

Competency-Based Training Implementation Constraints in Tanzania: Evidence of Trainers from Vocational Education and Training Centres, Morogoro Region

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Abstract:

The study where the article was originated examined on the constraints facing trainers' in implementing competency-based and training (CBT) at vocational education and training (VET) based on human capital theory assumptions. CBT demand trainers to have pre-requisite competencies, industrial exposure, adequate training resources and continuous updating of their competencies for its effective implementation. Nevertheless, these demands are claimed to lack among trainers and led to CBT implementation challenges and have resulted to have the outcome of trainees who have acquired training certificates with inadequate competencies demanded for employability. A qualitative research design was used where semi-structured interviews were used to collect data from 22 trainers who were purposively selected out of 87 trainers from four selected vocational training institutions. Data were analysed through thematic and content analysis. The findings revealed that trainers were facing challenges in implementing CBT due to their knowledge-based training orientation, inadequate opportunities to industrial exposure and further competence updating. Therefore, it is suggested that there is a need for VETIs and trainers to increase opportunities for further training and industrial exposure to update trainers' competencies to meet CBT requirements. Also, industrial visits and collaboration in training are suggested to enhance trainers' ability in implementing the CBT approach.

Key words: Trainers; competency-based training; vocational education and training institutions.

1.0 Introduction

In today's global economic sense, the productivity of skilled workers is becoming ever higher than ever, due to inadequate employability competencies of the

workforce in several sectors including the civil construction industry. To rescue the situation competency-based training (CBT) was adopted by vocational education and training (VET) in developed and developing countries including Tanzania as one of the strategies to solve the challenge of the low productivity workforce which was caused by inadequate employability competencies. CBT was recognized as an effective way of ensuring training imparts employability competencies relevant to the labour market and giving expectations to employers that the low quality of work will be reduced (ILO, 2020; Biemans, et al., 2004). In this case graduates under CBT were expected to perform better in jobs than those with traditional qualifications (Pavlova, 2019). Despite, CBT being adopted in VET for almost 60 years worldwide (Deißinger, 2005) and more than 20 years in Tanzania (Tambwe, 2017) still, it is claimed that the implementation of CBT is challenging due to several factors including trainers' competencies (Hakielimu, 2021; REPOA, 2020). Therefore the current study examines constrains of CBT implementation based on trainers' required competencies.

1.1 CBT implementation requirements

International Confederation of Midwives (2012) describes competency-based training as a way of structuring training activities so that the learner can meet a predetermined set of competencies required by the labour market. It focuses on what learners can do rather than on the courses they have done. It is based on the philosophy that "given appropriate instruction, time and conditions, almost all learners will learn most of what they are

supposed to learn including what they are trained and what they achieve from self-learning" (NACTE, 2010, p.7). Based on this assumption, ILO (2020) indicates that CBT approach to VET has been recognized as a highly effective way of ensuring that training programmes remain relevant to the labour market.

In this case, studies have indicated that effective CBT implementation depends on human resource development policy frameworks; appropriate institutional arrangements; support services; methodology; adequate and relevant learning material and qualified and committed trainers (ILO, 2019). Additionally, due to continuous changes in the labour market needs revisions of the curriculum are ought to be done on 3-years basis or throughout learning period (Mulder, et al., 2017). For that case trainer to become a CBT implementer requires studying various teaching and learning theories that focus on learning outcomes with specific, measurable definitions of knowledge, skill and learner behaviour (Tambwe; 2017). Furthermore, trainers with pedagogical and technical skills, adequate in knowledge and understanding in applying multiple training methods, organization and class management, trained in vocational education, teacher education institutions/ technical university and gained experience in the labour market are highly demanded in CBT implementation (ILO, 2020; European Union, 2017; Makunja, 2015, VETA Curriculum, 2013).

This accounts for trainers to possess commercialization of knowledge-skills and technologies, flexibility in working culture, social, attitude, pedagogical competencies, professionalism and commitment-related competencies (Mojtaba, et al., 2018;

Habtamu, 2016; Thakur and Shekhawat, 2014). Thus, Akinseinde (2006) indicated that trainers' competencies may either enhance or hinder the implementation of CBT approach for meeting learners acquisition of employability competencies. This implies that if trainers are competent and managed effectively are likely to lead to effective implementation of CBT for imparting employability competencies to learners as required by employers.

Other studies have shown that, CBT implementation demands industrial experience and the ability or willingness of trainers on updating and refinement in knowledge, skill, and positive attitude (Nair, 2017). This was evidenced in Ngure (2013), who opined that trainers should have practiced their vocation for some years to gain industrial experience before becoming CBT implementers to strengthen their knowledge base. Zinn, *et al.*, (2019), postulated that there is a need for trainer to attend further training in the methodological usage and the construction of appropriate and suitable learning materials in the field of pedagogical and content knowledge. In China for instance it was indicated that, in every three years of teaching, teachers of VET are supposed to be exposed to work in the related subject in an industry (Dobbo, 2018). This calls for training institution managers to update trainers' competencies through training, seminars or workshops for effective implementation of CBT. Therefore, updating knowledge and skills to trainers is not just important, it is necessary to generate competent trainers for CBT implementation.

