Challenges facing implementation of Competency-Based Education and Training (CBET) system in Tanzanian Technical Institutions

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1 author:

Mariam Tambwe
College of Business Education, Dar Es Salaam
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Challenges facing implementation of Competency-Based Education and Training (CBET) system in Tanzanian Technical Institutions

Mariam Ally Tambwe

Assistant Lecturer, Department of Marketing, College of Business Education, P.O Box 1968, Dar Es Salaam. Mobile phone: +255 754 279 433/+255 715 279 433

Email: mrmally2000@yahoo.co.uk or m.tambwe@cbe.ac.tz

Abstract

Competency – Based Education and Training (CBET) is a leading paradigm for innovating technical and vocational education and training (TVET) today. This paper investigated the challenges facing the implementation of the CBET system in Tanzania Technical institutions. The study employed a mixed research approach which utilized an exploratory research design. The study utilized the sample of 150 teachers from the College of Business Education (CBE), Tanzania Institute of Accountancy (TIA) and the Dar Es Salaam Institute of Technology (DIT), three deputy rectors dealing with academics, nine Heads of Departments and two officials from the National Council for Technical Education (NACTE). Questionnaires, interviews, literature reviews and observation were used in order to allow for triangulation. The quantitative data were analysed using descriptive analysis like percentages, mean and standard deviation while qualitative data were analysed using content analysis. The findings reveal various challenges, including low understanding of CBET concept, lack of support facilities and resources, large number of students in classrooms, lack of motivation to some teachers due to unfavourable working conditions, and low students’ cooperation attitude. These findings led to various opportunities including, provision of CBET pedagogy training to teachers to improve their understanding on CBET and enhance its implementation. Thus, it is concluded that, competency based teaching approaches are not well implemented in Tanzanian Technical Institutions and more efforts need to be devoted to the development of teachers’ and principals’ understanding of CBET approaches.

Key words: Competency – based Education and Training (CBET), Technical Institutions, challenges, implementation

Introduction

Competency-based education and training is not new, the approach was developed in the field of vocational training in the late 1970s. Competency based education and training (CBET) is an approach that emphasizes the development of skills or competencies which are actually required in the world of work. In CBET, the focus is shifted from the content or knowledge to outcomes derived from the requirements of employment (Kyobe & Rugamayo, 2005). It has been noted by various scholars that there are various challenges hindering effective implementation of CBET system. This study aims to assess the challenges facing the implementation of the CBET system in Tanzania Technical institutions.

Background of CBET in Tanzania

From independence, Tanzania has been working hard towards quality education as a response to societal needs and consciousness, new ways of thinking, practice, and methods of inquiry in education. In 2005, Tanzania introduced competency based education which led to the development of competency based learning and competency based assessment in secondary education (World Bank, 2011; Kafyulilo, et al. 2012). In 2006, competency based education was introduced in primary education as well (Woods, 2008). Since 2006 when competency-based education became operational in both primary and secondary schools, there have been serious financial and human commitments to retrain and support teachers, head teachers and other education professionals to develop
the necessary competencies and confidence to effectively handle competency based education (Woods, 2008; Kafyulilo, et al., 2012). The introduction of competency based education is the second major pedagogical change in the country after the first change that took place in 1967, when education for self-reliance was introduced.

In Tanzania, the shift from knowledge-based education and training (KBET) to CBET system is influenced by the Development Vision 2025, which advocates Tanzania to be a nation with high level of education at all levels and which produces the quantity and quality of people sufficiently equipped with the requisite knowledge and skills to meet the challenges of development at local and international levels (URT, 1991). It is hoped that by adopting the CBET system, technical institutions will be able to produce people who are competent in their workplaces and who can spearhead the country to its desired vision (Mrowicki, 1986; Weddel, 2006; Thinkwise, 2007; Kafyulilo, et al. 2012). Now it is about 10 years since its inception, but its implementation is still questionable and is faced with various challenges which hinder its success. In this paper, we focus on assessing the challenges facing the implementation of competency based teaching approach used in Tanzanian technical institutions in order to identify challenges hindering effective implementation of the competency based education and training.

Statement of the Problem

Although it is now about ten years since the inception of CBET in technical institutions, there is no clear evidence of its appropriate implementation in these institutions. The main implementers of CBET system are teachers, but there is a very big challenge in the preparation and recruitment of the teachers. The basics for technical teaching require the teacher to possess subject knowledge, pedagogic experience and practical skills (European Commissions, 2015; Jeanne, 2014). The current situation in most technical institutions does not consider the possession of the three basic requirements. Teachers are recruited based on only possession of subject knowledge after passing university degree, but lacking pedagogical and technical skills. The responsibility is left to employer to provide short term on the job training on pedagogy which mostly does not reap the expected impact as teachers are already influenced by the long time knowledge based system in their prior education systems.

