Assessing the extent of application of Competency Based Education and Training approach in classroom instruction in Technical and Vocational Education Training institutions in Kenya

ABSTRACT

Aims: The major purpose of this study was to assess the extent of application of CBET approach in classroom instruction

Study Design: The study utilized the descriptive survey research design.

Place and Duration of Study: The study was undertaken in TVET institutions in the North Rift Region, Kenyabetween March 2021 to June 2021.

Methodology: Purposive, stratified and simple random sampling was used to sample 280 respondents.The study included 280 respondents of which 152 were males and 128 females with an age range of 35 – 56 years.

Results: This study targeted Principals, 6 Industrial Liaisons Officers (ILO), 285 trainers' and 18 Industrial Supervisors who were associated with either TVET institution or industry. From the total sample size of 285, 98.2% representing 280 questionnaires for trainers were positively responded to the case request. Findings showed that application of classroom instruction has a moderate positive and significant influence on integration of CBET approach in TVET institutions ($r = .476$, $P< 0.001$).

Conclusion: The present study rejected the null hypothesis and concludes that the relationship is statistically significant. The sample data support the notion that the relationship between the independent variable and dependent variable exists in the population of TVET institutions in the North Rift. Thus the hypothesis (H_{o1}) was rejected. This implies that application of classroom instruction influences integration of CBET approach in TVET institutions

Key Words: Application of CBET approach in classroom instruction in TVET institutions in the North Rift Region, Kenya

1. INTRODUCTION

A lot of enthusiasm for Competency Based Education and Training (CBT) approach was noted when training packages were introduced in 1996. Not long after, the National Centre for Vocational Education Research in Bonn, Germany engaged a team of scholars to research on CBET and their findings were published in the late 1990s. For a beginning, a great part of research posits that competence is a more extensive idea than the capacity to perform work environment assignments. From that point forward, there has been a constant flow of knowledge; some have been from Australia, and a significant part of the latest material coming from Europe and the United Kingdom (Benjelloul, 2017). This has been necessitated by concerns about training from both providers and industry over its quality. If they have no consumer experience with training, industry is especially dubious of the standard and quality of it. This is in accordance with a baseline survey on CBET implementation in TVET conducted in Ghana by JICA (2008), which found a weak connectivity between theory and practice, which was attributed to the lack of industry involvement in TVET academic programmes.

Countries all around the world recognize that in order to remain economically competitive and maintain and encourage investors, they must acquire and develop the necessary information, skills, including values. More so the policies for skills development must meet the needs and expectations of learners, local employers and the wider society. As a result of major political, economic, and social trends, TVET is currently undergoing a transformation. Efforts are being

made to come up with relevant ideas and strategies for dealing with TVET's new challenges. In the last 25 years, as youth unemployment has worsened, new forms of production have emerged, and globalization has raised demand on education and training systems to promote national growth, these reforms have become more urgent (Bumen, Cakar, 2014).

From 2005, many countries including aid agencies such has UNESCO and the World Bank have had a deliberate attempt and a shift in focus from issues of general literacy through EFA and UPE to specific aspects such as skills development in TVET for employability, effective citizenship and functional literacy for the world of work (Kelechi, 2020).

Singapore today is a modern city-state and global centre for industry, business, finance and communications. As a young nation, the educational and training approaches were revised, improved and reformed to stay relevant and responsive to the requirements, of graduates, labour market and society. By religiously sticking to its missions and vision, Singapore has developed an exemplary brand of TVET that is widely appreciated by its citizens and the world for its relevance, quality and values in a global economy (Bahl&Dietzen, 2019). Coupled with the economic reform trends, the TVET transformed in light of the changing human resource needs. The education and training system guaranteed that graduates from the different learning institutions had the critical expertise for the numerous new occupations, which emerged in a rapidly developing economy.

The government of Finland acknowledges that TVET plays a critical role in increasing economic competitiveness and development. Since 2008, the government has implemented the strategy that goes for fortifying the system of TVET suppliers who have been urged to converge and work together for better service delivery. TVET is offered both to youngsters and grown-ups engaged in economic activities. TVET organizations are asked to build up their provision in cooperation with the world of work, and to support competence development within small and medium sized enterprises. The government, through foresight endeavors, attempts to deliver data about the sorts of abilities and talented individuals required later in the labour market and the means in which this requirement can be satisfied through the learning process (UNESCO-IBE, 2012). TVET is consistently enhanced in Finland through national development programmes and ventures.

Lately, key advancement regions have included; meeting the changing demands of the labour market, participation between TVET suppliers and the labour market, the status of TVET education in terms of quality, acknowledgment of prior learning, broadening of learning situations, upgrading effective application strategies, decreasing drop-out rates and improving the image of TVET (Finish National Board of Education, 2010). The Ministry of Labour and Employment in India has developed a National Policy on Skill Development. The purpose is to ensure India's competitiveness in the dynamic global market by developing a workforce with expanded aptitudes, learning, and generally recognised qualities for employability. It aims to boost employee productivity in both the organized and unorganized sectors, as well as to coordinate efforts from diverse sectors and overhaul the protection system.