Despite CBT requirements, UNESCO (2021), found that globally, majority of

trainers implement CBT without the benefit of industrial background and have often lacked the opportunity to experience the world of work. Wongnaa and Boachie (2018), explained that given the CBT approach being time demanding than content-training approaches, trainers were reluctant at adopting CBT techniques in their training and learning activities, Schnitzler and Heise (2021) in Jordan found that trainers applied traditional methods of training. Aderonmu *et al.* (2014), in Nigeria revealed that, there were inadequate competencies among trainers in implementing the CBT approach while Ngure (2013) and Njati (2013), in Kenya found that trainers lacked pedagogical competencies which affected negatively implementation of CBT.

In the Tanzanian context, Tambwe (2017), studied on challenges facing the implementation of the CBT system in technical institutions revealed that, trainers applied the traditional way of training and learners learnt through memorization. As it was shown that seventy per cent of trainers were not able to plan and even deliver lessons using CBT. Hakielimu (2021), indicated that there is a deficiency in the initial training of trainers. Kafyulilo *et al.* (2013) found that trainers had limited knowledge of the CBT approaches. This indicates the difficulties in implementing the CBT approach. It is likely to be concluded that there is ample evidence of challenges facing trainers in implementing the CBT approach. However, there is scant literature on trainers' requirements for CBT implementation at VET in the Tanzanian context where the current article focused.

1.2 Initiatives done by Government of Tanzania in meeting CBT requirements

In the Tanzanian context, CBT was adopted at VET in the early 2000s to generate equipped graduates with appropriate sets of employability competencies towards the realization of Tanzania Development Vision (TDV)_2025 of becoming a middle-income economy by 2025 which shall be achieved through creativity, innovativeness and a high level of quality skills (Rutayuga, 2014; URT, 1999; Technical Education and Training Policy, 1996). Aiming at producing competitive and high-quality products, increasing efficiency, and reducing production costs (Nkebukwa, 2018). To realize vision achievement sectors including agriculture, trade, mining, manufacturing, and construction were prioritized, where the civil construction sector was a paramount (VETA, 2020; COSTECH, 2016; URT, 2014). The priorities identified as the essential catalyst for the attainment of the Vision 2025 objective include the development of infrastructure as an important ingredient towards the attainment of faster economic growth (National Construction Council (NCC), 2003). These initiatives required competent civil artisan graduates in welding, plumbing, installation, carpentry, masonry and architectural activities (URT, 2019).

Despite, CBT adoption other efforts had been taken to ensure effective implementation of CBT including the Technical and Vocational Education Development Program (TVETDP) (URT, 2013), civil engineering curriculum adding soft competencies including communication, entrepreneurship skills, and information communication technology (VETA Civil engineering curriculum, 2013), Technical Education

and Training Policy of 1996; National Skills Development Strategy (NSDS 2016-2021). On the other hand Education Sector Development Plan (ESDP) (2016/17-2020/21) introduced fee-free education at basic education to encourage the acquisition of basic competencies including self-confidence, tolerance, and respect for all people, building a culture of human development through hard work, professionalism, creativity, innovation, critical thinking and problem-solving skills for entering higher education (URT, 2016, 2018). National Five Year Development Plan Phase III (NFYDP III) 2021/22-2025/26 indicated that the government budget for 2019/2020, allocated funds for the construction of 25 District Vocational Training Centres to impart employability competencies to the youth (Ministry of Finance and Planning, 2021). All these efforts were expected to meet the demand of generating a competent and skilled labour force to meet labour market demand and insisted the development of employability competencies in the teaching and learning process. However, despite the existence of CBT for almost more than 20 years now since its introduction in Tanzania these efforts had been focusing on institutional frameworks, learners development, adequate and relevant learning infrastructures and materials but still trainers requirements is challenging where the current study focuses. Therefore this article mainly focused to examine how trainers' requirements of implementing CBT approach are attained at VET and the constraints facing them in CBT implementation. This main objective is further dived into specific objectives including,

- i) To identify trainers pre-requisite level of education for

- ii) implementing CBT
- iii) To examine the work experience of trainers in implementing CBT
- iv) To examine trainers industrial exposure for effective implementation of CBT
- v) To identify trainers opinions on CBT understanding
- vi) To examine strategies for updating trainers competencies for CBT implementation

1.3 Significance of the study

First, there have been insufficient studies on investigating trainers' requirements towards CBT implementation at VET where the impact of CBT can be felt realistically. For instance, Tambwe (2017) focused on challenges facing implementation of CBT at higher learning institutions. Kafyulilo, et al. (2013) observed pre-trainers from Morogoro teachers training college who were prepared for teaching. Therefore the current study will bridge the knowledge gap by investigating the trainer's requirements towards implementation of CBT at VET. Second, studies by Mufuruki, et al (2017), Wangwe, et al (2014), and Haji (2015) recognized that studies on the VET training system are scarce in Tanzania. Therefore, this study is likely to be an input in future studies for making informed decisions about trainers requirements for CBT implementation at VET.

