CARICOM PROCESS FOR WORKFORCE TRAINING, ASSESSMENT AND CERTIFICATION

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Thanks to you all for making this a reality.

CANTA Secretariat
Kingston, Jamaica

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Background

The Caribbean Community, CARICOM, consists of fifteen (15) Member States, Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago. With the exception of Guyana, Suriname and Belize, all CARICOM Members are island states. Of these, seven (7) are also members of the Organisation Eastern Caribbean States (OECS), which is made up of the nine island states of Anguilla, Antigua and Barbuda, British Virgin Islands, Commonwealth of Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia and St. Vincent and the Grenadines.

The seven OECS Member States are considered as one entity because, as a unit, they have embarked on a coordinated response to education reform. This initiative was guided by the OECS Education Reform Strategy of 1991 "Foundations for the Future", and the revised document of 2001, "Pillars for Partnership and Progress." At the same time, it must be noted, that the CARICOM Member States, with the exception of Suriname agreed to follow common strategies in technical and vocational education and training in the development of the Community's workforce, through the adoption of the Regional Strategy for Technical and Vocational Education and Training in 1990.

The CARICOM sub-region has a population of 6,428,493. It is made up of a mélange of ethnicity of peoples devolved of a common colonial history. With the exception of Suriname, these Member States have inherited a legacy associated with the British Colonial and later the British Commonwealth influence on the evolution of their education system. Thus, the technical and vocational education and training (TVET) system that has evolved under these influences, is only now emerging as a unique Caribbean response to the pressures of the global environment.

The Competency Based Education and Training (CBET) model, successfully implemented by HEART Trust NTA of Jamaica, has been adopted by CARICOM through endorsement by the Council for Human and Social Development (COHSOD) for vocational training in CARICOM Member States since 2002.

Adoption of this model by Member States meant:

1) Acceptance of the five-level framework of occupational certification (Appendix 1)
2) Acceptance of the Occupational Standards already developed in the region (Appendix 2)
3) Acceptance of the process of standards development and
4) Acceptance of the process of training delivery and assessment for certification in accordance with the Model

Competency based education and training (CBET) is an education and training system that incorporates the appropriate ***knowledge, skills and attitudes*** into the workforce preparation activity. These competencies are based on the specific requirements of the various occupations. The regional system for vocational qualifications accepted by CARICOM is a five-level system (Append. 1 and 2), facilitating the mobility of the workforce in any occupation, over a hundred of which have been endorsed by the VII COHSOD in 2002 (Append. 3). There is agreement at the regional level on the structure of the proposed Vocational Qualifications.

The occupational levels of certification are outlined below:

Level 1: Directly supervised/entry –level worker
Level 2: Supervised Skilled Worker
Level 3: Independent or Autonomous Skilled Worker
Level 4: Specialized or Supervisory Worker
Level 5: Managerial and/or Professional Worker

A number of developments have facilitated regional competency based education and training initiatives. One is that there is already an established Regional Framework for Vocational Qualifications, developed to encompass both academic and TVET tracks, formerly seen as parallel. This framework is intended to facilitate articulation of programmes and Qualifications within as well as across tracks and increase efficiency.

Secondly, a working group put together by the CARICOM Secretariat further developed a regional accreditation or equivalency framework for regional certification of vocational competencies. The following elements were identified for this framework:

- Type or level of programme

- Orientation and purpose
- Duration of typical program
- Credits equivalency
- Entry requirements
- Occupational competence
- Academic competence

COHSOD VII, in October 2002 endorsed the existing occupational standards already developed in the sub region as regional standards for use in training and credentialing of workers and this is an important step in the move towards standardizing training and qualifications at the regional level.

National Training Agencies, with new standards, contribute to the list of regional standards derived using the process outlined in this document.

The Caribbean Association of National Training Agencies (CANTA)

The Caribbean Association of National Training Agencies otherwise known as CANTA, is an association comprised of training agencies and other Technical, Vocational, Education and Training apex bodies in CARICOM states. It was established in November 2003 with founding members from the TVET Council of Barbados, Heart Trust/NTA Jamaica and the National Training Agency of Trinidad and Tobago. The Organization of Eastern Caribbean States (OECS) is represented through the TVET Unit of the Ministry of Education, St. Lucia.

CANTA is endorsed as the implementation arm of the CARICOM Regional Coordinating Mechanism for TVET. Its goals are to:

(a) Promote the development of a competitive regional workforce and
(b) Facilitate free movement of certified skilled workers within the CSME

Its objectives are to:

(i) Ensure uniform provision of competency-based training, assessment and certification (CBET)
(ii) Establish a regional certification scheme – the Caribbean Vocational Qualification (CVQ)
(iii) Promote career and vocational guidance throughout the CSME
(iv) Support a regional labour market information system
(v) Promote life-long learning and the image and status of TVET in the region
(vi) Promote the development of national training agencies or TVET Apex bodies

The CANTA TVET philosophy is one that subscribes to a standards-driven, outcomes-based approach to education and training, in the process of preparing people for the world of work.

Other key elements of CBET endorsed by CANTA include:

1. Established National and Regional Coordinating Mechanisms - to manage the system and coordinate the activities at the national and regional levels.
2. Sector Studies & Analysis - identifying key occupations and employment & training opportunities based on national training needs

3. Occupational Analysis – occupation and job profiles and development of occupational standards

4. Programme Specification Development- define programme content, training context and competency profile by levels with certification plan

5. Curriculum Development- definition of competencies, instructional modules, instructional and evaluation methods including contact time.

6. Instructional Materials Development/Selection

7. Staff Development Instructor Training

8. Assessment of and Certification of Competencies

    a. National programme of assessment for verification of acquired standards include training of assessors, verifiers etc.

9. Assessment of Prior Learning

    a. Assessment of competencies (recognised but had not been previously certified) acquired prior to introduction of new system.

10. Accreditation

    a. Regulatory and quality control element of the certification framework, which gives credibility to the process at both the national and regional levels.

11. Public Awareness

    a. To facilitate an easier transition and buy-in by all stakeholders

THE CANTA TVET OPERATING MODEL

Introduction

The Caribbean Association of National Training Agencies (CANTA) subscribes to the philosophy of standards-driven, outcomes-based (competency-based) approach to training and certification. Emphasis is placed on recognition of competencies within an occupation including "skills set" underscored by demonstrated performance of knowledge, skills and attitude measured against work-based standards.