Education spending has played a crucial influence in South Korea's rapid and sustained growth. The goal of developing strategies has been to achieve consistent productivity growth by enhancing the value-added of output. A highly educated workforce was required to do this. Current changes and new innovations in South Korea in the improvement of aptitudes and the workforce for the knowledge-based economy acknowledges and stresses that: proper training and learning is paramount, training for the labour market to meet the specific needs of commercial enterprises and different sections of the economy and the need to keep abreast with the changing needs of the economy (Park, 2020).

In this framework, Technical and Vocational Education and Training (TVET) plays an important role in developing the skilled workforce needed to accelerate the country's economic transition. As a result, strategic planners in various African countries, as well as international donors, now realize the value of TVET in national development. The growing importance of TVET among

African governments is evident in the many Poverty Reduction Strategy Papers that governments have produced in collaboration with the World Bank. It has recognized and designated the TVET sub-sector as one of its top goals for poverty reduction.

Ghana combines professional vocational learning with youth training and the advancement of highly specialised and entrepreneurial competences; Lesotho and Rwanda combine professional vocational learning with youth training and the improvement of specialized and entrepreneurial aptitudes; and Lesotho and Rwanda combine professional vocational learning with youth training and the improvement of specialized and entrepreneurial aptitudes Chad, Ethiopia, Guinea, Senegal, Sierra Leone, Uganda, and Zambia are among the nations that have prioritized TVET activities in their national development goals.

Kenyan government created the TVET policy in 2012 to steer the reform of the TVET sector and provide knowledgeable and employable graduates to help Kenya achieve its Vision 2030 goals. Kenya's Vision 2030 is built on a foundation of science, technology, and innovation in the economic, social, and political spheres. Competency Based Education and Training (CBET) have lately been integrated into the Kenyan education system by policy makers and managers of TVET institutions, thanks to the new TVET policy in effect since 2012. Students' placement, monitoring, and assessment are all ensured by collaboration between training schools and industry. Stronger collaborations between industry and TVET universities will pave the way for proper training and educational program development (Mordi, 2020).

Along those same lines, the TVET sector must address the large number of students graduating from secondary education each year, high rates of poverty, and, most pertinently, the need to match skill training with actual industry demands as well as create a deliberate link between TVET educational programs and Kenya's Vision 2030 aspirations. The accomplishment of Vision 2030 is dependent on the sheer numbers, abilities, and nature of Kenya's labor force. As a result, TVET will need to undergo a major transformation to allow for the following: re-alignment of TVET programs to national goals and market needs, and, most importantly, the establishment of competency-based training in TVET programs (Mordi, 2020). As a result, not only must new people be trained, but existing trained staff must also be retrained.

From the arguments above, it is clear that, a TVET framework takes the centre stage in the social and economic advancement of a country. The issue today is less about the worth and significance of TVET but how to guarantee its pertinence, responsiveness and quality in a competitive international economy. This concurs with the study findings done by Agrawal and Agrawal (2017) which noted that given the predominant economic trend, two other significant destinations have been recognized and which must now be pursued: to train the workforce for self- employment; and to raise the productivity of the informal sector.

In Kenya, the establishment of the TVET policy in 2012 led to the introduction of CBET approach geared towards enhancing quality training for the achievement of Kenya Vision 2030. However, since the policy came into place in 2012, one can ask, what has changed in TVET institutions as far as the integration of CBET approach for quality training is concerned? If this is not done urgently, then the training of innovative, creative and responsive skilled workforce for industry and for the realization of Kenya vision 2030 would be a mirage. According to Tarno and Omondi (2014), one needs to determine if the TVET training, as offered currently in Kenya, and progressively, meets the needs of the 21st century Kenyan worker. This is reinforced by the findings of Ogola, Thumbi, Ondieki, Nyakoa and Akumu (2012), who observed that there is nothing designed, by our own trained engineers which has been recorded. This could be the reason for the rise in unemployment rate in Kenya from 12.7 percent in 2006 to 40 percent in 2011 and more so 13.1 percent for the youth aged 20-24years (Kenya National Bureau of statistics, 2013). In this case North Rift is not an exception. A study in one of the TVET institutions in the North Rift showed that quality teaching was in doubt as many results inclined towards inefficiency (Maingi, Cheptoo, Mbeke, Musembi&Gitau, 2014).

Stakeholders anticipate that the integration of CBET will assist close the skills gap among TVET graduates and provide necessary skills and knowledge to satisfy the demands of the country's numerous economic sectors. This means that there is a sense of urgency on its integration to enable the country to match training of technical skills with the actual demands of economic sectors and create a deliberate connection between TVET syllabus, training approach and the aspirations of the Kenya Vision 2030. Industry participation in CBET is crucial to ensure that training programs match with the needs of industry so as to reduce skill shortages and unemployment and to improve productivity. This study therefore, examined the extent to which the integration of CBET model for quality training has been entrenched as a strategy for meeting the demands of the labour market and hence the realization of Kenya Vision 2030

1.1 Objectives of the study

The study was guided by the following objectives:

i. To assess the extent of application of CBET approach in classroom instruction in TVET institutions

1.2 Research hypotheses

The study utilized the following hypotheses;

Ho_2: There is no statistical significant relationship between application of classroom instruction and integration of CBET approach in TVET institutions.

