

Trainers’ Perception of the Teaching and Learning Approaches used for Competence Development in the Technical Vocational Education and Training institutions in Uganda.

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Abstract: *The purpose of the study was to examine trainers’ perception of the teaching and learning approaches used for competence development in the TVET institutions in Uganda. Understanding trainers’ perceptions about the way teaching and learning is conducted has implications for the quality of training because it influences trainers’ motivation, informs course designs and helps to develop faculty trainer development programs. The study adopted a descriptive survey design. The study targeted trainers (lecturers, technicians and instructors from the major TVET institutions in Uganda. The researchers constructed a questionnaire which was used to gather data, which was later analyzed using SPSS. Results indicated that most trainers were satisfied with the training organization and agreed that the tasks and assignments were adequate for learning. However, majority noted that they are not well motivated, there were delays in provision of timely feedback to the learners, and that the instructional equipment and materials were inadequate for training and learning. The study concluded that it’s important for all aspects which impact on the quality of teaching and learning to be available for competence development. The study recommended that TVET institutions should lobby the government for more funds to enhance trainers’ salaries and wages as a way of motivating them; increased budget for TVET institutions to enable them purchase the latest training equipment and materials; and that TVET institution administrators control the quality of training by establishing quality assurance offices to coordinate all levels of TVET training.*

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I. Introduction

Around the world, Technical and Vocational Education and Training (TVET) is widely seen as having a key role in promoting both economic and socio-economic growth, increasing productivity, empowering citizens and alleviating poverty. Yet the quality of TVET in terms of learner outcomes and teaching inputs is variable [1]. The effectiveness of all education systems depends critically on the quality of teaching and learning (didactics) in the classrooms, workshops, laboratories and other spaces in which the education takes place. While outstanding teachers (including lecturers, trainers, tutors, and coaches), engaged students, well-designed courses, facilities which are fit for purpose, and a good level of resources are necessary if any kind of educational provision is to be excellent, they alone are not sufficient. The real answers to improving outcomes from vocational education lie in the ‘classroom’, in understanding the many decisions ‘teachers’ take as they interact with students[2].

The overarching goal of vocational education is, enabling people to learn how to do things to a standard set by experts from the occupation into which they are progressing. The primary outcome of vocational education is expertise – being able to do skillful things of a kind and in an area of work that is quite clearly specified and understood. This distinguishes vocational education from more academic forms of education where the valued goal is to be able to write and talk about something; to be able to explain, critique, theorize and justify [2]. To improve TVET in all of its many forms there is need to understand the teaching and learning methods which make it work best. In short a robust model of vocational pedagogy – the science, art and craft of teaching and learning vocational education. There is need to describe with clarity and confidence the teaching and learning methods that are most effective for a range of different learners seeking to acquire skills, competences and dispositions in many different contexts [1].

In 2014, a global monitoring report about teaching and learning: achieving quality for all noted that there is a global learning crisis. Despite the efforts to improve universal access to education, 250 million children are not learning even the basic skills, let alone the skills they need to thrive in the world of work. The report stresses that more efforts should be made to ensure that children have real opportunities to learn when

they go to school and that governments invest in well qualified and motivated teachers to ensure that all children are appropriately educated [3]. Workforce training is now recognized as highly important while previously vocational education was seen as a “secondary-class” education compared to university education. However, there is concern that the skills necessary in this new century, especially those in new processes and services, are not yet available in general education institutions (e.g. schools, universities), especially in least developed countries [4].

1.2 Technical, Vocational Education and Training in Uganda

In Uganda, Technical, Vocational Education and Training (TVET), includes Business education hence it is known as Business, Technical, Vocational Education and Training (BTJET). The most significant legal instrument guiding the policy formulation and reforms for this education sector is the BTJET act of 2008. The act provides that the objective of BTJET is to provide relevant and quality knowledge, values and skills for purposes of academic progression and employment in the labour market to the larger number of persons in an affordable way, and to enhance the productivity capabilities of the individual for employment and self-employment[5].

