

COMPETENCIES FOR EMPLOYABILITY IN THE CIVIL CONSTRUCTION SECTOR: THE CASE OF CIVIL ARTISANS IN TANZANIA

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Abstract

The paper assessed the extent to which the training and learning process of civil artisans under vocational education and training meets civil construction employers' demanded competencies. Data were collected from trainers, learners, employees and employers through semi-structured interviews and structured questions. A qualitative exploratory approach was deployed with the help of MAXQDA2020 software. Content analysis was used to analyze documents and interview transcripts. It was found that to some extent the learning process captured employers to some extent despite several challenges on soft competencies which were seen demanded by employers. The article concludes that at least the hard competencies required for carpenters and masons were well covered by the curriculum and appreciated by employers although, outdated curriculum, inadequate teaching and learning resources, and exposure to practical work have a significant role to play and affect the employability of graduates. Despite, soft competencies including honesty, hard work, professionalism, and discipline were seen to be very important although there was no evidence that they were well imparted. Therefore it was suggested to collaborate with employers in imparting soft competencies.

Keywords: Competencies, Labour market, Employability and Vocational Education and Training, Civil Construction

Introduction

In today's global labour market, talents and competencies have been drivers for not only employability but also job creation in both the formal and informal sectors. There is a shortage of studies which show that in a knowledge-based economy where information technology and flexible adaptation to ever-emerging competitive production

and service provision systems require training and learning systems which focus more on talents and competencies than the traditional knowledge, skills and attitude learning paradigm (ILO, 2019; WEF, 2014; Kamin, 2013).

In line with the Tanzania Development Vision 2025 (TDV-2025), Tanzania's five-year development plan 2016/2021 focused on nurturing industrialization for economic transformation and human development (Ministry of Finance and Planning, 2016). The choice of this development path reactivated the need to have an adequate well trained and motivated cadre in various technical fields. Consequently, for the past five years, we have witnessed the renovation of old vocational education training institutions (VETIs) and the construction of new ones all over the country (Ministry of Finance and Planning, 2016). This strategy is part of ensuring that the increasing labour market for vocational competencies is well served in terms of numbers and quality (Marijani, 2017). For a start, some key sectors were targeted including manufacturing and construction (COSTEC, 2016). The National Five-Year Development Plan 2016/17–2020/21 (Ministry of Finance and Planning, 2016) indicates the intensification of construction of turmel roads, railways and hydroelectric power plants which calls for high demand in numbers and composites of civil graduates in welding, plumbing, carpentry, masonry and architectural activities (URT, 2019). All these strategies will meet national expectations if investment in human resources is also put into the right perspective.

Therefore, the paper examines the extent to which the process of imparting competencies to civil artisan career seekers meets the expectations of trainers, learners, employees and employers. Specifically the study expected to explain the findings based on three specific objectives,

- a) To examine the curriculum identified competencies for employability
- b) To explore employers preferred competencies from civil artisans in the civil construction companies
- c) To compare the competencies identified in the curriculum with those preferred by employers

Rationale of the study

First, there have been insufficient studies on investigating competencies for employability at VET where the impact of employment can be felt realistically. For instance, Tambwe (2017) focused on challenges facing implementation of CBET 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 examining competencies required for employment 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 curriculum identified competencies for employability 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 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 examine competencies for employment in civil construction companies at VET at this level is best as identified by ILO (2019) that VET graduates are essential and important in civil construction sector. By examining competencies for employment at VET the study is likely to add knowledge in the existing literature on the competencies preferred by employers in relation to what is imparted in the learning process. Fourth, the findings of the study might stimulate more studies in the area competencies identified in the learning process for human resource development in the knowledge economy which demands skilled human resources who are equipped with hard and soft competencies including mathematical reasoning, communication skills, teamwork, honesty, and flexibility in the working environment both in Tanzania and elsewhere in developed and developing world.

Literature review

Competency framework and consensus theory

Although the genesis of the concept of competency is not very clear, it started to appear more explicitly in the 1970s when psychologist David McClelland published his article in 1973 in the American Psychologist Journal "Testing for Competencies rather than for Intelligence". In his arguments in a way, he challenged the traditional view that training that enhances the acquisition of knowledge, skills and attitude was a sufficient indicator of effective job performance. His focus was on the power of individual behavioural attributes which are necessary for superior performance (McClelland, 1973). Boyatzis (1982) developed a model of organizational performance by taking on board employee competence as a determinant of performance outcome in organizations which is the main motivation of employers.

