constituted which will:

- Identify the key job roles and organizational structure (Levels) for a particular sector
- Write job analysis statements for the duties of the job role
- Identify the required general skills, knowledge, understanding and behaviour required
- Identify the tools, equipment and materials associated with jobs
- Identify occupational health and safety requirements associated with various job roles
- Identify trends, for example in technology, materials, market employment needs etc.
- Use the job analysis statements and other information to prepare a chart
- Submit the final chart to Qualification Development Committee (QDC)
- Use level descriptors to assign NVQF levels to each task separately

Appointing a Occupational Profiling Facilitator

The QDC will also appoint a facilitator to facilitate the panel in performing their work. He/She should be one of the experts and should possess required knowledge, skills and experience. He/She may not essentially be the trade expert from the same occupation being analysed. He/She should be an excellent listener and with sound memory and writing skills, to 'store' many of the participants' contributions in his or her memory and be able to retrieve and write them as needed. His/Her roles and responsibilities include;

- Assist the group to understand occupational analysis
- Achieve the objectives without taking a particular position in the discussion
- Motivate all to participate in the workshop to participate
- Produce an agreed chart for the said occupation

Determining Duties and Tasks

The first task for the panel is to come up with a list of duties, as required at their work place. Duties are general statements that broadly represent larger part of any job and the number of duties may be in between 6-12 duties. The duty statement should begin with a verb (an action or 'doing' word) and each statement should also contain one or more 'objects' for the verb (an object is a thing or person that receives the action of the verb). Some duty statements (not all) may also contain a context or condition, and some time a qualifier. The verb must be in the first person singular, active e.g. Select, Prepare, Maintain, Develop, Determine etc. The object is the thing acted upon by the person e.g. report, plan, procedure etc. Qualifiers are words or phrases used to modify and clarify the task statement. For example, duty statements in Machinist chart contain following duty statements:

Table: Duty statements in Occupational Profiling Chart

The Verb (Action)	The Object (thing or person)	The context or condition
Perform	Bench work	
Apply	Health and Safety Procedures	At workplace
Identify	Hazards	In workplace environments
Set	CNC machine	According to job requirements

The duties identified are further divided in to tasks following the same pattern of duty statements described above. The facilitator takes one duty at a time and keeps asking the panel “what do you do”. The discussion then leads to the identification of the specific tasks that the expert workers perform. The facilitator must make sure that all experts participate equally in the discussion. A statement that meets the definition and is performed currently by the majority of the panel members is recorded. Each duty may contain 6-12 tasks. In some countries, duties tasks matrix have been standardized as 6x6 square matrix i.e. 6 duties and 6 tasks for each duty.

The panel also identifies list of general knowledge, understanding and skills, worker behaviours, tools/equipment and future job trends. The full structure of a job analysis can be illustrated as a tree diagram in the figure below.

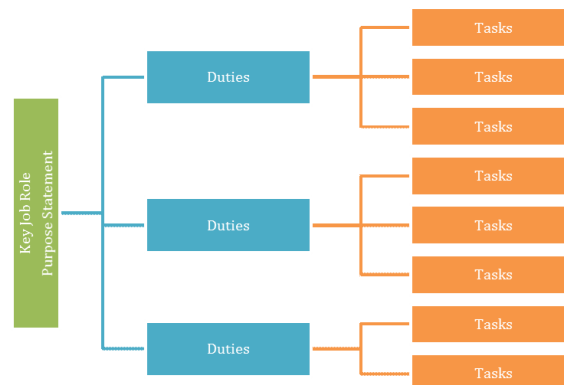


Figure: Duties and task tree diagram

Refining and sequencing duties and tasks

When all the duties and tasks are identified, the facilitator should go over each statement carefully – checking verbs and asking for more tasks. It is also the right time to settle any unresolved statements. The sequencing of duties and tasks are made according to the order in which they are performed. Normally, this sequence is followed in rest of the documents also such as in competency standards, curriculum and instructional material documents.

Determine knowledge and understanding

The facilitator then assists the panel members to discuss and list down the essential knowledge and understanding that experts' workers need to have to be able to perform their tasks, the worker traits require at the work place, career paths and entry requirements to attain this qualification. These are the enablers that make it possible for the workers to be successful.

Determine tools and equipment

All the tools and equipment that the workers are using are identified. When discussing tools and equipment, two words can cause confusion: Use and operate. To use a wrench, for example, or any other piece of equipment is never an actual task. These are a means of accomplishing an actual task.

The Chart

The outcome-based chart is the final outcome of the job analysis process.. Sample is given below:

DUTIES and TASKS (Machinist Level 3)- Sample

Purpose Statement: A Machinist Performs Measurements, Bench work, Lathe operations, Milling Operations, Shaper Operations, Grinding Operations, Drilling Operations and CNC Operations.

