



TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING AUTHORITY

Competence-Based Education, Training and Assessment Standards & Guidelines

(CBETA STANDARDS AND GUIDELINES)

MARCH 2019

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1. Background

In the Fourth Schedule, the Kenya Constitution, 2010 apportions mandate between the national and county government. With respect to higher education, science and technology, the division of functions between the national and county government can be summarized as follows:

NATIONAL GOVERNMENT	COUNTY GOVERNMENTS
Education policy, standards, curricula, examinations and the granting of university charters.	-
Universities, tertiary educational institutions and other institutions of research and higher learning and primary schools, special education, secondary schools and special education institutions.	Pre-primary education (ECD), vocational training centres, homecraft centres and childcare facilities
Intellectual property rights	-
Promotion of sports and sports education	-

The TVET Act has designated the task of provision of TVET Standards and Guidelines to TVET Authority to regulate curricula development, assessment, training facilities and trainer's qualifications.

1.1 Sessional Paper Objective in Establishment of TVETA

Sessional Paper of 2012 on Education and Training noted there were challenges in quality assurance and curriculum design and delivery in TVET, leading to instances of training that does not meet the quality and relevance required (**paragraph 15.18**). To address these challenges, the Sessional Paper notes in **paragraph 15.19** that the Government shall:

- (i) Assure quality in TVET on all aspects of competence based education and training, skills instruction design, development and delivery;
- (ii) Establish a TVET Authority to regulate institutions and programmes and assure quality.

1.2 TVETA's Legal Mandate

The TVET Authority was established through the TVET Act, 2013, and a Board appointed in June 2014 to implement the functions provided in section 7 of the Act. The following provisions of the Act concerns the Board's mandate in assuring quality of Training Programmes:

1.2.1 Section 7 (a): Regulate and Coordinate Training Under TVET Act, 2013

This function mandates the Authority to establish Standards and Guidelines to regulate TVET. Section 40 of the Act directs the institutions, regulatory and quality assurance agencies in training and any other person directly or indirectly engaged in training in the country to implement the guidelines on standards, quality and relevance established under the Act. Thus, the Authority has the mandate to coordinate the TVET.

1.2.2 Section 7(b): Accredite and Inspect Programmes and Courses

This function mandates the Authority to evaluate Training Programmes and Courses developed by various curriculum developers and examination bodies to assure conformity to the Authority's Training Standards.

1.2.3 Section 7 (e): Promote Access and Relevance of Training Programmes

This function mandates the Authority to ensure Programmes are quality and attractive to the market i.e. meeting the needs of local and international skills requirements through providing **market driven Training Standards**.

1.2.4 Section 7(f): Prescribe the Minimum Criteria for Admission to Training Institutions and Programme

This function mandates the Authority to provide the minimum requirements for entry into each Training Programme.

1.2.5 Section 7(m): Assure Quality and Relevance in Programmes of Training.

This function mandates the Authority to guide the development process of the Training Programmes and evaluate final product to ensure the programmes meet the Authority's training standards. The Authority further ensure that the implementation of the programmes is to the required standards.

1.2.6 Section 7(r): To Approve the Process of Introduction of New Training Programmes and Review Existing Programmes

This section together with Section 32 emphasise the Authority's mandate of approving introduction of new Training Programmes and their designs. Section 17 (3) states, "No Programme or course of training shall be mounted in an institution without **prior** approval by the TVETA Board "The Authority shall therefore use its Training Standards to evaluate new Training Programmes before approving them for mounting in any TVET institution.

Section 31 provides the mechanism through which the Authority, in consultation with stakeholders, shall develop Training Standards.

2.0 Process of Establishing Training Standards and Guidelines

To understand how standards are established it is important to first distinguish between occupational standards and training standards and how they are related.

2.1 Occupational Standards

Occupational Standards are the standards based on identified needs of a work place and occupational profile. Occupational standards should be industry driven and based on identified current and future needs of a specific occupation. Occupational standards are the initial point of reference for competence based Training Programme development. The purpose of TVET is to equip the trainees with necessary competencies corresponding with the respective occupational standard.

2.1.1 Use of Occupational Standards for Recruitment and Performance Measuring Purposes

Employers can use occupational standards for the following purposes:

- 1) Prepare job descriptions and specifications;
- 2) Determine recruitment criteria;
- 3) Set in-house standards of performance and develop workplace procedures;
- 4) Form a benchmark for quality of work performance.

Occupational Standards are developed by industry and coordinated by the National Human Resource Planning and Development Department of the Ministry of Labour.

2.2 Training Standards

Training Standards are developed based on occupational standards and are an intermediate step to the curriculum development. Some countries refer to Training Standards as programme standards, competence standards or training regulations.

2.2.1 Use of Trainings Standards

1. determine the criteria to award a TVET qualification;
2. provide the Standards to develop training programmes /curricula;
3. provide the standards to approve, accredit and undertake surveillance audits on developed programmes;
4. provide the Standards for assessment of learning outcomes of training;
5. Identify skills gaps and training needs after monitoring and evaluation.

2.2 Linking Occupational Standards to Training Standards

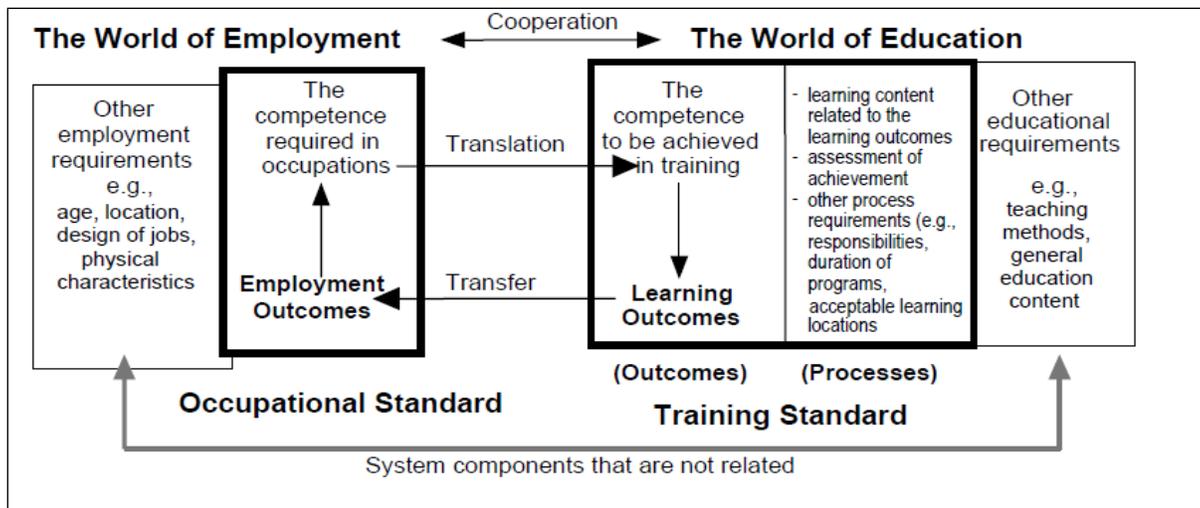
2.2.1 Issues in Developing Linkages

For training to be relevant to the real world of work, the training standards need to correlate with occupational standards. In developing and least developed countries this correlation is absent mainly due to lack of occupational standards in the industry.

There are many reasons why occupational standards may not be used directly by training institutions, as the worlds of employment and education are detached from each other. Each has different sets of priorities, motivations, and purposes. This could be referred to as “employment logic” vs “educational logic.” In the logic of *employment*, employers are interested in what people need to do, how they will do it, and how well they do it. They are interested in *outcomes*. In the logic of *education*, education professionals are interested in what people learn, how they will learn it, and how the quality and content of learning will be assessed. Education traditionally uses a language of input (syllabus, subject), process (teaching/learning methods), and assessment.

2.2.2 Translating Occupational Standards into Training Standards

The needs of employment (occupational standards) shall be translated into a language that can be understood in education and training. The goal is to translate the language of action and inputs in employment to the language of inputs in education, which enable Education professionals to plan and deliver learning programs. The figure below shows the entire process.



Source: WB and ETF, Framework for Defining and Assessing Occupational and Training Standards in Developing Countries Information Series No. 386, p. 32, 2001

2.2.3 Adopting Training Standards of Developed Countries

As it has been noted above the process of translating Occupational Standards to Training Standards is tedious and lengthy. However, developed countries have already undertaken this process. We therefore need not to re-invent the wheel that has already been manufactured, piloted, tested and reviewed. We only need to leap frog and adopt the best practices but ensure to fully involve the stakeholders to adapt the standards.