Competencies for employability are described as superior characteristics of job seekers which make them superior to others in the job market. Such characteristics combine possession of the right knowledge, skills and other personal behavioural attributes which help an individual meet specific and general job requirements and its context (Boyatzis, 1982). They focus beyond the traditional blooms learning model (Forehand, 2011) where much of the learners' learning process focused on acquiring specific knowledge and skills and developing appropriate attitudes toward work and performance. Competencies determine the individual potential for getting employment

and career progression not only in the formal but also in the informal sector (ILO, 2016; Boahin, 2015; Asian Development Bank, 2013). As it is well acknowledged, employability competencies do not only lead to employment generation but also, enhance wealth creation, improved performance and industrialization in any nation (Omran & Suleiman, 2017; Ayonmike, et al., 2014). They also ensure occupational mobility and represent tools for reaching consensus between trainers, trainees and employers on who is supposed to train, who is supposed to be trained, what to be learned, by who, for how long and how to measure the quality of graduates in competence terms (Garavan & Mcguire, 2001).

Consensus theory (Brown, et al, 2003) which has dwelled on explaining the relationships and expectations of those who prepare job seekers and those who employ them is relevant here because it is about the demand and supply of labour in the marketplace. It advocates for both trainers and trainees to understand the needs and expectations of employers before embarking on the training and learning process (Selvadurai, et al., 2012; Paadi, 2014). The consensus between competencies required and those to be supplied is seen to be a solution to wasteful training endeavours, career frustrations and chronic unemployment.

By using the language of competency framework (Spencer and Spencer, 1993), what employers need is a graduate with complete sets of generic, functional and personal competencies (WEF, 2019; ILO 2015; Geel, 2014; Baughman, et al., 2012; Armstrong, 2010; Spencer and Spencer, 1993; Boyatzis,1982). These sets include but are not limited to specific knowledge and skills pertaining to a specific sector, job and position but also possession of a wide range of related attributes such as resource management skills, physical abilities, communication, creativity and innovation, teamwork, problem-solving, customer care and continuous learning.

The synergistic power of competency framework and consensus theory in understanding the relationship amongst trainers, learners and employers and labour market dynamics is that although certain generic knowledge and skills for civil artisans are necessary and constitute generic and functional competences, soft competencies (soft//personal competencies) are not only important but necessary recipes in the curriculum development and implementation. Therefore, which sets of competencies matter most for civil artisans for a particular industry and job level should be the homework of training institutions and employers in the civil construction sub-sector to deal with; and henceforth, the consensus of the two should be the rule of thumb.

Empirical review

From the 1990s onwards, competencies for employability have become key instruments in employee recruitment and performance evaluation (Warsaw, 2014;

Armstrong, 2010). Nevertheless, the inadequacy of competencies has led to difficulties in attaining employment among graduates (EAC, 2016) and achieving development in any sector (Mella & Savage, 2018). To rescue the situation of inadequate desirable competencies, competency-based education and training (CBET) have become vital in the training systems including vocational training. The graduates under CBET were expected to perform better in jobs than those with traditional qualifications (Pavlova, 2019). Therefore, CBET fits well within the policy dialogues of employability competencies (Habtamu, 2016; Biemans, 2004).

Studies including OECD (2016); Ayub (2015) and Otaigbe (2015) indicated that competence-based vocational training was a critical vehicle in the process of developing employability graduates. Consequently, industrial development is evidenced in European countries, including Britain, Germany, China, South Korea, Singapore and India (Kim, 1991; Liu, 2015) and currently Asian countries (EAC, 2016).

Moodie, et al.(2016) have argued that graduates from VETIs have to possess a knowledge base of practice including theoretical knowledge needed to perform various activities including civil works. As noted by Mella and Savage (2018) that worldwide the civil construction sub-sector depends mostly on the workforce of civil artisans while in terms of employability 88% of VETIs graduates are able to be employed locally in the sector (UNESCO, 2021). According to URT (2017), civil artisans perform works of cement mixing, painting, brick making (clay or cement), demolition operations, motor vehicle helper, carpentry, plumbing, welding and masonry works. These works require a civil artisan to be able to design, construct and maintain projects including houses, roads, bridges, dams, water supply systems, costs estimation, prepare specifications for materials, inspect civil works and ensure finished works are within specifications (Nkebukwa, 2018; Kolibacova, 2014).