Third, conducting the study at VET instead of primary, secondary, or higher learning education institutions is due to the main objective of VET to prepare learners for employment under CBT approach in different industries including the civil construction sector which is prioritized by the nation's vision of 2025 (URT, 1999; Technical Education Policy,

1996). Therefore to investigate trainers' requirements for CBT implementation at VET at this level is best. By investigating trainers' requirements for CBT implementation at VET the study is likely to add knowledge in the existing literature on the trainers requirements and challenges facing implementation of CBT for imparting employability competencies to learners. Fourth, the findings of the study might stimulate more studies in the area trainers' requirements towards implementation of CBT for human resource development in the knowledge economy which demands skilled human resources who are equipped with communication skills, teamwork, honesty, and flexibility in the working environment both in Tanzania and elsewhere in developed and developing world.

2.0 Theoretical foundations

The article is grounded on human capital theory. Founders of human capital theory are Theodore Schultz (1902-98) and Gary Becker (1930) and developed by Becker seminar work in 1964 (Paadi, 2014). Human capital believes that education incorporates knowledge development, acquisition of skills and reflection of feelings. The theory emphasizes on increasing number of persons who have skills, education and experience as are critical for economic growth and development of any country. The theory further suggests that core employee competencies are central to firm's competitiveness should be developed and maintained continuously (lifelong learning). Therefore it emphasizes on employees to have education, skills, and

experience as critical for improved work performance (Wuttaphan, 2017). In this case implementation of CBT at VET

which demands trainers with pedagogical and technical skills, adequate in knowledge and understanding in applying multiple training methods, trained in vocational education, teacher education institutions/technical university and gained experience in the labour market (ILO, 2020; European Union, 2017; Makunja, 2015, VETA Curriculum, 2013). Human capital theory is effective in explaining constructs demanded in implementing CBT at VET including prerequisite competencies, training experience, industrial exposure, understanding of CBT approach and strategies for continuous updating of competencies as summarized in Figure 1 below.

Prerequisite competencies help to explain what competencies VET trainers were having to meet the requirement of CBT being measured in terms of education as insisted in human capital theory as Schultz (1961) opined that well-educated labour force are likely to have a number of skills which will make them more productive than workers with low education. Also Noe, et al. (2013) underscored that, education is a major determinant to the workforce. Sweetland (1996) opined that training experience is effective in understanding work challenges. Industrial exposure explains how VET trainers are up to date with the changes which are taking place in the labour market including technology, policies and procedures. Training methods requires the instructor to master instructional techniques, practice and experience therefore understanding of CBT approach explains how VET trainers were aware with CBT requirements and strategies for continuous training indicate the activeness of the institute/organization in updating trainers' competencies to meet the current labour

market which demands skilled and competent workforce (Armstrong and Taylor, 2016; Judge, et al., 1995). Generally, when these concepts harmonized with other factors being constant are likely to enhance an effective way of implementing CBT approach for the realization of imparting employability competencies to learners. Finally rescue the challenge of inadequate employability competencies to graduates as claimed by employers. The theory was applied by other studies including Tittenbrun (2017), Squicciarini & Voigtländer (2014) and Down (1994) in other fields. Thus the current study focused on trainers' competencies towards implementing CBT approach.

2.1 Study framework

In order to enrich understanding of requirements for trainers in implementing CBT, the study framework was founded human capital theory assumptions. The study framework integrated the ideas of human capital theory where pre-entry qualification were explained in terms of education attained by the trainer before being employed by VET and was conceptualized as a construct consisting of human capital which insisted on the benefits of education in human capabilities for improving job performance. Also had shown the benefits of industrial exposure, work experience and the benefits of continuous updating of employee competencies to meet the rapid changes of the labour market needs in improving human capital capabilities. Therefore the current article hypothesises that human capital theory indices including pre-requisite entry qualification, working experience, industrial exposure and updating competencies through trainings have a process relationship with the

implementation of CBT. And it is likely to be concluded that if trainers lack one or both indices as described by human capital theory may hinder implementation of CBT for imparting employability competencies to learners. The interrelationship forming the bases of study framework is presented in Figure 1 below.