A. Perform Bench Work

Perform Sawing	Perform Filing	Perform Hand Drilling	Perform Hand Tapping	Perform Hand Reaming	Perform Hand Grinding
----------------	----------------	-----------------------	----------------------	----------------------	-----------------------

B. Perform Drilling Operations

Set Work Piece and Tool	Perform Drilling	Perform Counter Boring	Perform Counter Sinking	Perform Machine Reaming
-------------------------	------------------	------------------------	-------------------------	-------------------------

C. Apply Occupational Health & Safety Procedures at Workplace

Identify hazards in workplace environment	Comply with Occupational Health and Safety Precautions	Apply Personal Protective and Safety Equipment	Practice safe work habits to ensure safety at workplace		
---	--	--	---	--	--

D. Perform Maintenance

Perform Preventive Maintenance of Machines and Tools	Perform General Housekeeping and Maintenance of Machines and Tools		
--	--	--	--

E. Perform Lathe Operations

Perform work-piece setting	Set Tools and Lathe Machine	Perform facing/turning	Perform drilling/boring	Perform Taper Turning	Perform Knurling
Perform Threading					

F. Perform Milling Operations

Perform work-piece setting	Select and set tools	Perform Squaring	Perform Gear Cutting	Perform Slotting/Grooving	Perform Drilling/Boring
----------------------------	----------------------	------------------	----------------------	---------------------------	-------------------------

G. Perform CNC Machine Operations

Set CNC Machine According to Job Requirements	Perform Milling	Perform Drilling	Perform Hard Turning	Perform Grinding/ Turning	
---	-----------------	------------------	----------------------	---------------------------	--

H. Perform Grinding Machine Operations

Perform Off-hand Grinding	Perform Surface Grinding	Perform Universal Cylindrical Grinding	Perform Tool and Cutter Grinding	Perform Centre Less Grinding
---------------------------	--------------------------	--	----------------------------------	------------------------------

Appendix-4

Guideline for Developing Competency Standards and CS Template

The Competency Standards

Several terminologies are used in different countries in describing the competency standards. The most commonly used are; Skill Standards (SS), National Occupational Skill Standards (NOSS), Occupational Standards (OS), Industry Performance Standards, Industry Training Standards and Competency Standards (CS). In Pakistan, we are using Competency Standards. 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. Competency standard statements are based on the duties and tasks listed in the occupational profiling chart. Competency standards are a basis for curriculum development and preparation of teaching, learning and assessment guides.

Elements of Competency Standards

The main elements of a national competency standard document shall include:

Title of the Qualification

There are two types of titles up-to level 5. The title for each qualification is given below:

a) National Vocational Certificate level (1-4), in (Sector) Trade name

Qualifications at levels 1 – 4 are certificate courses, which allow a trainee to upgrade competencies starting from semi-skilled stage to reach supervisory stage. Once all the competencies comprising a particular level have been successfully attained he/she is eligible to receive the National Vocational Certificate in the relevant occupation at the applicable NVQ level. The entry level for level 2 is level 1 similarly for level 3 is level 2 and so on in the formal training system. Each level allows trainee to leave the system and get a job or proceed to the next level.

b) National Vocational Certificate level (5), in (Sector) Trade name

NVQ level 5 is a diploma level program which allow a trainee to leave the system at the end of Level 5 with a National Diploma of NVQ level 5 or proceed for higher studies (Level 6 - 8)

Introduction

It's a precise description of the occupation/trade which summarizes the duties and tasks of the occupation for the particular level and its demand. Only 2-3 paragraphs may suffice the description of the whole job.

iii) 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 certified workers or potential employees.

iv) Date of validation by industry

This shall be the date that the industry validated that qualification.

v) Date of review

This shall be the date selected by QDC/NAVTTTC by which the qualification shall be reviewed to ensure continuing relevance. It shall be 3 years from the date of industry validation, but in areas where technologies are advancing rapidly or where major changes are expected it can also be less than 3 years.

vi) Code of Qualification

This shall be the qualification identifier assigned by the National Vocational Registry System under to the national vocational qualification. This shall be based on NVQF process and ISCED.

vii) Qualification Development Committee

This shall contain a full list of all members of QDC, occupational analysis panel and opted members for CS development with their contact details for on-going involvement in the management of the qualification and for its future review.

viii) Entry Qualifications

These are pre-requisites and competencies, which must be acquired before enrolment into a particular level of the qualification.

ix) Regulations for the qualification and schedule of units

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

x) Categorization and Leveling of the Competency Standards

All competency standards in the NVQ shall be categorized in to “Generic”, “Functional” and “Technical”

and be levelled according to NVQF level descriptors. Each qualification shall include competency standards for level 1 to 4.

How to write Competency Standard Statement?

A well-written duty in the Occupational analysis chart serves as a base for developing the standard statement. In most cases, a well-written duty statement of the chart of the CBT packages is copied as the standard statement in the competency standard document. However, the competency standard writer should:

- Use the “action verb” in active voice such as Perform, Plan, Demonstrate, Calculate etc.
- Keep cross referencing to a minimum such as avoid writing statements like “as described in standard/principles on.....”
- Be consistent in use of appropriate verbs in writing the standard statement such as use similar kinds of action verbs in all standard statements.
- Use “object” or “thing” on which action is required.
- Use “Condition” or “Context” statement where needed.

For example (AutoCAD level 3); The trainee will be able to:

“Operate//AutoCAD visual reference Commands// including zoom extent,

...Verb...//.....Object.....//Condition/ Standard Performance

An overview of each standard statement identifies the competencies to perform the job at the work place. Normally it describes the overall purpose of the qualification and role to be performed at the workplace and Provides 'pen-picture' of what the Competency is all about. It should be briefed and must not exceed 2-3 sentences.

The Competency Units are written in the same Action Verb Form and these are the tasks, which have been identified in the occupational analysis. They should point to an Outcome which should be observable and assessable. Writers must use accurate and descriptive language and thus follow the convention: Verb, Object and, where necessary, Context/Condition. Following example shows correct and incorrect wording of the Competency Unit title.