Therefore, to perform these works civil artisans need competencies including language skills in order to communicate effectively with a variety of people, numeracy skills to calculate basic units, weights and measures, understanding concepts of volume, ratio and proportion, traffic safety rules to provide traffic control assistance on-site, personal and site safety practices and procedures encountered. Akyazi *et al.* (2020) add to the litany of the necessary competencies for civil artisans including personal experience, basic numeracy and communication, quantitative and statistical skills, language skills, active listening, machine learning, inspecting and monitoring skills, information security management, adaptability to change and continuous learning. In the Tanzanian context URT (2019) opined that learning skills, literacy skills and life skills are important for all learners including civil artisans.

Other studies including Xiaoshuo (2019) on the improvement of the training mode in China indicate that the curriculum of vocational education should adhere to the

requirement of social, employment and market orientation and at the same time consider moral issues. This will facilitate artisans to produce quality products and create a good reputation for companies with their products to customers. Mistri et al. (2019) analysis of causes, effects and impacts of skills shortage for sustainable construction in India revealed that there was a shortage of skilled artisans which was facilitated by several factors including unsatisfactory education and training and change in skill requirements. Fadhil et al. (2021) study on the influence of soft skills on employability in Malaysia indicated that honesty; team working; communication skills and lifelong learning have a direct relationship with employability among graduates. Darko and Löwe (2016) studied Ghana's construction sector and youth employment and revealed that the sector was dominated by informally trained workers who learnt through informal apprenticeships being trained by experienced craftsmen. The study recommended that training young people and members in a range of basic skills for the workplace in the civil construction sub-sector was supposed to include basic skills such as information and communication technology, mathematics, English language, cost estimation, work site health and safety. Ayeniyo et al. (2020) study the determinants of artisans' technical capabilities in the building construction industry in Nigeria. It was found that the majority of artisans who worked in the sector were not skilled. Therefore, employing companies solved this problem through workshops and seminars. In the Tanzanian context, few studies have focused on challenges facing VETIs graduates' employability and curriculum. Kikwasi & Escalante (2018) on the role of the construction sector and key bottlenecks in Tanzania revealed that civil artisans lacked some key competencies due to lack of work exposure while Sumra & Katabaro (2016) have raised concern that there is a mismatch between what the curriculum offers and the quality of graduates. There is scant literature which shows the relationship between training curriculum and competencies demanded in the labour market where the study focused to add the body of literature.

Methodology

The study on which the article is based deployed a qualitative exploratory research design to capture information and data from a sample of trainers and learners from selected VETIs; employers and employees at civil construction projects. Semi-structured interviews were used to collect data from VET trainers and employers and standardized questions were used to collect data from learners and employees. Also, focus group discussion was used to collect data from employees who were working in similar works to get more information on competencies demanded in the sector. On the other hand, documentary reviews were applied to compare competencies identified in the curriculum and employer's requirements. MAXQDA2020 software was used to

organize, present and analyse qualitative data. As found appropriate themes were developed from key issues and narrations were used to explain specific issues from particular interviewees or members of focus group discussions.

Semi-structured Interviews

Semi-structured interviews were applied by formulating a few leading questions leaving room for follow-up (probing) questions to emerge in the course of the discussion before the study. Interview questions were prepared by the researcher and requested experienced experts in the subject matter to check them to ensure that there are no wording questions that might lead to predetermined answers including supervisors, reviewers and civil construction employers (pilot study at three civil construction companies which are not included in the article). The probing questions were used to acquire extra information and explanations for respondents who did not disclose the targeted information. The aim of semi-structured interviews was 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”. Therefore in the study, the purpose of applying semi-structured interviews was to explore information from experienced persons in the training and learning process where competencies were imparted (acquired) and in the civil construction sector where competencies were demanded (utilized). In this case, 22 trainers and 20 employers who were purposively selected were interviewed. Responses were directly transcribed and recorded in writings and audio recorded by using a voice recorder. Respondents were coded as trainer 1-22 and employer 1-20 for reporting purposes.