H1: Human capital theory assumptions has an effect on CBT implementation

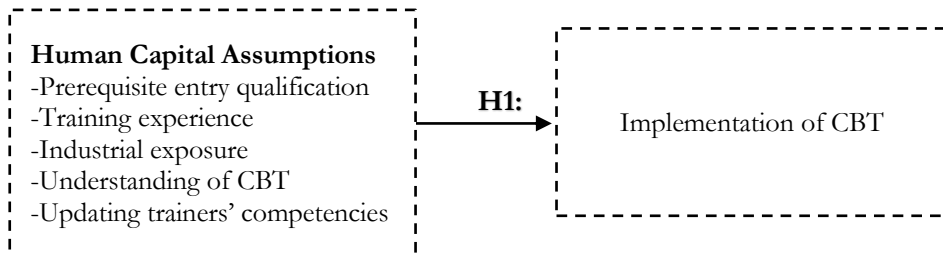


Figure 1: Study Framework

Source: Developed by the Researchers from Human Capital Theory Assumptions

3.0 Methodology

The study where the article originated employed a qualitative exploratory research design to capture information from trainers at four VET institutions who were purposively selected. This method was applied because understanding trainers' requirements for implementing CBT was effective through human observation, interpretations and reflections on what people said and what they were doing in a specific work context (Creswell, 2014). The major assumption was that collecting data from relevant people's real-life experience necessitated getting real and rich data that facilitated to effectively address the constraints of trainers on CBT implementation (Neuman, 2014). Semi-structured interviews were applied to collect data from 22 VET trainers. Also documentary review particularly the VETA curriculum was reviewed for compiling pre-entry

qualification for trainers at VET and training policy of 2006 was reviewed to understand if updating competencies to trainers was given paramount.

3.1 Study context

The study was conducted in Morogoro region in Tanzanian. Morogoro was chosen due to its uniqueness of having four public VETs including the Kihonda regional vocational training centre (RVTSC), Dakawa vocational training centre (VTC), Mikumi vocational training centre (VTC), and VETA Morogoro Teachers College. All of these provide civil engineering courses and one being a VET teachers college in the country which is managed and governed by the government through its agency (VETA). In addition, one private VET (St. Joseph VTC-Ifakara) was included in the study because it was the first VET to be introduced in the region and admitted students in masonry and carpentry courses. The distribution of VET in Tanzania's Mainland, included Arusha 3, Dar es Salaam 2, Dodoma 1, Geita 1, Iringa 1, Katavi 1, Kigoma 2, Kilimanjaro 1, Lindi 1, Manyara 3, Mara 1,

Mbeya 2, Morogoro 4, Mtwara 2, Mwanza 1, Njombe 1, Pwani 1, Rukwa 1, Ruvuma 2, Shinyanga 1, Simiyu 1, Singida 1, Songwe 1, Tabora 3, Tanga 2. However the nearest regions including Coaat region has no VET under VETA that trains learners on masonry and carpentry and in Dar es Salaam, only Chang'ombe RVTSC has masonry and carpentry courses (URT, 2021 p.6). During the data collection process, the participants were assigned numbers in place of their names to maintain anonymity. Despite that Morogoro region has several VETs; the VETs chosen were based on the availability of masonry and carpentry courses. Data were collected from September to November 2021

3.2 Sampling procedures

There were 87 trainers from four selected VETIs who potential for the study. However, only 22 trainers who were teaching masonry and carpentry courses were selected purposively. Sampling involved two stages; firstly, selecting the study area and secondly selecting the study respondents. Purposive sampling was used in stage one in selecting the study areas and in stage two for selecting respondents trainers from VET. The method was used based on knowledge and experience of trainers upon CBT approach, and teaching masonry and carpentry courses, therefore the sample size included 22 trainers from four vocational training centres (VTCs). In reporting findings, respondents were coded into numbers as (Trainer, 1-22).

3.3 Data collection tool

Data were collected by using semi-structured interview and documentary review.

3.3.1 *Semi-structured Interviews*

Semi-structured interviews were used by

formulating a few leading questions leaving room for follow-up (probing) questions to emerge in the course of the discussion during the study. Interview questions were prepared by the researcher and requested experienced experts in the subject matter to check them to ensure that there were no wording questions that might lead to predetermined answers including supervisors, reviewers and pilot study to six trainers from one VTC which is not included in the article was done at Mbeya region. The probing questions were used to obtain extra information and explanations for respondents who did not disclose the targeted information. Semi-structured interviews aimed to elicit understanding from the participants, not to tell them what to say, but rather to offer pathways to conceptualize issues and to make connections that combine into emerging responses (Neuman, 2014). In this case, 22 trainers including 3 females and 19 males who were purposively selected were interviewed. Responses were audio recorded by using voice recorder and recorded in writing and directly transcribed. The respondents were coded as trainer 1-22 for reporting purposes.

3.3.2 *Documentary Review*

The researcher reviewed the VETA training policy 2006 to examine how it states about trainers continuous training in updating their competencies for improving their capabilities in implementing CBT. The obtained information helped to answer the question on how employees are supposed to be upgraded to meet CBT requirement which is dynamic by nature (ILO, 2020).

3.4. Data analysis

Thematic and content analysis was used to analyse semi-structured interviews where

data were transcribed and recorded into summaries and categorized into themes while demographic information of trainers were explained descriptively as indicated in Table 1 below. for reporting purpose. Codes were created deductively and inductively in analysing data. The deductive involved creating codes based on research objectives and reviewed literature and the inductive approach was based on the transcripts from respondents.

4.0 Findings and Discussions

4.1 Trainer's competencies

Trainers' competencies are an important factor to the implementation of CBT approach because trainers play a central role in the implementation process. To examine competencies required for trainers in implementing CBT approach the researcher reviewed documents including VETA curriculum of 2013 to identify pre-requisite competencies required from trainers and semi-structured interviews were conducted with trainers to identify the pre-requisite competencies possessed for CBT implementation.