The BTJET system comprises– public; private; and firm based training. There are 144 public institutions; about 600 private training service providers and an unknown number of apprenticeships and enterprise based training programmes operating in Uganda. The national vision is to develop a BTJET system that will enable greater access, and realization of the full potential of Uganda's human resources. For the benefit of the economy, Business, Technical, and Vocational Education and Training (BTJET) is capable of producing a competent and polyvalent workforce with practical work skills, entrepreneurship skills and orientation that are essential for employment [6]. Over the last five years, all BTJET institutions have experienced increases in students' enrolment and the demand is continuing to rise. The demand for employment oriented skills training will therefore continue to raise both in the medium term and in the long run. In the light of all the above realities, TVET needs appropriate recognition and support so that it can have a significant impact on poverty eradication within the context of the pro-poor economic growth strategy [7]. Realizing the importance of TVET in facilitating skills development for the socio-economic and technological development, the Ugandan government has been at the forefront in advocating for reforms in the BTJET education subsector. A 10-year BTJET strategic plan 2011-2020, launched in October 2012 and titled ‘Skilling Uganda’, emphasizes a more comprehensive system of skills development to raise the quality and economic relevance of BTJET. The strategic plan targets to reform the way BTJET programmes are delivered to different groups so as to improve the competences of graduates and make them competitive in the labour market [6]. The graduates should be competent enough to fit into Uganda's labour market, which has had a shift in economic structure. The predominantly agricultural economy has steadily shifted to industry and services, tourism, construction, oil and gas. All these have increased the demand for skills in the labour market [8]. However, it has been noted that most graduates from training institutions fail to get absorbed into the Ugandan labour market because their skills profile are ill-suited to find appropriate employment, yet opportunities do exist [9]. This was further confirmed by a School-to-Work Transition Survey (SWTS) carried out in 2015 which revealed that young persons with tertiary level of education had higher levels of unemployment (12 percent) than the national average (7 percent) [10]. An example is that of the flower export enterprises. When these businesses began in Uganda, there was no skilled labor to carry out the work, so employees were imported from Kenya [11]. Similar cases are found in the hotel industry, oil and gas and the road construction sectors where most workers are foreign yet Ugandan BTJET institutions produce many graduates in these fields annually. In almost all African countries, large numbers of graduates coming out of school system are unemployed, although opportunities for skilled workers do exist in their economy [12]. The purpose of the paper was therefore to examine trainers' perception of the teaching and learning approaches used for competence development in the TVET institutions in Uganda. Understanding trainers' perceptions about the way teaching and learning is conducted has implications for the quality of training because it influences trainers' motivation, informs course designs and helps to develop faculty trainer development programs. The study was guided by the research question, “How is the teaching and learning conducted in the TVET institutions in Uganda?”

The study was conducted between February, 2018 to August, 2018 and it was limited to only engineering/technical fields.

1.3 Theoretical Framework

The study was anchored on two theories, the constructivist learning theory and vocational pedagogy theory.

1.3.1 The constructivist learning theory

The constructivist theory explains how people acquire knowledge. The theory suggests that humans build up knowledge and meaning from their experiences [13]. The major assumption of constructivism is that knowledge is constructed, it's not independent of the learner. Some of the prominent philosophers associated with constructivism are Piaget (1970), Blumer (1969), Kuhn (1996), von Glasersfeld (1989), and Vygotsky (1978). However, Piaget's theory of constructivist in particular, has had a profound impact on learning theories and teaching methods in many educational reforms. The major philosophical and epistemological assumptions of constructivism are:

- 1) There is a real world with multiple realities.
- 2) The organization of the world is formulated in the mind based on interactions and understanding.
- 3) The mind generates symbols for identifying and translating the world.
- 4) Human understanding is inspired and progresses from different views, experiences and communal interfaces.
- 5) Meaning is an outcome of an interpretive process which depends on experience [14].

Constructivism regards learning as an active process in which learners construct new knowledge based upon their prior knowledge. Constructivism is learner-centered, assuming that learners learn better if they construct knowledge for themselves, rather than being told by an instructor [14]. Constructivism is grounded in several philosophical traditions with three orientations: individual constructivism (Piaget, 1969, 1971), social constructivism (Vygotsky, 1978) and radical constructivism (Von Glasersfeld, 1994) [15]. These approaches are not mutually exclusive. They are closely related to each other. Whereas individual constructivism concentrates on individuals and their learning, social constructivism focuses on groups and their learning within socio-cultural contexts. For radical constructivism there is no knowledge independent of that constructed by learners, because knowledge is based upon constructions that are not tied to any external reality [15].

1.3.1.1 Implications of constructivism for teaching and learning in TVET

The theory of constructivism is that learning is an active process. In their article about constructivism learning theory [13] quote Brooks and Brooks (1993) who reviewed a large portion of literature on the descriptions of "constructivist teachers". They consider of a constructivist teacher as someone who will:

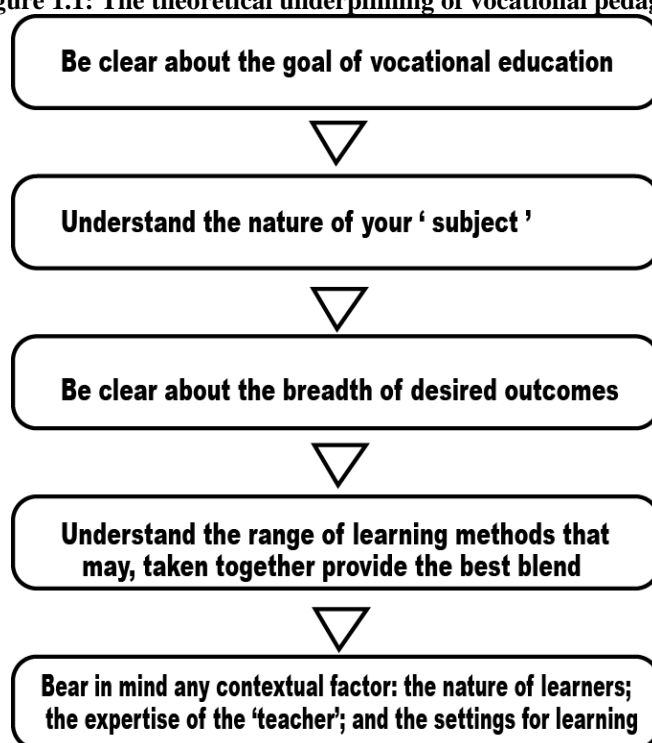
- 1) inspire and allow student independence and resourcefulness;
- 2) use various instructional materials and encourage learners to use them;
- 3) find out about learners' understandings of concepts before giving his/her own understanding of the same;
- 4) encourage learners to discuss with their teacher and amongst themselves;
- 5) encourage learners to ask questions and to find solutions amongst themselves;
- 6) provide time for learners to build relationships and create illustrations;
- 7) evaluate learners' thoughtfulness by assigning open tasks.

Therefore, from the perspective of constructivism, the primary role of the teacher is to build and maintain a collaborative environment, where learners are allowed to build their own skills, and the teacher works as a guide [13].

1.3.2 Vocational pedagogy theory

The second is the Vocational Pedagogy Theory. 'Vocational pedagogy' is defined by [16] as "the science, art and craft of teaching and learning vocational education". "Or you could say more simply that vocational pedagogy is the sum total of the many decisions which vocational teachers take as they teach, adjusting their approaches to meet the needs of learners and to match the context in which they find themselves". The theory of vocational pedagogy as coined by [17] refers to "the type of teaching that organizes the fundamental ways in which future practitioners are educated for their new professions". As stated 'signature pedagogies' make a difference. "They form habits of mind, habits of the hand and habits of the heart. Whether in a lecture hall or a laboratory, in a design studio or clinical setting, the way we (trainers) teach will shape how professionals behave" ... Shulman further explained a 'signature pedagogy'. "It has three magnitudes: surface structure, deep structure, and an implicit structure. Surface structures consist of concrete, operational acts of teaching and learning, while deep structures reflect a set of assumptions about how best to impart a certain body of knowledge and know-how. The implicit structure includes a moral dimension that comprises a set of beliefs about professional attitudes, values, and dispositions" [17]. 'Learning by doing' is normally the way in which vocational pedagogy is termed, but such understanding complicates the fact that there is no one vocational pedagogy, just as there is no one idealized notion of a TVET teacher [18]. Some fundamental questions and answers underpinning the theory of vocational pedagogy are indicated in the figure 1.

Figure 1.1: The theoretical underpinning of vocational pedagogy



Source: [2]

Understanding vocational pedagogies enables policy-makers to advance models and tools which can help TVET teachers and trainers more effectively match teaching and learning methods to the needs of their students and achieve the wider goals of vocational education and training [19].

1.4 Literature Review

Several studies in different countries have been conducted about teaching and learning in TVET.

In South Africa, [20] did a comparative analysis of technical and vocational education and training policy in selected African countries. The study explored, analyzed and compared the TVET policies of South Africa, Ghana and Nigeria to identify their nature, similarities and differences. The analysis revealed that the implementation of the TVET policies is poor in all countries and that the policies had failed to provide needed skills for employment, economic and national development. The TVET experts agreed on the fact that graduates were poorly trained and are not matching to the needs of the labour market. The sector is faced with many challenges, which include inadequate funding, lack of proper teaching and learning materials, and bad governance.

This is in contradiction to the findings of the European Centre for the Development of Vocational Training [19], who noted in their paper about vocational pedagogies and benefits for learners, that the design and use of learning materials are critical elements of teaching and learning. Adequate provision of learning materials is positively associated with high levels of attentiveness by learners. The learner survey conducted revealed that 91.3% of learners reported that they frequently gave all their attention to the tasks in lessons and agreed that their school offers enough learning and training material, compared with 8.7% of those who reported that they seldom gave all their attention to learning tasks in lessons.