2. MATERIAL AND METHOD

The descriptive survey research design was used in this study. Creswell and Hirose (2019) consider sample survey to be more superior in terms of its ability to provide required information conveniently. The study was carried out in all the major 6 TVET institutions in the North Rift Region of Kenya.

The target population comprised the Principals, the trainers, industry supervisors, and Industrial Liaison Officers. The trainee supervisors in selected industries were also included to enable the researcher to ascertain the impact of CBET on the training. Simple random sample, stratified sampling, and purposive sampling were used in this investigation. Since the number of the well-established institutions in the north rift is small, the researcher included all of them in the study leading to a larger percentage of the sample as advocated by (Sharma, 2017). The Principals, Industrial Liaisons Officers and industry supervisors were selected purposively for the study. These respondents were selected purposively because of their strategic positions and roles in the implementation of CBET in TVET institutions. The Principals, ILO, Industry supervisors were interviewed while the trainers were issued with questionnaires to fill.

The following data collection and instrumentation were used in this study: questionnaires and interview schedules. A 5-point rating scale was used to score the responses. It had the following scores; 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree. To determine the minimum and maximum length of the 5-point rating scale, the range was calculated by (5 – 1 = 4) then divided by five as it is the greatest value of the scale (4 /5 = 0.80). Afterwards, onewhich is the least value in the scale was added in order to identify the maximum of this cell. The length of the cells was given as 1 – 1.80 (Strongly Disagree); 1.81 – 2.60 (Disagree); 2.61 – 3.40 (Undecided) 3.41 – 4.20 (Agree); 4.21 – 5 (Strongly Agree). In the case of open-ended questions to be used, the researcher gave an opportunity the respondents to leave an insight into their feelings, hidden motivations, interest and decisions (Creswell & Hirose, 2019). The questionnaires will be administered to the lecturers, industry supervisors and the trainees.

A pilot study was done in one of the well-established TVET institution in South Rift, to determine the reliability of the questionnaires. This will eliminate pre-empting the study in the institutions in the North Rift. The TVET institution involved in the pilot study was not be involved in the actual research study (Ayiro, 2012). With the support of six research assistants, the questionnaires were

administered by the researcher to the trainers, principals, industrial liaisons officers, industry supervisors and trainees of TVET institutions.Qualitative data was analyzed qualitatively using content analysis based on analysis of meanings and implications emanating from respondents' information and document analysis.

3. RESULTS AND DISCUSSION

3.1 Application of CBET In Classroom Instruction

This section analyses, interprets, presents and discusses descriptive statistics relating to objective one of the study which was set to assess the extent of application of CBET approach in classroom instruction for quality training in TVET institutions. The findings are indicated in the following sub sections.

3.1.1 Instruction Facilitation Methods Used by Trainers

Trainers were asked to rate the extent to which facilitation methods were used in teaching and learning in the institution they were teaching. A 4-point rating scale was used to score the responses. It had the following scores; 1 = Very often; 2 = Often; 3 = Sometimes; 4 = Not at all. To determine the minimum and maximum length of the 4-point rating scale, the range was calculated by (4 – 1 = 3) then divided by four as it is the greatest value of the scale (3 /4 = 0.75). Afterwards, one which is the least value in the scale was added in order to identify the maximum of this cell. The length of the cells was given as 1 – 1.75 (Very often), 1.76 – 2.50 (Often), 2.51 – 3.25 (Sometimes), 3.26 – 4.0 (not at all). Data from the trainer's questionnaire regarding the instruction facilitation during CBET is presented in Table 1.

Findings in Table 1 indicate that 115 (41.1%) of the trainers adopted the direct/lecturer instruction methods very often during classroom instruction, 143 (51.1%) used often, 19 (51.1%) used sometimes while 3 (1.1%) never used this method at all. From the findings majority of the lecturers (Mean = 1.6786, SD = .64777) often used direct/lecturer methods for classroom instruction. This may impact negatively on the delivery of CBET which is skill based thus requiring more learner based approaches than lecturers direct involvement. With such an approach it is possible for a skill based economy to grow. Though direct trainer instruction doesn't impact much on skills based approach other learner centred approaches do impact. These finding are in line with Afeti (2014) who pointed out that in order for technical and vocational education to viably bolster industrialization, financial development, wealth creation and elimination of poverty, training must be of high caliber and competency-based, consolidate the utilization of advanced technology and innovations, be responsive to the needs of industry, productive, and versatile to the changing labor market.

Further findings in Table 1 indicated that 59 (21.1%) of the trainers adopted the discussion methods very often during classroom instruction, 151 (53.9%) used often, 60 (21.4%) used sometimes while 10 (3.6%) never used this method at all. From the findings majority of the lecturers (Mean = 2.0750, SD = .75116) often used discussion for classroom instruction. This method is useful in imparting skills to the trainees thus it's important to mention that the trainees may be gaining skills which are important in terms of CBET delivery.