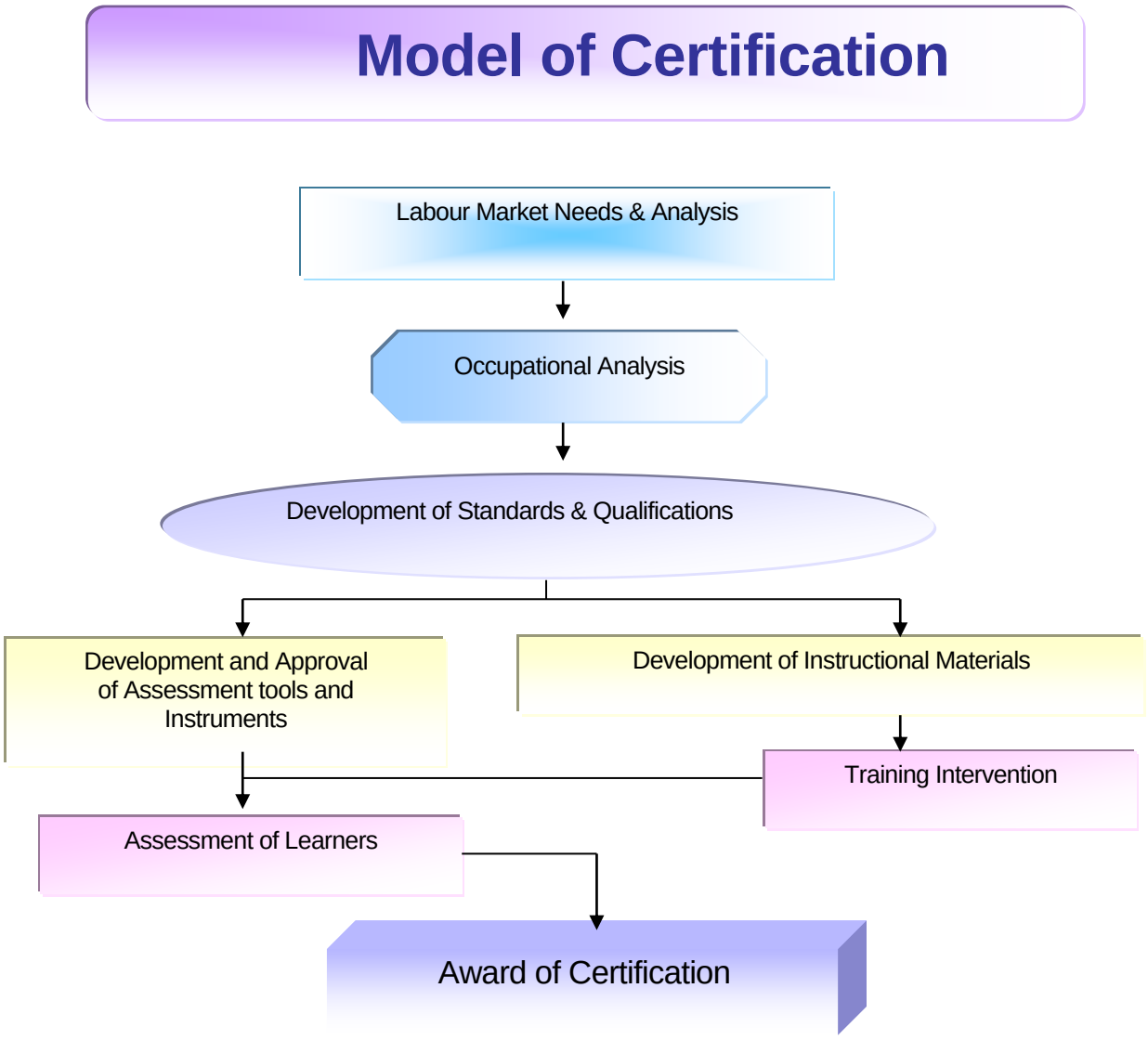
This model facilitates life-long learning and is intended to strengthen the relationship between the learning situation regardless of where this takes place, and the world of work. It also makes provision to improve the mechanisms by which the learning experience prepares people for participation in the world of work.

The Model

The model which is used is one in which the competency-based approach to education and training (CBET) is used. Learning outcomes are derived from standards which are defined by industry. Through the establishment of Lead Groups, occupational standards are defined which are then used to guide the development of curriculum materials which are presented in a modular format. The format facilitates the competency-based training and assessment throughout the technical and vocational education and training (TVET) system, as the approach seeks to systematically identify and develop essential worker competencies, or the knowledge, skills and attitude required for a particular job (see Fig. 1).

Competency-based education (CBE) is built on the philosophy that "almost all learners can learn equally well if they receive the kind of instructions they need." To make this philosophy work, CBE requires significant changes in the development and administration of modularized programmes. Although technical vocational education has always been concerned with the practical demonstration of the skill, CBE places a new and systematic emphasis on this principle. In this approach, the systematic development and delivery of competency-based training assessment and certification is guided by a number of essential elements:

Fig. 1


Model of Certification
Labour Market Needs & Analysis
Occupational Analysis
Development of Standards & Qualifications
Development and Approval of Assessment tools and Instruments
Development of Instructional Materials
Training Intervention
Assessment of Learners
Award of Certification

(i) The tasks to be taught are identified by experts in the occupation

(ii) The programme allows each learner to have the opportunity to develop and to be evaluated on the competencies achieved

(iii) Assessment of competency is not the only based on knowledge and attitude but primarily on the actual demonstration of the competency

(iv) Occupational standards are used as a basis for assessing achievement and students (learners) should be aware of them

(v) Students progress through the programme by demonstrating the attainment of specified competencies

CBET also dictates a change in the role of the teacher/instructor/facilitator from the conventional information-giver to that of a resource person. Hence the student/learners will have more responsibility for their own learning and progress. This type of student/learner involvement is critical to competency-based education and training, therefore at the start of the training assessment and certification programme, the student/learner should be made aware of the key elements of CBE, that is:

(a) how the programme operates

(b) the role of the teacher/facilitator

(c) the responsibility of the student /learner

(d) the occupational (performance) standards to be attained

(d) how and when competencies will be evaluated and assessed

Other important characteristics of the certification model are as follows:

- A variety of teaching/instructional methods and aids are used
- Adequate materials, space and equipment are available for training
- For work-based and institutional training, an environment that stimulates work-place and work experience opportunities must be provided
- Students/learners are informed about criteria and attitude important to the occupation
- Each student's/learner's programme should be individualized and self-paced
- Learning activity is reinforced until competence is achieved