4.1.1 Prerequisite competencies required from trainers

From the documentary review, it was indicated that entry qualification of trainers at VET included holders of CBT level III, Diploma and Bachelor Degree from Universities and passed through teaching methodology from Morogoro Vocational Teachers Training College for teachers who were required to teach core subjects. On the other hand, related skills included engineering and supporting subjects from recognized universities. VETA curriculum (2013 p.17) identifies that the minimum qualifications of a vocational trainer under CBT approach to

implement the approach include: a holder of CBT Level III or equivalent with a teaching certificate plus 3 years work experience is eligible to train CBT level I–II and can assist in practical sessions for CBT Level III programme. Second, a holder of a Diploma in Civil Engineering with a Teaching Certificate and 3 years of work experience is eligible to train CBT level I–III. Availability of requisite competencies among staff will also constitute a mechanism for enhancing staff eligibility and competitiveness for higher positions in future as the need arises. This implies that trainers at VET must have acquired CBT level 3 which is the highest level at VET and above as a prerequisite for teaching whereas work experience is an added advantage. The finding corresponded with Educational International (2009), explaining that CBT requires trainers with pedagogical and technical skills, training in teacher education institutions and experience in the labour market.

4.1.2 Trainers responses on pre-requisite competencies attained before working at VET

Trainers were asked to inform on their education level attained as a pre-requisite to be recruited as CBT implementers. The findings from an interview with trainers indicated that two trainers pursued certificate level, eight trainers pursued diploma level, two trainers pursued advanced diploma level, seven trainers pursued bachelor's degree level, and three trainers pursued Master's Degree. This implies that trainers were competent in terms of theoretical requirement on CBT implementation. The findings were similar to the VETA curriculum (2013) which means basing on education attainment they were having prerequisite

competencies to be CBT implementers. Despite, the theory being silent with the level of education required for improved performance the results from VET trainers are likely to be concluded that VET trainers were having education and knowledge for understanding on how to implement CBT to trainees for improved performance.

4.2 Trainers training experience

Experience provides a platform for problem-solving and leads to growth and change thus it helps trainers in developing and delivering CBT through the application of various training and learning methods (Wesselink, 2010; Williams, 2009). The findings indicate that trainers have a work experience ranging from two to forty years' in training. This implies that interviewed trainers are likely to have a good number of years' experience in CBT implementation. The findings corresponded with the theory which assume that work experience helps and employee to improve work performance in the labour market. Interview responses are summarised at Table 1 below.

4.3 Trainers work exposure

According to European Union (2017), implementation of CBT need a trainer to have practical and pedagogical

competencies; which can be acquired through training and work exposure. However, the findings revealed that majority (fourteen) trainers had no industrial exposure they were directly employed after completing university studies and minority (eight) trainers had industrial experience. This implies that majority of VET trainers had no industrial exposure so they were training on what they experienced during their learning process. Therefore is likely to be said that the situation hindered implementation of CBT which require work experience. As from the human capital theory insists that work experience increases efficiency in the workplaces but at VET it was found that trainers were lacking industrial exposure. The findings were similar to UNESCO (2021), which found that the majority of CBT implementers at VET enter the classroom without the benefit of industrial background, and have often lacked the opportunity to experience the world of work. Also, ILO (2019) found that in Tanzania there is a challenge in getting VET trainers from the world of work; hence graduates from learning institution are hired as trainers. This affected negatively the implementation of CBT. Responses from an interview with trainers is indicated at Table 1 below,

Table 1: Trainers' responses on education level attained, training experience and work

Trainers	Education attained	Training experience	Industrial Experience
Trainer 1	Diploma	4 years	For twenty (20) years I worked as a technician at the Sokoine University of Agriculture (SUA) workshop.
Trainer 2	Diploma	3years	Employed direct after graduating from University

Trainer 3	Advanced diploma	9 years	For four years I worked with HT-general enterprises performing activities of building infrastructures, roads, dams and irrigation systems
Trainer 4	Master's degree	18years	Employed direct after graduating from University
Trainer 5	Certificate	11years	For fifteen (15) years I worked as a technician in workshops in various public organizations
Trainer 6	Bachelor degree	2years	I worked as a teacher in a secondary school for 2 years teaching mathematics and in 1 year in Business Institute teaching ICT subject.
Trainer 7	Master's degree	6years	I worked as a teacher in secondary school for 3 years and 3 years training at VET
Trainer 8	Bachelor degree	14years	Employed direct after graduating from University
Trainer 9	Bachelor degree	4years	Employed direct after graduating from University
Trainer 10	Bachelor degree	10 years	Employed direct after graduating from University
Trainer 11	Master's degree	20years	Employed direct after graduating from University
Trainer 12	Bachelor degree	7years	Employed direct after graduating from University
Trainer 13	Bachelor degree	2years	Employed direct after graduating from University
Trainer 14	Bachelor degree	10years	I worked at TANESCO for four years and SAYE power lines for seven years performing survey activities
Trainer 15	Certificate	2years	Employed direct after graduating from University
Trainer 16	Diploma	6years	I worked at TANESCO for seven years in the telecommunication engineering department.
Trainer 17	Diploma	40years	Education level Employed direct after graduating from University
Trainer 18	Diploma	2years	Employed direct after graduating from University
Trainer 19	Advanced Diploma	11years	Employed direct after graduating from University
Trainer 20	Diploma	2 years	Employed direct after graduating from University