3. Guidelines for the Introduction, Review and Implementation of TVET Programmes

The Training Programmes shall be designed to operate within a framework which leads to lifelong education and training, and which facilitates TVET Act section 32:

- i. innovativeness and creativity;
- ii. continuation of training for improvement of professional qualifications
- iii. and updating of knowledge, skills and understanding;
- iv. complementary education for those receiving technical, vocational and education training in the form of on-the-job training or other training in institutions or other facilities;
- v. the special needs of persons with disabilities, minorities and marginalized groups.

3.1 Steps for Introduction or Review of a TVET Programme

Step 1: Submit a Proposal seeking approval for introduction or review of a training programme that satisfies an occupation training gaps as per TVET Regulations 2015 paragraph 15. The Authority approves the development or review where applicable.

Step 2: TVETA in liaison with KNQA/Industry/Professional Bodies adapts benchmarked training standards and drafts the National Training Standards.

Step 3: The draft National Training Standards are circulated for public review.

Step 4: The public review comments are evaluated and inputs incorporated in the development of the final National Training Standards draft.

Step 5: The final training Standards are gazetted as National Standards to ensure enforcement.

Step 6: The curricula developers and assessment/examination bodies implement the Training Standards for the design and development of the training programmes and the examination/assessment arrangements.

Step 7: TVETA approves the development process and final training programme developed.

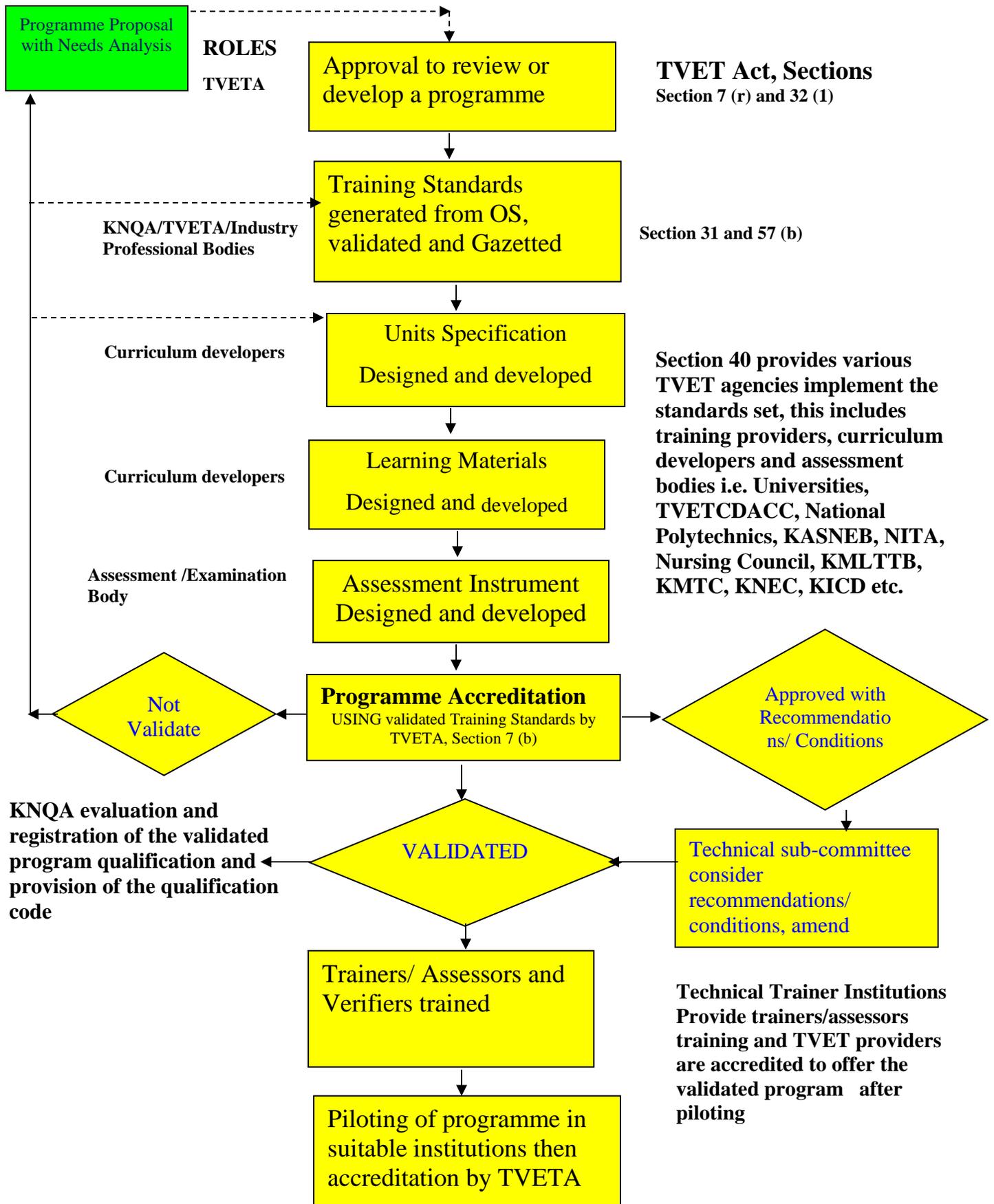
Step 8: KNQA registers the programme qualification

Step 9: The Programme developer pilots the approved programme in suitable training institutions and adjusts any implementation concerns

Step 10: TVETA accredits the approved programmes for the mounting with specific training institutions interested to offer the programme.

Step 11: TVETA monitors the implementation of the curriculum requirements to maintain and assure quality standards.

3.2 Process of Development and Approval of TVET CBET programme



4.0 Criteria for Evaluating the Overall Format, Course Content and Assessment for Training Purposes (Training Standard)

The Criteria provides the basic requirements and format for the development of sector specific training standards. The basic requirements are explained below:

4.1 Curriculum Design

TVET Programmes shall be designed in Competence based modules showing course code and title, unit code and title, training duration, competencies, entry requirements, delivery and assessment mode and methods, trainers qualification, tools, equipment and materials and infrastructure

4.1.1. Title

Standard: Every training standard shall have a specific course code, title and National Qualification Framework (NQF) Level.

Guidelines: The Training Standard Title (Which is also course Title) should:

- i. reflect the occupational/skill area;
- ii. be stated as a noun where applicable.

4.1.2. Nominal Training Duration

CBET has no fixed timelines to gain the competencies of a given training programme; however, the National Qualifications Framework provides an indication on average duration expected for a fresh trainee to attain a specific competence. This also allows planning for the programme coverage.

Standard: Every training standard shall specify the minimum training duration as per KNQF.

Guidelines:

Minimum Credits to be accumulated (1 credit is 10 notional hours)	Qualification Type (as proposed by KNQA)	Level
240 (480)	Bachelor of Technology	7
120 (240)	Diploma	6
60 (120)	Crafts	5
30 (60)	Artisan	4
30	National Vocational Certificate	3

The total course (hours).....Hours should be broken into:

- Basic competenciesHours
- common competenciesHours
- core competenciesHours
- Industry attachmentHours

Duration for practical and theory as well as break down of elements durations (for a training programme) shall be provided. The Training Programme shall also indicate the **competences** to be developed during the attachment.

Prior learning shall be considered in determining the training duration at each level depending on PLAR assessment or credit transfers from previous level of study.

4.1.3. Course Description

Standard: Each training standard shall have a general description. Elements shall provide competence descriptors.

Guidelines: The course descriptors should:

- i. Provide general information about the course.
- ii. Describe the competence within the course.