Findings in Table 1 further indicated that 55 (19.6%) of the trainers adopted the small group methods often during classroom instruction, 157 (56.1%) used sometimes, 68 (24.3%) never used it at all. From the findings majority of the lecturers (Mean = 3.0464, SD = .66234) sometimes used small group methods for classroom instruction. This implies that majority of the trainees may be missing out on the advantages of using small groups such as addressing gaps in students' knowledge and skills, allowing students to discover and engage with a range of perspectives, ideas and backgrounds and assisting students in clarifying their attitudes to and ideas about the subject matter, as they test their own ideas and attitudes against those of others. These aspects are critical in CBET delivery thus the need for TVET institution to enhance small groups in order

to achieve CBET objectives such as preparing individuals for the challenges of the future; empowering students with knowledge and skills in various fields of study in a flexible educational program.

Table 1 further indicated that 13 (19.66%) of the trainers adopted the problem solving methods often during classroom instruction, 147 (52.5%) sometimes used it, 120 (42.9%) never used it at all. From the findings majority of the lecturers (Mean = 3.3821, SD = .5748) sometimes used problem solving methods for classroom instruction. This implies that majority of the trainees may be missing out on the advantages of using problem solving method. This is even indicated in the large percentage of trainers 42.9% who did not use problem solving skills at all. This may not augur well for CBET which require trainees to have skills that will enable them solve problems associated with electrical appliances, mechanical machines and computer related problems.

According to the literature reviewed by Guthrie et al. (2009), team-based approaches to teaching and learning result in considerable improvement. This means that groups of trainers are working together to develop a more holistic perspective of the learning experiences and how they will complement and add value to one another. These words may also include non-teaching colleagues collaborating with them and the students to deliver the most diverse range of experiences feasible. Support personnel in institutions and workplace "mentors" are examples of these "others." It's a shift toward an interdisciplinary, cross-organizational strategy. It also allows learners to become members of the teaching and learning 'team,' as well as assist their fellow students in learning. This teaching and learning style is supported by project and problem-based approaches. These techniques also have the sense of the 'real world' that the new perspectives of competence demand, allowing for the exhibition and assessment of a wide range of personal talents and knowledge, as well as interpersonal, collaboration, and other critical qualities necessary in the workplace.

Lastly, Table 1 further indicated that 16 (5.7%) of the trainers adopted the research methods often during classroom instruction, 112 (40%) used sometimes while 152 (54.3%) never used it at all. From the findings majority of the lecturers (Mean = 3.4857, SD = .60447) never used research methods for classroom instruction. This implies that majority of the trainees are not exposed to field related instruction that require research methods. This is a challenge to trainees who need to do a lot of research to an ever changing technology. This implies that trainees will find it difficult to handle new technologies, new tools and machineries that require up to date skills.

Though there is no single optimal technique of teaching, but a blend of several approaches according to the needs of the trainees, it is critical that CBET emphasizes learner-centered methods.

As a result, trainers must have the knowledge and skills to effectively use learner-centered methods rather than teacher-centered methods. Scaffolding, small group discussions, problem-solving, demonstration, question and answer, presentation to peers, mind maps, evaluation on jointly agreed criteria, learning by doing, mentoring and coaching, discovery learning, projects, SWOT analysis, problem trees, in tray exercises, buzz groups, visits or field trips, and role plays based on real-life scenarios are all examples of learner-centered teaching methods (Anane, 2013). The findings are presented in Table 1

Table 1. Trainers Descriptive Statistics on Instruction Facilitation Methods

CLASSROOM INSTRUCTION METHODS	Very often		Often		Sometimes		Not at all		Mean	SD
1. Direct/Lecturer instruction method.	115	41.1	143	51.1	19	6.8	3	1.1	1.6786	.64777
2. Discussion method.	59	21.1	151	53.9	60	21.4	10	3.6	2.0750	.75116
3. Small group			55	19.6	157	56.1	68	24.3	3.0464	.66234

	method.								
4.	Problem solving method.	13	4.6	147	52.5	120	42.9	3.3821	.57458
5.	Research method.	16	5.7	112	40.0	152	54.3	3.4857	.60447

3.1.2 Trainers Level of Application of CBET Approach in Classroom Instruction

Trainers were asked to rate the level of application of CBET approach in classroom instruction in their institution. A 5-point rating scale was used to score the responses. It had the following scores; 1 = Strongly Disagree; 2 = Disagree; 3 = Undecided; 4 = Agree; 5 = Strongly Agree. To determine the minimum and maximum length of the 5-point rating scale, the range was calculated by (5 – 1 = 4) then divided by five as it is the greatest value of the scale (4 /5 = 0.80). Afterwards, onewhich is the least value in the scale was added in order to identify the maximum of this cell. The length of the cells was given as 1 – 1.80 (Strongly Disagree); 1.81 – 2.60 (Disagree); 2.61 – 3.40 (Undecided) 3.41 – 4.20 (Agree); 4.21 – 5 (Strongly Agree).

Table 2 indicated that 112 (40%) of the trainers strongly disagreed that learners were active during classroom instruction, 47 (16.8%) disagreed, 7 (2.5%) were undecided, 74 (26.4%) agreed while 40 (14.3%) strongly disagreed. The findings indicated that majority of the trainers (Mean = 2.5821, SD = 1.5613) disagree that trainees' were active. This implies that trainees may not be actively involved in the CBET programmes in the TVET institution. As it will be discussed later under objective four this may be associated with the large class sizes that limits active participation of trainees. Again as discussed under the classroom instruction methods, majority of the trainers were using direct/ lecturer's instruction methods that makes trainees more of passive listeners. In the paper "Analyzing the labor outcomes of TVET in Ethiopia: Implication of problems and opportunities in productive self-employment of TVET graduates," Quesada-Pallarès(2017) looked at active engagement in CBET techniques. Those who participate in TVET programs are more likely to engage in active representation.

