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Manual No. 4:
TLM Development

National Vocational Qualifications Framework

NVQF

To deliver a skilled and qualified workforce in Pakistan

Version 1

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National Vocational and Technical Training Commission (NAVTTTC)

Manual
On
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Abbreviations used

AT	Apprenticeship Training
BTEs	Boards of Technical Education
CB	Competency-Based
CBT	Competency-Based Training
CBET	Competency-Based Education and Training
CCIs	Chambers of Commerce and Industries
CQ	Certification of Qualification
CS	Competency Standard
CU_s	Competency Units
DACUM	Developing A Curriculum
EQF	European Qualification Framework
IAGs	Industry Advisory Groups
IBCC	Inter Board Committee of Chairmen
ISCED	International Standard Classification of Education
LDs	Level Descriptors
M&E	Monitoring and Evaluation
NAVTC	National Vocational & Technical Training Commission
NCRC	National Curriculum Review Committee
NOSS	National Occupational Skill Standards
NSS	National Skill Strategy
NSIS	National Skill Information System
NTB	National Training Bureau
NVC	National Vocational Certificate
PNQF	Pakistan National Qualification Framework
PNVQF	Pakistan National Vocational Qualification Framework
PVTC	Punjab Vocational Training Council
QCC	Qualification Curriculum Committee
QR	Qualification Register
QSC	Qualification Standard Committee
QSSC	Qualification Standard Sub-Committee
RCC	Recognition of Current Competencies
RPL	Recognition of Prior Learning
SAARC	South Asian Association for Regional Cooperation
SDA	Skill Development Analysis
SDCs	Skill Development Councils

1 Introduction

The two main documents of Teaching and Learning Material (TLM) are the Trainer's Guide and the Learner's Guide, which are developed on the basis of the curriculum document that contains Learning Modules, Learning Units, Learning Outcomes, Learning Elements and other relevant detail, all based on the Competency Standards developed and notified. The Trainer's Guide provides guidelines and instructions to the trainers on the approaches that are required for the training program and on the organization 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 relationship between curricula and TLM Package is given in the figure below.