Incorrect: Preparation of Garments for Fitting (Action verb is missing)

Correct: Prepare Garments for Fitting

Incorrect: Maintenance of machines, tools and equipment (Two tasks)

Correct: Maintain machines or maintain tools and equipment

The Performance Criteria are the set of specific skills required to be gained to complete the task (i.e. against the specific competency unit) and is titled as; the “Trainee will be able to;.....” . It gives someone a way of deciding whether a person is 'Competent' or 'Not Yet Competent'. It measures work, not the worker and hence must be demonstrable/ measurable/ assessable. In summary;

Unit of Competency	Performance Criteria	Knowledge and Understanding
B2: Repair lighting system of the vehicle.	<i>Trainee must be able to:</i> P1. Select tools and equipment according to job requirement. P2. Repair faults in the components as diagnosed according to procedures. P3. Adopt a method for repairing systems and components without causing damage to them P4. Inspect and verify the fault is removed P5. Observe occupational health and safety precautions at all times.	<i>Trainee must be able to know and understand:</i> K1. Explain uses of multi-meter, test lamp and toolkit K2. Define methods and procedures of repairing faults in the components (harness, switch) K3. Describe techniques for inspecting and verifying the repair of lightingsystem. K4. Define repair specific safety precautions and guidelines.

TEMPLATE

- i. **TITLE PAGE:**
- ii. **TABLE OF CONTENTS:**
 - A. Standard A:
.....
 - B. Standard B
.....
 - C. So on.....
- iii. **INTRODUCTION**
- iv. **PURPOSE OF THE QUALIFICATION**
- v. **DATE OF VALIDATION BY THE INDUSTRY**
- vi. **DATE OF REVIEW**
- vii. **CODE OF QUALIFICATION**
- viii. **MEMBERS OF THE QUALIFICATION DEVELOPMENT COMMITTEE**
- ix. **ENTRY QUALIFICATION**
- x. **REGULATIONS FOR THE QUALIFICATION AND SCHEDULE OF UNITS**
- xi. **SUMMARY OF COMPETENCY STANDARDS** (Use NVQF descriptors to assign level and suggest time in credit hrs for each competency standard as per definitions given in the NVQF document)

Sr#	Competency Standard (Verb-Object-condition/ context Form)	Level	Credit Hrs	Category
1	Standard A			
2	Standard B			

xii. **COMPETENCY STANDARDS and COMPETENCY UNITS**

COMPETENCY STANDARD A: _____

Overview: _____

Competency Units	Performance Criteria	Knowledge and understanding
A1		
A2		
A3		
A4		

Critical evidence(s) required for Competency Standard A:

.....

.....

FOR COMPETENCY STANDARD B, C, D, E.....

xiii. **COMPLETE LIST OF TOOLS AND EQUIPMENT**

Sr#	Description	Quantity

Appendix-5

NVQF Level Descriptors¹

Level	Descriptors			
	Knowledge and understanding	Skills	Responsibility	Qualification type
Level 1	Elementary knowledge of an area of work or study with safety procedures	Limited practical skills required to carry out single-process tasks and solve routine problems using simple rules and tools	Work or study under direct supervision with limited autonomy	NVQF Certificate Level 1
Level 2	Basic knowledge of readily available facts, processes and general theory of an area of work or study	Basic practical skills required to complete tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for prioritising and completing tasks in work or study under indirect supervision with some autonomy and adapt own abilities when solving problems	NVQF Certificate Level 2
Level 3	Broad theoretical knowledge and interpretation of available information in relevant contexts within an area of work or study	Broad range of well-developed mental and practical skills required to plan and complete multi-stage tasks and generate optimum solutions to specific problems in a field of work or study	Plan and manage own work and/or supervise the routine work of others, taking some responsibility for the evaluation and improvement of work or study activities	NVQF Certificate Level 3
Level 4	Comprehensive theoretical knowledge within a field of work or study and an awareness of the boundaries of that knowledge	Comprehensive range of mental, technical and practical skills required to complete complex tasks and develop creative solutions to abstract problems	Exercise full responsibility for management and supervision in contexts of work or study activities within well-defined boundaries and where there is unpredictable change Provide inputs to review and develop performance of self and others	NVQF Certificate Level 4
Level 5	Advanced theoretical knowledge with analytical interpretation of an area of work or study and an awareness of the boundaries of that knowledge	Specialist level of mental, technical and practical skills required to complete variable complex tasks and develop innovative solutions to abstract and complex problems in an advanced field of work or study	Carry out planning and development of courses of action with complete accountability Exercise management and supervision in work or study activities where there is unpredictable change Review and develop performance of self and others	NVQF Diploma Level 5

¹ The Pakistan National Vocational Qualifications Framework has been developed on the pattern of the European Qualifications Framework (EQF) to facilitate alignment with the EQF and other key national and regional qualifications frameworks. The eight reference levels are described in terms of learning outcomes (LOs) under “Knowledge & understanding”, “Skills”, and “Responsibilities”. They define complexity of LOs from basic knowledge, basic skills and working under the direct supervision (level 1) to advanced knowledge, specialist technical skills and supervision & management responsibilities (level 5).