Trainer 21	Diploma	14 years	I worked at secondary school for three years teaching mathematics and physics and for one year worked at TANESCO as an operation manager
Trainer 22	Diploma	14years	Employed direct after graduating from University

Source: Field Data, 2021

4.4. Understanding of CBT

To impart competencies to learners' trainers must be able to understand and deliver the content under the CBT approach. Apart from trainers' competencies acquired as a pre-requisite entry qualification, the researcher asked trainers how they were aware of the CBT approach in their working experience. The question demanded trainers to tick on yes or no. The findings revealed that out of twenty two trainers twenty one trainers were familiar with CBT while one trainer was not familiar with CBT. This implies that trainers were familiar with and have an understanding of the requirements of CBT.

4.4.1 Reasons for introduction of CBT

Apart from short responses on an understanding of CBT trainers were asked to explain why CBT was introduced at VET. The question supplemented the closed question above to get details on trainers' understanding of CBT. Trainers' explanations were based on three themes including government-imposed CBT due to external influence, progress with further studies and labour market demand.

4.4.1.1 Government imposed CBT due to external influence

Some trainers explained CBT approach was introduced due to external influences of donors and VET sponsors. They insisted that CBT were not a government

priority to improve the quality of training at VET as the idea did not originate from local practitioners but was imposed from outside the country, even though the purpose was good. They asserted that, contrary to what initiators would expect, internally the emphasis on CBT is weak. This perspective was extensively quotations from among trainers as,

“CBT approach was copied from developed countries to replace the trade test training approach which was dominated by a traditional way of testing learners based on a single event (final examination). But the CBT approach assesses various incidences including practical testing, assignments, tests and final examination (Competency-Based Assessment). Despite the emphasis on the CBT approach at VET in Tanzania, it is not implemented as expected due to challenges of inadequate training and learning resources, the mind-set of trainers to practice CBT, and some VET institutions particularly private institutions are not ready to shift from a traditional approach (Trainer 7 on 6/10/2021)”.

Another trainer had this to say,

“CBT approach was adopted from other developed countries without comparing with the reality in our country on how it can be implemented, the capability of implementers, learners and training and learning resources. In reality, it is not implemented effectively due orientation of trainers who in most cases are knowledge-oriented (KBET). Also, inadequate

training and learning resources facilities affect negatively the implementation of CBT at VET” (Trainer 4 on 5/10/ 2021).

Despite the understanding of the CBT approach as being copied from developed countries and Tanzania was influenced to implement it without preparation of its trainers and institutions frameworks. Other trainers had a different perspective on the introduction of CBT as they explained that it was introduced for academic growth purposes.

4.4.1.2 Progress with further studies

Trainers indicated that CBT was introduced to help learners continue with further studies as the previous VET testing system was not helping learners to continue with further studies in higher learning institutions. This was facilitated by the grading system under the trade test where trade test grade I was the highest qualification at VET. Now it has changed from trade test to CBT levels which are identified as national vocational award (NVA) 1-3 and if the learner passes all modules in these levels may opt to continue with National Technical Award (NTA) level 4 in tertiary education under the CBT approach and reach upper academic achievement. This had facilitated VET learners to continue up to NTA level 10 (PhD) as the highest level for acquiring problem-solving skills, innovation, critical thinking and creativity for business management and economic development this was indicated as,

“Before saying anything about CBT, I start with the main objective of establishing VETA in Tanzania, which was to impart competencies to youth for self-employment. But due to changes in the labour market CBT training was introduced

to impart competencies which will help learners to meet the labour market for self-employment and wage employment. Also before CBT, the traditional model of training did not give opportunities to learners to grow academically (for further studies). Hence CBT training allows learners to prosper academically” (Trainer 8 on 10/10/2021).

“CBT training replaced the trade test qualification system which was based on manual skills (hard competencies) and hindered graduates of VET to continue with further studies in higher learning institutions/universities. The introduction of CBT training added soft competencies which are compatible with the requirement of higher institutions/ universities this allows VET graduates to progress with studies in other courses. So to me, I can say CBT was introduced to replace the traditional testing system which hindered VET graduates to attain academic growth” (Trainer, 02 on 2/10/2021)

“...in preparing and reviewing the curriculum VETA involved stakeholders from Universities, employers and other tertiary institutions who advised VETA to embed soft skills to help VET graduates to excel for further studies in higher learning institutions either in similar courses or related courses. This is because VETA awards are connected with national awards certification of technical education from NVA to NTA levels” (Trainer 04 on 4/10/2021).