In Kenya, [21] researched about automotive training in TVET Institutions. The sample comprised of 31 automotive trainers in Kenya. The study established that the training programs are not fully aligned to the requirements for the future practice in automotive industry. The study concluded that training at the technical training institutes should be designed for flexibility with key stakeholders being involved. Training facilities should be as close as possible to the work place facilities. In China, [22] noted that since 2006 many national demonstration vocational colleges have implemented new teaching and learning methods to encourage more flexible and diversified approaches. For example, the teaching of a special course on agriculture was arranged according to the farming seasons. Student-centred teaching-learning methods such as teamwork, discussion and workshops were also introduced to supplement traditional teaching methods. They further note that student-centred teaching and learning process includes stages such as informing, planning, deciding, realizing, controlling and evaluating. These have been practiced in Chinese demonstration schools and colleges as follows:

teachers design teaching contents in accordance to teaching objectives, and based on student-centred approaches, teachers then prepare teaching resources such as notes and worksheets, power point slides, websites, blogs, and teaching courseware. This development indicates that many demonstration schools' teaching and learning have been influenced by action-orientation learning theory [22].

In Uganda, [23] researched about improving teaching and learning process of pastry and bakery using learner centered approaches. Data was collected from eight students of the pastry and bakery certificate class of 2015 September intake at Uganda Hotel and Tourism Training Institute (UHTTI), Jinja and two instructors in the pastry and bakery department. During interviews, all the respondents argued that there was need to teach vocational education in a way that enables the learner to interact and communicate with fellow learners, create knowledge, think critically and solve problems especially on their own. It is necessary for teachers to involve students actively in the teaching and learning process especially during planning of lessons, setting goals of the lessons and assessment of learners' achievements in the classroom. The use of action learning methods was further supported by [24], in his research about improving professional practice and students' learning skills through action learning in economics education in South Sudan. His findings revealed that action learning is integral to pedagogical approaches in improvement of learners' insight of both theory and practice in economics education. Applied learning scenarios and mentorship methods are enormous attributes in motivating students to be active participants in the learning process.

In China, [22] in their paper about transferable skills in technical and vocational education and training noted that one of the policies; the secondary vocational education reform and innovation action plan emphasized the importance of reform and innovation in teaching methods. It encouraged schools to explore project-based teaching, case teaching, situated teaching and virtual and simulated teaching, so as to promote the all-rounded development of students. The action plan highlighted the importance of comprehensive competencies and transferable skills for student development.

According to a European agency for development in special needs education report [25], teachers in inclusive settings must provide the following for their students: developmentally appropriate content, clear instructions for practice, opportunities to practice at an appropriate level of difficulty, opportunities to participate in appropriately designed task progressions and accurate feedback and assessment of subject matter and role performance. While relating to the teaching of physical education, these points show the importance of teachers' skills in creating an interactive and responsive learning environment and managing the learners in achieving multiple learning outcomes.

In his article about enhancing the potential of youth employment [26], notes that learning environments requires school systems to use assessments that enable students to think in a creative way. It is important that school systems use assessments that emphasize the actual problems of the real world, involve students in observation and investigation and provide opportunities for students to use what they know in meaningful ways. He further describes the various techniques that should be incorporated into the training of a modern teacher to enhance the process of learning skills such as teamwork, communication, and problem solving. The various methods according to [26], are:

- Interactive teaching, whereby teachers give exercises that provide opportunities for experience, practice, strengthening, and meditation. This approach requires skilled instructors and a well-designed curriculum, but has the disadvantage that the exercises, no matter how well designed, lack the authenticity of the real workplace.
- Changing the classroom setting where general skills or technical skills are taught to learners so that the class is similar to the workplace. This approach, which includes training companies, workshops, learning responsibilities, provides a real environment for teaching and learning.

However, [26] confirms that the problem in many schools and training programs does not work in this way. They focus on the technical skills required for special work, because this method is simple, affordable and easy to teach a large number for a short period of time. Many young people who qualify from this type of program do not have the necessary skills in the current labor market and are unable to cope with changing needs and remain temporary employees.

According to CEDEFOP any given learning environment that is not properly designed may also constrain teaching and learning. Considering the case studies conducted by [19], the barriers identified were grouped as follows: cost, scale, inertia, lack of clear vision, lack of leadership at national or local level, unproductive relations between school/VET systems, and lack of training for the teachers, and piece meal change that is unsustainable.

In 2012, the United States (US) national research council in a brief report about education for life and work: developing transferable knowledge and skills in the 21st century, suggested the following successful teaching methods;

- Use multiple and varied representations of concepts and tasks, such as diagrams, numerical and mathematical representations, and simulations, along with support to help students interpret them.

- Encourage elaboration, questioning, and explanation – for example, by prompting students who are reading a text to explain the material aloud to themselves or others as they read.
- Engage learners in challenging tasks, while also supporting them with guidance, feedback, and encouragement to reflect on their own learning processes.
- Teach with examples and cases, such as modeling step-by-step how students can carry out a procedure to solve a problem while explaining the reason for each step.
- Prime student motivation by connecting topics to students' personal lives and interests, engaging students in problem-solving, and drawing attention to the knowledge and skills students are developing and their relevance, rather than grades or scores.
- Use “formative” assessments, which continuously monitor students' progress and provide feedback to teachers and students for use in adjusting their teaching and learning strategies.

