

MAXIMIZING THE BENEFITS FROM WATER AND ENVIRONMENTAL SANITATION

Competency based education and training (CBET): A Case Study in Uganda

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This paper describes how the Ministry of Education and Sports embarked on reforming business technical and vocational education and training in Uganda by introducing Competency Based Education and Training. It explains how skeleton Uganda Vocational Qualification Framework UVQF, secretariat was created .UVQF which developed with stakeholders occupational profiles and standards, assessment instruments, modularized curricula and test items. It explains benefits to the water and sanitation sector together with the challenges and recommends a way forward.

Introduction:

Competency Based Education and Training (CBET) is an approach to Technical Vocational Education and Training that emphasizes the development of skills/competences that are actually required in the world of work. In CBET, the focus is shifted from inputs into training to outcomes of training and the intended outcomes are derived from the requirements of employment, i.e. Industry Standards.

Background

The Ministry of Education and Sports MOES embarked on reforming Business, Technical and Vocational Educational and Training BTVET in Uganda. In 2000/2001, a multi-stakeholder Task Force, prepared a Strategic Plan to establish a Uganda Qualification Framework, UQF. A BTVET Sub-Sector Review conducted in 2002 recommended to start with the establishment of a Uganda Vocational Qualifications Framework (UVQF), and to reform BTVET along the lines of CBET.

The BTVET Department in the (MOES) and stakeholders agreed to pilot the development of standards-based qualifications in selected occupations, relevant to the Ugandan economy. To advance the efforts to link Education and Training to the real world of work, BTVET (MOES) supported by the Germany Agency for Technical Co-operation (GTZ) programme set up the Uganda Vocational Qualifications Framework (UVQF) Secretariat in March 2004.

The Staff for the Secretariat were recruited and currently consists of the Manager and two Technical Officers, with a part time secretary and a driver.

The Uganda Vocational Qualifications Authority

The overall mission is to:

- Link and match education and training to the real world of work leading to more relevant, transparent and credible vocational qualifications in Uganda.

The scope of activities consist of the:

- Development of employment-driven/ competence-based occupational profiles OPs and later occupational standards
- Development of Assessment Instruments using OPs
- Development of Modularised Curricula using OPs

Occupational Profile

This involves identification and prioritisation of occupations, for Occupational Profile OP development. It includes the recruitment of expert practitioners, conducting OP development workshops, using DACUM *Developing a Curriculum Method*, quality control and editing of OP, verification and finalisation.

DACUM method allows for the interaction of practitioners from industry to interact freely and be able to provide the required information in a reasonably short time. The approach is cost effective, enhances transparency and participants reach a consensus in their deliberations. About 8-12 practitioners sit together in a workshop with a facilitator who guides them. The practitioners are able to define their job best giving the duties and tasks of what they do. The tasks are the specific competencies, which one must perform in order to qualify as a practitioner in that occupation. The profile is produced in form of a DACUM chart.

Test Item Development (TID) Principles of Competency Assessment Instrument Development

Measurement has developed with man's intellectual growth. In making his first clothes, the primitive man undoubtedly performed crude measurements when he selected and cut a large animal skin for himself and smaller ones for his mate and children.

Since the first school was established, tests were administered to measure the student's achievement. Attempts were made to develop test instruments to measure certain educational achievements and from time to time these instruments

were studied, analysed and refined to ensure their validity, reliability and objectivity.

If a test is valid, reliable and objective; it must be comprehensive, discriminating, easily administered and scored. A definite and systematic procedure must be followed in its construction. The making of a test is basically a twofold process: determining first what should be measured and then devising the measuring instruments that will best do the job.

The duties and tasks arranged in the Occupational Profile are used to develop assessment instruments based on industry (employment) standards. During this stage, instructors, training providers and industry job practitioners (employment) work together.

In July 2004, 8 local TID Facilitators were trained and pilot TID done for 5 occupations. Currently the Secretariat is continuing to develop Test Item Banks for the piloted occupation.

Test Item Development is a stage for deriving assessment tools from the competencies stated in the profile. The practitioners give examples of their real situations while the instructors put it in the language used in the learning situation. The test items emphasize the practical part of the training to a big percentage as compared to the theory to bring out the actual skill acquired by the trainee /learner. It is therefore assumed that the assessment can only be carried out where the facilities provide for actual practical exercises.

The UVQF Secretariat will only develop Test Item banks which examining (Trade testing) bodies will utilise for CBET to meet employment requirements. A Test Item bank is considered to have a minimum of 100 written (theory) and 30 Practical Assessment items.

The assessment procedure depends on what competence is required, the assessor must have in mind the output required, either to observe the whole process or to award marks according to the end result.