Standardised questions

The study applied open-ended and closed-ended questions to get more information about the employer's demanded employability competencies. Although Elliott and Timulak (2005 p.150) stated that self-report questions are used much less in qualitative research, because they typically do not stimulate the needed level of elaboration sought by the qualitative researcher but due to given time and space constraints, standardised questions may be used as well. Therefore due to limited time standardised questions were applied to capture perceptions of trainees who have passed through field practical and VET graduate employees to identify demanded competencies in the civil construction sector. These categories of respondents were valid to inform on demanded competencies as they have worked for a certain period of time and were aware to identify the employers' demands.

Administration of standardised questions, trainees were given questionnaires and demanded to fill the questionnaire by them while the researcher was available to

give explanation and clarification wherever needed. To avoid any possible loss of questionnaires and to ensure accurate responses, personal administration with an on-the-spot-collection method was used to collect data from trainees. Using this approach, the researcher delivered the questionnaires in person and she waited for the respondents to complete them and collected them on the spot (Ntawiha, 2016). On side of employees due to the nature of work demanding physical application of body organs the researcher requested them to allow her to ask questions and tell the answer without delaying their activities respondents who agreed with the researcher picked the questionnaire then face-to-face questionnaire administration was applied to employees which involved asking respondents questions and their responses were recorded on the questionnaires against the question asked. Therefore a total of 106 questionnaires were administered to students and VET graduates employees where 58 were responded to by VET learners and 48 by VET graduate employees.

Focus Group Discussions

The researcher conducted focused group discussions (FGDs) based on activities which were performed in teams, FGDs were conducted with 26 employees where there were 3 groups formed arbitrarily based on the normal activity including 12 machine operators and drivers together in a rest area where the majority of them their machines were in service, 6 steel fixers working as a team and 8 steel fixers and carpenters were constructing a bridge together. Through these groups, they were able to express their opinions, about the competencies which were demanded by their employers. The researcher did not formulate groups but asked questions and anyone who was able to respond to the question the researcher allowed him or her to respond. In all the three groups there was one female machine operator.

Documentary Reviews

The researcher reviewed the VETA civil artisan curriculum of 2013 to identify competencies which were imparted to trainees so that compare them with the demanded competencies. The obtained information helped to answer the question of to what extent the training and learning process meets employers' expectations.

Data Analysis

Data were analysed immediately after completion of the field work. Content analysis as a research tool was applied to determine the presence of certain words or concepts within texts including words and concepts then made inferences about the messages within the texts by grouping into meaningful categories. These categories were given different codes whereby coding were employed for making interpretations of the

data then summarized into texts with the help of MAXQDA 2020 software. Then the following features were deployed within the software to generate different initial codes into summaries, frequencies, percentages, cross tabulation and visuals.

Table 1: Summary of Data Collection Tools and Participants

Tool	Respondents	Male	Female
Semi-structures Interviews	20 Employers	18	2
	22 Trainers	19	3
Standardised questions	58 Trainees	50	8
	48 Employees	45	3
Focused Group Discussion	26 Employees	25	1
Documentary Review	VETA Curriculum 2013	-	-
Total	174	157	17

Source: Field Data, (2021)

Findings and Discussions

Curriculum for Carpentry and Masonry in VETIs

Generally what learners learn is determined by the quality of the curriculum and the process of its delivery. However, the quality of the curriculum is an outcome of its development process. In determining its contents in terms of scope and depth, the actual learning process and students' assessment. Training for masonry and carpentry is based on CBET level 1 & 2 curriculum that was developed in 2013. According to carpentry curriculum (VETA 2013a) the main generic competencies expected to be possessed by graduates of carpentry are ability to interpret drawings, fix door and window shutters, maintain workshop tools/equipment and workshop safety. Others are construct timber walls, ceiling boards, formwork, construct timber floors, perform wood turning and supervise carpentry and joinery works, and to construct centering to arches for carpenters. For Masonry graduates were expected to be able to interpret drawings setting out building, excavate trenches and perform timbering, prepare material and fix concrete, perform plastering, perform floor and wall tiling, they also include fixing wall and floor tiles, perform landscaping and gardening, construct fire place, concrete and fit soil and waste appliances and perform shoring for masonry (VETA, 2013b).