II. Material and Methods

Study Design: The study adopted a descriptive survey design.

Study Location: The study was carried out in the four regions of Uganda, particularly in the following districts: Kampala and Wakiso districts (central region), Mbale and Soroti districts (eastern region), Bushenyi, Mbarara, Kabarole and Kabale districts (western region), and Kitgum, and Lira districts (northern region). These districts were chosen because they offer a good representation of the whole country and also they host the major TVET institutions in the country.

Study Duration: February 2018 to August 2018.

Sample size: The sample size was estimated using Krejcie and Morgans' table (1970) of determining sample sizes. The target population from which we selected our sample was 88. Accordingly, the sample size of 70 for a target population of 88 was used.

Subjects & selection method: The study population included the following; trainers (lecturers and technicians) from the following TVET institutions: Kyambogo University, Nakawa vocational training institution (central region), Uganda technical college Elgon and Madera technical Institute, Soroti (eastern region), Uganda technical college Lira and Kitgum technical institute (northern region) and Uganda technical college Bushenyi, Nyamitanga technical institute, Kabale University and Uganda technical college, Kichwamba (Western region). These institutions were selected by the researchers because they are the largest and most popular in their regions. They also give a good representation for the whole country. Kyambogo University was specifically chosen because for a long time, it has been training instructors for technical and vocational institutions. Additionally, through its department of technical teacher education and extension, Kyambogo University assesses and certifies instructors from other instructor training institutions in the country. It has also been extensively training other TVET professionals in its faculties of engineering, vocational studies and technical teacher education and extension.

Research Procedure: The researchers constructed a questionnaire which was used to gather data from trainers in TVET institutions. It consisted of sections relating to teaching and learning in TVET. The questionnaire was constructed basing on the 5Ts (Time, Tutoring, Tasks, Trust, and Tools) as advanced by [27] regarding vocational didactics (teaching and learning). He argues that the development of competence in vocational education depends on the 5Ts i.e. the time allocated for training activities, how the tutoring (training) is conducted, and the tasks and assignments given, the trust; which is the relationship between the trainers and trainees, and the tools and materials used during the training. All the five aspects have to be in tandem. To ensure reliability, the questionnaire was pre-tested and re-tested using the Cronbach's coefficient alpha method of internal consistency, where the items were found to have the coefficient of 0.94, a value which is acceptable. A total of 70 questionnaires were distributed to the respondents and 66 (94%) were properly filled and returned. The remaining 4 (6%) questionnaires were not returned.

Before going to the field to collect the data, the first step was to forward the proposal to an ethical review committee. Mbarara University of Science and technology Research Ethical Committee (MUST-REC) was preferred because it's one of the most active in the country. The committee approved the research protocol. Additionally, the committee approved an informed consent document, which was used to get consent from the respondents before collection of the data. The next step was to get clearance from the Uganda National Council for Science and Technology (UNCST), the body which supervises research activities in Uganda. The proposal was submitted to UNCST and the study was cleared to be carried out.

Data analysis: After gathering the quantitative data, the researcher then coded and analysed it using SPSS version 20 software. The researchers used descriptive statistics in form of frequencies, percentages, means and standard deviations for interpretation in relation to the research question.

III. Result

1.6.1 Demographic characteristics of the trainers.

This section presents the demographic characteristics of the trainers. It includes the gender, age, qualifications, work experience and the areas of specialization of the TVET trainers. Data for each of these characteristics are indicated below:

1.6.1.1 Gender of trainers

Table 1: Gender of trainers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	48	72.7	72.7	72.7
	Female	18	27.3	27.3	100.0
	Total	66	100.0	100.0	

As seen from table 1, there were more male trainers (72.7%) than the female trainers (27.3%) in the study.

1.6.1.2 Age of trainers

Table 2: Age of trainers

	Age Range	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	31-40	36	54.5	55.4	55.4
	41-50	13	19.7	18.5	73.8
	51 and above	17	25.8	26.2	100.0
	Total	66	100.0	100.0	

As indicated in table 2, 54.5 % of the respondents were in the range of 31- 40, 18.2% of the respondents were in the age bracket 41-50 and 25.8% were above the age of 51. This indicates that the majority (74.2%) of the trainers were below 51. This implied that the trainers were in the young age bracket.