Assessment Evidence Guides Template and Guidelines to write Assessment Tasks

Note: This template can be used both for single CS and for summative assessment

Page 1: Instructions for Candidate (to be given by the Assessor before assessment)

Title of Qualification:	CS Code:	Level:	Version:
Competency Standard Title:	Assessment Date (DD/MM/YY):		

Candidate Details	Name..... Registration/Roll Number.....
Guidance for Candidate	To meet this standard you are required to complete the following within the given time frame (for practical demonstration and assessment): <ol style="list-style-type: none"> 1. Assessment Task 1 2. Assessment Task 2 3. Assessment Task 3 4. And complete: <ol style="list-style-type: none"> 5. Knowledge assessment test (Written or Oral) 6. Portfolios at the time of assessment (if any)
Minimum Evidence Required	During a practical assessment, under observation by an assessor, you will complete Assessment Task 1 Performance Criteria 1 Performance Criteria 2 Performance Criteria 3 Assessment Task 2 Performance Criteria 1 Performance Criteria 2 Performance Criteria 3 Assessment Task 3 Performance Criteria 1 Performance Criteria 2 Performance Criteria 3 Portfolios required at the time of assessment (if any) for Performance criteria 1 for the evaluation of portfolio Performance criteria 2 for the evaluation of portfolio Performance criteria 3 for the evaluation of portfolio

Continued page 2

Page 2: Assessors Judgment Guide (to be completed by the Assessor and signed both by the assessor and the candidate after the assessment)

Candidate Details	Name: Registration/Roll Number: Candidate Signature:
Assessment Outcome	<p>COMPETENT <input type="checkbox"/> NOT YET COMPETENT <input type="checkbox"/></p> <p>Name of the Assessor..... Assessor's code:.....</p> <p>Signature of the Assessor:.....</p>

Assessment Summary (to be filled by the assessor)							
Activity	Method					Result	
Nature of Activity	Written	Oral	Observation	Portfolio	Role Play	Competent	Not Yet Competent
Practical Skill Demonstration			✓		✓		
Knowledge Assessment	✓	✓					
Other Requirement				✓			

Each Assessment Task (with performance criteria)				
Assessment Task 1		Description of assessment task 1		
During the practical assessment, candidate demonstrated the following:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

Portfolio (if any)		Description of portfolio		
Current <input type="checkbox"/>	Sufficient <input type="checkbox"/>	Authentic <input type="checkbox"/>	Valid <input type="checkbox"/>	Reliable <input type="checkbox"/>
Portfolio meet the following performance standards:		Yes	No	Remarks
1	Performance criteria 1			
2	Performance criteria 2			
3	Performance criteria 3			
4			
Competent <input type="checkbox"/>		Not Yet Competent <input type="checkbox"/>		

GUIDELINES FOR WRITERS (HOW TO DESIGN AN ASSESSMENT TASK(S)):

Following points should be considered while designing an assessment task(s):

1. Task(s) to be assessed are specific, measurable and/or observable
(**Example:** Perform Manicure)
2. Begin with an action verb.
(**Example:** Convert meters to points and inches.)
3. Do not use evaluative or relative adjectives.
(**Example:** Do not use words like good, effective, appropriate.)
4. Do not use evaluative or relative adverbs.
(**Example:** Do not use words like quickly, slowly, immediately.)
5. Each action verb requires an object, Verb followed by object
(**Example:** Identify bacteria, fungi, and parasites in the figure.)
6. Say what you mean, using only necessary words.
7. Use all domains as appropriate: cognitive, psychomotor and affective.
8. Industry standard timeframe to perform the task(s) is mentioned and said task(s) can be completed within the mentioned timeframe
9. Assessment of these task(s) means that the aim of the competency standard/qualification has been achieved
10. Assessment criteria(s) for the task(s) are measurable/observable
11. All the appropriate outcomes are assessed by this evidence guide
12. Each assessment method, activity or task is appropriate
13. Specifies the conditions/context under which evidence for assessment must be gathered, including any details of required equipment and materials; contingencies; specifications;
14. Structure of Performance Criteria Statement will be:
Evaluative Word + Object + Condition/or Standard Performance

Guideline on Developing Competency-Based Curriculum and Template

The major components of a curriculum document include descriptions of learning modules and outcomes, sequence and duration of learning, learning context, trainer's qualification and the equipment and consumables required. These are briefly described below.

- a) **INTRODUCTION:** Title and level of the qualification, its demand and justification, overall purpose and objectives of the course, major competencies to be gained after completion, job opportunities, trainees entry level, trainers' qualifications, instructional strategies and estimated duration of the course are some of the elements described in the introduction part of the curriculum document.
- b) **MODULES:** Modules in the curriculum are formed on the basis of each Competency Standard finalized during the qualification development. The modules are appropriately sequenced with description (pen picture) of each module along with suggested time frame of delivery during the training.
- c) **LEARNING UNITS:** Each module is divided and described into 'Learning Units', which form the chapters in the teaching and learning material. Learning Units are further described into learning outcomes and learning elements.
- d) **LEARNING OUTCOMES:** A learning outcome is action oriented verb that describes distinctively what learner should acquire and be able to do/ apply at workplace. The learning outcomes are derived from the “Performance Criteria” stated under each competency standard in the competency standard document. They describe the essential skills, knowledge and attitude required to attain learning outcome and are measurable at the time of assessment. Learning outcomes are listed at the beginning of each chapter of learner's guide with their explanation in the contents supported with activities and tasks.
- e) **LEARNING ELEMENTS:** The learning elements are derived from “Knowledge and Understanding” stated under each competency standard. The learning elements include required knowledge, skills and attitudes to demonstrate learning outcome. They help in description of the contents in the learner's guide with updated information and examples.
- f) **LIST OF TOOLS, EQUIPMENT AND CONSUMABLES:** Develop list of tools, equipment, consumables required during the training.
- g) **CREDITS OF THE COMPETENCY UNITS:** The credit value of the whole qualification shall defined by estimating the amount of time/ instruction hours required to complete each competency unit and competency standard. The NVQF uses a standard credit value of 1 credit = 10 hours of learning (Following Higher Education Commission (HEC) guidelines. For example:

Table : Assigning Credit Value to the Competency Standards

Competency Standards	Estimate of hours	Credit
Identify Design Tools	100	10
Conceive a Design Concept	200	20
Analyse Cost Effective Solutions	100	10
Edit Photos and Development of Graphics	50	5
Prepare Pre-Press Job	200	20
Perform basic Hardware Maintenance	200	20
Communicate with Others	100	10
Describe rights at the workplace	50	5
	1000	100

The following template shall be used to develop the curriculum document for the approved qualification.