4.4.1.3. Meeting labour market

Trainers indicated that CBT was introduced to meet labour market demand as previously graduates from VET were employed by the government which demanded specialized skills it was easier for content-based training to feature the needs of the government. Failure of the government to employ all graduates had

influenced VET training to include hard and soft competencies to enhance learners to acquire generic competencies which can help them for employability in government, private companies and self-employment to meet labour market dynamics. Trainers had this say,

“CBT was introduced at VET to impart labour market demanded competencies because VET is an industry of skilled labour production” (Trainer 16 on 10/11/2021)

“CBT was introduced to meet labour market demands because it insists on competencies which are demanded by employers for instance in our training content we have a mixture of skills you may find a masonry learner is required to learn on communication skills, computer skills and life skills which were not taught before CBT approach. The addition of soft competencies in the CBT curriculum widens our learners to compete in the labour market” (Trainer, 05 on 5/10/2021)

“The requirement of CBT on involving stakeholders in the training content development process had influence employers to identify what competencies should be taught at VET and these competencies are identified according to labour market need (Trainer 4 on 4/10/2021)”.

“CBT approach is applied to assess learners in terms of practical and theory to reach industrial development in operating machines as theory helps learners to get awareness about knowledge and practical helps to acquire skills and attributes which in combination we call as labour market demanded skills” (Trainer 15 on 18/10/2021).

Impliedly is that trainers had multiple understanding of the CBT approach. Therefore, this is likely to be effective in

training practices and CBT implementation. However, majority indicated as CBT was introduced to meet the labour market demand. This finding were in vein with empirical studies including ILO (2020); Pavolva (2019) and Biemans, et al. (2004) which indicated that CBT was introduced to meet labour market which changed from manual demanded skills to knowledge economy which demanded individuals with adequate competencies. And few indicated as it was introduced to meet students’ academic and profession progression that previous grading system of trade test hindered VET graduates to progress with further studies in higher learning institutions. This was evidenced by Hakielimu, (2021) the trading had no flexibility for entry qualification into technical and vocational education and training colleges as progression pathways. Thus, is likely to be concluded that trainers understanding of CBT was clear. However qualitatively it does not mean that this may have direct relationship with effective implementation of CBT due to other process and interactive relationship in implementing CBT.

4.5 Upgrading competencies

The implementation of CBT approach is complex therefore pre-requisite competencies of trainers might not guarantee effective implementation of it. Due to its complexity training and exposure to update trainers’ competencies is not just important but inevitable. According to the National framework for continuous professional development for practicing training, trainers are a key factor in achieving the goals of enhancing the quality of training and developing the human capital of Tanzania and this can be realized by opportunities for trainers to have a continuing professional

development through training, workshops, seminars and work-based experiences (URT, 2017). To capture the information on how VET trainers upgraded their competencies the researcher reviewed documents including the VETA training policy 2006 and then asked trainers if they had attended training and the kind of training which they attended.

Through the documentary review, it was indicated that,

VETA believes that continuous development of appropriate competencies is the key to employees' high performance in the organization as well as career and professional development. Therefore formal training should be provided in the form of long or short courses associated with certification and informal training including work attachments, study tours, attendance to seminars, workshops and conferences as well as on-the-job coaching and mentoring should be done to enhance employees' competencies (VETA, 2006: 2).

Policy Statement,

VETA shall train and develop all staff to enable them to acquire the necessary knowledge, skills and attitudes required to effectively perform their duties. VETA believes in competence-based staff development as a means of achieving effective and efficient performance in terms of services delivery in line with its mandate as provided for by the Vocational Education and Training Authority Act of 1994 (VETA, 2006:3)"

This implies that VETA considers trainer training as a crucial factor for effective implementation of CBT. An interview

with VET human resources officers

(HROs) revealed that upgrading competencies for trainers was important and were supposed to be done each year. However sometimes it is difficult to implement due to budget and training need analysis. As when the need occurred and there was the availability of funds an institute facilitated upgrading competencies to workers by 100% for long courses and short courses. Also, labour analysts stated that due to fast changes in technology and labour market demands VETs were required to empower competencies from time to time through the provision of training and seminars. Moreover, training coordinators revealed that training trainers to upgrade competencies was important in their institutions. The findings corresponded with the human capital theory which assumes that upgrading employees' skills improves workplace performance.

In addition to that, the researcher interviewed 22 trainers on what training they have attained after being employed by VETIs, duration and facilitators of training. Trainers responded that training was provided to them within and outside the country on entrepreneurship skills, teaching methods, application of the CBT approach and assessment methods being facilitated by VETA, Ministry of Science and Vocation Education, donor countries, regulatory authorities, NGOs and other government and international programmes. How some indicated that they did not attend any training in their work experience. Among the interviewed trainers revealed that,

"... I attended pedagogical training (A long course at Morogoro VETA Teachers Training College), in 2014 attended training on risk management in the civil construction sector

facilitated by the Engineers Registration Board

(ERB) for 3 days and in 2012 August three weeks of training on CBT and CBA conducted by NACTE and VETA (Morogoro)” (Trainer 02 on 2/10/2021)