1.6.1.3 Qualifications level of the trainers

Table 3: Qualifications level of the trainers

	Attainment	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	PhD	6	9.1	9.1	9.1
	Master's	12	18.2	18.2	27.3
	Bachelor's	12	18.2	18.2	45.5
	Diploma	30	45.5	45.5	90.9
	Certificate	6	9.1	9.1	100.0
	Total	66	100.0	100.0	

As indicated in table 3, the majority of the trainers were diploma holders at 45.5%.

1.6.1.4 Work Experience of the trainers

Table 4: Work Experience of the trainers

	Work Experience	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-5 years	34	51.5	51.5	51.5
	6-10 years	11	16.7	16.7	68.2
	10 years and above	6	9.1	9.1	77.3
	Not at all	15	22.7	22.7	100.0
	Total	66	100.0	100.0	

As indicated in table 4, the majority of the trainers have an experience of ranging from 1 to 5 years, an indication that the trainers in the study have enough experience. However, nearly one quarter of the trainers at 22.7% lack any work experience.

1.6.1.5 Areas of Specialization of the TVET trainers

The study purposively sampled trainers from the technology area of TVET. Table 5 provides the distribution of the respondents by area of specialization.

Table 5: Areas of Specialization of the TVET trainers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Mechanical	20	30.3	30.3	30.3
	Civil	24	36.4	36.4	66.7
	Electrical	12	18.2	18.2	84.8
	Architecture	10	15.2	15.2	100.0
	Total	66	100.0	100.0	

As seen from table 5, the majority of the respondents were from the civil engineering field (36.4%), followed by those from mechanical engineering field (30.3%), then those from electrical engineering field (18.2%) and the minority were from the architectural field (15.2%). This indicates that the majority of the trainers in the study were from the civil engineering field.

1.6.2 Trainers' rating of the teaching and learning process in the TVET institutions

The trainers in the TVET institutions were also invited to rate their agreement about the teaching and learning process in the TVET institutions. They were invited to fill a researcher constructed questionnaire. Table 6 below highlights the trainers' perception of the time for teaching and learning in TVET institutions.

Table 6: Trainer perception of the time for teaching and learning in TVET institutions (N=66)

Statement	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Mean	Standard Deviation
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
Adequate time is available to cover training content	28	42.4	31	47.0	-	-	5	7.6	-	-	4.28	.83
Trainees are given enough time to practice tasks	29	43.9	12	18.2	6	9.1	18	27.3	-	-	3.80	1.28
Adequate rest time is allowed between training sessions	1	1.5	45	68.2	6	9.1	12	18.2	2	3.0	3.47	.92
There is proper time management during the training process	4	6.1	48	72.7	-	-	12	18.2	-	-	3.69	.85
Trainees have enough time for personal reflection	3	4.5	25	37.9	-	-	36	54.5	-	-	2.92	1.07
Feedback from assessment is provided on time	11	16.7	7	10.6	-	-	40	60.6	7	10.6	2.61	1.31

From items presented to the trainers as indicated in table 6, the first four items, that is, 'Adequate time is available to cover training content' (4.28), 'Trainees are given enough time to practice tasks' (3.80), 'Adequate rest time is allowed between training sessions' (3.47), 'There is proper time management during the training process' (3.69), were all rated above the mean average. Whereas the remaining two items, that is, 'Trainees have enough time for personal reflection' (2.92), and 'Feedback from assessment is provided on time' (2.61), were rated below the mean average on the scale running from 1 to 5. This implied that the TVET trainers agreed that there were issues with time for trainees' reflection and provision of feedback to the trainees during the training.

Table 7: Trainer perception of the Tutoring (Organization) of training in TVET institutions (N=66)

Statement	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Mean	Standard Deviation
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
Teaching is learner centered	22	33.3	18	27.3	-	-	24	36.4	-	-	3.59	1.31
Group learning is encouraged to foster teamwork	22	33.3	24	36.4	-	-	18	27.3	1	1.5	3.74	1.24
The modules have been organized from simple to complex	22	33.3	18	27.3	-	-	24	36.4	-	-	3.59	1.31
There is proper choice of training methods	-	-	39	59.1	-	-	25	37.9	-	-	3.22	.98
There is continuous assessment of trainees	17	25.8	24	36.4	-	-	23	34.8	1	1.5	3.51	1.26
Record of instructional tasks given is taken	-	-	36	54.5	6	9.1	18	27.3	6	9.1	3.09	1.09
Trainee individual learning differences are catered for during the training	11	16.7	24	36.4	-	-	25	37.9	5	7.6	3.17	1.32
Trainees are motivated to attend regularly	11	16.7	30	45.5	13	19.7	11	16.7	-	-	3.63	.96

From items presented to the trainers as indicated in table 7, all the eight items, were all rated above the mean average on the scale running from 1 to 5. This implies that TVET trainers also agreed that the organization of training in TVET institutions was adequate.