In addition, although the government of Tanzania claims its education system to follow CBET approach after reviewing the education policies from pre-primary, primary, secondary and TVET, there is no evidence from research which indicates the extent of CBET implementation. The author has reviewed various studies (Kayafulilo, et al. 2012; Makunja, 2016; EU, 2015; Wood 2007; Alphonce, 2008; Mgalla and Mbulanya, 2008; Komba and Nkumbi, 2008) which reported a shortage of well qualified and expert teachers to implement CBET system. In these studies, it was found that, to a large extent teachers still teach using traditional instructional approach and students learn through memorization. This study aims to assess the challenges facing the implementation of competency based teaching approaches in Tanzanian technical institutions. This main objective is further sub-divided into four specific objectives:

i) To identify the teachers’ level of CBET understanding
ii) To examine the extent of teachers CBET practice/implementation in classes
iii) To identify challenges hindering effective implementation of the CBET system in Tanzanian Technical institutions
iv) To propose strategies to ensure proper implementation of the CBET system in Tanzania

Literature Review

Conceptual Definitions

Competency

Various authors have defined the concept of competency. According to Jallow (2011) a competency is a statement of learning outcomes for a skill or body of knowledge. He adds that when students demonstrate a competency, they are demonstrating their ability to do something (showing the outcome of the learning process). Sullivan (2005) views competency as a set of skills, knowledge and behaviours’ someone needs to have achieved in order to perform tasks, or activities at school and in the world of work. Kouwenhoven, (2003:126) adds, “… it is the capability to choose and apply an integrated combination of knowledge, skills and attitudes with the intention to realize a task in a certain context, while personal characteristics such as motivation, self-confidence, and willpower are part of that context.”

In this study competency refers to an integrated set of skills, knowledge, and attitudes that enable one to effectively perform the activities of a given occupation or function to the standards expected at school and later in public, in the private sector or for self-employment.

Competency Based Education/Training

Education that is focused on what students can do, rather than what they can learn about, is competency-based education. Training to become a competency-based educator requires studying various teaching and learning theories that focus on learning outcomes with specific, measurable definitions of knowledge, skill and learner behaviour. Competencies are a set of skills, knowledge and behaviours someone needs to have achieved in order to perform tasks, jobs or activities in the world of work (Hager & Hyland, 2003).

Conceptual framework for CBET system

As a model for CBET design and implementation, the approach is typically one, which controls and assesses learning through establishing preset objectives and outcomes, which might relate to skills, attitudes or values. Figure 1 below provides a model for the
The technique for constructing a competency-based program involves backwards planning and asks the question, what do students’ need to learn to become successful adults. The question is answered by convening meetings with business, politics, social, cultural and environmental sectors (stakeholders) to define the criteria for success. These become external standards for success. Educators/teachers then take this information and convert it to learning outcomes or specific statements of behaviour that students must perform which becomes the educational standards as well as defining when these standards should be mastered for each education level.

After knowing what students need to learn at each education level, then define what needs to be learned. Since most institutions teach subjects, specific outcomes need to be extracted from the external standards to define curriculum for a specific subject. This is one reason why some educators supported interdisciplinary curriculum because it aligns better with real world outcomes.

With the creation of minimum performance standards that indicate the lowest level of performance acceptable, it is then possible to create a curriculum and the means to assess student performance related to the curriculum (Lorna, 2005).

The minimum standards also provide a framework for creating assessments. Assessment is much broader than testing. What is key here is that assessments are aligned with the curriculum which, in turn, is aligned to the standards, and that they measure learning in terms of how students perform using a real world situation as much as possible. This approach is referred to as contextual learning.

To ensure that curriculum and assessment are implemented properly, educators/teachers must consider developing appropriate instructional materials to support learning activities. In addition, teachers will need to be trained in how to use the new materials since the methodology of CBET system requires shifting from teacher to student-centered approach.

This professional development is a key component in CBET so that teachers can continually improve on how they implement a quality educational system. Teachers should continually undergo trainings which will sharpen their knowledge and skills so that they can disseminate proper competencies to the students.

To determine effectiveness and ensure CBET is implemented properly, M&E system is needed. Over time, the M&E system provides feedback to different parts of the system so that adjustments can be made, whether changing standards and tests, or revising training modules. M&E should be within institutions and outside to see the employability and performance of graduates in the job industry. M&E should also be done in input, process as well as output in order to ensure smooth implementation of CBET in the country.