4.1.4. Unit Code, Title and Descriptor

Standard: Every Unit shall have a Code, Title and a Descriptor

Code Guidelines

Each Unit shall be assigned a unique identification code, which uses numbers referring to the ISCED coding system. The composition of each unit code shall be as follows as per the Fields of education and training 2013 (ISCED-F 2013) and 2011 Education Programme ISCED-P summary to identify the Level of completion:

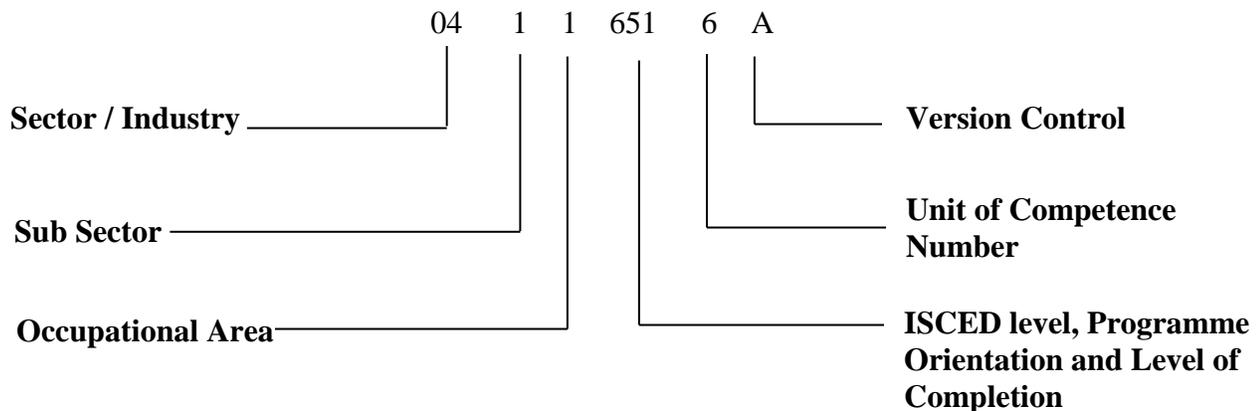
- a) The first two numbers refer to the ISCED Broad Field / sector or industry, such as “07” for Engineering, manufacturing and construction;
- b) The next one number refer to ISCED Narrow field / sub sector, such as 07”1” Engineering and engineering trades,
- c) The next one number refer to last ISCED Detailed field/occupational area; such as 071”4 ” Electronics and automation

Note: (a)-(c) form the full (ISCED-F 2013) detailed field 0714

- d) The next set of three numbers indicate the ISCED level, programme orientation and level of completion and access to higher ISCED level;
- e) The next number refers to the Unit competence number (1, 2, 3 etc.);
- f) The letter at the end is a version control code indicating which iteration of the standard is contained.

Note: Programme Course code shall comprise the (a) to (d) above

Example: Course Identification code for CPA III would be **0411 655**
 Unit Identification code **0411651/6/A** as explained below:



04 (Broad Field) – Sector is Business, administration and law

1 (Narrow Field) –Sub Sector is Business and administration

1 (Detailed Field) – Occupation Area is Accounting and taxation

6 (ISCED level) - Bachelor’s level (3 to 4 years)

51 (Program orientation, Level completion) - Professional; Part completion of programme (CPA Section VI)

6 (Unit Number of Competence) – Section VI

A (Version control) – First version (of the programme)

Unit identification Code for CPA Section VI would be

Unit Title and Descriptor Guidelines

- i. use language which is precise and consistent with the appropriate grammatical structure;
- ii. use a clear, unambiguous active verb or verbs to describe the action required;
- iii. represent a discrete unit of work which is complete and assessable rather than a procedural step or operation;
- iv. descriptor provide what is expected to be covered in the unit to learn a certain complete activity of a job tasks.

4.1.5 Elements of Competence

Elements of competence refer to the learning outcomes in each unit of competence.

Standard: Each unit shall comprise of between three and five elements of competence.

Guidelines: Elements of competence are written in the form of a sentence, following the rule of beginning with a verb in the infinitive, preferably; then it describes the object on which the action is performed and, finally, though it is not compulsory in every case, it includes the condition of the action regarding the object; VERB + OBJECT + CONDITION

4.1.6. Trainee Performance Criteria/ Learning behaviour outcomes

Performance Criteria are statements that describe the knowledge, skills and attitudes trainees should acquire by the end of a course or program. Learning indicators shall be used to measure the learning towards performance required at workplace and are used for the preparation of assessment tools.

Standard: Each Unit of competence shall clearly outline trainee behaviour outcomes and need to be demonstrable, measurable, and assessable. “Know” and “understand” are not acceptable

Guidelines:

- i. Describe competencies, expectations or results of learning activity
- ii. Use measurable evaluative terms which are appropriate and provide the range of variations which might be allowed or expected in the work environment;
- iii. Phrase in simple language that is easily understood by all users;
- iv. Ensure sufficient, complete measure of the unit.
- v. The learning outcomes may be used as a basis or criteria for recognizing prior learning.

4.2 Training delivery

Standard:

Each Unit of Competence shall have an appropriate training delivery method to ensure the trainee receives the skills, knowledge, and attitude required to undertake a task at the workplace:

Guidelines:

The training is based on curriculum developed from the Training standards;

- i. Training delivery is individualized and self-paced;
- ii. Training is based on work that shall be performed;
- iii. Training materials are directly related to the competence standards and the curriculum modules;
- iv. Training is based both on and off-the-job methods

4.2.1 Underpinning Knowledge and skills

Training Standards shall have a specification of the knowledge and understanding an individual shall possess to undertake job tasks to the required standard.

Guidelines

- (i) Include theories, methods and principles to be understood and applied
- (ii) Only be included if it refers to knowledge applied in the workplace and indicate the type and depth of knowledge required to meet the demands of the Occupation Standards;
- (iii) Specify what the individual shall know and understand in order to safely and effectively perform the work task described in the unit of competency.

4.3 Range/Scope Statements

Standard:

Training Standard may have statements specifying its scope or the range of variables that have a critical impact on the quality of performance required.

Guidelines:

Range Statements should:

- i. Describe the tools, equipment, materials, methods and processes which are significant to the training for work activity;
- ii. Describe significant variations which would require different skills, methods or processes as required by industry.
- iii. Reflect current and future requirements for flexibility and breadth in order to show full competence.
Example 1: a driver of an emergency vehicle would need to show they could handle all types of "Conditions: daylight, night-time, dry, wet, clear, foggy

4.4 Tools, Equipment and Materials

Standard: Each course shall have a recommended a range of list of tools, equipment and materials for training/assessing various performance criteria for maximum of 25 trainees.

Guidelines:

- i. The tools, equipment and materials shall be adequate to engage all the trainees during a practical session;
- ii. The tools, equipment and materials shall be relevant to the expected learning outcomes;
- iii. Lists of tools, equipment and materials to trainees shall be provided in the specific training standards.

4.5 Training Infrastructure

Standard: Each training standard shall provide guidelines for adequate training infrastructure appropriate for the training programme.

Guidelines:

- i. The infrastructure shall meet the requirements of the Building Code, Occupational Safety and Health, Public Health and Environmental sustainability.
- ii. The training infrastructure shall meet the space requirement specified program.
- iii. A specific training standard shall provide adequate offices, theory rooms, practical rooms, libraries and sanitation facilities for the programme.

4.6 Trainers' Qualification

Standard: Each TVET trainer shall possess adequate and relevant qualifications as specified in TVET regulations, 2015.

Guidelines:

- i. A trainer shall possess at least one qualification level higher than the training level.
- ii. registered and licensed in accordance with the TVET Act, 2013;
- iii. A trainer should be able to plan a training session, deliver competence based training (CBT), conduct competence assessment and maintain training facilities.
- iv. Each trainer have the relevant technical and vocational competencies at least to the level being delivered or assessed;
- v. A trainer shall renew training licence periodically based on evidence of continuous professional development as specified in the TVETA regulations, 2015

4.7 Trainee Entry Requirements

Standard: Entry into a CBET course shall be based on specific requirements per level.

Guidelines:

- i. Entry to various levels of CBET will be guided by the KNQF requirements shown in the table below:

KNQF Level	Qualification description	Minimum entry requirements
7	Bachelor of Technology	Diploma
6	Diploma certificate /Technicians/ Skilled Supervisors/Master Craft Person II Qualifications	KCSE C- (Minus) or KCE division III, KACE 1 Principal and 1 Subsidiary or General Certificate of Education (Advanced level) UK or an equivalent qualification of KNQF 5
5	Craft certificate /Vocational Training Certificate IV (VTC IV)/Master Craft Person III/Advanced Operator qualifications /KNQF level 5	KCSE D (plain), KCE Div. III or equivalent qualifications or completion of KNQF level 4
4	Artisan Certificate/Vocational Training Certificate III (VTC III)/ Skills Certificate I (SC I)/Trade Test I (TT I)/Skilled Operator qualifications /KNQF Level 4	Primary level qualification, junior secondary qualification, KCSE E, KCE Div. IV, or completion of KNQA level 3
3	Skills Certificate II (SC II)/Trade Test II (TT II)/Vocational Training Certificate II (VTC II)/ Semi Skilled Operator qualifications/KNQF Level 3	Primary Education, junior secondary education, Or completion of KNQF level 1 & 2
2	Secondary certificate/ SC III/TT III/VTC I/Pre-Vocational	Primary certificate (KNQF1)

- ii. Prior learning shall be considered for entry at various levels after assessment for competence;
- iii. Special Needs shall be considered.