1. TITLE PAGE

2. TABLE OF CONTENTS

3. INTRODUCTION

- a. Definition/ Description of the training program (Name of the course)
- b. Purpose of the training program
- c. Overall objectives of training program
- d. Competencies to be gained after completion of course
- e. Possible available Job opportunities available immediately and later in the future
- f. Trainee entry level
- g. Minimum qualification of trainer
- h. Recommended trainer : trainee ratio
- i. Medium of instruction i.e. language of instruction
- j. Duration of the course (Total time, Theory and Practical time)
- k. Sequence of the modules

4. SUMMARY TEMPLATE – OVERVIEW OF THE CURRICULUM

Module Title and Aim	Learning Units	Theory Days/hours	Workplace Days/hours	Timeframe of modules
Module 1	LU1: LU2: LU3:			
Module 2	LU1: LU2: LU3			

5. Modules

Module: Title:.....

Objective of the Module:.....

Duration:	Total hours		Theory:		Practical	
-----------	-------------	--	---------	--	-----------	--

Learning Unit	Learning Outcomes	Learning Elements	Duration	Materials (Tools and Equipment) Required	Learning Place
1. LU1					
2. LU2					

6. **SUPPORTIVE NOTES:** Assessment context, Critical aspects, Assessment conditions, Resources required for assessment

7. **LIST OF TOOLS, MACHINERY and EQUIPMENT** (For standard class of 25-30 trainees)

Sr. No.	Name of Item/ Equipment / Tools	Quantity
1.		
2.		
3.		
4.		

8. **LIST OF CONSUMABLE SUPPLIES** (For a standard class of 25-30 trainees)

Sr. No.	Name of Consumable Supplies	Quantity
1.		
2.		
3.		
4.		
5.		

9. **Members of the Curriculum Development Committee**

Appendix-8

Guidelines and Templates for Trainer's and Learner's Guide

Purpose of the TLGs

Trainer's and Learner's Guides (TLGs) are developed on the basis of modules, learning units, learning outcomes and learning elements described in the curriculum document. The Trainer's guide provides guidelines and instructions to the trainers on the approaches that are required for the effective training program and delivery of the competency-based curriculum contents. The Learner's Guide enables the trainees to achieve the competency standards that have been set by the relevant industry group with the content-wise detail. The main purposes of Trainer and Learner's guide are given below.

- a) The main purpose of trainer's guide is to:
 - Sequence learning units within the module to meet learning needs
 - Guide trainer in developing skills of the learner
 - Support trainer to meet needs of the curriculum
 - Help trainer in developing their lesson plans
 - Assist trainers in demonstration of skill
 - Assist trainer in formative assessment

- b) The main purpose of learner's guide is to:
 - Help learners determine what they need to learn
 - Build learners knowledge and skills
 - Structure information to suit learner's need
 - Guide learner in performing respective skills
 - Assist learner in self-assessment.

Relationship of TLGs with the Curriculum

The relationship between curricula and TLGs is important for the TLG authors to know and follow in respective guides development. The figure below shows curriculum relationship with the trainer and learner's guides. Some additional sections in the trainer and learner's guides are also added for making the material comprehensive for trainers and the trainees.

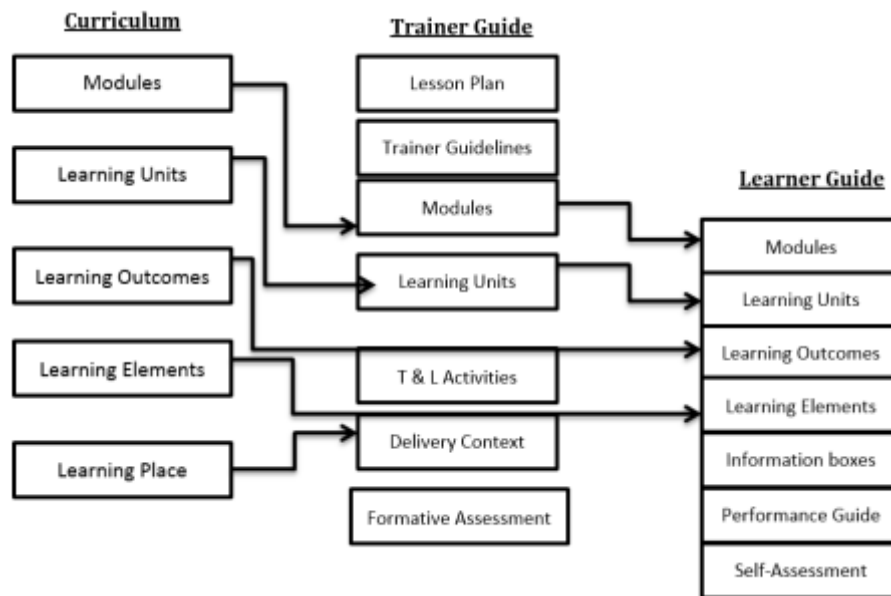


Figure: Relationship between Curricula and TLGs

Main Elements of Trainer's Guide

The main elements of a trainer's guide are:

- Introduction: that includes brief information about competency based training approaches and its distinction with traditional approaches towards vocational training. The introduction also states that how this guide provides guidelines and instructions to the trainers on the approaches that are required and on the organization and delivery of the curriculum.
- Lesson Plan: It provides guidelines to the trainers to write their own coherent set of lesson plans for each module of the curriculum. Format of the lesson plan is given in the trainer's guide template.