Table 8: Trainer perception on the tasks and assignments given to trainees in TVET institutions (N=66)

Statement	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Mean	Standard Deviation
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Freq.	%		
Assessment is based on demonstration of skills from tasks	14	21.2	13	19.7	-	-	37	56.1	-	-	3.06	1.29
Trainees are given real life tasks	10	15.2	36	54.5	-	-	18	27.3	-	-	3.59	1.06
Trainees are guided to accomplish tasks	14	21.2	43	65.2	-	-	-	-	7	10.6	3.89	1.10
Tasks are reviewed to reflect up to date requirements in the world of work	12	18.2	24	36.4	5	7.6	18	27.3	7	10.6	3.24	1.33
Adequate tasks are given	17	25.8	25	37.9	-	-	18	27.3	5	7.6	3.48	1.35

From items presented to the trainers as indicated in table 8, all the five items, were rated above the mean average on the scale running from 1 to 5. This implied that TVET trainers agreed that the tasks and assignments they gave during training were adequate.

Table 9: Trainers perception of their trust in the teaching and learning process in TVET institutions (N=66)

Statement	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Mean	Standard Deviation
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Lecturers and technicians are facilitators of learning	23	34.8	18	27.3	-	-	18	27.3	6	9.1	3.52	1.45
The training content is adequate for learning	14	21.2	43	65.2	7	10.6	-	-	-	-	4.11	.57
There is good trainer-trainee relationship	16	24.2	36	54.5	-	-	12	18.2	-	-	3.88	1.00
The study programmes meets trainee expectations	17	25.8	31	47.0	6	9.1	11	16.7	-	-	3.83	1.01
The trainers attend regularly	12	18.2	34	51.5	-	-	18	27.3	-	-	3.63	1.09
Trainers have high level of motivation	-	-	24	36.4	6	9.1	33	50.0	3	4.5	2.77	1.00

From items presented to the trainers as indicated in table 9, five items, that is, 'Lecturers and technicians are facilitators of learning' (3.52), 'The training content is adequate for learning' (4.11), 'There is good trainer-trainee relationship' (3.88), 'The study programmes meets trainee expectations' (3.83), and 'The trainers attend regularly' (3.63) were rated above the mean average score. However, one item, 'Trainers have high level of motivation' (2.77) was rated below the mean average score. This implied that TVET trainers have low levels of motivation.

Table 10: Trainers perceptions on the tools and materials used in TVET institutions (N=66)

Statement	Strongly Agree		Agree		Not Sure		Disagree		Strongly Disagree		Mean	Standard Deviation
	Freq	%	Freq	%	Freq	%	Freq	%	Freq	%		
Modern training equipment are used for instruction	3	4.5	25	37.9	1	1.5	25	37.9	12	18.2	2.73	1.27
Adequate instructional equipment and	4	6.1	19	28.8	-	-	30	45.5	12	18.2	2.58	1.26

materials are available												
The training tools and equipment used reflect those in the real world of work	5	7.6	24	36.4	-	-	35	53.0	1	1.5	2.95	1.14
Trainees are allowed to practice with training equipment and materials	10	15.2	48	72.7	-	-	6	9.1	-	-	3.97	.73

From items presented to the trainers as indicated in table 10, three items, that is, ‘Modern training equipment are used for instruction’ (2.73), ‘Adequate instructional equipment and materials are available’ (2.58) and ‘The training tools and equipment used reflect those in the real world of work’ (2.95) were rated below the mean average score. However, there other item, that is, ‘Trainees are allowed to practice with training equipment and materials’ (3.97) was rated above the mean average on the scale running from 1 to 5. This implied that TVET trainers were not satisfied with the training equipment and the adequacy of instructional materials in their institutions.

IV. Discussion

1.7.1 Time for teaching and learning

As indicated in table 6, the TVET trainers were of the view that there were issues with time for trainees’ reflection and provision of timely feedback. At the University of Reading, the same issue of timely feedback is consistently mentioned as one of the areas that require improvement during their annual national student surveys. The importance of timely feedback is underscored at the university. It notes that ‘feedback is an essential part of effective learning. It helps students understand the subject being studied and gives them clear guidance on how to improve their learning. Feedback can improve a student's confidence, self-awareness and enthusiasm for learning’ [28]. To further underscore the importance of feedback, [29], quotes Wiggins (1998) exceptional example of timely feedback combined with self-assessment. Wiggins cites the case of a welding teacher. ‘The teacher provided annotated work samples and students were required to undertake a task of welding a tee-joint and later to present their finished product to the teacher. But, as they left their work benches to take their work to the teacher, they walked past a set of work samples, each with notes attached pointing out the good and poor points of each job. Students invariably compared their work with the work samples and took note of the comments. Many students returned to their benches and re-attempted the task. They had looked at the work samples and had internalized the assessment standards that were explicit in the comments attached to them. They had also self-diagnosed the ‘gap’ between their own efforts and the desired level of performance’. In the view of the researchers, the cause of delays in giving students timely feedback at training institutions in Uganda could be a result of the large number of students in the classes. However, the researchers are of the view that if enough trainers are recruited, the issue of feedback can be dealt with.