4.8 Evidence Guide

Standard: All performance criteria, underpinning knowledge and skills and range shall be assessed.

Guidelines:

The evidence guide should include information on:

- i. the critical performance that shall be demonstrated;
- ii. Appropriate methods of assessment;
- iii. Appropriate context of assessment.

5.0 Assessment Standards and Guidelines

Competence Based Education and Training assessment shall evaluate knowledge, skills and attitudes for each learning outcome. There shall be diagnostic, formative and summative assessment.

5.1. Diagnostic assessment

Standard: The prior learning shall be assessed before a trainee joins a training programme.

Guidelines: An assessment can be used to discover a candidate's strengths and weaknesses, to identify a learning programme for them, or to assign them to a specific group. For example, if an experienced candidate wish to enrol to learn *Automotive Mechanics* in an evening class, one could be asked to demonstrate competencies provided in the training curriculum modules to establish proficiency to allow the Centre to allocate to the right class — beginners, intermediate or advanced modules. This use of assessment is called 'diagnostic', and aids individual progress by identifying an appropriate learning path.

5.2 Formative assessment

Standard: The learning outcomes shall be assessed continuously internally as the training is conducted.

Guidelines:

- i. The trainer shall assess the training using but not limited to the following approaches.
 - a) Oral questioning
 - b) Written Examination
 - c) Demonstration
 - d) Observation
 - e) Trade Project
 - f) Third party report;
 - g) Portfolio
 - h) Work project
- ii. Trainers shall administer formative assessment based on appropriate proportion between theory and practice.

5.3 Summative Assessment

Standard: Summative external assessment shall be conducted at the end of each training unit.

Guidelines:

- i. The criteria of assessment shall keep to the principles of validity, reliability and fairness.
- ii. Assessment shall be administered by accredited competence assessors comprising of industry practitioners and trainers
- iii. Assessment shall focus on the core units of competence. The basic and common units shall be integrated or assessed concurrently with the core units.

- iv. Competence assessment shall be conducted by accredited competence assessors/verifiers. However, trainers who are accredited competence assessors shall not assess their own trainees.
- v. Assessment of competence shall be undertaken only in the TVETA accredited training and assessment centres.
- vi. Competence external assessors shall administer summative assessment based on appropriate proportion between theory and practice
- vii. Assessment of Prior Learning may be conducted at any level at the convenience of the candidate.

5.4 Verification of the Assessment Process

5.4.1 Internal Verification

This is a quality assurance process carried out by the training centre to ensure the maintenance of quality and consistency of assessment of candidates for Competence Qualification /National Qualification awards. This focuses mainly on the validity and practicability of assessment instruments, the reliability of the assessment decisions and the consistency of the quality of assessment practices within the centre over time.

Standard: Each accredited training institution is expected to select an Internal Verifier from among its training staff to supervise, co-ordinate and verify that the assessment activities take place in accordance with the standards set out in this Assessment Guidelines. The Internal verifiers are also responsible for submitting candidates' results to the Assessment Body.

Guidelines:

Role of the Internal Verifier

- i. The Internal Verifier is responsible for internal quality assurance;
- ii. The Internal Verifier should have a thorough understanding of quality assurance and assessment practices;
- iii. They should also have knowledge of the corresponding Assessment bodies Internal Verification Procedures.

5.4.2 External Verification

External verification is a quality assurance process, which the external verifier undertakes to ensure that an approved training centre maintains appropriate quality in its assessment process.

Guidelines:

Role of the External Verifier

The external verifier involved in assessment process is the moderator discussed in the appendix C only does sample QA process to verify assessment is undertaken as per provided standards.

Note: The role of TVET Authority auditor/ Monitors and evaluators seems similar to moderator but totally different. The TVET Authority is an external verifier not involved in examination process and but does quality assurance evaluation of the whole training system as per the training standards.

The External Verifier focuses on auditing the assessment system, records of evidence and assessments, and randomly sampling assessments. External verifiers do the following:

- i. Monitor the working relationships between Assessors and candidates;
- ii. Verify the assessment decision by checking ensuring that assessment and internal verification procedures are being conducted in accordance with the quality assurance requirements established by the Authority;
- iii. Communicating assessment quality, findings and recommendations to the examining body.

The internal assessor, moderator and external verifier of CBET principles of assessment are guided by components in the appendices B and C.

6.0 Certification

Standard: Certification shall be issued by officially approved and recognised Certification Agencies.

Guidelines:

- i. Certificates of Competence shall be issued to individuals who have satisfactorily demonstrated acquisition of skills, knowledge and attitudes in a particular unit of competence. It shall also be issued to individuals who have been assessed for prior learning;
- ii. A Final Certificate is issued when a candidate has demonstrated competence in ALL UNITS of competence that comprise a Qualification.
- iii. A transcript providing the rating of candidate performance shall be issued for every certificate. See Appendix B.
- iv. The certificates should be issued by legally mandated institutions

7.0 Special Needs Trainees (PwD)

Standard: Each training programme shall ensure that it accommodates trainees with special needs.

Guidelines:

- i. Makes special arrangements to cater for training and assessment needs of special needs trainees;
- ii. Where training facilities are not equipped to accommodate trainees with special needs, alternative arrangements shall be made for training and assessment to take place at the nearest Approved Training Centre with suitable facilities; see Appendix D for recommended facilities.
- iii. Each Approved Training Centre shall ensure that it employs assessment accommodations to eliminate or reduce assessment bias for candidates with special needs;
- iv. An accommodation is simply a procedure or practice, which permits candidates with special needs to have an equitable access to instruction / training and assessment. An accommodation shall not fundamentally lower the quality of the assessment or alter the skills or knowledge being assessed.

8.0 Educational, Cultural and Social Economic Background of the People

Programme development needs to consider national and local culture, social and economic particularities.

9.0 Crosscutting Aspects of Programme Development

Programme or course development should consider important crosscutting issues, such as protection of environment, gender issues or equality and inclusiveness of minorities, and marginalized groups.

Appendix A

Example of how to organise Tools and Equipment list

Recommended list of tools, equipment and materials for the training of 20 trainees for Automotive Servicing.

Tools		Equipment		Materials	
QTY		QTY		QTY	
4 sets	• Box wrench	2 units	• Motor Vehicle	50 ltrs.	• Engine oil
4 sets	• Socket wrench	2 units	• Engine	10 ltrs.	• Grease
4 sets	• Pliers	2 units	• Hydraulic jack/lift	10 ltrs.	• Sealant /adhesive
4 sets	• Screw driver	4 units	• Growler tester	50 ltrs.	• Hydraulic oils/gear oil
4 sets	• Wire stripper	4 units	• Ignition timing light	50 ltrs.	• Automatic transmission fluid
4 sets	• Mechanic's hammer	4 units	• Tachometer	10 pcs.	• Wheel wedges
20 pcs.	• Apron	4 units	• Differential and front axle	10 pcs.	• Test lamp
20 pcs.	• Goggle	4 units	• Multimeter		
20 pcs.	• Gloves				
4 sets	• Torque wrench				
4 sets	• Feeler gauge				
4 sets	• Battery tester				
4 sets	• Hydrometer				
4 sets	• Dial gauge				
4 sets	• Bore gauge				
4 sets	• Micrometer caliper				

Appendix B - Rating Scale

A rating scale is a scoring tool that lists the criteria for making judgments on the acquisition of a competence. It also articulates gradations of quality for each criterion, from not yet competent to competent. A rating scale clarifies expectations of instruction and assessment and is a useful tool for the instructor and the assessor. It can also be used by the trainee to monitor and improve overall performance.