Table 2 further indicated that 13 (4.6%) of the trainers strongly disagreed that learners are assessed on an ongoing basis, 52 (18.6%) disagreed, 10 (3.6%) were undecided, 84 (30%) agreed while 121 (43.2%) strongly disagreed. The findings indicated that majority of the trainers (Mean = 3.8857, SD = 1.27330) agreed that trainees' were assessed on an ongoing basis. This implies that trainees were receiving adequate assessment that is critical in CBET programme. This is essential to enable the trainees to move to the other levels in the CBET programmes.

Critical thinking, reasoning, reflection and action was investigated and as indicated in Table 2.10 129 (46.1%) of the trainers strongly disagreed that learners were critical, reasoned reflected and were action oriented, 70 (25%) disagreed, 5 (1.8%) were undecided 45 (16.1%) agreed while 31 (11.1%) strongly disagreed. The findings indicated that majority of the trainers (Mean = 2.2107, SD = 1.44253) disagreed that trainees' were critical, reflective, reasoned and were action based. This implies that trainees may not have acquired adequate skills that arise from critical thinking and being reflective in the CBET programme.

Similar finding were presented by a Principal in one of the TVET institution who affirmed that skills were integrated during CBET training;

> *Training in CBET emphasizes on skills. The courses are packaged in a manner to give trainees employable skills. In automotive courses systems are put together such as the cooling systems, suspension systems and wheel alignment. The approach to CBET is to identify a particular skill unlike the conventional training.*

This finding implies that there is integration of skills and knowledge, attitudes and values to the trainees. With this, TVET has to re-orient its strategy in order to constantly give exploratory and

specialized aptitudes in appropriate and responsive activities, and subsequently build up another era of human resources (Usman& Pascal, 2015).

Table 2 presented the level of involvement in regards to integration of knowledge, skills and attitude/values necessary to enable learning to be relevant and connected to the real work situations. The results showed that 99 (35.4%) of the trainers strongly disagreed requisite integration of knowledge, skills and attitude were not in place to enable learning that is geared towards real work, 120 (42.9%) disagreed, 17 (6.1%) were undecided, 31 (11.1%) agreed while 13 (4.6%) strongly agreed. The findings indicated that majority of the trainers (Mean = 2.0679, SD = 1.12914) disagreed that integration of knowledge, skills, attitude, values in learning in the TVET institution were geared towards linking instruction towards real work situations. This confirms the earlier sentiments on the minimum utilization of research based approaches to instruction that exposes trainees to real work situation. Implication of this is that trainees will find it hard to adopt while in the field when they graduate.

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Though learning approaches and level of adoption tended not to favor the trainees findings as indicated in Table 2 showed that the learning materials/packages were learner centered and the trainer was basically a facilitator. The findings show that 40 (14.3%) of the trainers strongly disagreed, 22 (7.9%) disagreed, 21 (7.5%) were undecided, 93 (33.2%) agreed while 104 (37.1%) strongly agreed. Majority of the trainers (Mean = 3.7107, SD = 1.40349) agreed that learning materials/packages were learner centered and that the trainer is basically the facilitator. This implies that CBET on paper or theoretically was discerning the objectives that it was meant to achieve. However practically challenges may be constraining TVET institution to achieve the intended purpose of the CBET programme.

Inductive approach that is geared towards developing a theory was investigated. Findings indicate that 30 (10.7%) trainers strongly disagreed that they facilitated training in which they moved from specific observations to broad generalizations, 48 (17.1%) disagreed, 8 (2.9%) were undecided, 72 (25.7%) agreed while 122 (43.6%) strongly agreed. The findings indicate that majority of the trainers (Mean = 3.7429, SD = 1.43370) used inductive based methods in class room teaching. This implies that trainees are able to solve a problem based on the skills that they are taught in class. Young (2007) provided similar findings, stating that as the straight transfer from school to work has all but vanished in the previous decade, new approaches to training should be developed and implemented. The greatest training is one that combines a variety of training and learning interventions, as well as one that encourages lifetime learning and professional advancement. Curricula may include generic (relate to a wide range of vocational disciplines) or specific knowledge, skills, and competencies (relate to a narrow vocational field). They might be theoretical (abstract or conceptual knowledge) or practical (knowledge in action) (manual skills, knowledge and competencies relating to particular utilitarian task). Theoretical knowledge, skills, and competences are often generalist, whereas practical knowledge, skills, and competencies are typically specific (Gassokov, 2006).