Table: Format of a Lesson Plan

FORMAT FOR LESSON PLAN			
Module			
Learning Unit			
Learning Outcomes			
Methods	Key Notes	Media	Time
Introduction			
State the Learning Objectives of the lesson. This allows the learners to organize their thoughts on what they will learn and to perform. Also state some questions to recall prior knowledge of learners to arouse their interest and motivation			

Main Body
Present the new information or material that is to be learned. Demonstration of a skill relevant with the Learning Unit is also stated here. Also mention the teaching and learning methods for each learning element from <i>Trainer Guidelines</i> , the relevant media including hand-outs, power-point slides, videos, white board and time duration for each activity in the relevant columns
Conclusion
List the strategies used for summarizing and reviewing the lesson delivered. Also mention the strategies for formative assessment to ensure that the transfer of knowledge and skill has been achieved
Assessment
How this lesson will be assessed?
Total time:

- **Modelling a Skill:** It provides instructions to the trainers as how to demonstrate or model a skill with the required set of tools, equipment and consumables.
- **Modules and Learning Units:** Module and Learning units are copied as such from the respective curriculum followed with detail of learning units in the form of learning outcomes and learning elements which contains in the learner's guide.
- **Teaching and Learning Activities:** it provides guidelines to the trainer to prepare an overview of the course, prepare a self-guide for each module that includes learning units, suggested activities, delivery context and media to be used. CBT is more learner-centred rather than trainer-centred as is evident from the table below.

Table: Focus of Teaching and Learning Activities

Trainer Centered	Learner Centered
<ul style="list-style-type: none"> • Lectures • Demonstrations/Modelling a skill 	<ul style="list-style-type: none"> • Working in Groups • Individual Practice • Doing Research • Role Playing • Group Discussions • Use of Resource Person • Questions and Answers • Study Visits / Field Trips

- The example in the table below shows suggested teaching and learning activities for a specific module.

Table: Example of Teaching & Learning Activities

Module: Perform Make UP			
Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media
1.1 Prepare Client for Makeup Services	<p>Give illustrative talk on the following learning elements:</p> <ul style="list-style-type: none"> • Facial shape, Skin type, Skin condition, Occasion, Time, Market trends, Venue of event (indoor/outdoor), Climatic condition, Clients' demands • Importance of auxiliary services before starting the makeup. • Contact details, medical history, skin analysis, make up chart and home/skincare advice. • Demonstrate procedures of cleansing, toning, moisturizing and pre-base. • Ask Learners to practice in small groups. • Arrange Questions/Answers Sessions. 	<p>Class Room</p> <p>Beauty Salon/Lab</p> <p>-do-</p>	<p>Learner Guide/Hand Outs</p>

- Evaluation of Training Material: Being an important step in the instructional system design (ISD) approach and to ensure the training material is up-to-date, reliable, authentic and meets the academic as well as industry requirement, evaluation of training material is an important part of the whole CBT process which enables NAVTTC/TEVTAs to seek structured and systematic feedback for future upgrading of qualifications. It provides a template for the trainer to provide feedback to the TLGs developers on the shortcomings and improvement of the training material (learning Unit or Element).

Main Elements of Learner's Guide

The main elements of a learner's guide are:

- Introduction: It includes a brief description of the structure of the manual and guidelines for the learner to use the manual effectively.
- Modules: Modules form the section head in the learners' guide
- Learning Units: Learning Units under each modules form the chapter head and each learning unit consists of examples, illustrations and boxes.
- Learning outcomes: Learning outcomes of each learning units are taken from the curriculum document and are stated at the start of each chapter.
- Learning Elements: Learning elements of the curriculum document are used to form the contents of the learner's guide with detail of knowledge and skills (practical activities, projects, assignments, practices etc.) required to achieve learning outcomes stated in the curriculum.
- Summary of modules: contains the summary of a module at the end of the learner's guides
- Frequently asked questions: are added to provide further explanation and clarity on some of the difficult concepts and areas. This further helps learner in preparing for assessment.
- Multiple choice questions for self-test: are provided as an exercise at the end of the learner's guide for review of the learning units and preparation for sessional, modular and final evaluation.

Guidelines for TLGs' Writers/Authors

TLG writers/authors should consider while writing that the trainees can use the tools or equipment properly, time indicated to perform the skill is sufficient, health and safety measures involved is appropriately described. Expensive material could be wasted if the learners are not properly guided. The following guidelines are given for writing the procedures in TL guides.

- State the task clearly
- Develop a list of steps in performing the task
- Indicate critical or safety steps in performing the task
- Provide clear directions for using the guides
- State the minimum acceptable level of performance required
- Revise the procedure periodically

The overall structure of learner's guide consists of title of the learning unit, followed with headings of learning elements with explanatory texts and procedure to perform a task. The text is supported with insertion of textboxes such as “Definitions; Do you Know and Remember”, appropriately.

Following are the guidelines on styling and formatting of learner's guides.