EXAMPLE

SCORE (%)	RATING	NARRATIVE	COMPETENCE/ PROFICIENCY LEVEL
<i>80 - 100</i>	5.	Mastery of technical and related knowledge and skills; Can perform the task demonstrating mastery, autonomy, responsibility and control in a wide range of working condition.	Mastery
<i>65 - 79</i>	4.	Good working technical and related knowledge and skills. Can perform the task in a wide range of working conditions, demonstrating good working knowledge of the skill, initiative, and adaptability to problem situations.	Proficient
<i>50 - 64</i>	3.	Satisfactory technical and related knowledge and skills; Can perform the task demonstrating sufficient knowledge of the skill, and an ability to operate satisfactorily displaying some initiative and adaptability to problem situations.	Competent
<i>35 - 49</i>	2	Insufficient technical and related knowledge and skill; Can perform limited parts of the task satisfactorily but require considerable assistance	Not Yet Competent
<i>Below 35</i>	1	Insufficient evidence of attainment of competence; Has not demonstrated sufficient knowledge, skill and attitude on which a judgement can be made.	Not Yet Competent

Appendix C – Assessment Principles and Process

<p>Assessment Principles:</p>	<p>Assessment shall only be conducted by registered assessors. Assessors shall be subject matter experts and trained in Assessment and preferably have industry experience. The following are key aspects proposed to be followed when assessing candidates:</p> <ul style="list-style-type: none"> • Following the review of all the assessment components (Portfolios of Evidence, Competence Interviews and/or practical tasks), the assessor decides whether evidence presented provides full and ample proof that the unit standards have been met; • The assessor records assessment marks and makes recommendation to the moderator; • All PLAR assessment procedures should be consistent with Training Standards national assessment procedures. <p>To ensure assessment are of high quality and integrity, assessors and moderators shall diligently apply the following accepted assessment principles:</p> <ul style="list-style-type: none"> ✓ Systematic: Assessment activities shall follow a practical and natural sequence, be easy to administer and easy for the trainee to follow. ✓ Consistent: Assessment is consistent where, given similar evidence and circumstances, an assessor would make the same judgements again; or where assessment by other assessors would lead to the same judgement; ✓ Open: Trainees are given the opportunity to contribute to the assessment planning and collecting of evidence. The assessment process is transparent; ✓ Flexible: Flexible assessment allows for easy entrance into appropriate levels of education and training and for multiple pathways to the same learning ends in a manner, which facilitates progression. It also uses a variety of assessment approaches, methods and instruments; ✓ Appropriate: The method of assessment is suited to the competencies being assessed as stipulated in the registered unit standard; ✓ Manageable: The assessment shall be easy to arrange, cost-effective and practical. It should take into consideration available facilities, equipment and time; ✓ Fair: Assessment shall be unbiased and not hinder or advantage a trainee in any way. Assessors shall make sure that the chosen approach, methods and instruments support the principle of fairness. They shall avoid influences not related to the matters being assessed; for example, arising from differences related to race, gender and assessment method. ✓ Integrated: Assessment should be an integral part of standard setting and curriculum, not something added on afterwards. The teaching and learning elements of each program should be designed in the light of the types of assessment trainees undertake and evidence required, and vice versa, so that trainees can demonstrate what they have learned and provide the evidence required by the unit standard(s). The assessment shall be in line with what the trainee has to do at work. (Ideally, the assessment takes place during normal working processes.) ✓ Valid: Validity in assessment refers to an assessment measuring what it is supposed to. If a unit standard requires observation as evidence of performance, then a written examination alone will not be valid. Assessment procedures, methods, instruments and
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	<p>materials have to match what is being assessed. To be fit for its purpose, assessment shall use evidence directly related to the type and level of performance required in a specified standard;</p> <ul style="list-style-type: none"> ✓ Authentic: The assessor shall be satisfied that the work being assessed is the trainee’s own work. In the case of PLAR, evidence like certificates and testimonials may have to be referenced for authenticity. ✓ Current: The evidence shall reveal what the trainee is currently able to do. The evidence, standards and training material shall be up to date with current technology and other industry-specific developments. ✓ Sufficient: ‘Sufficient means that the assessor shall make sure that the evidence collected meets all requirements of the performance criteria of the unit standard. Sufficient evidence also implies that the trainee can repeat the required performance consistently; ✓ Reliable: ‘Reliable’ evidence is evidence that will be acceptable by all assessors and which can be repeated in various circumstances. Reliability in assessment is about consistency.
<p>Note: Where evidence gaps in the Portfolio of Evidence of a candidate are evident, assessors should, during the competence interview and the practical assessments, determine if the evidence gaps still exist. If they still exist, candidates will be declared not yet competent in these unit standards. All the gaps identified should be recorded and detailed in the final assessment report.</p>	

Post-Assessment Review	
Moderation:	<p>The <i>post assessment review</i> process comprises of moderation and external verification.</p> <p>Moderation of trainee assessment is a process aimed at ensuring that marks and grades are as valid, reliable, and fair as possible for all trainees and all markers. Moderation strategies may differ depending on the number of trainees studying the unit and the number of training staff involved. However, the process usually involves collaborative decision making by trainers/assessors about assessment criteria and expectations. Double assessment is usually carried out when a candidate received a fail grade. Moderation is more than the checking of assessment marks; it is the checking of assessments to ensure that the whole assessment process is fair, valid and reliable enabling equivalence and comparability.</p> <p>Assessments conducted are moderated with the aim of enhancing the quality and integrity of assessment in the TVET sector.</p> <p>Registered moderators need to validate that assessments were done consistently based on approved guidelines, best practices and principles of assessment.</p> <p>The moderator should indicate through a form provided in the portfolio of evidence that the assessment outcomes are a clear reflection of the candidates’ competence and either endorse, or adapt the assessment of the assessor. In extreme circumstances, a moderator could request re-assessments or additional assessments.</p>
External Verification:	<p>External verification is done to ensure that the approved standards for awarding a qualification are met. External verification is also organized to maintain the overall</p>

	<p>credibility of the Assessment practices and processes in compliance with the Authority’s Standards and Guidelines.</p> <p>External verifiers determine whether the moderator has correctly evaluated the evidence supplied by the assessor.</p> <p>Once the verifier has established that the moderation process was adequately conducted, he or she endorses the candidate’s achievement. However, if the verifier identifies irregularities in the moderation and/assessment process, the candidates achievement may not be endorsed. Some examples of irregularities are:</p> <ul style="list-style-type: none"> • Insufficient or no records of candidate’s achievement are available, due to missing records; • Insufficient evidence of assessment or learning was supplied; • Assessor incorrectly interpreted the evidence supplied by candidate and judged the candidate to be competent when unit standards or specific outcomes have not been met.
Certification (Issuing of certificates)	
<p>After the moderator and external verification processes have been completed, the candidate is informed of the outcome of the assessment by the Certification Agencies .</p> <p>Candidates shall be found competent (C) if they comply with the competence requirements specified by the specific training standard rating for all the unit standards of a qualification.</p> <p>If candidates are found competent in some or none of the unit standards, they shall be declared Not Yet Competent (NYC). However, candidates shall receive credits for those unit standards in which they were found competent.</p>	
Appeal Procedures	
Legal instruction:	<p>Candidates should be informed of their right to appeal during their induction or mentoring.</p> <p>Candidates may appeal if they do not agree with the outcome of their assessments. The appeal should be lodged within 15 days after having been notified of the assessment results.</p>
Mitigation:	<p>It is recommended that candidates first discuss their concerns with the assessor and if still not satisfied, follow the Certification Agencies appeal procedures.</p>
Gap (Top-up) Training	
<p>Candidates, who want to, shall be given an opportunity to receive gap (top-up) training in those unit standards where they are found to be not yet competent to enable them to achieve a full qualification.</p>	
Re-assessment	
<p>Once candidates have successfully completed the top-up training, they shall be re-assessed in the unit standards which they were found not yet competent. This shall be followed by certification.</p>	

Record Keeping

- Certification Agencies shall maintain a national database of trainee records and assessment results;
- Assessment providers shall keep record of all assessment information in line with the Certification Agencies procedures;
- Portfolios of Evidence and other relevant assessment documents shall be kept in a safe place;
- Assessment records and documents shall be made available to the Authority on request;
- Records and marks should be handled in accordance to the Certification Agencies' policies and procedures.

APPENDIX D: People Living With Disability (PwD) Additional Training Tools

Training Tools mentioned below, are Accessible Tools/Appliances/Software, which enable a Person with Disability (PwD) to carry out their training corresponding to the Training Standards (Regulations). While the learning outcomes for the programmes n Pack will remain the same, the methodology stated below will assist the trainers to train the trainees in the best suitable way according to their level of functioning. These suggested training tools facilitate the learning process of a Person with Disability to perform at par with their peers in a conducive and enabled environment.