Results further support the theoretical actualization of CBET as earlier discussed about the packages and learning materials. Findings in Table 2 revealed that 29 (10.4%) of the trainers

strongly disagreed that Learning programmes are seen as a guide that allows facilitators to be innovative and creative in designing programmes, 33 (11.8%) disagreed, 9 (3.2%) were undecided, 77 (27.5%) agreed while 132 (47.1%) strongly agreed. majority of the trainers (Mean = 3.8929, SD = 1.37930) used learning programmes as a guide that allowed innovation and creativity in designing programmes. This implies that, indeed programs have been put in place to ensure that CBET succeeds. However, as it will be discussed under the constraints these programs have been hampered as results of other aspects such as limited and small workshops. On the contrary, Thobega*et al*, (2011), reported comparative discoveries in a study to decide the adequacy of field hands-on instruction for competence learning among trainers of Botswana Agricultural College. This underscores the desires that, hands-on training at the industry level reinforces the theory from the classroom and accordingly, enhances potential graduates to fit in the labour market. The discoveries too concur with the investigations of Boahin et al. (2014), on comparative hands-on teaching programs in Ghana and Zimbabwe respectively.

Responses from one of the Principal indicated that innovations have been carried out in the institutions as indicated in the following excerpt;

> *We had engagement though without CBET in mind. Some engagement though not related to CBET had the principles of CBET. Examples of these innovations include the pumpkin production and the jiko energy saving stove.*

Guthrie et al, (2009) pointed out that approaches to instruction in the TVET may take varied approaches. According to him, these approaches may be based on a variety of traditions. A teacher-directed method is one of them. This is predicated on the teacher being the primary focus and providing access to much of the knowledge and skills that a learner will require. Simply said, the teaching strategy focuses on students seeing professors as the "sage on the stage." This is due in part to the high regard with which vocational teachers are held in some societies, whereas in others, this regard was never there or has altered. The 'guide on the side' tradition is the second, in which the instructor plays a crucial role in assisting rather than driving learning. In a more mature TVET system, this second tradition is gaining traction. Table 2 further presented the learners responsibility for their learning and whether learners are motivated by their constant feedback and affirmation of their work. The results showed that 106 (37.9%) of the trainers strongly disagreed, 87 (31.1%) disagreed, 28 (10%) were undecided, 4 (15.4%) agreed while 16 (5.7%) strongly agreed. The findings indicated that majority of the trainers (Mean = 2.200, SD = 1.25410) disagreed that learners take responsibility for their learning and that learners are motivated by their constant feedback and affirmation of their work integration of knowledge, skills, attitude, values in learning in the TVET institution. These findings are in line with Smith and Dalton (2005), who pointed out that a good instruction, is now understood to involve a process of facilitating learning rather than being merely the transmission of knowledge from teacher to learner.

Table 2 further presented emphasis on the outcome of CBET (what the learner becomes and understands). The results showed that 29 (10.4%) of the trainers strongly disagreed, 46 (16.4%) disagreed, 24 (8.6%) were undecided, 69 (24.6%) agreed while 112 (40%) strongly agreed. The findings indicated that majority of the trainers (Mean = 3.6750, SD = 1.40586) agreed classroom approach was geared to what the learner becomes and understands. This implies that the TVET institutions have embraced the major purpose of CBET in their curriculum instruction.

Interview response from one of the industry supervisor indicated the wholeness of the CBET as indicated in the following excerpt;

> *The whole course brings out talents amongst the trainees. In our case of automotive industry, the trainees are subjected to a multitude of skills that enable them to develop every talent inherent in the trainees. Therefore the training should be holistic and have an array of talents being nurtured.*

Literature indicates that the emphasis in the new approach has also shifted away from teaching content and more towards facilitating learning and empowering learners (Gruthrie*et al*, 2009). The delivery of quality TVET is dependent on the competence of the trainer, measured in terms of hypothetical information, specialized and pedagogical aptitudes and more so being in touch with new technological advancements in the work environment (AU Department of Human Resource, 2015).

Trainers were required to rate whether learners have flexible time frames to enable them work on their own. Findings in Table 4.10 indicate that 116 (41.4%) of the trainers strongly disagreed that programmes were not flexible, 95 (33.9%) disagreed, 11 (3.9 %) were undecided, 45 (16.1%) agreed while 13 (4.6 %) strongly agreed. the results shows that majority of the trainers (Mean = 2.0857, SD = 1.22977) disagreed that flexible timeframes allows learners to work at their own pace. This implies that individual learners' abilities to apply the skills that have been learnt were not being fully applied. This may have resulted from the COVID – 19 pandemic that impacted on TVET programmes that led to loss of time. This made TVET institution to have crush programmes that had rigid programmes that could not allow for learners creativity and learning that was individualized.

Lastly, Finding in Table 2 indicated that 18 (6.4%) of the trainers strongly disagreed that supervisors spend more quality time with the trainees during practical training, 69 (24.6%) disagreed, 10 (3.6%) were undecided, 77 (27.5%) agreed while 106 (37.9%) strongly agreed. This finding shows that majority of the trainers (Mean = 3.6571, SD = 1.36663) supervised trainees in an effective way. This implies that the trainees get the required skills required for the CBET programme. Although supervisors' assessments are important in establishing the efficiency of the CBET, studies show that they need to spend more quality time with students during practical training in order to provide an accurate measure of trainee competencies. CBeT is an experience learning program, according to (James &Hauli, 2015), and its assessment must be real. According to Nyanjom, Goh andYang (2020), authentic assessment underpins the concept of competency-based training, which is directly related to task performance in the workplace. It necessitates assessors' actual presence to oversee the entire activity, not simply the end result or isolated components of it. Data from the trainers' questionnaire regarding the level of application of CBET approach in classroom instruction in their institution is presented in Table 2.