- **Text:** Heading must have following style with shading (Blue Ascent 1, Lighter 60%):
 - 1st Level Headings: Arial, 16pt, bold
 - 2nd Level Headings: Arial, 14pt, bold
 - 3rd Level Headings: Arial, 12pt, bold
 - The body text must be Arial, 11pt
- **Page Layout:** Select from Mirror Margins from Multiple Pages option under Margin Settings. Then adjust inside margin at 1.2” and outside 2.3”. The top and bottom margins should be 1”.
- **Text Boxes:** Insert following text boxes with Arial 10pt at appropriate places
 - **Definition:** Used to provide definition of important concepts and principles. New terms can also be described.
 - **Do You Know:** Used to provide information like important facts and figures relate to topic.
 - **Remember:** Used to provide information, which need to be remembered by learners like safety precautions or critical aspect in a skill.
- **Multiple Choice Questions (MCQs):** Used for self-assessment by the learners are inserted in the TLGs which cover all sub-category of cognitive domain such as recall and application type. The stem part may be in the form of either a question or an incomplete statement with alternative containing one best alternative (correct answer) and distractors (incorrect alternatives). Following are the guidelines in writing MCQs.
 - The stem should state the problem clearly
 - Present a definite, clear and singular question or problem in the stem
 - Avoid excessive irrelevant information from stem
 - Keep grammar of each alternative consistent with the stem
 - All distractors should be plausible
 - All responses should be about the same length
 - Avoid words like “Always, never, worst, largest, smallest etc.”, in the stem and in the responses.
 - Do not give clues to one item in another
 - Avoid “absolute” words such as “The best way to teach is:”
 - Avoid using negatively stated stem. When used, underline and/ or capitalize the negative word.
 - Avoid using repeated words in alternatives given, rather it be made part of the stem.
- **Pictures and illustrations:** Used to graphical present the concept so as to create context for what is being presented and for assisting learners to anchor the learning. Following are the guidelines for inserting picture and illustrations:
 - Original graphics for which you have copyrights be used and embed them into the document
 - Avoid image which is indistinct, out of focus or with poor light
 - Provide captions for pictures and illustration where required

- The TIFF – Tagged Image File Format (.tif) and JPEG – Joint Photographic Expert/Group (.jpg) formats are preferred with a resolution of 200-300 dpi:

Guidelines for TLGs’ Reviewer

Some of the specific areas and respective indicators for ascertaining quality of TLGs are given below. These areas and respective indicators are not only useful for the TLGs committee members to ensure quality but also important for the trainers, learners and other stakeholders to provide feedback for future revision and improvement of TLGs.

Table 6: Indicators for TLGs Review

Areas	Indicators
Curriculum Scope	<ul style="list-style-type: none"> • Covers scope of learning elements mentioned in curriculum • Fulfills academic as well as skill requirements • Provides necessary underpinning knowledge
Contents Reliability	<ul style="list-style-type: none"> • Provides up to-date, credible and correct information • Free of misconceptions
Vocabulary and Illustrations	<ul style="list-style-type: none"> • Uses simple and understandable vocabulary keeping in view the learners level • Defines new terms • Provides illustrations from the local environment which is related with the learning elements • Photographs are clear, unambiguous and have good quality
Format	<ul style="list-style-type: none"> • Given templates are complied while designing TLGs • Titles are attractive and page layout and font size are according to guidelines
Sequence	<ul style="list-style-type: none"> • Information is presented in sequential order i.e. from basic to advance, from simple to complex, from known to unknown.
Environments	<ul style="list-style-type: none"> • Safety warnings for learners are written and/or expressed symbolically
Assessment	<ul style="list-style-type: none"> • Presents opportunities for trainees to self-assess • Allows for authentic demonstrations for learning at all levels

Template for Trainer's Guide (Optional)

1. TITLE PAGE
2. TABEL OF CONTENTS
3. INTRODUCTION
4. LESSON PLAN
5. DEMONSTRATION OF SKILL

Demonstration or modelling a skill is a powerful tool, which is used, in vocational training. The instructions for trainers for demonstration are as under:

- a) Read the Procedure mentioned in the Learner Guide for the relevant Learning Unit before demonstration.
- b) Arrange all tools, equipment and consumable material, which are required for demonstration of a skill.
- c) Practice the skill before demonstration to learners, if possible.
- d) Introduce the skill to learners clearly at the commencement of demonstration.
- e) Explain how the skill relates with the skill(s) already acquired and describe the expected results or show the objects to learners.
- f) Carry out demonstration in a way that can be seen by all learners.

- g) Perform each step slowly and read out each step of the Performance Guide loudly so that all learners can hear and understand.
- h) Identify critical or complex steps, or steps that involve safety precautions to be followed.
- i) Explain theoretical knowledge where applicable and ask questions to learners to test their understanding.
- j) Repeat critical steps in demonstration, if required.
- k) Summarize the demonstration by asking questions to learners.