Key Stakeholders opinion on the quality of the curriculum

Employers

Although VETIs curriculum had what seem to be fairly good coverage of what carpentry and masonry jobs require employees to be able to do well, employers had also additional list of competences to be mastered in order to increase the probability of getting good employment. For carpentry, these are; fixing roof, ceiling board, and door fitting, shutters and frames benchmark, measuring materials, painting wood materials and roof blundering. In the area of masonry, employers found steel fixing, stone pitching, paving arrangement, site survey, fixing columns, stone piling, safety guiding, floor leveling, testing soil, concrete mixing as important. Others are, sewage construction, leveling sites, road leveling, parking concrete, machine operations, plastering, block laying, skimming, constructing house walls, maintenance of walls (cracks), paving laying, covering hardcore and formworks.

Even where, the contents of the curriculum were genuine and reasonable, they were supposed to be reviewed after every 3 years. However, the curriculum in place was close to ten years old without any review. This was a serious concern for all stakeholders because failure to review made significant part of the curriculum obsolete and irrelevance as one labour analyst officer from the eastern zone observed that;

...out-dated curriculum is a challenge to trainers and learners in imparting relevant competencies for employability where globalization and technology transfer are changing work systems unprecedently dynamic. In order for graduates to meet labour market needs, curriculum should be reviewed as frequent as practical. The current CBET curriculum in use was approved in 2013 and might not have been the best and for now the review is long overdue. A delay in curriculum review has a very big role to play in producing incompetent graduates and contribute to not only unemployment but also incompetent jobholders and poor productivity in our organizations (Interview: 11/10/2021).

Trainers and trainees

Trainers claimed that although some competences such as steel fixing and glass materials were highly demanded by the labour market, inadequate teaching and learning resources were one of the challenges. This was also a challenge even for areas covered by the curriculum as quoted here;

...in our curriculum training materials which are identified includes woods, steel and glasses but here we have only wood materials. Therefore, we do fail to impart to our learners' competencies to handle other materials including steel, glass and aluminium (Interview: 01 on 30/09/2021).

This challenge was equally shared by both on-going students and those already employed. Indeed, even the materials used at VETIs including brick and block laying, carpentry and joinery were claimed to be different from those at the work place as one civil artisan commented thus;

At VET we learnt through manual bricklaying machines but here at work we are using electronic machines to lay blocks and concrete mixing. This is a new technology to us so before operating we are given short training (Interview: 16 on 9/10/2021).

Although, carpentry and masonry are two areas of specialization at the work place, masons were expected and required to perform some carpentry works which were not trained for including formwork and benchmarking. It was argued that some technically cross cutting courses between carpentry and masonry are important for the enhancement of synergistic competences.

It was well acknowledged by trainers that generally, despite good intentions of the curriculum, fast changes in technology, out-dated curriculum, inadequate teaching and learning resources, shortage of trainers, financial constraints and limited availability of credible field attachment sites have a lot to explain weaknesses of the quality of TVEIs graduates in the country.

Soft competencies considered important by trainees and employees

Trainees (58 who were on field practical) and employees (48) who were former VETIs graduates employed by different construction projects were asked to identify soft competences for civil works which were needed by employers. Honest led in ranking by 40% for employees and 60% for trainees followed by hard work 31% and 55% respectively. The third was work experience by 31% and 29%. However, although discipline was ranked 31% by workers trainees ranked 26%. The same marked difference is seen in professionalism by 35% to 17 % respectively. Similarly, contrary to the mainstream literature, communication, problem solving, multiskilling, physical fitness etc. were ranked fairly low. The rest of the results are presented in Table 2.

Table 2 Soft skill for civil artisans

S/ N	Competencies	Employees	Percentag e	Trainees	Percentag e
1	Work experience	15	31	17	29
2	Multiskilling	4	8	0	0
3	Physical fitness	4	8	0	0
4	Communication skills	5	10	4	7
5	Confidence	6	13	8	14
6	Estimations	2	4	9	16
7	Hard work	15	31	32	55
8	Honest	19	40	35	60
9	Marketing skills	1	2	3	5

10	Creativity/problem solving	0	0	15	26
11	Professionalism	17	35	10	17
12	Safety	6	13	8	14
13	Team works	6	13	13	22
14	Discipline	15	31	15	26
15	Work under pressure	1	2	0	0

Source: Field Data, (2021)

In order to compare with employers' reasons data from focus groups discussions were able to shed some light on why some soft skills were ranked higher than others. On the issue of discipline which was ranked fairly high was linked to timely accomplishment of objectives and targets as one of the group members elaborated that;

...when we come to the work our supervisors give us tasks, activities, materials, equipment, targets and objectives to achieve for a day, week etc. The freedom to do otherwise is limited... if you question them you are in trouble. It is like a command. This affects us because we cannot be creative and comfortable in our work (FGD 03 on 16/11/2021).