DISABILITIES

S.N.	Nomenclature as per Act	Nomenclature as per Industry	S.N.	Nomenclature as per Act	Nomenclature as per Industry
1	Blindness	Visually impaired	6	Mental Illness	Mental Illness
2	Low Vision	Visually impaired	7	Cerebral Palsy	Cerebral Palsy
3	Leprosy-Cured	Leprosy-Cured	8	Autism	Autism
4	Hearing Impairment	Hearing Impaired	9	Mental Retardation	Intellectual Disability
5	Locomotor Disability	Movement Impaired	10	Multiple Disabilities	Multiple Disabilities

Tools recommended for the Training of Persons with Blindness (Visual Impairment)

Accessible Tools/Appliances/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
Optical Character Recognition (OCR)	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in reading printed text, then this tool can be used. Person with Blindness can use this tool in all situations. This tool may not read hand written documents efficiently.</p>	<p>OCR technology helps to convert the printed document into soft copy. This soft copy can be read using separate text to speech software, thus enabling a Person with Visual Impairment to comprehend the same.</p>	<p>A desktop or Laptop is required where the software can be installed.</p>	<ul style="list-style-type: none"> • Clear View+ Speech ZoomEx • Kurzweil, • ABBY Fine Reader • Tesseract
Screen Reader	<p>During the training If it is observed that a Person with Blindness has difficulty in reading from the computer screen, Screen Readers software should be recommended.</p>	<p>Screen readers are software programs that allow blind person use to read the text that is displayed on the computer screen with a speech synthesizer or braille display. A screen reader is the interface between the computer's operating system, its applications, and the user.</p>	<p>Requires a PC or Laptop which can run on either Windows OS or Linux.</p>	<ul style="list-style-type: none"> • Non-Visual Desktop Access (NVDA), • Job Access with Speech (JAWS), • System Access to Go (SATAGO), • Voiceover, • Talkback, • Nuance Talks and Mobile Speak, • ORCA • Dolphin Supernova

Accessible Format Digital System	While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in reading, then he/she can use this tool to digitize published material (digital talking). Persons with Blindness (Visually Impaired) can use this tool in all situations.	DAISY (Digital Accessible Information System), a software player that renders text, audio and embedded images for the blind. This software is a	Requires a PC or Laptop which runs on either Windows OS or Linux.	DAISY
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Accessible Tools/Appliances/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
		combination of a published text to digital text converter and text to speech software, all in one. The visually impaired can use this to read published material.		

<p>Braille</p>	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in accessing print materials, then Braille materials are recommended. It uses raised dots to represent the letters of the print alphabet.</p>	<p>It is a tactile writing system used by the Person with Blindness (Visual Impairment). It is traditionally written with embossed paper. Braille-users can read and write on Braille with the Braille slates and stylus. Braille script can be written in all the languages. A visually impaired person can touch and comprehend these braille texts and therefore reading material published using the same. This requires knowledge of the Braille.</p>	<p>Braille slates and stylus. The person should know Braille literature.</p>	<p>Braille Slates, Stylus, Brailier</p>
<p>Refreshable Braille Display</p>	<p>While teaching any of the NOS'S mentioned above, if it is seen that a person has difficulty in reading/seeing, then he/she can use this tool. It is used for taking notes on Braille without paper usage. The tools can be recommended on a case-by-</p>	<p>Braille displays enable people who are blind or deafblind to operate any computer. The visually impaired person can take notes on the computer in Braille</p>	<p>Attached to a computer with the screen reading software.</p>	<p>Focus 40/80Seika</p>

Accessible Tools/Appliances/ Software	When to use this Tool	Tool Description	How to use this Tool	Tool Names
	case basis.	language using tactile/Braille friendly keyboard.		
White Cane (folding or non-folding)	This tool will be used for the purpose of mobility by a person with blindness. Persons with blindness can use this tool in all situations for mobility.	Devices for navigation or identification of the surroundings used by a person with a visual impairment. The visually impaired person can point the cane out to sense the walking surface and objects in the vicinity. This will help them maneuver with efficiency and avoid any accidents.	Person with blindness need to be trained with white cane. Besides, they must have trained other kind of mobility training in the open environment for independent living.	White Cane, Folding Cane, Long Cane & Smart Cane
Electronically Augmented Canes	During the training this aid will be used for mobility by a person with Visual Impairment in order to detect trunk and head-level obstacles.	Narrow beams of laser light are projected from the cane send acoustic signals when obstacles are detected at head height The visually impaired person can sense these signals and maneuver with caution to avoid accidents.	Mobility and orientation training is a prerequisite for using this device. Needs to be purchased locally.	Smart Cane

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
	Display Cards	<p>The tools can be recommended on a case to case basis. It is used for feeling and identifying items. It helps the trainee during the Training to provide additional information and emphasis on the content.</p>	<p>These cards have Braille inscribed in them for reading. A visually impaired person can touch and comprehend these braille texts and therefore read material published using the same. This requires knowledge of the Braille Language.</p>	<p>Need proper information regarding Display Cards. Follow the instruction given by the trainer.</p>	
Environmental Adaptability	Tactile information It should be Tactile TLM	<p>It is used to create a 3D demo of a 2D image. It is recommended for all persons with Visual Impairment</p>	<p>Tactile is used to get the visualization of the visuals (model or 3D images) by touch and feel. Tactile stickers or diagrams are used to get the visualization of things like computer screen or any outline by touch and feel. Tactile markers are also used to differentiate the things. A visually impaired person can touch and comprehend these and therefore differentiate things or comprehend messages.</p>	<p>Needs to be prepared using the locally available stickers or bindis and other materials.</p>	<ul style="list-style-type: none"> • Tactile diagrams • Tactile stickers • Tactile flooring Tactile marks to identify various things/devices/Spots • Bindi and other stickers used to provide tactile feeling to differentiate items.

<p>Environment al Adaptability</p>	<p>Tactile paving</p>	<p>Tactile paving guide to Persons with visual impairment about way of movement.</p>	<p>This is a kind of textured on ground surface that is often found on footpaths, staircase and platform and lobby. It facilitates for mobility of persons with Visual Impairment.</p> <p>Tactile paving provides for a distinctive surface pattern detectable by cane or underfoot used to alert persons with visual impairment during their movement to streets and hazardous drop-offs.</p> <p>The visually impaired person can feel the surface using the cane and avoid accidents.</p>	<p>This should be used by persons with blindness during the movement and it helps to identify the path or way. The cane helps to identify the surface pattern.</p>	<p>NA</p>
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Sensitization of the Trainer	Trainer should be sensitized towards person with blindness.	It can be recommended for training to all candidates with Blindness (Visually Impaired)	<p>The trainer should be oriented to the needs of persons with Visual impairment. They should also possess functional understanding of the challenges persons with blindness face to execute their day to day errands. Gain Knowledge of disability, assistive aids. Learn to assess candidates (before training). Create an inclusive training environment and training material. The trainer must have video clippings of each and every aid in use and must know the specifications of where to get and how to get, as well as knowledge/information on where to get the repairs done if required. This will equip the visually impaired person with adequate information of the various assistive aids</p>	<p>Trainer should undergo training with specific disabilities and should be able to change his/her approach according to the needs of the student. She/he should be able to provide multisensory input, keeping in mind the learning style of the student.</p>	<p>COMMUNICATION</p> <ul style="list-style-type: none"> • hand gestures • touch sensitivity <p>BEHAVIOUR</p> <ul style="list-style-type: none"> • sensitivity • patience • customized approach to students
			<p>available and their usage. This will also create a positive and conducive environment that fosters effective learning.</p>		

Tools recommended for the Training of Persons with Low Vision (Visual Impairment)

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Optical Character Recognition (OCR)	<p>While teaching any of the NOS'S mentioned above, if it is seen that a Low Vision (LV) person has difficulty in reading/seeing printed text, then he/she can use this tool.</p> <p>It is mandatory to use this tool for persons with LV</p>	<p>OCR technology helps to convert the printed document into soft copy through which a visually impaired can read the same.</p>	<p>The device is attached to the system. Requires a PC or laptop which runs on either Windows or Linux.</p>	<ul style="list-style-type: none"> • Clear View+ Speech • ZoomEx, • Kurzweil, • ABBY Fine Reader, • Tesseract
Screen Reader	<p>While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing printed text, then he/she can use this tool.</p> <p>A person with LV uses this tool when the printed text needs to be converted into audio format, while using an e-device with a screen to read and write. For example, Laptop and Phone</p>	<p>A screen reader is an essential piece of software for a visually impaired person. A screen reader transmits whatever text is displayed on the computer screen into audio. By listening to the same a person with Visually Impaired can work on the computer independently.</p>	<p>The device is needed to be attached with an e-device. Requires a PC or laptop, Phone which runs on either Windows or Linux</p>	<ul style="list-style-type: none"> • Non-Visual Desktop Access (NVDA), • Job Access with Speech (JAWS), • System Access to Go(SATAGO) • Voiceover, • Talkback, • Nuance Talks and Mobile Speak, • ORCA