Modular Curriculum Development

Again, from the Occupational Profile, curricula for Modularised Vocational Training in Uganda will be developed to meet employment standards. This is another stage where instructors (training providers) and industry job practitioners (employment) shall work together. Currently, only formats, methods and procedures required are underway in cooperation with National Curriculum Development Centre. (NCDC), Uganda National Examination Board, UNEB and Directorate of Industrial Training. (DIT)

Outcomes

The above process gives the details of the occupations in the way they are actually carried out in the world of work. It gives the current situation of the job and provides for trends that are anticipated in the industrial world.

The assessment instruments are generated by both the instructors and the practitioners from industry. This eliminates the bias from either institution or the world of work. The

assessment exercise is recommended to take place either in a workshop or an actual working place from industry. Emphasis is put on the practical exercises which are documented as learning working assignments (LWA) and practice items (PEXs). The issue is to emphasize practical work as opposed to theory. The trainees are tested against a standard that has been set by industry.

Modular Curriculum changes a single long course to actual shorter courses. It allows an upward progression as well as horizontal movement across the disciplines. It promotes free entry and exit into the training system. The system allows the recognition of prior learning (RPL).

The Uganda Vocational Qualifications Framework will be a mechanism to do the following:

- Define the occupational skills requirement in employment,
- Assess learners and
- Award vocational qualifications.

Finally, the UVQF Secretariat will produce Assessment and Training Packages for the occupations identified. The packages will be available at the vocational training institutions and can be used for training.

Occupational Profiling (OP):

22 Occupational Profiles have been developed for the following occupations:

Data Base Administrator
 Enrolled Nurse
 Computer Maintenance Technician
 Waiter/ess
 Electrician
 Beauticians
 Plumber
 Hair Dresser
 Metal Fabricator
 Reg. Comprehensive Nurse
 Brick Layer
 Enroll. Comprehensive Nurse
 Carpenter/Joiner
 Registered Midwife
 Painter/Decorator
 Clinical Officer
 Tailor
 Dispenser
 Leather Designer
 Health Assistant
 Registered Nurse
 Dental Officer

Test Item Development (TID)

6 Test Item Banks have been developed for the following occupations:

Bricklayer Beautician
 Plumber Registered Nurse
 Electrician Enrolled Comprehensive Nurse

Benefits to the Water and Sanitation Sector

There are several occupations, which are relevant to the water and sanitation sector, currently the UVQF Secretariat has handled a few of them. The practitioners will be able to have recognisable qualifications and will have access to further education and training. The employers will get a clear definition of what calibre of technician is required in the industry. The relevant courses will be designed in the institutions to suit the jobs found in the water and sanitation industry.

Challenges

Introducing a qualifications framework is a new approach in the whole Education Sector. The change brings a number of different procedures and concepts to be integrated into the system.

There is therefore a need to sensitise the public about what a Qualifications Framework can do and its importance.

The challenge in fostering this new approach involves a number of stakeholders. The different players namely UNEB, NCDC, DIT and ESA Education Standards Agency need to come to consensus and define the role of UVQF notwithstanding its scope.

The UVQF Secretariat has no legal instrument for its operations.

The number of occupations found in the water and sanitation sector yet has not been determined and this needs to be established in Uganda. Subsequently the profiles of these occupations need to be documented. It is at that stage that they can be fitted within the qualification framework for the different levels.

Uganda as a country could benefit from the 5S practice. It includes sort, systematise, sweep, standardise and self-discipline.

It is a systematised approach to organise work areas, keep rules and standards, and maintain discipline needed to do a good job. It utilises the workplace organisation and work simplification techniques to make work easier, faster, cheaper, safer and more effective. The practice of 5S develops positive attitude among workers and cultivates an environment of efficiency, effectiveness and economy.

The benefits of 5S are the following; it improves creativity, communication, human relations, teamwork, enhances comradeship and gives vitality.

Conclusion

Admirable features associated with CBET:

- Flexible training/learning – modular approach
- Transparent Assessment
- Positive Certification
- Recognition of prior learning (RPL) or Credit transfer
- Self-paced/individualised learning
- Work place based learning

Advantages of CBET in TVET with a functional NVQF:

- Relevance of training to match competence requirements for gainful employment (quality of VET)
- Improved access to both general and vocational qualifications by RPL/credit transfer ‘bridges’
- Making cost of education affordable
- Equity, without gender bias
- Linkage of small, medium and large scale enterprises.

The Way Forward

The Secretariat needs support in order to accomplish its mission to establish the Uganda Vocational Qualification Framework.

A list of cadres found in the water and sanitation needs to be identified.

The different levels of such cadres should be clearly spelt out to have a position on the framework,

The institutions that train these cadres need assistance in training personnel, equipment and materials.

References

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