“Training attended includes curriculum development for two days and labour market analysis for 2 days in 2021 November, at Morogoro teachers training college (MTTC) facilitated by National Council of Technical Education (NACTE) to empower trainers on understanding curriculum requirements” (Trainer 09 on 19/11/2021)

“In 2013 attended a long course through eLearning on road construction at the institute of works Morogoro certified as Trade test 1” (Trainer 04 on 5/10/ 2021)

“In 2021 June attended training on teaching and instruction methodology at Morogoro vocational teachers training college (MVTTC) Morogoro for two weeks facilitated by VETA” (Trainer 05 on 5/10/ 2021)

“Training attended includes teaching CBT methodology attained in 2012, assessment techniques, and knowledge on teaching materials attained in Canada 2018 for one month (Trainer 08 on 18/11/2021).

Trainings attended include curriculum development for two days and labour market analysis for 2 days in 2021 November, at MTTC facilitated by NACTE to empower trainers on understanding curriculum requirements” (Trainer 21 on 19/11/2021).

“I have been working here for two years now but no any training I have been attended. I am just teaching through experience I gained at my college learning. In in order to upgrade my competencies I learn myself through an internet and ask experienced trainers whenever face

challenges in training my module” (Trainer 13

on 18/10/2021). Similar response was given by Trainer 20 on 18/11/2021 in other VTC

This implies is that updating trainers were more focused on methodological and content knowledge than work experience including civil engineering technological changes, project management and market situational analysis which are effective for implementing CBT for meeting labour market demands. The findings were similar with Zinn, et al., (2019), who postulates that there is a need for trainer to attend further training in the methodological usage content knowledge. But contradicts with ILO (2020) and European Union (2017) which indicated that gained experience in the labour market are demanded higher than those for content-based training. Thus updating competencies to trainers should focus on both teaching methodology and labour market demands.

5.0 Conclusion and Recommendations.

The findings indicate that trainers were having pre-requisite competencies for CBT implementation and understanding on CBT training approach and its requirements. Despite this awareness trainers on CBT approach it was claimed that they failed to implement it due to inadequate training resources. Also, technological changes influenced trainers to fail in meeting CBT requirement. In addition to that CBT implementation requires trainers who have been exposed to the world of work. This is contrary to the finding which indicates that majority of trainers were implementing CBT without work exposure. Meaning that they were implementing CBT basing on previous learning and literatures while CBT implementation demand implementers to relate with the world of

work. Furthermore, updating trainers' competencies was found as a challenge in the implemented of CBT as more training which was given focused on methodological and content knowledge while CBT focuses on competencies particular psychomotor skills. Thus is likely to be concluded that trainings which focused on methodological and content without relating to labour market requirements are likely to affect negatively implementation of CBT.

Generally, is likely to be concluded that despite trainers having pre requisite competencies it is difficult to implement CBT which is flexible in nature. In this case prerequisite competencies affects the ability and knowledge on the subject matter, work experience helps to trainers to understand what is being demanded in the labour market to be imparted to learners while understanding of CBET help trainers to implement it easily and updating of competencies help trainers to be flexible in the training and be trusted by trainees and the community at large.

Therefore, it was suggested that in order for the CBT approach to be implemented effectively, the government and VET institutions need to ensure trainers have work experience and increase opportunities of trainers to update their competencies to meet technological and labour market demand when implementing CBT approach. In addition to that collaboration in training with employers is suggested to be important for effective implementation of CBT. Furthermore, trainers are advised to take personal initiatives for updating their competencies towards CBT implementation.

5.1 Contribution of the study

Despite the challenges facing

implementation of CBT in imparting employability competencies, little is known about trainers requirements under human capital theory when it comes to CBT implementation at VET. Our main contribution is to propose that the requirement of trainers for CBT implementation captured in human capital theory creates value for trainers in the context of VET, thus advancing more studies in the field. The second contribution provides training practitioners an important of updating competencies to trainers who are crucial in CBT implementation for improvement on imparting employability competencies to learners. Finally the work presents a social contribution by evidencing the importance of meeting trainers' requirements for best implementation of CBT towards managing training and learning process through social interactions and team works which may help trainees to acquire team work skills for work interactions and hence social networking.

Applying exploratory approach the authors offers insights into this problem. Discussing the findings in the light of human capital theory it is concluded that trainers requirements based on education attained complied with ILO (2020) and government standards under its agency (VETA Curriculum 2013). However, updating competencies and industrial exposure was challenging thus it is suggested that trainers and VET institutions need to ensure continuous updating of competencies based on specialised competencies to meet CBT requirements. This might help trainers to be aware with current demanded competencies.

6.0 Limitations of the study

The study concentrated on two courses at

VET, including masonry and carpentry where 22 trainers were interviewed out of 87 trainers. Even though the findings are relevant to a wide range of situations, it would be dangerous to generalize it to other trainers on requirements and challenges they are facing in CBT implementation. Therefore, further

studies may be conducted on the same study in other courses or widen the scope in other fields. Also other study may opt on motivation and commitment of trainers towards CBT implementation for imparting employability competencies among learners.

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