It was also claimed that some of the competences required for good job performance were acquired at VETIs. However, lack of experience and positive attitudes towards goal attainment and working culture had significant impact on the quality of graduates as one foreign company employer had this to say;

Tanzanians are good at work and very cooperative but when some get salaries they may not come to work for 2-3 days (pay days are commonly termed as "Happy Yapi"). This challenge leads to our company to work for a longer hours and days because we fail to reach our targets timely. Sometimes we are forced to employ semi-skilled workers from our countries whom we can manage as they know our work culture (Interview: 12 on 13/11/2021).

Therefore, the main reasons for inconsistent opinion on the importance of each of the above soft skills on employability are many depending on individual perceptions, attitude and the nature of the employer. However, as noted by some observers, it may be logical that since civil artisans are told what to do and often how to do it, competences outside their core business may be perceived to be less important or even irrelevant except in companies where creativity, innovation and strong performance management systems which are based on strong working teams are part of the organization culture.

Soft competencies preferred by employers

Employers had opinion that although by large civil artisans require and are trained in hard competences which are purely technical which they subscribe to, there are soft competences which are often overlooked but they matter regardless of whether a person is a technician or not because at the end of the day they influence overall working relationships and ultimate job and organizational performance. These reiterate the arguments raised in both theoretical and empirical studies noted earlier. These are honest, hard work, professionalism, communication skills, work experience, discipline and estimations. However, few employers considered marketing skills, problem solving, multiskilling and confidence as important competences which attract employers. A summary of responses on employers preferred basket of competences is shown in Table 3.