<p>Screen Magnifications</p>	<p>While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used when an LV person needs to access text formats, graphics and images for reading and writing.</p>	<p>A screen magnifier is software that interfaces with a computer's graphical output to present enlarged screen content. It is a type of assistive technology suitable for visually impaired people with some functional vision.</p>	<p>Installed to Windows Computer</p>	<ul style="list-style-type: none"> • Windows Magnifier • Magic Screen Magnification • Zoom Text
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Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Screen Reader and Magnifier	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used when an LV person needs to access the matter on screen in order to use in audio and magnified format simultaneously.	This tool helps in reading smaller words which are difficult for the eye to capture.	Installed to Windows Computer	Supernova Screen Reader and Magnifier
Accessible Format Digital System	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is highly recommended for all degrees of visual impairment. it is used to read any soft copy material.	DAISY (Digital Accessible Information System), a software player that renders text, audio and embedded images for the blind.	Requires a PC or Laptop which runs on either Windows or Linux Inbuilt on a Windows system.	DAISY
Ease of Access Center	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used for the functions which are described in a limited manner.	Has many tools like on screen magnifier, color contrast (high contrast themes for color blind or Low Vision (Visually Impaired)), sticky keys, on-the screen keyboard, mouse pointer settings, speech recognition, etc.	Requires a Pc or Laptop which runs on either Windows or Linux Inbuilt on a Windows system.	Technology is the tool

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Video Magnifiers	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It can be recommended for LV persons, who have functional vision to read documents of 3-4 pages. It is used to magnify the object with an additional benefit to create contrasts in colours.	A video magnifier has device a video camera to display a magnified image on its display. Video Magnifiers are used by people with Low Vision (Visually Impaired) to help with reading and writing difficulties caused by visually impaired.	Hand held device	<ul style="list-style-type: none"> • Onyx • Topaz • Prisma • Optelec ClearView
Adapted key board in colour contrast	While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. Can be used by LV persons, however but not an essential tool.	This aid is useful for people with Low Vision (Visually Impaired) as there is contrast in colour and large keys.	Must be purchased.	Technology is the tool
Braille	While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool.	It is a tactile writing system used by the blind and the visually impaired. It is traditionally written with embossed paper. Brailleusers can read and write Braille with the Braille slates and stylus. Braille script can be written in all the languages.	Braille slates and stylus. The person should know the Braille literature.	Technology is the tool

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Electronic Braille Embossers	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used by the Trainer to create embossed study material for trainees	Hardware printer used to print Braille books and other materials in Braille.	Attached to a computer with the screen reading software.	
Refreshable Braille Display	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used for taking notes on Braille without paper usage. The tools can be recommended on a case-by-case basis.	Braille displays enable people who are blind or deaf-blind to operate any computer.		Technology is the tool
Hand Held General Magnifier	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It can be recommended for LV persons, who have functional vision to read minimal text. It helps in reading and writing by magnifying objects.	Helps a person with Low Vision (Visually Impaired) to see magnified images/written materials.	Handheld Magnifier	

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
E-Book Reader	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It can be recommended for LV persons, who have functional vision to read from computer screens. It helps them to read e-books in a magnified manner	Helps in reading books/magazines/newspapers with various options such as zoom and backlight.	Handheld E book reader	Kindle Paper White/I Pad
Smart Phone with Android/IOS Technology	While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is most the effective and accessible option to access info, when on the go. It can be recommended to LV persons who are comfortable using touch phones.	Well known for its accessibility features such as talk back, good touch, zoom facility etc. They also provide clarity in view with its HD Displays. Helps in improving ones reading ability.	Hand held device	Android/IOS Technology is best known for accessibility for persons with Low Vision (Visually Impaired).
Voice Recorder	While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It is used during meetings, classes and conferences. It can be recommended for all	Equipped with facilities of long hour recording, data transfer into computer/laptop and talking facilities can be used for educational and employment purposes of persons with Low Vision (Visually Impaired).	Handheld device	Angel Player/IPods etc.

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
	<p>LV persons, irrespective of their functional vision.</p>			
<p>Low vision helping aids</p>	<p>While teaching any of the NOS'S mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. Used for basic calculations, math's and also used for signatures. It can be recommended for all LV persons, irrespective of their functional vision.</p>	<p>Helps in solving basic mathematical problems, signing documents and cheque etc. in a defined area without any hassle.</p>	<p>Hand held devices</p>	<ul style="list-style-type: none"> • Talking calculator • Signature Guide • Wrist watch Tata
<p>Table Lamps</p>	<p>It can be recommended for all LV persons, who have good functional vision to read.</p>	<p>Good quality table lamps-with yellow and white light options. Contributes quality to the reading and writing needs of a person with Low Vision (Visually Impaired) (central vision in place) to read print material.</p>	<p>Hand held Device, available locally.</p>	<p>General table lamp</p>
<p>Magnifying glass</p>	<p>While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool. It can be recommended for all LV persons, who have good functional vision to read.</p>	<p>It is a lens that produces an enlarged image.</p>	<p>Convex lens that is used to produce a magnified image of an object.</p>	<p>Technology is the tool</p>

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Keyboard	Can be used by LV candidates, however but not an essential tool needed for effective typing tasks.	Large Black Print on Yellow Keys.	Attached to a computer.	Technology is the tool
Tactile Material	While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in seeing surroundings, then he/she can use this tool. It is used to create a 3D demo of a 2D image. It can be recommended to all LV candidates on a case-by-case basis.	Tactile is used to get the visualization of the visuals (model or 3d images) by touch and feel. Tactile stickers or diagrams are used to get the visualization of things like computer screen or any outline by touch and feel. Tactile markers are also used to differentiate the things.	Needs to be prepared using locally available stickers or bindis and other materials.	<ul style="list-style-type: none"> • Tactile diagrams, • Tactile stickers, • Tactile flooring, • Tactile marks to identify various things/ Devices/s pots Bindi and other stickers used to provide tactile feeling to differentiate items.
Stationery: registers, pens etc.	While teaching any of the NOS's mentioned above, if it is seen that a LV person has difficulty in reading/seeing text formats, then he/she can use this tool in taking notes using the common stationery. It can be recommended to all LV candidates irrespective of their degree of vision.	White Papers with thick black coloured lines so that distance between two lines can be identified easily, black sign pens could help in writing big font and with brightness.	To be procured locally.	Technology is the tool

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
Environmental Adaptability	Reading Notes for Reference	It can be recommended for all LV candidates, who have good functional vision to read.	Any reference material should be in bold and big font, above 20 generally for the reading of a person with Low Vision (Visually Impaired) (central vision in place).	To be procured locally.	NA
	Surrounding level of light	It can be recommended to all LV candidates irrespective of their degree of vision but may vary on a case to case basis.	<p>There should be enough lighting provision everywhere including in lifts too, though modern lifts have the talking facility, the display board showing the numbers should be back lit in white with good contrast and big fonts of numbers of floor.</p> <p>Dim light contributes a lot to the pain of a person with Low Vision movie halls, restaurants, lifts, training rooms, conference rooms and all those places where there is no sun light.</p>	Bulbs, tube lights can be purchased or switched on in case of buildings if available.	NA
Environmental Ability	Enhanced contrast stickers	It can be recommended to all LV candidates irrespective of their degree of vision.	Stickers which enhance black & white contrast used to assisting persons with contrast sensitivity deficit to identify home/ workplace obstacles.	To be procured locally.	NA

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
	Floors	It can be recommended to all LV candidates irrespective of their degree of vision but may vary on a case to case basis.	The floor in contrast could lead to independent movement of a person with Low Vision (Visually Impaired). If we can provide a line on the floor leading to different directions in a different contrast than the floor colour, person with Low Vision (Visually Impaired) can reach different places following the line in contrast e.g. tactile in metro stations with yellow with railing in the contrast.	Adaptation to be done on floors.	NA
Environmental Ability	Stair Cases & Ramps	It is recommended to all Persons with Low Vision irrespective of their degree of vision impairment but may vary on a case to case basis.	stairs can be white in colour but the centre part of the stairs can be painted in red/black or yellow for a person with Low Vision (Visually Impaired) to identify the slope of the stairs easily. Every staircase should have a side ramp with the same contrast as given for the staircase along with contrasting colour of railing.	Adaptation required for staircases, ramps and side railings for better access by person with Low Vision.	NA

Activity	Activity Type	When to use Activity	Activity Description	How to use tool	Activity tool
	Signage Boards	It is recommended to all persons with Low Vision candidates irrespective of their degree of vision Impairment.	Should have back light (white), all the text and images must be of good contrast (black and white, white and black, dark blue on white, dark red on white etc.) and in big font like room numbers, toilet distinction-male, female, name of the wings/blocks are a few examples.	Any place where signage are used. For Example, toilets, training rooms, conference rooms, canteens etc.	NA