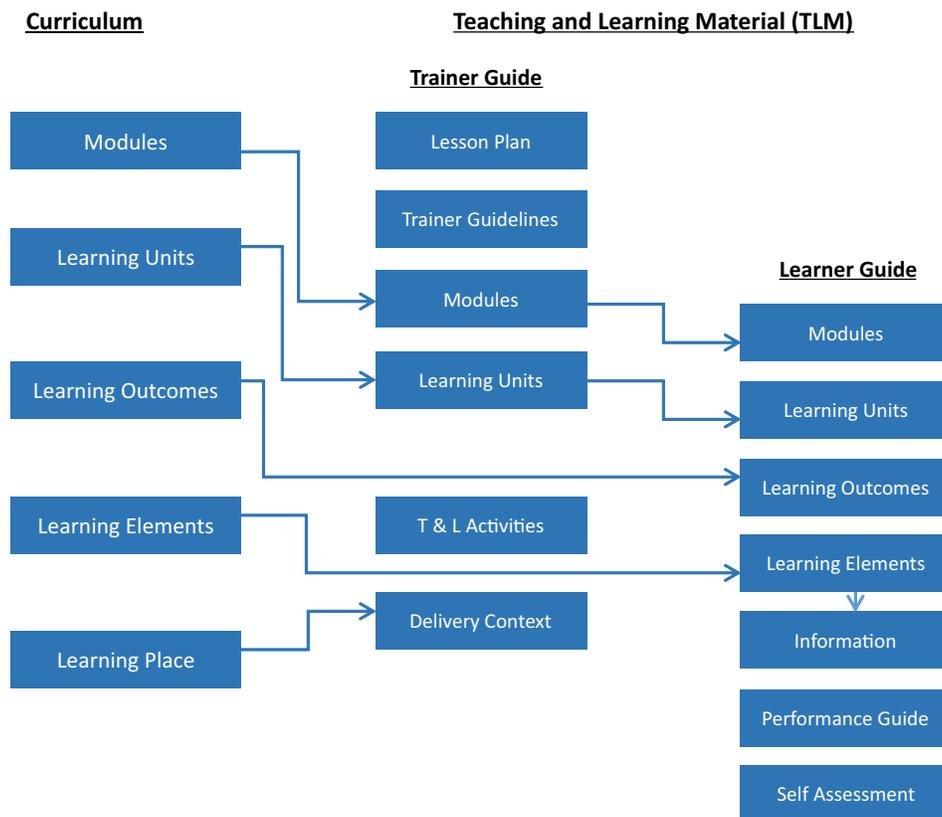


Figure 1: Relationship between Curricula and TLM Package

This manual describes the procedures and guidelines on the development of Training and Learning Material i.e. the Trainer's Guide and Learner's Guide based on the competency-based curricula.

2 TLM in the CBT Instructional System Design Cycle

The foundation of CBT approach is to develop competency standards in consultation with industry, which are then used to compose full qualification package with structure, NVQF level, credit and other requirements followed with development of assessment guides, curricula and teaching and learning material. The CBT instructional system design cycle consists of the following five phases namely; Analyze, Design, Develop, Implement and Evaluate (ADDIE):

- a) Analyze: In consultation with industry for training need assessment and use DACUM approach for listing duties and tasks;
- b) Design: Competency Standards, and develop Assessment Guides and Curricula based on the competency standards;
- c) Develop: Teaching and learning material including Trainer's Guide and Learner's Guide
- d) Implement: Training in the classroom and work places
- e) Evaluate: Competency-based training using different tools and strategies

The development of teaching and learning material and its implementation/use in the classrooms and workplace are the important phases in the above CBT instructional system design cycle and implementation. The TLM i.e. Trainer's guide and Learner's Guide are developed on the basis of modules, learning units, learning outcomes and learning elements described in the curriculum document. The learning units form the chapter heads in both the trainers' guide and learners' guide and further contents in the learner's guide are developed on the basis of learning outcomes and learning elements. The trainers' guide in addition to modules and learning units, consists of developing lesson plan, associated teaching and learning activities and the delivery context.

3 Purpose of TLM Guides

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

- 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

4 TLM Development Approaches and Processes

The agency approved by NAVTTC to develop the proposed qualification may adopt the following approaches processes to develop TLM.

- a) If provincial TEVTAs are the approved agency, they may constitute TLM committee comprising of subject experts, trainers, instructors from the training institutions who possess relevant academic background, teaching experience and excellent writing skills to develop the Teaching and Learning Material (TLM), NAVTTC to be informed accordingly.
- b) NAVTTC may constitute a TLM committee itself or outsource development of TLM to an appropriate agency or individual under its overall supervision, all other stakeholders are duly informed accordingly.
- c) Federal and Provincial Ministries and Departments, registered NGOs, INGOs, Industry/ Trade associations, CCIs, CSOs or similar bodies authorized by NAVTTC to develop qualification may constitute TLM committee themselves in consultations with NAVTTC and/or respective TEVTAs.
 - a) Arrange orientation/ capacity building of TLM committee members by organizing a training workshop to be conducted by a Resource Person/ TLM Expert in consultations with Provincial TEVTAs/ NAVTTC, Islamabad.
 - b) The TLM committee develops first draft of TLM after thoroughly identifying the needs of TLM and required outcomes stated in the notified curriculum for the respective qualification.
 - c) The draft TLM is got reviewed and evaluated by relevant stakeholders and is finalized after their feedback.
 - d) Copy of the finalized TLM is sent to NAVTTC for notification at the national level and for record in the library.