Table 3: Employers' Competencies Preferences Matrix

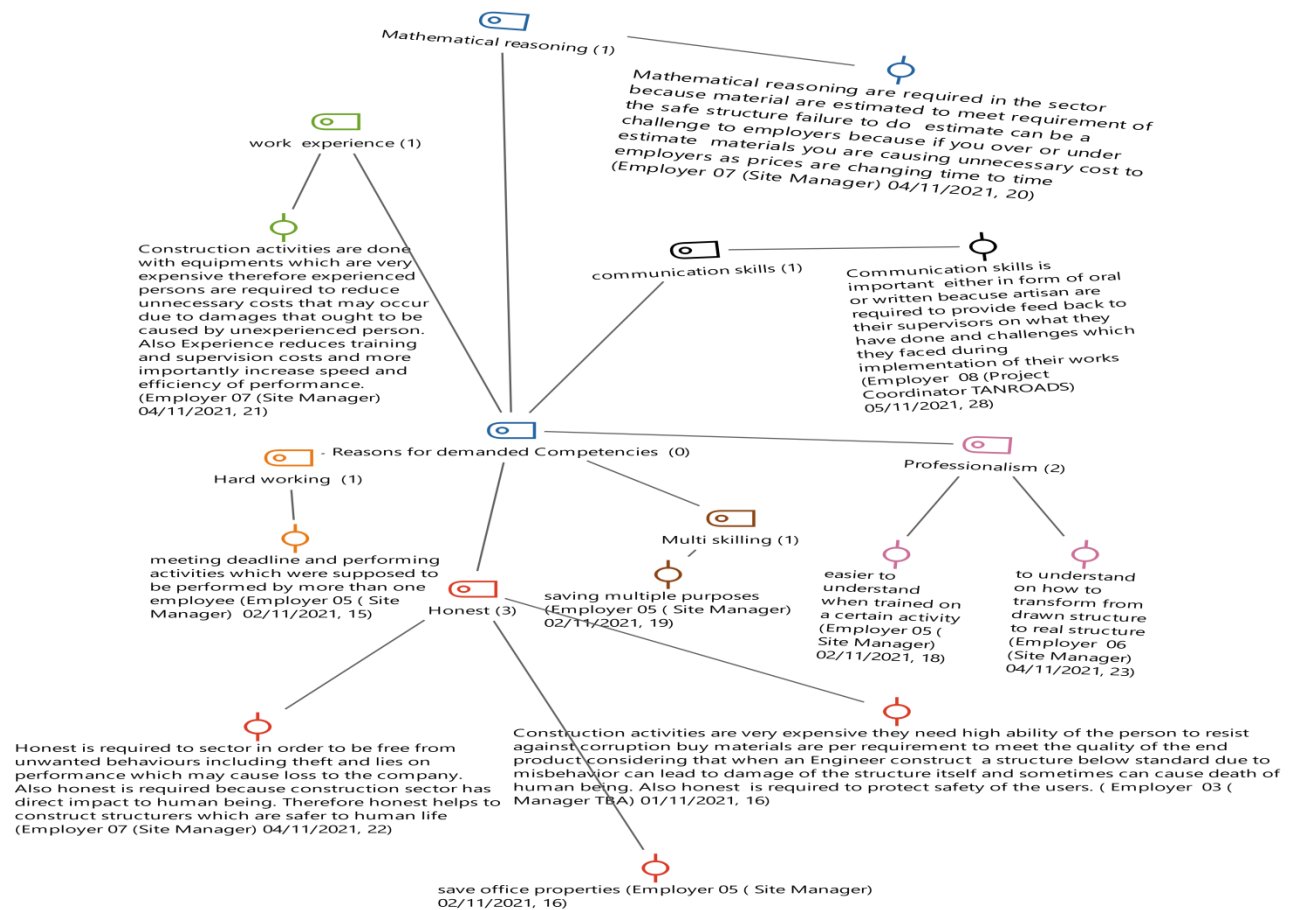
S/ N	Competencies	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1	Honest	√	√	√	√	√	×	√	√	√	√	√	√	×	×	√	√	√	√	√	×
2	Hard work	√	√	×	√	×	√	×	√	×	×	√	×	√	×	√	√	√	√	×	√
3	Discipline	×	×	×	√	√	×	×	√	√	×	√	√	×	×	×	×	√	×	√	×
4	Safety	×	×	×	×	√	×	×	×	√	×	×	√	√	×	×	×	√	×	×	√
5	Professionalism	√	×	√	√	√	√	×	×	√	√	×	√	×	√	×	√	×	×	×	√
6	Problem solving	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
7	Confidence	×	×	×	×	×	×	×	×	×	×	×	×	√	×	×	×	×	×	×	×
8	Estimations	×	×	×	×	√	×	√	×	×	×	×	×	×	×	×	×	×	×	√	×
9	Work experience	√	×	√	×	√	√	√	×	×	×	×	×	×	×	√	√	×	√	√	√
10	Communication skills	×	√	√	×	×	×	×	×	√	×	×	×	√	√	√	×	√	×	√	×
11	Teamwork	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	√	×	×	×
12	Multiskilling	×	×	×	√	×	√	×	×	×	√	×	√	×	×	√	×	√	×	×	×
13	Marketing skills	×	×	×	×	×	×	×	×	×	√	×	×	×	×	×	×	×	×	×	×
14	Work under pressure	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	√	×	×	×
15	Physical fitness	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

Source: Field Data, (2021) Key: √ mentioned and × not mentioned by an employer.

Competencies preferred by employers had some explanations although others were also hardly seen to be important. For example, honest was highly considered important because civil works involve the use of materials which were expensive. Therefore, honest was required because it builds trust between the client and customer. An honesty worker will protect the customer from unnecessary loss due to misuse or

theft of resources. Professionalism and experience were also important because it reduces costs of supervision, efficiency and productivity. Ability to communicate effectively was claimed to improve worker supervision, team working, report writing and presentation which are part of the daily job of an artisan. The importance of the soft competences and how they relate to job performance is shown by Figure 1.

Figure 1: The Importance of Soft Competences



Source: Field Data, (2021)

Interpretation of Figure 1

Figure shows the summary of employers’ responses on the reasons for the demanded competencies as indicated in Table 3. The middle theme indicates the main code (topic) reasons for mentioned competencies, then the second rank indicates the sub code the competencies demanded and the frequencies while the last part is about quotations from employers how employers explains about the reasons of the demanded competencies and who said what.

A comparison between soft skills offered by TVEIs and the labour market needs

MAXQDA2020 software was used to perform cross tabulation in order to match competencies identified in the curriculum with those identified by learners, employees and employers as demanded in the civil works.