Tools Recommended for Training of Persons with Locomotor Disability

Accessible Tools/Appliances/Software	When to use this tool	Tools Description	How to use this tool	Tool Names
Ease of Access Center	While teaching any of the NOS's mentioned above, if it is seen that a Locomotor Disability (LD) person has difficulty in certain movement, then he/she can use this tool. This can be recommended to all persons with LD. The candidate must be able to read and write for using this tool.	Has many tools like on screen magnifier, color contrast (high contrast themes for color blind or low vision), sticky keys, on-the screen keyboard, mouse pointer settings, speech recognition, etc.	Inbuilt on a Windows operating system. Through this various option can be enabled for people with different disabilities.	Technology is the tool
Sticky Keys	While teaching any of the NOS's mentioned above, if it is seen that a LD person has difficulty in certain movement, then he/she can use this tool. This can be recommended to all persons with LD. The candidate must be able to read and write for using this tool.	Sticky Keys is a Windows Ease of Access feature that makes it possible to use keyboard shortcuts or type capital letters without needing to press more than one key at once.	Inbuilt on a Windows operating system. This can be used for a person who has very few or one functional finger.	Technology is the tool
On the screen, Keyboard	While teaching any of the NOS's mentioned above, if it is seen that a LD person has difficulty in certain movement, same please correct then he/she can use this tool. This can be recommended depending the ability of the candidate to touch, feel and if the candidate is comfortable in using a screen. The candidate must also be able to type for using this tool.	The keyboard will be displayed on the computer screen. A person with fine motor movement challenge can type using the mouse or touch pad by clicking on each key. This has built-in word prediction feature which makes the typing quick and easier.	Inbuilt on a Windows operating system. This can be used for a person who has one or no finger and also fine motor impairment.	
One-Handed Keyboard	While teaching any of the NOS's mentioned above, if it is seen that a LD person has difficulty in certain movement, then he/she can use this tool. The tool is to be recommended if the person has at least one function limb. The person must be able to read and write by using this tool.	It helps a person with one hand to practice the typing and keyboard orientation with efficiently.	This hardware need to be attached to a computer. The person needs to have all five functional fingers in one hand.	Technology is the tool

Foot Pedals	<p>While teaching any of the NOS's mentioned above, if it is seen that a LD person has difficulty in certain movement, then he/she can use this tool.</p> <p>The tool is to be recommended if the candidate has a functional leg. The candidate must be able to read and write for using this tool.</p>	<p>This hardware solution can be used by a person without hands who has functional leg. This helps to type and operate computer through foot and toes.</p>	Attached to the computer.	
Access Switches	<p>While teaching any of the NOS's mentioned above, if it is seen that a LD person has difficulty in certain movement, then he/she can use this tool.</p> <p>It can be recommended to all persons with various degrees of LD.</p>	<p>A person without upper and lower limbs can operate the computer using one of these kinds of switches. A person can use these switches either through mouth, limited movement of an organ to press a key to give input to the computer.</p>		Technology is the tool

Activity	Activity Type	When to use Activity	Activity Description	Activity Planning	Activity Tool
Environmental Adaptability	Ramps/ Rails	It can be recommended to all (especially for persons with lower limb disability) persons with various degrees of LD. Helps in easier and better movement.	Ramps/ Rails in public buildings; adaptation of toilets & for drinking water for wheel chair users to ensure easy access for all persons.	These facilities should be provided for easier access to all.	NA
	Lifts	It can be recommended to all persons with various degrees of LD. (especially for persons with lower limb disability) Helps in easier and better movement.	An elevator (lift in British English) is a type of vertical transport equipment that moves people or goods between floors (levels, decks) of a building, vessel, or other structure. Elevators are generally powered by electric motors.	These facilities should be provided for easier access to all.	

APPENDIX E

GLOSSARY OF TERMS

Assessment:

Any systematic method of obtaining information from observation, tests and other sources, used to draw inferences about the performance and achievements of an individual. It involves the process of gathering, describing, or quantifying information about performance from an activity such as a written test, portfolio development or project that seeks to measure a trainee's skills or knowledge in a subject or skill area.

Assessment plan:

A document that outlines the methods to be used, steps to be taken and activities involved in the gathering and judging of evidence to determine competence. It specifies the direct and indirect evidence needed to demonstrate the attainment of each element or performance criteria and indicates the intervals (or timelines) at which evidence is collected and examined and the persons responsible for the collection and assessment or review of the evidence collected.

Competence:

A group of defined characteristics that indicate an individual's acquisition of a set of skills in a given area and a level at which performance is agreed to be acceptable.

Competence-based assessment:

The assessment of an individual's performance evaluated against specific learning outcomes or agreed performance standard and not against the performance of other persons.

Criteria:

A set of established guidelines, rules, characteristics, or conditions which, when used to evaluate an activity, performance or achievement, will determine its value or quality.

Evidence:

Documentary data/information that can be validated or authenticated and which provides proof of understanding of content or skill competence in a specific area.

Fairness:

The provision of assessment conditions which will offer an even playing field for all participants and promote confidence in the instruments and its results.

Formative assessment:

A type of assessment which, when conducted, provides feedback to the instructor/facilitator for improving instruction and to the learner for the purpose of improving performance.

Occupational standards

Occupational standards are statements of activities and tasks related to a specific job and to its practice. The standards are generated by industry and are performance outcomes that may be gained through work experiences, talents and or training. These standards form the basis for Job designations.

Oral examination:

An assessment through a face-to-face dialogue between the learner/candidate and assessor which examines levels of knowledge and attitudes as they relate to the achievement of competencies defined in the qualification.

Performance assessment:

A method used to assess how well learner/candidate demonstrates knowledge and skills in order to determine the achievement of competencies as defined by the performance criteria within a qualification.

Portfolios:

A collection of multiple work samples usually compiled and evaluated over a period of time. The design of a portfolio is dependent upon the evidence requirements of the qualification to be assessed the established quality requirements of the awarding body.

Portfolio Assessment:

A portfolio becomes a portfolio assessment when the assessment purpose is defined, the criteria or methods are made clear for determining what is put into the portfolio, by whom, and when and the criteria for assessing either the collection or individual pieces of work are identified and used to make judgments about performance.

Rating scales:

Values given to performance or achievement based on assessment activities. Rating scales may be numerical or descriptive/narrative and based on pre-established and agreed criteria for determining where along a continuum of proficiency an individual who is assessed will fall.

Reliability:

The degree to which the results of an assessment consistently measure knowledge, attitudes and/or skills attained in a particular assessment are dependable based on repeated assessment. Reliability demonstrates consistency of assessment decisions and scores among assessors, over time and across different tasks or items that measure the competencies. Reliability may be expressed in terms of the relationship between test items intended to measure the same skill or knowledge (item reliability), the variation in administration of the same test to the same trainee or trainees (test/retest reliability), or the degree of agreement between two or more assessors (assessor reliability). The absence of reliability in an assessment affects its validity.

Sample:

A selection of a specified number of entries called sampling unit (participants, items, etc.) from a larger specified set of possible entities, called the population. A random sample is a selection according to a random process, with the selection of each entity in no way dependent on the selection of other entities.

Summative assessment

A culminating assessment, which when conducted, gives information on trainees' competence, attitude and mastery of content. Summative assessment may be a single assessment or a combination of assessment scores/achievements, obtained by various methods, which when combined provides sufficient evidence of the prescribed achievement required for national recognition.

Third party Evidence:

Information provided by person(s) other than those directly involved in the assessment process, which contributes to the collection of evidence of competence and achievement in a specific competence. Third party evidence may include information from employers, supervisors, peers, clients and others relevant to the competence requirements and the context of the assessment.

Training standards:

A training standard is an educational standard or a standard that provides advice related to training expectations and inputs, resources (for example staff, students, materials) which should be available in an institution; duration or volume of learning of the program; NQF level of qualification. The standards guide the curriculum development.

Validity:

Validity refers to the degree to which an assessment accurately reflects or assesses the specific concept that the competence attempts to measure. The components of validity include relevance, accuracy and utility and refer to the extent to which an assessment measures what it is supposed to measure and the extent to which inferences and actions made based on assessment decisions are appropriate and accurate. A valid standards-based assessment is aligned with the standards intended to be measured, provides an accurate and reliable estimate of performance relative to the standard, and is fair.