- Programme completion is based on satisfactory achievement of all specified competencies
- Individual student/learner records are maintained and should reflect student/learner progress
- Continuous and detailed feedback is given to students/learners of their progress

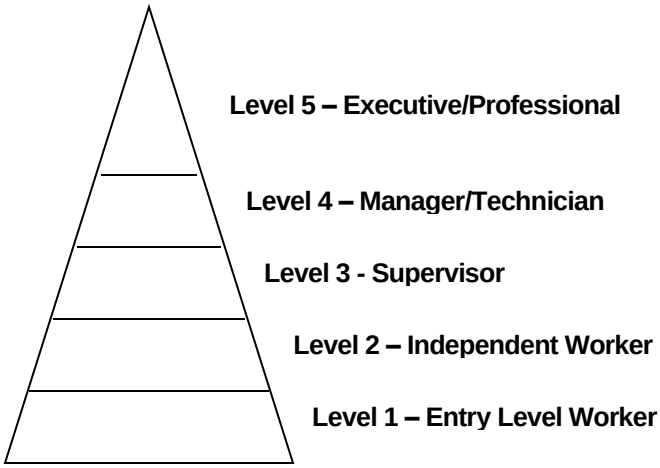
The Regional Qualifications Framework

At the centre of the model is the regional occupational qualifications framework (Appendix 3) which has been adopted by CARICOM for use by National Training Agencies, Education Ministries with responsibility for TVET and/or workforce training, or TVET focal points. It is characterized by a five-tiered system of qualifications at different levels of skill, autonomy and responsibility that correspond to levels of employment in the labour market, beginning with Level 1, which describes the entry-level worker through to Level 5 which describes the professional worker. The certificate that is awarded on completion of assessment measured against regional and national occupational standards is the National Vocational Qualifications (NVQ's). These qualifications recognize and describe the competencies required to do a job at various levels outlined below (see Fig. 2)

The framework provides a seamless system of integrating vocational and traditional academic pathways. It facilitates life-long learning and articulation to take place from one level to the next, and it enables portability of skills across CARICOM countries. The framework ensures that the system for certification of labour or workforce competencies and accreditation has integrity and credibility and facilitates the integration of the Caribbean workforce. As such, individuals can establish a viable career path in the TVET system and it allows for a vast increase in the number of trained certified practitioners as it enables the credentialing of skills for individuals in the workplace, in training institutions and accommodates individuals who have prior experience, or recognition of prior learning (RPL).

Fig. 2

The Regional Qualifications Framework



Stage 1: Labour Market Needs and Analysis

The model begins with the identification of training needs within the various sectors and sub-sectors of the economy. Training needs are identified using a number of different approaches as described below:

(i) Formal ***Sectoral Training Needs Studies*** are conducted to define the needs of particular industries and service groupings within the economy, particularly those that employ large numbers of people, are experiencing growth, earn foreign exchange, or are otherwise defined as strategically important within the context of planning by government. Sectoral training studies attempt to gather primary and secondary information about the labour market and may use surveys and discussions with key informants to collect data. The studies describe the industry and the firms that comprise the sector in terms of size, location, market segments, and the issues and problems faced by firms in the industry. The studies also capture information about the labour force of the industry or sector: its size, age, gender and qualifications composition.

The studies analyse what employers describe as the required knowledge, skills and attitudes needed for the firms and enterprises to compete in their respective markets. Workers in the industry may describe working conditions and pay levels. In a sector study, brief Job Profiles are completed to identify key occupations. Another section of these reports analyses the volume and type of training available and examines the gaps between what the data analysis determines is required and what is actually in place. These studies conclude with recommendations regarding:

- The kinds of projects or programmes that are needed by the sector, (especially training programming for key occupations), and
- New directions for programme development, especially for key occupations

(ii) ***Labour market analyses*** are conducted by national training, planning and statistical agencies, and by donor agencies that examine changing patterns of supply and demand in the labour market. These studies point to growing and/or declining sectors and occupational areas and are used to identify training needs and adjustments to the variety of programmes.

(iii) ***Stakeholder Consultations*** (See Figure 3) are held with the various industries to glean up-dated information on industry trends and needs.

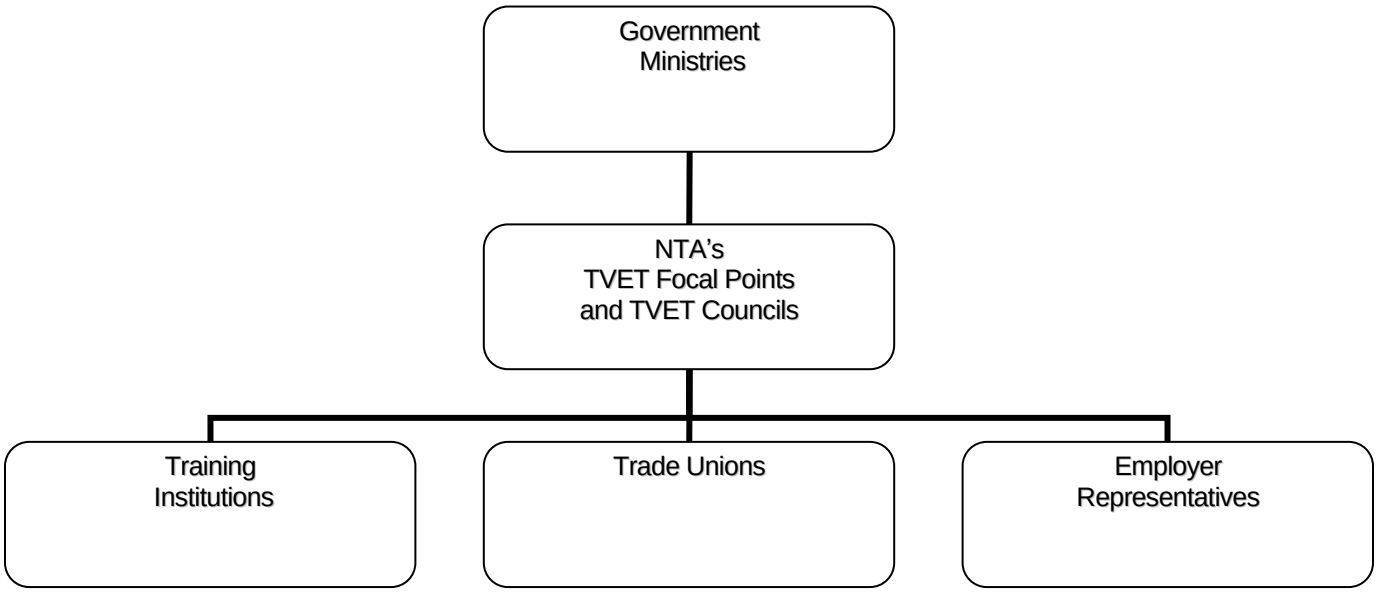
(iv) Government initiatives also define ***economic and social development priorities*** and new projects that suggest needs for training programmes.