Honest, hard work, work experience, discipline and safety were highly demanded by the labour market. However, ICT skills which were insisted by the curriculum from level 2 to 3 were not mentioned by employers in the work place. The main argument goes around that ICT skills were more required by architects, quantity surveyors and engineers who design, prepare drawings, interpret the drawings, estimate quality of materials etc. Artisans were more involved in hands on works which hardly require ICT knowledge and skills. However, this is contrary to employees who considered ICT as very important to them because sometimes they will be required to perform independently all activities relating to civil works where they will need to draw, read and interpret maps from computers as one employee explained that,

...in performing our activities we just follow instruction everything is designed for us. Therefore, trade mathematics is not highly demanded at our level. Also, ICT skills are necessary but for this work we do not apply because engineers assign us segments of work which is already interpreted (Interview: 06 on 14/10/2021).

From these observations, the discussion of the relevance or irrelevance of ICT for carpenters and masons may render futile because the more fundamental question to ask is what is to be covered in ICT and for what purpose. For example, ICT for operation of computer assisted instruments, equipment and machines is more relevant than mere theoretical ICT knowledge and skills which may be just clerical that cover a significant part of the curriculum but hardly touches the real work environment. Table 4 in Annex 1 summarizes the comparison of the soft skills and how they are perceived by the key stakeholders

In addition to Table 4 in Annex 1 word clouds was also applied to display the ranking soft competences as shown in figure 2. The figure shows that honesty, hard work, professionalism, discipline and work experience were very important while work under pressure, marketing skills, physical fitness, multiskilling and creativity/problem solving were least important.

Figure 2: Soft competences as ranked by stakeholders



Source: Field Data, (2021)

Conclusions and areas for further research

The problem of the mismatch between what the labour market offers and what graduates are most competent for employability has shifted the burden to the training institutions that they often fail to capture what is required by employers and give them through their graduates. However, and quite a challenge, the labour market needs have never remained static because even the labour market itself is fluid covering formal and informal employment, public and private sectors, local and foreign companies, small, medium and large firms. All these employers will require certain generic and functional competences leave alone soft competences which may not be similar or even require same levels of proficiency. This scenario suggests that although VETIs would wish to use CBET to maximize the quality of graduates, a lot of learning remains to be done outside certificate and diploma programmes. Indeed most soft skills recommended by all stakeholders are partly to do with individual personality traits and others can be acquired through coaching, mentoring, counselling and exposure to different leadership and management capacity development programmes like effective communication, ethics, employee relations and team working.

All in all, knowledge on competencies for employability is one thing but the process of imparting them is another. The challenges noted by both the trainers and trainees are real and if properly addressed, the quality of graduates will significantly improve. The extent to which trainers are exposed to continuous learning and use the same to impart such acquired competencies during training and learning is an area of research interest for further improvement of competencies for employability. This direction may bring in the role of employers not only in saying what competences they need but more willingly be part of strengthening the training and learning process itself.

Limitations of the study

The study concentrated on two courses at VET, including masonry and carpentry. Also the study coverage was on 8 selected civil construction companies which were operating in one region out of 25 regions where VETIs were operating in Tanzania Mainland (URT, 2021 p. 6). Even though the findings are relevant to a wide range of situations, it would be dangerous to generalize it to other VET courses and civil construction companies' employers' demanded competencies. Therefore, further studies may be conducted on the same study in other courses or widen the scope in other fields.

Conflict of interest

There is no conflict of interest.

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ANNEX 1: PREFERRED SOFT SKILLS COMPETENCES BY KEY STAKEHOLDERS

Table 4 Stakeholders' comparison of the relevance of different soft skills

Demanded competencies	Learners	Employees	Employers	Machine operators
work experience	15	14	11	10
Multiskilling	0	0	8	0
Physical fitness	0	1	0	4
communication skills	2	0	9	1
confidence	8	4	2	1
estimations	8	2	5	1
hard work	31	13	13	8
honest	35	19	19	8
marketing skills	3	0	1	0
Creativity/ problem solving	15	0	0	1
profession	8	0	16	11
safety	8	5	8	3
teamwork	13	2	2	1
work under pressure	0	0	1	0
discipline	15	16	13	7
SUM	161	76	108	56
N = speakers	58	48	20	12

Source: Field Data, (2021)