Table 2: Trainers Level of Application of CBET Approach in Classroom Instruction

Activity	SD		D		UD		A		SA		Mean	SD
1. Active learners	112	40.0	47	16.8	7	2.5	74	26.4	40	14.3	2.5821	1.56130
2. Learners are assessed on an ongoing basis.	13	4.6	52	18.6	10	3.6	84	30.0	121	43.2	3.8857	1.27330
3. Critical thinking, reasoning, reflection and action.	129	46.1	70	25.0	5	1.8	45	16.1	31	11.1	2.2107	1.44253
4. An integration of knowledge, skills and attitudes/values; learning is relevant and connected to real work situations.	99	35.4	120	42.9	17	6.1	31	11.1	13	4.6	2.0679	1.12914
5. Learning material/packages are learner-centered; Educator/trainer is a facilitator.	40	14.3	22	7.9	21	7.5	93	33.2	104	37.1	3.7107	1.40349
6. Facilitator uses “inductive” approach in facilitating.	30	10.7	48	17.1	8	2.9	72	25.7	122	43.6	3.7429	1.43370
7. Learning programmes are seen as a guide that allows facilitators to be innovative and creative in designing programmes.	29	10.4	33	11.8	9	3.2	77	27.5	132	47.1	3.8929	1.37930
8. Learners take responsibility for theirlearning; learners are motivated bytheir constant feedback and affirmation of their work.	106	37.9	87	31.1	28	10.0	43	15.4	16	5.7	2.2000	1.25410
9. Emphasis on outcome (What the learner becomes & understands).	29	10.4	46	16.4	24	8.6	69	24.6	112	40.0	3.6750	1.40586
10. Flexible time-frames allow learners to work at their own pace.	116	41.4	95	33.9	11	3.9	45	16.1	13	4.6	2.0857	1.22977
11. Supervisors spend more quality time with the trainees during practical training.	18	6.4	69	24.6	10	3.6	77	27.5	106	37.9	3.6571	1.36663

3.1.3 Hypotheses Testing

A correlation was carried out between application of classroom instruction and integration of CBET in TVET institutions (r = .476, *P*< 0.001). A significant positive correlation was observed between application of classroom instruction and integration of CBET in TVET institution. The correlation coefficient between application of classroom instruction and integration of CBET in TVET institutions was .476 indicating a moderate effect size. This correlation indicates that as application of classroom instruction increases, integration of CBET in TVET institution tends to increase.

The null hypothesis (H_o) stated that there is no statistically significant relationship between application of classroom instruction and integration of CBET approach in TVET institutions. However findings in Table 3 showed that application of classroom instruction has a moderate positive and significant influence on integration of CBET approach in TVET institutions (r = .476, *P*< 0.001). For the hypothesis test as presented in Table 4.17, the p-value equals 0.000. This p-value was less than any reasonable significance level. Consequently, the present study rejected the null hypothesis and concludes that the relationship is statistically significant. The sample data support the notion that the relationship between the independent variable and dependent variable exists in the population of TVET institutions in the North Rift. Thus the hypothesis (H_o) was rejected. This implies that application of classroom instruction influences integration of CBET approach in TVET institutions. Table 3 presents the results of the correlation.

Table 3: Pearson Correlation Results between Application of Classroom Instruction and integration of CBET

Correlations			
		Application of Classroom Instruction	Integration Of CBET
Application Of Classroom Instruction	Pearson Correlation	1	.476**
	Sig. (2-tailed)		.000
	N	280	280
Integration Of CBET	Pearson Correlation	.476**	1
	Sig. (2-tailed)	.000	
	N	280	280

**. Correlation is significant at the 0.01 level (2-tailed).

4. Conclusion

The approach and methodology of instruction was not learner friendly to the majority of the trainees. The popular approach was the direct or lecturer method of teaching. Majority of the trainers adopted the direct/lecturer instruction methods which were used very often as compared to other methods such as discussions, small group discussions, group discussions and problem solving. The study therefor concludes that this may impact on the delivery of CBET approach of instruction which is skill based in terms of content delivery. Assessment of trainees was done on a regular basis by trainers in the TVET institution because most of the trainers well placed to do the assessment. Critical thinking amongst trainees was not well established as a result of the methodology that was being used for teaching. The courses offered were packaged to give trainees employable skills.

CONSENT AND ETHICAL APPROVAL

The proposal was presented to KisiiUniversity and ethical clearance was obtained. After obtaining the ethical clearance, an application seeking permission to carry out a research was done to National Commission for Science Technology and Innovation and when the permit was granted, I paid a courtesy call to the County Director of Education UasinGishu. The introductory letter was provided to the Principals in the TVET institution. Approval from the Principalswas given. With the

ascent of the administrator, consent was obtained from the respondents by the research assistants under the supervision of the researcher. Only those Principals, Trainers, Industrial Liaisons Officers and Industrial Supervisors who consented to participate took part in the study. The respondents' personal identification information was not recorded for purposes of confidentiality and anonymity.