This description is admittedly brief but sufficient to gain some understanding of what a CBET system should resemble. It is within this framework that the new national CBET will be analysed. The author feels that, the approach is not implemented systematically as it is supposed to be. Thus, she decides to conduct this study in order to identify the challenges facing CBET effective implementation as well as proposes strategies on how to overcome the identified challenges.

Methodology

The author acknowledges that there is no single research method which is adequate or suffice in collecting reliable and valid data as explained by various scholars (Robson, 2002; Creswell, 2005; Saunders et al., 2009), this study employed a mixed research approach which utilized an exploratory research design as a means of offsetting the weakness or biases found in one method application. The study adopted an exploratory research design because according to Robson, (2002), an exploratory study is a valuable means of finding out ‘what is happening; seek new insights, ask questions and to assess phenomena in a new light”. Thus, it gave new insights of the challenges facing CBET system implementation in Tanzanian technical institutions. The study utilized the sample of 150 teachers from the College of Business Education (CBE), Tanzania Institute of Accountancy (TIA) and the Dar Es Salaam Institute of Technology (DIT) who were randomly sampled, three deputy rectors dealing with academics, nine Heads of Departments and two officials from NACTE who were purposively sampled by virtue of their positions. Questionnaires, interviews, and literature
reviews were used in order to allow for triangulation. Questionnaires were personally administered to 150 teachers and deputy rectors, heads of departments and NACTE officials were interviewed. The quantitative data collected were analysed using descriptive analysis like percentages, mean and standard deviation while qualitative data were analysed using content analysis.

Findings and Discussion

The Level of teachers understanding about CBET

Findings have indicated that, majority of lecturers (60%) believes to have sufficient knowledge of competency based teaching approaches and rate their understanding of CBET as moderate.

The extent of teachers’ practice/ implementation of CBET in classrooms

As it was for the level of CBET understanding, 50% of teachers perceived their practices rate of CBET implementation to be moderate. However, the majority of them (78%) were not able to prepare a competency based lesson plan and even deliver lessons using CBET approaches. The author observed the teachers using traditional instructional approach in teaching.

Challenges facing CBET implementation

The data collected from the interviews and questionnaires show that the challenges facing the implementation of CBET in Tanzania technical institutions are as indicated in figure 2 below and explained hereunder

![Figure 2: Challenges facing CBET Implementation](image)

Lack of teachers’ on the job training about CBET

The findings confirmed that lack of properly trained teachers was one of the major challenges hindering effective implementation of CBET. About 120 respondents (80%) showed that lack of teachers’ on the job training about CBET limit teachers’ pedagogical knowledge and skills to apply CBET approaches during teaching and learning process. From the interviews one head of department from institution C explained:

“…. Teachers have not received intensive training on the job about CBET hence most of them lack the required knowledge and skills on CBET which hinder its effective implementation in Tanzanian technical institutions”.

Another interviewee claimed that:

“…. In our institution sometimes we provide short courses on CBET for new teachers, but the time for training is too short and the coverage cannot provide the required CBET knowledge and skills which hinder its successful implementation. (One of the Deputy rectors interviewed)
“.... the textbooks and reference books are not enough to satisfy the number of our students, even the available books do not reflect the current curriculum and lack clarity on how to teach as per CBET requirements. In the case of classrooms, library space, computer laboratory, computers, etc. the situation is worse”

Insufficient teaching and learning facilities/resources hinder effective implementation of CBET and students cannot develop the independent learning skills, problem-solving, and inquisitive minds that deprive them the opportunities to be competent and skilled.

**Large class size**

Large class size was another challenge which outlined by the majority (85%) of the respondents. The number of students in the classroom was too big for the capacity of the class and cause overcrowding. The author observed that in some institutions surveyed the teacher student ratio ranged from 1: 90-100 or higher which is against NACTE standards which require the ratio to be 1:45. In this situations teachers failed to implement CBET method. One head of department interviewed complained that:

“…… classes are overcrowded in such a way that it is difficult to move around and interact with students. Imagine I teach a class of more than 100 students and I teach 4 streams for one subject. I have 3 different subjects to teach in such an environment. Will I be able to complete the curriculum on time if I apply CBET method?

From the above finding it is clear that large class size tends to affect student-teacher interactions and even prevent students-students exchanges during discussions in the class. This hinders CBET system implementation and teachers fail to apply learner-centered interactive methods as required by CBET systems.

**Low students’ cooperation attitude**

The results from the respondents show that there is a low students’ cooperation attitude to accept the CBET system. The descriptive statistics show that 68% of the respondents reveal that students extended low cooperation to teachers who tried to involve students in the teaching and learning process in order to trigger creative, problem solving attitude and inquisitive mindset. Students were not cooperative when given class activities requiring them to solve problem and think critically as they are used to spoon-feeding approach which is based on memorization and cramming. Students of primary and secondary schools have not been oriented to learner centered approach.