(v) Training institutions and Industry Training Lead Groups also propose specific initiatives to respond to sectoral needs.

From these processes, recommendations on the areas of focus are to inform training needs making them more relevant to national (and employer's) needs.

Fig. 3

Stakeholder Representation



Stage 2: Occupational (Job) Analysis

The next stage in the model is occupational (job) analysis, where the particular industry is mapped and scoped (see Table 1) and the various jobs within the industry determined. The relevant standards officers conduct research on the industry area to determine the jobs which exist in the industry. The jobs are further broken down into tasks. They are also assisted in this activity by experts and technical personnel drawn from the industry.

In conducting a job analysis, the focus is on what expert workers actually do on the job. This can be a product, a process or a decision. These activities can be observed, measured and evaluated. In constructing a tasks list, it is the actual observable tasks that are of concern. Each task is analyzed to determine the knowledge, skills attitudes and tools and equipment necessary to perform the task. This provides the basis for the design and development of the occupational standard for that particular job.

Industry	***Sector***	***Jobs/Qualifications***
Hospitality and Tourism	Food and Beverage Service	Restaurant Service (Server) Bar Service (Portering) Bar Service (Bartender) Bar Service (Cocktail Server) Restaurant Service (Hostess) Restaurant Service (Captain) Food and Beverage (Maitre D)
	Commercial Food Preparation	Cook Porter Steward Butcher Commis Chef Garde Manger Baker Pastry Chef Sous Chef Chef Departe Banqueting Chef Chef Steward

Table 1

Sample of the Mapping/Scoping of Two Sectors within the Hospitality Industry

Stage 3: Development of Standards and Qualifications

Through research of existing resource materials including international occupational standards, the standards officer of the local national training agency will present the scoped industry and occupational standards to a group of experts called Lead Groups or Industry Training Organizations. Standards which exist are adopted and adapted with the input of the practioners. Where standards do not exist, the job as performed is observed and the tasks documented to form the basis of the standards.

In order to ensure that the standards remain relevant and responsive to the needs of the industry, feedback is regularly obtained from the industry and sector studies are conducted on a regular basis. These information sources along with the inputs of the Industry Lead Groups are utilized in reviewing and updating the standards, every three years or as deemed necessary.

STANDARDS DEVELOPMENT PROCESS

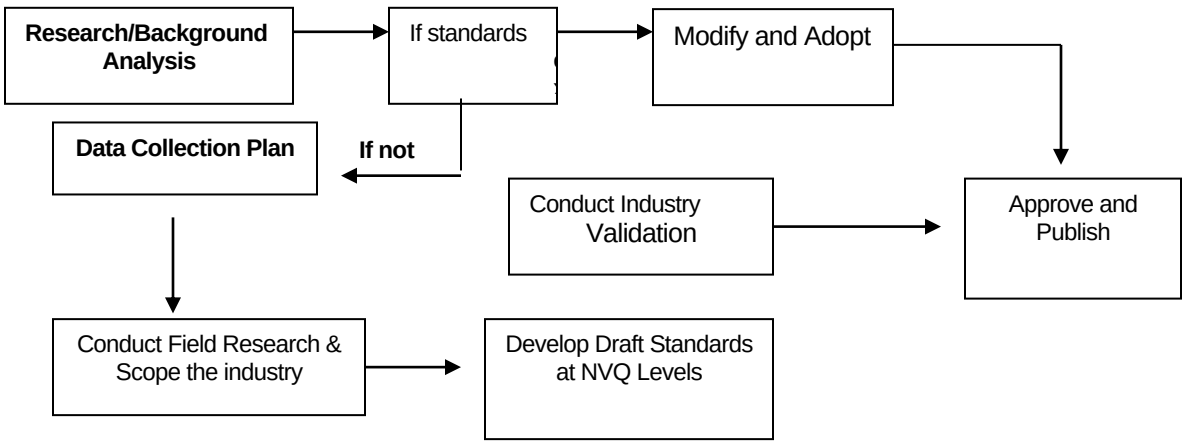


Fig. 4

During the standards development process (Fig. 4), the occupational experts determine the qualification levels of the standard. This will be used later by all the stake holders in the system: the instructional design developers to develop materials at the various levels; by the individuals to determine the level of qualification; by assessors to measure performance and by the awarding body to certify individuals at various levels of qualification.

Stages in the Development of Occupational Standards

The following are the stages in the development of Occupational Standards:

1. Establish need for standards
2. Establish Leady Body
3. Identify key purpose and scope of occupational area
4. Analyse occupation into major functions
5. Analyse and breakdown functions into elements
6. Identify performance criteria, range, underpinning knowledge (for each element)
7. Classify standards into certifiable NVQ levels
8. Validate draft standards
9. Approve and disseminate standards
10. Prioritise units of competence and design NVQ structures
11. Validate NVQ structures
12. Approve and launch NVQs
13. Update standards and NVQs

The Structure of an Occupational Standard

Occupational standards (See Appendix 4) are comprised of a number of elements. They are as follows:

1. Unit Title – the work activity
2. Element – what has to be done (to perform the work activity)
3. Performance criteria – how it has to be done
4. Range – conditions under which the work activity may be conducted
5. Underpinning knowledge – what knowledge is needed to perform this work activity

Stage 4: Development of Instructional Materials

The next stage of the model is the development of instructional materials for the student/learner. A systems approach (see Fig. 5) is used in the design and development of instructional materials for the student/learners and teachers/facilitators. The systems approach for conducting an instructional analysis and the designing of a course of study or training programme provides an orderly process of gathering, analyzing and selecting required tasks and support materials necessary for the preparation of a relevant course of study or training programme, as well as its conduct and its evaluation for effectiveness.