5 Designing Trainer's and Learner's Guides

The TLM development committee constituted by the agency that has been authorized by NAVTTC to develop the qualification would follow the Trainer's and Learner's Guides templates provided at Appendix-1 & 2. Following are the guidelines for developing and designing the Guides.

Developing Trainer's Guide

The main elements of a trainer's guide are:

- **Introduction:** that includes description of the competency standards of the relevant qualification, elements of the curriculum and how this guide supports that curriculum to enable the trainees to achieve the competency standards that have been set for that qualification. The introduction also states that how this guide provide 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. The three main parts of the lesson plan are "Introduction, Body and Conclusion" as described in the table below. Format of the lesson plan is given in the trainer's guide template at Appendix-1.

Introduction	Body	Conclusion
<ul style="list-style-type: none"> • Activate Attention • Establish instructional purpose 	<ul style="list-style-type: none"> • Recall prior knowledge • Present information • Employ learning strategies • Practice • Evaluate feedback 	<ul style="list-style-type: none"> • Summarize and review • Assess performance

- **Modeling a Skill:** It provides instructions to the trainers as to 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 are contents 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-centered rather than teacher-centered as is evident from the table below.

Teacher Centered	Learner Centered
<ul style="list-style-type: none"> - Lectures - Demonstrations/ Modeling 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.

Module: Perform Make UP			
Learning Unit	Suggested Teaching/Learning Activities	Delivery Context	Media
1.1 Prepare Client for Makeup Services	Give illustrative talk on the following learning elements: <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. 	Class Room Beauty Salon/Lab -do-	Learner Guide/Hand Outs

- **Evaluation of Training Material:** It provides a template for the trainer to provide feedback to the TLM developers on the shortcomings and improvement of the training material (learning Unit or Element). Template of providing evaluation/feedback by the trainer to the TLM developers is given in Appendix-2.

Developing 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 procedures the tasks and gains from the required skills.
- **Summary of modules:** contains the summary of all modules 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.
- **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 on Styling and Formatting TLM

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. Learning guide template is at Appendix-2.

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 TLM 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) & JPEG – Joint Photographic Expert/Group (.jpg) formats are preferred with a resolution of 200-300 dpi.

Guidelines for Writing Procedures

Procedures are series of steps, done in proper sequence, which accomplish a task. Their main purpose is to guide learners in performing tasks, assist in continuous self-assessment and assist trainers in demonstration of tasks. Developing and writing TLM is a specialized task that needs good writing skills besides gathering updated knowledge and information on the subject, so that procedures are described correctly. Therefore, TLM authors/ committee should consider while writing procedures that students can use the tools or equipment properly, time indicated to perform the skill is sufficient, health and safety involved is appropriately described. Expensive material could be wasted if the procedures are not described properly. The following guidelines are given for writing the procedures in TLM 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

6 Quality Indicators for TLM

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

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 & 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 relates with the learning elements Photographs are clear, unambiguous and have good quality
Format	<ul style="list-style-type: none"> Given templates are compiled while designing TLM 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 students to self-assess Allows for authentic demonstrations for learning at all levels

Appendix-1

Template for Trainer's Guide

1. Title Page
2. Table of Contents
3. Introduction
4. Lesson Plan

FORMAT FOR LESSON PLAN			
Module			
Learning Unit			
Learning Outcomes	<ul style="list-style-type: none"> . . 		
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 handouts, 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		
			Total time:

5. Demonstration Of Skill

Demonstration or modeling 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.

6. Overview of the Program

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

7. Trainers Guidelines

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

8. Evaluation of Training Material

The trainers/instructors who implement this training material can inform NAVTTC promptly of any shortcomings in training material on the following format. Please consider it as one of your responsibilities.

Trade			
Training Material	Module Title & Module Code	Learning Units Title & Learning Unit Code	Suggested amendments/ feedback/ proposal
Trainer Guide			
Learner Guide			
Trainer Name		Training Center	
Signature of Trainer		Date	

Appendix-2

Template for Learner'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)

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