**Teachers’ and students’ educational culture and background**

The results from the questionnaires reveal that 52% of the respondents contested that their education background detain them to the effective operationalization of CBET as they have been studying using traditional teacher centered approach and it is now very difficult for them to adapt the new approach. One interviewee explained that:

“.... To speak the truth, I find it very difficult to apply this approach in teaching as I have no experience with it. I am teaching using the style of my teacher. To adapt to this new approach I need time, training and good working environment”.

The Implicatons for these findings is that teachers’ educational culture and background hinder them to adjust to this new teaching and learning approach. There is a need to review curriculum from lower levels, such as pre-primary, primary and secondary education in order to prepare students for CBET system.

**Lack of institutional support**

The results confirmed that lack of institutional support was one of the major challenges hindering effective implementation of CBET. About 69 respondents (46%) showed that lack of institutional support limits CBET effective implementation in technical institutions. One interviewee complained that:

“ …. The institutions have to create conducive and friendly teaching and learning environment for effective CBET implementation. I will give you a few examples in our institute, we were supposed to prepare teaching manuals to suit CBET system after reviewing the curriculum, but the management refused to facilitate the process because it needed to pay teachers for that task. If you take the issue of students overcrowd in classes, it is done purposely because if students will be divided into small class teachers will have more teaching hours and have to be paid overtime for extra classes. The institutions being too conscious of cost have jeopardized CBET implementation in one way or the other. Even the issue of CBET on the job training is not taken seriously by institutions”.

These results are in line with results from other studies (Kyobe & Rugamoyo, 2005; EU, 2015; Mosha, 2012; Makunja, 2016 and Kyafulilo, et al., 2012).

**Strategies to Overcome the Challenges**

In the questionnaires and interviews administered respondents were asked to propose strategies on how to overcome the identified challenges in implementing CBET in Tanzanian technical institutions. The results are presented hereunder as follows:

**Provision of teachers’ on the job training on CBET**

About 138 (92%) of the respondents insisted that teachers should be trained regularly through seminars and workshops so as to update their knowledge and
skills in order to meet the fast changing technology and job market demands. One deputy rector interviewed recommended that:

“..... Training is a right for an employee, institutions and the government should provide frequent teachers’ on the job training for the sake of updating teachers’ knowledge and skills for effective implementation of CBET system. I propose the training should take a long time like 3 months to one year so as to equip teachers with the required competencies”.

From these results, it implies that, it is mandatory for institutions to provide frequent teachers’ on the job training as it helps them to update their skills and progress professionally.

Provision of teaching and learning facilities/resources

To overcome this challenge it was proposed that, NACTE which is the supervisory body for technical institutions to inspect the institutions from time to time through surprise visits to see the availability of all the required resources for effective CBET implementation. About 79% of the respondents recommend development of book and training manuals relevant to CBET system, as the majority of the available books is too old and was designed for knowledge based system and do not fit CBET system.

Reduction of class size to the NACTE quality standards

The majority of respondent, 68% proposed that institutions should adhere to NACTE quality standards for the class to have 45 students. This will be beneficial to both teachers and students and will lead to improved performance of students as teachers will have manageable class size hence be able to assist students with learning difficulties.

Students’ orientation of CBET from lower education levels

In order to boost students’ attitude towards CBET, 60% of the respondents proposed that, students should be exposed and oriented on CBET from primary schools so that they will be used to learner centered approach. Exposing students in CBET from primary schools will help to create a competent workforce who are problem solvers in the society.

Provision of the required institutional support

About 58% of the respondents recommended timely provision of the required institutional support by creating conducive and friendly teaching and learning environment, providing on the job training, providing the required teaching and learning facilities/resources, providing effective monitoring and evaluation mechanism to evaluate implementation of CBET system and motivate teachers who strive hard to implement CBET system.

Conclusion and Recommendation

This study concludes that teachers’ understanding of CBET is moderate. The majority of teachers (78%) were not able to prepare a competency based lesson plan and even deliver lessons using CBET approaches. Tanzanian technical institutions face many challenges which hinder effective CBET implementation. In the light of these challenges various opportunities emerged, including, the provision of CBET pedagogy training for teachers. Institutions were recommended to extend the required institutional support timely and the government through the ministry of education is advised to ensure that the reviewed policies are well implemented as planned from primary education onwards in order to meet the country’s development vision of 2025.

Policy Implication

- The policy makers should introduce and enforce registration and licensing requirement for teachers at technical institutions.
- Regulatory authority (NACTE) should follow – up technical institutions to ensure effective implementation of CBET.

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