The systems approach is based on the assumption that the required behaviour changes resulting from the completion of learning tasks can be identified, analyzed and evaluated. The systems approach in instructional materials development also requires that:

- Appropriate performance objectives are written
- Instructional materials are selected/or developed
- The proper instructional strategies are followed
- Effective evaluation strategies are applied

THREE STAGE-SYSTEMS APPROACH TO MATERIALS DEVELOPMENT

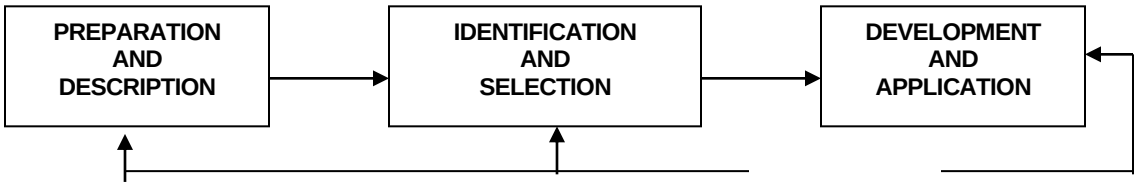


Fig. 5

(i) Preparation and Description

This first activity (See Fig. 6) deals with the approach to be followed in developing the course and the background information necessary before beginning the actual instructional materials development. At this stage emphasis is placed on:

- Justification
- Procedure to be used in developing the training programme

This stage also includes those considerations such as the:

- Philosophy of education and training
- Instructional areas that might be involved and
- Components of the instructional programme

(ii) Identification and Selection

The second stage of materials development includes the analysis of the jobs and tasks that have been identified for training and the detailing of these for further development. This includes:

- Job/task analysis
- Identification of Learning Tasks
- Sequencing of tasks
- Task detailing and the
- Identification/Writing of Programme Objectives

(iii) Development and Application

The principles of instructional materials development apply essentially to any length training session/period or curriculum. This stage deals with the approach to be followed in the further development and application of the instructional materials. At this stage emphasis is placed on the development of:

- Instructional Materials
- Learning Resources
- Self Checks
- Performance Tests

All Instructional materials are linked to the Occupational Standards and will include:

- Facilitators Guide
- Curriculum Guides/Outlines
- Instructional Plans/Lesson Plans
- Instructional Software
- Audio-visual Aids

Other activities within this stage may also include considerations such as:

- Instructional strategies
- Instructional resources and
- Evaluation strategies/approaches to be used in assessing the student/learner

Instructional Materials that may be developed with the instructor/teacher in mind include:

- Facilitators' Guide
- Curriculum Guides/Outlines
- Instructional Plans/Lesson Plans
- Instructional Software
- Audio-visual Aids

For the learner, student or trainee Learning Resources may include:

- Learner Guides
- Student Manuals
- Information Sheets
- Task/Procedure Sheets
- Learning Software
- Audio-visual Aids

At all times, feedback from the users of the instructional materials is gathered and analyzed to improve the quality of the instructional delivery materials.

Fig. 6

Methodology for Staff Development and Teacher/Instructor Training

Competency-based philosophy is used for teacher/instructor training:

- Training begins with the use of standards
- Innovative approaches are used in instructional delivery
- Flexible training strategies

The content includes:

- An understanding of CBET philosophy
- Career Guidance
- Assessment methodologies
- Industry furloughs
- Teacher upgrading
- Curriculum and materials development

Stage 5: Development and Approval of Assessment Instruments

It is to be noted here that Stages 3 and 5 can take place simultaneously or separately from each other. During Stage 5, assessment instruments are designed and approved for use in the system. Assessment for certification for the award of National Vocational Qualifications is administered under a number of conditions and modalities including:

- On-the-job setting
- In an institutional setting or through
- Prior Learning certification

Whatever the modality used, the principles remain the same, the individual provides evidence of competence in the standards, and the assessment of the individual is administered against the performance standard as outlined in the occupational standard.

In developing the assessment instruments, some fundamental principles are applied. these are as follows:

(a) assessment policies are developed before assessment is administered
(b) performance criteria are agreed on
(c) assessments are directly related to the job standard
(d) assessment instruments are validated
(e) test administration is standardized

A variety of assessment instruments are used in CBET. The various assessment strategies/methods include both non-traditional and traditional methods including:

- Continuous assessment
- Portfolio development
- Observation Checklist
- Interviews
- Seminars/Conferencing
- Oral Presentations
- Reports/Reviews
- Projects
- Oral assessments
- Case Studies
- Objective tests
- Short Answers
- Rating Sheets
- Portfolios
- Field Work /Practical

Regardless of the type of assessment instrument used, assessment of the individual must:

(i) Provide evidence of performance
(ii) Provide evidence of knowledge and understanding
(iii) Provide evidence of the application of knowledge & understanding

Critical to the validity of National Vocational Qualifications, and Unit certifications, is the assessment methodology and process including assessor selection and training the development of assessment instruments and assessment guidelines. Customized assessment tools that suit individual needs are used to determine competency. The link between occupational and competency standards and assessment reinforces the requirements of business to link education and training to performance standards and recognized qualifications.

Assessment therefore is directly linked to the learning process through occupational and competency standards whether it is conducted in the workplace or in a simulated environment.

Stage 6: Assessment of Learners' Competency

Competency-based assessment is criterion-referenced, in that the performance of an individual is judged against prescribed standards rather than the performance of others. In the Regional Qualifications Framework, the prescribed standards are the occupational/competency standards that are validated by industry. Assessment within this framework is defined as the process of collecting evidence and making judgments about whether competency has been achieved.

The purpose of assessment is to confirm that an individual can perform to the standards expected in the workplace as expressed in the occupational/competency standards. It involves the gathering and judging of evidence about the performance of individuals against the *criteria* for what people must *know* and *be able to do* within the context as specified in the **competency standard**.

Five (5) principles are applied in the assessment of learners:

(i) Established standards and assessment plans are in place

(ii) The assessment process must be valid, reliable, flexible, fair relevant and current

(iii) The approach to the collection of the range of evidence is holistic

(iv) Qualified trained assessors are used

(v) Record keeping & Feedback mechanisms are in place

The learners have prior knowledge of the assessment methods, criteria and processes and can have their competencies assessed, recorded and recognized through a variety of methods (on the job, prior learning, college credits etc.)