REFERENCES

Afeti G, Adubra AL. Skilling Africa: The paradigm shift to Technical and Vocational skills development. Association for the Development of Education in Africa. 2014.

African Union.*Strategy to Revitalize Technical and Vocational Education and Training (TVET) in Africa:* Final Draft, Department of Human Resource Science and Technology, Division of Human Resource and Youth, African Union, Addis Ababa: 2015.

Agrawal T, &Agrawal A. Vocational education and training in India: a labour market perspective. *Journal of Vocational Education & Training.*2017; *69*(2), 246-265.

Anane CA. Competency based training: Quality delivery for technical and vocational education and training (TVET) institutions. *Education research international* 2013;*issn*-l: 2307-3713, issn: 2307-3721 vol. 2 no. 2.

AnsahSK,& Earnest K. Technical and Vocational Education and Training in Ghana: *A Tool for Skill Acquisition and Industrial Development*.; 2013

Ayiro LP. A Functional Approach to Educational Research methods and statistics: Qualitative, *Quantitative and mixed methods approaches*, EdusonMellen Press, USA; 2012

BahlA,&Dietzen A. Work-based Learning as a Pathway to Competence-based Education. *management*.; 2019

Benjelloul FZ. *The Paradox of Sustainability in Morocco as a Developing Country: Ambitions and Challenges* (Doctoral dissertation, The American University of Paris (France); 2017

Boahin P, Eggink J &Hofman A. Competancy based training in International perspective. Comparing the Implementation Processes.Towards the Achievement of Employability. 2014; *Journal of Curriculum studies, 46:*6, 839-858, DOL: 1080/00220272. 2013.812680.

Bumen NT, Cakar E. Curriculum Fidelity and Factors affecting Fidelity in the Turkish context. Educational Sciences: Theory & Practice 2014; 14/1, 219-228

Choy S. and Haukka S. Industrial Attachments for Instructors in TVET Delivery. In (Maclean R.; Wilson D.(eds) International Handbook for the Changing World of Work: Brigding Academic and Vocational Learning Vol.3.;2009

Creswell JW, & Hirose M. Mixed methods and survey research in family medicine and community health. 2019; *Family Medicine and Community Health*, *7*(2).

Gasskov, V. ed. Vocational Education and Training Institutions: *A management handbook* and CD-ROM. Geneva: ILO; 2006

Guthrie H, Harris R., Simon M. and Karmel T. Teaching for teaching and Vocational Education and Training (TVET). L.J Salna. Dworkins (eds) *International handbook of Research on Teachers and Teaching*, 851-863; 2009

James S, Hauli E. Holistic Management Education at Tanzanian Rural Development Planning Institute. InManagement Education for Global Leadership 2017 (pp. 112-136). IGI Global.

JICA. 2008).*Report of Baseline survey of competency-based Training: Technical and Vocational Education and Training Support Project* (Ghana); 2008

Koul L. *Methodology of Educational Research*. New Delhi: Vikas Publishing House PVT ltd; 1990

Kelechi PO. Institutional Climate And Instructors Job Performance In Public Junior Secondary Institutions In Obio/Akpor Local Government Area Of Rivers State. 2020; *Journal of Institutional Leadership*, *2*(4), 723-740.

Maingi WL, Cheptoo C.,Mbeke BK, Musembi JK ,and Gitau G. The Effect of Quality Assurance on Teaching in Eldoret Polytechnic, Kenya. 2014; *Journal of Technology & Socio-Economic Development* Vol.3, June 2014. Eldoret Polytechnic, Eldoret.

Mordi CU. Collaboration of Industries with Educational Institutions for Effective Training of Students with Skills Needed for Sustainable Industries. Vocational and Technical Education Journal. 2020 Aug 13;2(1).

Nyanjom J, Goh E, Yang EC. Integrating authentic assessment tasks in work integrated learning hospitality internships. Journal of Vocational Education & Training.2020 Nov 2:1-23.

OgolaWO,Thumbi GM, Ondieki CM, Nyakoa M. and Akumu CT. *Re-orienting Engineering Proffessional Bodies Towards Industrialization for Sustainable Development in Kenya*; 2012

Park YC. History of Korean education and the fourth industrial revolution.History of Korean education and the Fourth Industrial Revolution. 2020:431-44.

Quesada-Pallarès C, Tacconi G, Dreher R, Sun B, Subasubani JK, Tamene EH, Shindi A, Hunde AB, Schrode NF, Rebollar-Sánchez EM, Zhao Z. Session 2-Establishment of a VET system with focus on Further Education: presentation of ideas on the motivation and establishment of a Further Education system (FES), especially in universities in Sub-Sahara Africa. InVocational Education and Development Symposium 2017 (pp. 134-218). W. Bertelsmann Verlag.

Sharma G. Pros and cons of different sampling techniques.*International journal of applied research.*2017*; 3*(7), 749-752.

Smith P. & Dalton J. *Accommodating learning styles: Relevance and good practice in vocational education and training*. Adelaide, Australia: National Centre for Vocational Education Research. 2005.

Thobega MK, Subair SK. &Oladele OI. *Supervisors' Perceptions of Student Competencies* After a Field Practical Training Class; (2011).