Overview of the Program

Course: <Insert Course Name>		Total Course Duration:
Course Overview:		
<Insert Course intent or overview>		
Module	Learning Unit	Duration

Trainers Guidelines

TRAINER GUIDELINES			
Module: <insert module title here>			
Learning Unit	Suggested Teaching/ Learning Activities	Delivery Context	Media

Template for Trainer's Guide

1. Title Page
2. Table of Contents
3. Introduction
4. Modules
 - Learning Outcomes
 - Learning Unit
 - Overview
 - Heading of Learning Element [1]
 - Heading of Learning Element [2]
 - Heading of Learning Element [3]
 - Procedure
5. Summary of Modules
6. Frequently Asked Questions
7. Test Yourself (Multiple Choice Questions)

Appendix-9

Qualification Review Form (QRF-1)

Feedback to Review the Qualification

1. Title of the qualification:
2. Level of the qualification:
3. Review date:
4. Version #:
5. Code #:
6. Name of the Organization
7. Address and contact:
8. Feedback

Areas of Review	Put tick/ cross (where applicable)	Suggestion/ Feedback for review of the qualification
1. Skill Demand Analysis		
2. Occupational Analysis		
3. Competency Standards		
4. Scope of the Qualification		
5. Credit Hours		
6. NVQF Level		
7. Equivalences		
8. Other Conditions/ requirements/ pre-requisites		
9. Assessment Package		
10. Curriculum		
11. Teaching and Learning Material		
12. Technological Trends or others		

Date:

Signature of Head or authorized person

9 Glossary of Terms

Term	NVQF Meaning
Assessment Evidence Guides	Lists critical evidences (as derived from the Competency Standards) that will be used to assess whether individuals are competent in performing those skills. It also includes information of trainees and assessors, summary of assessment outcomes and list of tools and equipment required.
Assessment Task	A problem, a project or an activity to be performed by the individual under the prescribed competency standard
Competency Standards	A statement specifying the required performance to a defined standard at the work place. It is determined by industry and specifies the performance required to be able to work effectively. In occupational analysis table, these are the major “Duties”. They are further divided in to “Generic”, Sector/Trade” and “Job/Occupation” specific.
Competency Units	A sub-component of the competency standard containing the group of related competent performances to perform a particular function or task in a particular job or occupation. In occupational analysis, these are the “Tasks” under each “Duty”.
Credit hours	A measure of the volume or amount of learning time needed to achieve the competency. In the NVQF, one credit is equivalent to 10 hours of learning.
Competency-based Curriculum	A systematic plan, based on the competency standards and competency units that sequence learning and assessment activities to enable trainees to gain the competencies required to achieve the qualification.
Equivalence	Refers to equivalence between and within the qualifications which allows learners to accelerate the acquisition of qualifications within the same qualifications framework or can be used in facilitating international cross recognition.
Functional skills	Competencies specific to an overall trade such as Information Technology, Agriculture, Industry sectors etc.
Generic skills	Competencies common to industry sectors and often form the core of several related qualifications. It includes, communication skills, teamwork skills, interpersonal skills, lifelong learning skills, ability to apply skills etc.
Knowledge and Understanding	Component of the competency standard and a NVQF level descriptor that describe what an individual knows and understands (the body of facts, principles, theories, practices) related to the particular qualification at that level.
Learning Elements	Learning elements are derived from “knowledge and understanding” part of the competency standards which reflect the underpinning knowledge required to achieve the learning units specified in the curriculum
Learning Outcomes	A unique statement that describes knowledge, skills and/or competencies an individual has acquired and/or is able to demonstrate after completion of learning process, either through formal or non-formal/ informal means.
Learning Units	A sub-component of a Module describing a specific grouping of learning outcomes relating to one or more related competencies

Term	NVQF Meaning
Lesson Plan	A plan prepared by the trainer to teach a complete module with detail of teaching and learning activities to be conducted, methodologies to be used and undertaking formative assessment to ensure learning has taken place.
Module	A sub-component of the curriculum that defines a sequence of related learning experiences related to one or more Competency Units. They are derived from the Competency Standards.
National Vocational Qualification (NVQ)	NVQ comprises of a package that includes competency standards, competency-based curriculum, teaching and learning material and assessment evidence guides for each single competency standard as well as for summative assessment. They are developed in response to the demands of labour market and national priorities with the involvement of industry at key stages in the development process
NVQ Registry System	A database of qualifications, competency standards and assessors profile for use by TVET service providers
NVQF Level Descriptors	A statement that describes the main learning outcome under “Knowledge and understanding”, “skills”, and “responsibility” relevant to the qualification at that particular level.
NVQF Level	Level describes the pathway for horizontal and vertical progression under a set of descriptors that indicate the complexity of the skills and knowledge that the learner will have achieved.
Occupational Profiling	A method of analysing jobs and occupations which results in the production of a chart listing the duties, tasks, and related information about the job. The chart provides a basis for developing competency standards and competency units
Pathway	Indicate path to the trainees to move through qualification levels with full or partial recognition for the qualifications and/ or learning outcomes they already have.
Performance Criteria	Component of competency standard and a NVQF level descriptor which specifies the critical evidence for the purpose of assessment to ascertain that the individual has acquired and is able to do, to meet the requirement of particular competency unit.
Qualification Awarding Bodies (QABs)	Organisations that are mandated and accredited to provide assessment services that lead to certification as per qualification registered with the NVQF. These include Trade Testing Board (TTB) , Board of Technical Education (BTE) and the PVTC Lahore
Qualification Summary Sheet (Qsheet)	A summary of qualification that describe the title, level, total credit hours, competency standards with level and credit hours and other necessary information in a standardized format as a quick reference for all stakeholders.
Qualification Registration	Refers to registration of qualification on NVQF to make it credible and acceptable within the employment market with the backing of both the relevant industry and Government of Pakistan.
Technical skills	Competencies specific to the job/occupation
Training and Learner’s Guides (TLGs)	Trainers and learner’s guides developed on the basis of competency based curriculum and serves as a support material for instructors and learner during classroom delivery and learning

National Vocational & Technical Training Commission (NAVTTTC)
5th Floor, Evacuee Trust Complex, Sector F-5/1, Islamabad
Tel: +92 51 904404, Fax: +92 51 904404, Email: info@navttc.org
Website: www.navttc.org