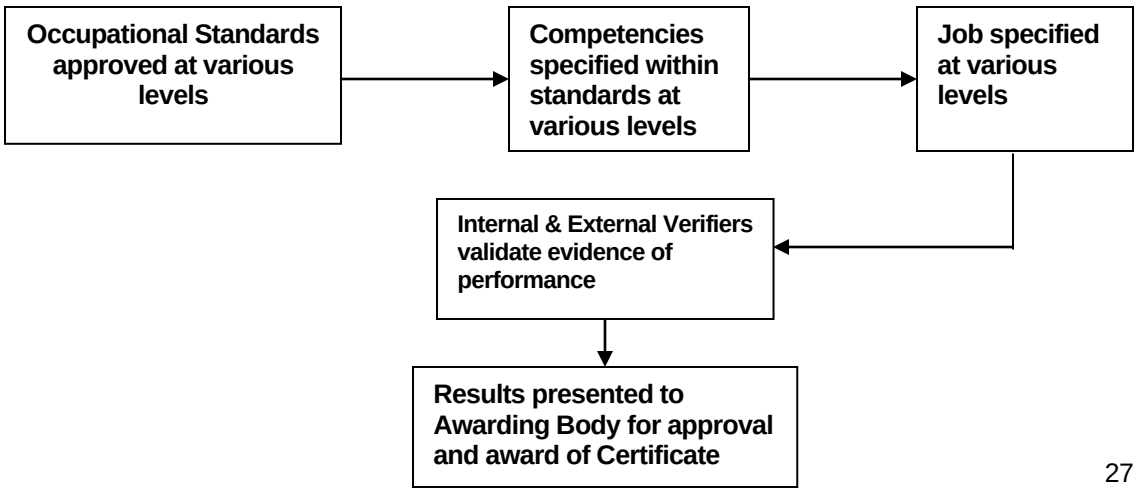
The assessors must be qualified in the skill area and at least one level above the student/learner being assessed; he/she must demonstrate good interpersonal and communication skills and must be flexible, adaptable and non-discriminatory in the execution of their duties.

Assessment may be conducted either in a workplace setting, a simulated environment or through recognition of prior learning. In each situation, the trained assessor ensures that the evidence collected covers the range of requirements of the standard or unit of competence and meets the guidelines for quality evidence collection.

In some cases competency may be inferred from evidence of current or past work experiences, in other cases, where competencies are beyond those that can be routinely demonstrated on the job, a combination of options may become necessary to facilitate proper assessment.

Fig. 6

FRAMEWORK FOR NVQ ASSESSMENT AND CERTIFICATION



Stage 7: Award of Certificate – Certification

The final stage in the model is that in which individuals achieve recognition by demonstrating competence in a given set of work activities. Certification is defined as "the formal recognition of the successful demonstration of the achievement of skills, knowledge and attitude by a recognized awarding body."

For certification, individuals must provide evidence that they have the ability to perform work activities to the standards required in employment. Certification procedures are conducted in which competency-based performance (***actual performance***) is measured ***against*** occupational standards. Because of the modular approach to training and assessment, individuals can acquire certification/credit (Record of Achievement) for learning and demonstration of competence in discrete stages.

The student/learner is assessed on completion of a module or a unit of competence. If deemed competent, he/she is awarded a Record of Achievement. On completion of all the modules or units in the qualification the results are presented to the awarding and certifying body for ratification and final approval. The certificate that is awarded by the certifying body guarantees that individuals who are assessed are competent in a significant range of work activities. Individuals can be certified within the Regional Qualifications Framework when:

- The standards have been developed within an approved quality-assured system
- Assessment instruments and tools have been developed and assessment is conducted within a quality-assured system
- An individual is deemed competent by a trained assessor

The Certification System

- The certification system has:
- Local and regional acceptance
- Provisions for articulation across certification levels
- Provision for articulation with the "formal" education system

To be certified:

- All standards must be assessed
- Evidence should relate clearly and directly to specified standards
- There should be sufficient evidence to cover the full range of conditions specified in the

  standards (clearly documented)

The Certification Process

1. The training organization requests official recognition of competencies from the certifying body
2. Official recognition of competencies are issued
3. Student/Learner's completion of NVQ requirements are verified, validated and approved by

   the Council or Awarding Body
4. NVQ certificates issued to the Training Organization

On the advice of the assessor that the individual has met all the requirements for certification, the certifying body issues the formal document (Certificate of Competence – see Appendix 5) recognizing the individual's achievement. Under the competency-based approach to assessment and certification, the certificate holder's competence is guaranteed.

The recognized certification bodies in the CANTA grouping are:

- The Caribbean Examinations Council
- NCTVET of Jamaica
- The TVET Council of Barbados and
- The National Training Agency of Trinidad and Tobago

Quality Assurance

The model is not complete without reference to quality assurance and its role in maintaining standards in the TVET system. Quality assurance is defined here as “the systematic process of checking to see whether a product or service being developed is meeting specified requirements.” In the model used in the Caribbean, quality assurance refers to a well documented and administered system of internal and external verification processes which are essential in establishing and maintaining credibility in the TVET system.

Quality assurance as applied in the model is process-oriented, proactive and is concerned with how a product or service is produced (Fig.8). In order that quality in the training system in maintained, emphasis is placed on the use of:

- Training standards
- Training objectives
- Competencies to be achieved
- Efficient use of resources
- Costs within the training system

Vocational Training -The Process Concept

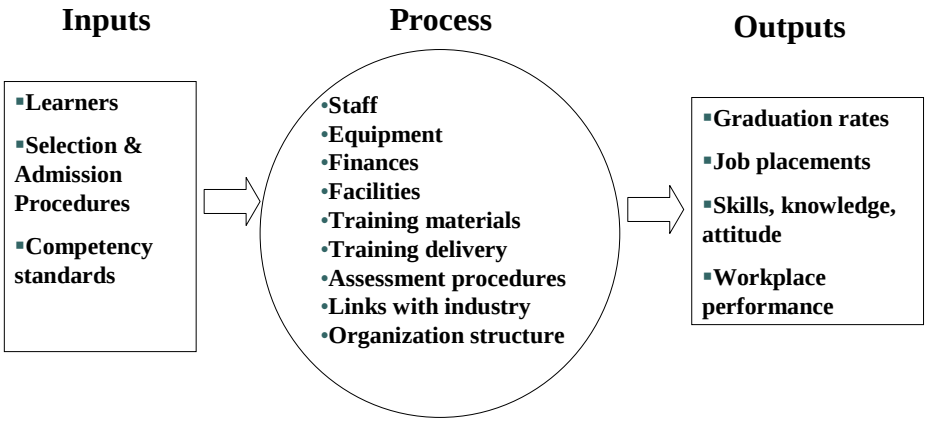


Fig. 8

Based on the model, a quality assurance system must be in place in which institutions and organizations are accredited to deliver training and assessment. Accreditation is a system for recognizing educational institutions and programmes associated with the institution or organization that a quality system is in place and the following areas are evaluated:

- The Management system
- Physical Facilities
- Professional development of staff
- Client Services
- Training and assessment services
- Capability for internal assessment and evaluation of students/learners

Quality assurance in the system therefore enables and facilitates:

- The improvement of the skills of the workforce
- A strengthening of the link between education and work

- Direct input from business on training matters
- Relevance and direct customer-focus in training
- A platform for the provision of certification for workers
- The creation of better business and management practices

GLOSSARY OF TERMS

Attitude

This is the mental set the worker should demonstrate towards the successful performance of the specified task and interpersonal relationship on the job.

Competency

Performance of the task to the level or degree specified in the performance standards for the task. It is the ability to perform activities within a job or occupation and embodies the ability to transfer skills and knowledge to new situations within the job or occupation.

Condition

The work environment parameters, constrains and/or contextual situations bearing influence on the worker's performance of a task or procedural step in a task.

Duty

A major area of work responsibility to be undertaken by a worker as prescribed in a job or otherwise assigned by his/her employer. A duty normally consists of a number of related tasks.

Performance Criteria

The minimum acceptable measure used to determine a successful or unsuccessful outcome or performance of the specified task.

Range Statement

The Range Statement defines the scope of the unit and concepts in the Performance Criteria, and thus helps delineate the boundaries for the Performance Criteria and the required knowledge and skills, and the Critical Employability Skills.

Working Knowledge

The under-pinning cognitive skills and/or technical information essential for successful performance of the task.

Key Purpose

A definition of an occupational area and/or industry in outcome terms. It should be capable of defining broad functional sectors or job roles as well as the expectations of individual.

Key Roles

Broadest descriptions of work activities required in the work place. They define the major components of work that contribute to the achievement of the key purpose of an industry or occupational sector.

Job Profile

A short outline of the major areas of outcomes and/or work activities of a specific job type.

Job Title

The name assigned to a job type which is generally accepted within an occupation or an industry.

Job

A series or combination of tasks performed regularly by a worker.

Occupation

A group of jobs having common or closely related responsibilities and duties, and existing in representative industrial sectors in the country. Actual duties within an occupation may vary from one organisation to another but most areas are common.

National Vocational Qualification (NVQ)

A cluster of competencies related to particular job which has national recognition for certification of a work, has been equipped with the skills required for employment in an occupation or job as defined by the National Job Standards. They specify the functional areas/duties concerning the work to be performed within a given job and consist of one or more tasks including the performance criteria, conditions and worker attitudes.

Task

A description of a unit of work activity which, has an identifiable beginning and ending point in its accomplishment, and comprises two or more observable steps.

Performance Standards

A written specification of the results or outcome of acceptable performance of a task.

NCTVET's Format of Job (Performance) Standards

The NCTVET's format of a job (performance) standards, consists of the following components:

- A Duty Statement
- A Task Statement
- A Performance Criteria Statement
- A Condition Statement
- Attitudinal Requirement

REFERENCES

Employment Qualifications of Jamaica Heart Trust/NTA, Jamaica 2004

National Council in Technical and Vocational education and Training, An Instructor's Basic Guide to Measurement and Evaluation; Testing and Measurement Unit, October 1995

SCID: A Competency-Based Systematic Curriculum and Instructional Development Model. 1999, Center on Education and Training for Employment, College of Education. The Ohio State University

OCCUPATIONAL CERTIFICATION

PROPOSED GENERAL FRAMEWORK FOR OCCUPATIONAL LEVELS

LEVEL I: **ENTRY-LEVEL: SEMI-SKILLED, APPRENTICE, SUPERVISED WORKER**

Recognises competence in a significant range of varied work activities performed in a variety of contexts. Work activities range from simple and routine to more complex and non-routine involving some individual responsibility and autonomy. Collaboration with others through work groups or teams may often be a requirement. Substantial supervision is required especially during the early months evolving into more autonomy with time.

LEVEL 2: **SKILLED WORKER: TECHNICAL/SPECIALIZED INDEPENDENT WORKER (LICENCED, ETC)**

Recognises competence in a broad range of varied work activities performed in a wide variety of contexts, most of which are complex and non-routine. Considerable responsibility, autonomy, control, teamwork and guidance of others is required.

LEVEL 3: **TECHNICIAN, SUPERVISOR, TRAINER / INSTRUCTOR**

Recognises competence in a broad range of complex, technical or professional work activities performed in a wide variety of contexts and with a substantial degree of personal responsibility and autonomy. Responsibility for the work of others and the allocation of resources are often a requirement. The individual is capable of self-directed application, exhibits problem solving, planning, designing, and supervisory capabilities. With additional specialised training can provide basic instruction.

LEVEL 4: **MASTER CRAFTSMAN, MANAGERIAL, ENTREPRENEUR, INSTRUCTOR TRAINER**

Recognises competence involving the application of a significant range of fundamental principles and complex techniques across a wide and unpredictable variety of contexts. Very substantial personal autonomy and often significant responsibility for the work of others and for the allocation of substantial resources, as well as personal accountabilities for analysis, diagnosis, design, planning, execution, and evaluation.

LEVEL 5: **CHARTERED PROFESSIONAL AND/OR MANAGERIAL**

Recognises the ability to exercise personal professional responsibility for the design, development, or improvement of a product, process, system or service. The award recognises technical and managerial competencies at the highest level and may be confined to those who have occupied positions of the highest professional responsibility and made outstanding contribution to the promotion and practice of their profession.

Appendix 2

LIST OF CARICOM-APPROVED OCCUPATIONAL STANDARDS

Levels 1-3

Agriculture

- Cattle Rearing
- Goat Rearing
- Pig Rearing
- Rabbit Rearing
- Poultry Rearing

Horticulture

- Inland Aquaculture
- Crop Production

Business Administration and Commerce

- Secretarial Skills
- Accounting
- Retail Sales

Information Technology & Communication

- Call Contact Centre Agent (J/Std)
- Computer Software Development
- Computer Service & Support
- Debt Collector (J/Std)
- Customer Service Representative (J/Std)
- Network Administration
- Data Operations Clerk (J/Std)

Textile Apparel & Sewn Products Industry

- Sewing Machine Mechanics
- Garment Construction
- Sewing Machine Operation
- Drapery Making
- Production Line Supervision
- Quality Control
- Tailoring – Levels II-III
- Pattern Making – Levels II-III
- Fashion Designing – Levels III-IV
- Embroidery
- Apparel Engineering

Building Construction & Related Engineering Services

- Scaffolding
- Welding
- Plumbing
- Electrical Installation
- Masonry
- Joinery
- Painting & Decorating
- Drywall Construction
- Steel Fixing
- Electrical Line Distribution
- Brick Work Masonry – Levels II-III
- Stone Wall Masonry – Levels II-III
- Roofing – Levels II-III
- Tiling – Levels II-III
- Industrial Pipefitting
- Carpentry
- Packaging Application
- Tool & Die Making

Plant Maintenance

- Air Conditioning & Refrigeration – Levels I-IV
- Electrical Maintenance
- Metal Machining

Automotive Service & Repair

- Auto Mechanics
- Auto Body Repairs
- Auto Parts Sales & Distribution

Transportation

- Bus Driving – Levels I-II
- Bus Conducting – Levels I-II

Hospitality & Tourism

- Attractions Operations
- Front Office Operations
- Food Preparation
- Housekeeping
- Food & Beverage Service
- Hotel Accounting
- Commis Chef

Electronics

- Consumer/Domestic Electronics – Radio & TV)
- Industrial Electronics

Beauty Services

- Beauty Therapy
- Barbering
- Cosmetology

Water & Waste Water Industry

- Water Distribution & Maintenance (Plumbing)
- Waste Water Treatment Process
- Water Treatment Process

Allied Health Care Services

- Practical Nursing

Early Childhood Services

- Early Childhood Care, Education Development

Agro-Food Processing

- Retort Operator,
- Agro-Food Processing Supervisor
- Agro-Food Processing

Entertainment Industry

- Entertainment Management – Level III

Printing Industry

- Pre-Press Operations

Parenting Education & Support Sector

- Trainer/Counsellor – Parenting Skills – Levels II-III

Furniture Manufacturing

- Furniture Designing
- Wooden Furniture Production
- Upholstering

Telecommunication Industry

- Telephone Installer/Repairer – Levels I-II

Building & Construction (Civil Construction)

- Road Work Supervisor

Energy & Mining (J/Std)

- Petrol Station Supervisor – Level II
- Petrol Station Attendant – Level I

REGIONAL QUALIFICATIONS FRAMEWORK

Type/Level Of Programme	Orientation And Purpose	Credits	Entry Requirements	Occupational Competence	Academic Competence
Level 1/ Certificate	Completion of a preparatory programme leading to further study in a given academic or vocational area or entry qualification for a particular occupation	Minimum 10 Credits	To be determined by the local training Institution	Semi-skilled, entry level. Supervised worker	Grade 10
Level 2/ Certificate	To prepare a skilled independent worker who is capable of study at the next level (post-secondary)	Minimum 20 Credits	Grade 11 or Equivalent	Skilled Worker Unsupervised Worker	Grade 11
Level 3/ Diploma and Associate Degree	A post-secondary qualification emphasising the acquisition of knowledge, skills and attitudes (behavioural competencies) to function at the technician/supervisory level and pursue studies at a higher level.	Diploma: Minimum 50 Credits Associate Degree: Minimum 60 Credits	4 CXC's, Level 2 Certification or Equivalent	Technician, Supervisory	Associate Degree Entry to Bachelor's Degree programme with or without advanced standing
Level 4/ Bachelor's Degree	Denoting the acquisition of an academic, vocational , professional qualification, who can create, design and maintain systems based on professional expertise	Minimum 120 Credits	5 CXC's , Level 3 Certification or Equivalent	Competence which involves the application of knowledge in a broad range of complex, technical or professional work activities performed in a wide range of contexts. This includes Master Craftsman, Technologists, Advanced Instructor, Manager, Entrepreneur	
Level 5/ Post Graduate/ Advanced Professional	Denoting the acquisition of advanced professional post-graduate Competence in specialized field of study or occupation.		Level 4 Certification or Equivalent	Competence which involves the application of a range of fundamental principles at the level of chartered, advanced professional and senior management occupations.	

Key Role: **Installing and maintaining pipes, plumbing fixtures and equipment**

Function:PL3 **Joining pipes to provide for the collection, storage and distribution of fluids**

Element:PL3.3 **Join pipes by solvent weld method**

Performance Criteria

1. Work instructions are accurately followed and the task is organized accordingly.
2. The type, size and quantity pipes and fittings obtained conform to work instructions.
3. Work methods and activities are carried out as instructed.
4. Pipes are measured and cut to tolerance or +/- 2mm of length and within 1mm of square according to work instruction with minimal waste.
5. Connections are firm and joints maintain working pressure without leakage.
6. Pipes and fittings are free from defects and deficiencies of shape, form and surface imperfections.
7. Preparation and jointing of pipe activities conform to work instructions.
8. Information communicated to the appropriate personnel is confirmed as understood.
9. Tools used are appropriate and fit the task.
10. Safety is practiced in performance of task.
11. Surfaces of pipes and fittings are free from excess cement.
12. Work area is left clean and tidy and unused material removed and stored.

Example of a Standard

Appendix 5

STATEMENT OF COMPETENCE

The National Council on Technical and Vocational Education and Training (NCTVET) hereby certifies that

John Brown

Has satisfied the requirement for the skill competence

in planning and preparing for polishing and finishing:

FO1 Work specification is accurately interpreted organised accordingly.

FO2 Personal protective equipment is selected and used.

FO3 Work area is prepared for effective use, free from debris and is safe.

FO4 Correct types materials, equipment and tools are selected.

FO5 Work piece surfaces of are free of debris, foreign object and grease.

FO6 Acceptable faults in surfaces to be finished are rectified with fillers and stoppers.

FO7 Unacceptable faults are rejected and reported to the relevant personnel.

FO8 The work piece is confirmed ready for next stage of operation.

FO9 Work pieces are handled in a manner to prevent damage or injury

FO10 Equipment and tools are used correctly and safely.

FO11 Process is carried out according to relevant health safety standards.

FO12 Proper work attitudes and traits work attitudes/traits are appropriately displayed

And is awarded this Record of Competence