1.7.2 Tutoring (Organization)

Regarding tutoring, the findings in table 7 indicated that the TVET trainers agreed that the tutoring in the TVET institutions was adequate. The researchers are of the view that trainers can enhance skills acquisition among the trainees by applying innovative teaching pedagogies. Take an example of an initiative in Singapore known as ‘Teach Less, Learn More’ (TLLM). Under the initiative, curriculum content was condensed to give trainers more scope for innovation in their training and to ease curriculum load on students. The initiative targeted to make Singapore TVET graduates competitive globally as emphasized by the former minister for education, Teo Chee Hean cited in [30]. The minister said;

‘Innovation will be absolutely critical to the creation of wealth in the 21st century....to develop an innovative workforce, we will need to start in school by training our students to be enterprising and creative thinkers. The education system in Singapore has thus far emphasized the acquisition of factual knowledge. We will need to shift our focus to creative thinking skills. Instead of just being followers, our young must be prepared to experiment, to make mistakes, to learn and to innovate, in order to be leaders in their own fields’.

The ministers’ assertion aligns well to the tenets of the constructivism theory, wherein the primary role of the teacher is to build and maintain a collaborative learning environment, where learners are allowed to build their own skills, and the teacher works as a guide [13]. According to the ministry of education in Singapore, the initiative has yielded positive results. An evaluation indicated that trainers are now more able to adapt the curriculum to the needs of the economy, apply a range of pedagogies, and use more different approaches of assessment [31]. In the view of the researchers, it’s such innovative initiatives that will transform TVET into a ‘weapon’ for sustainable development in Africa, and particularly in Uganda.

1.7.3 Tasks and assignments

Regarding tasks and assignments given, the findings in table 8, indicated that the TVET trainers agreed that the tasks and assignments given during training were adequate. Engestron (1994) in [32], identified some of the constituents for effective learning. These include: 'ensuring that individuals have access to theoretical and experimental knowledge; the opportunity to engage in authentic task and interaction with others; and the chance to develop critical and intellectual capacities through the application of concept and theory in practice'. The researchers agree that when trainees are given adequate tasks and assignments, they have the chance to put what they learnt in theory into practice and also to interact with materials, tools and equipment, which develops their competence. It helps them form "habits of the mind, habits of the hand and habits of the heart" [17].

1.7.4 Trust

Regarding the trust they had in the teaching and learning process, the findings in table 9, indicated that the TVET trainers had low levels of motivation. According to the expectancy theory of motivation as coined by [33], employees have personal objectives and it's the reason they decide to work in organizations such that when their objectives are fulfilled they are rewarded by the organization. A clear example of the application of the expectation theory in TVET can be that of an instructor. If he expects that his work to develop competence among TVET trainees through training will give a reward, he is more likely to work harder on it. The rewards can be in form of pay raises, promotion at work and opportunities to learn new skills. In the view of the researchers, motivation is important in TVET institutions so that trainers are committed to perform their work.

1.7.5 Tools and materials

Regarding tools and materials used during training, the findings in table 10, indicated that the trainers agreed that the training equipment and the instructional materials were not adequate in their institutions. The researchers are of the view that TVET institutions' training workshops offer students with opportunities to have hands-on practical experiences in their technical fields. A lack of or inadequacy of such opportunities deprives the trainees a chance to have the skills which are necessary in the world of work. In his research study about automotive training in TVET institutions in Kenya, [21] concluded that TVET training facilities should be as close as possible to the work place facilities. His conclusion was in line with the functional context theory as advanced by Thomas Sticht (1975) and cited by [34] who suggested that 'by using materials that the learner will use after training, transfer of learning from the classroom to the "real world" will be enhanced'. They further highlighted one of the four basic principles of the functional context theory that 'the educators have to use tools and materials that match what the students are learning'.

V. Conclusion

The conclusion for the study was based on the aspects advanced by [27] regarding vocational didactics. Nielson emphasized the 5T's (Time, Tutoring, Tasks, Trust, and Tools) as elements that are important in successful competence development for TVET.

On the issue of time for teaching and learning, the trainers had issues on reflection and provision of feedback. Reflection is an essential step to improving teaching practice. Through reflection, trainers can look clearly at their achievements and struggles so that they can improve. Timely feedback in TVET is essential in supporting trainees' retention and to gauge progress regarding the skills acquired during training.

Regarding training organization, tasks and assignments the TVET trainers agreed that they were adequate for learning. Assignments assist trainers and trainees to evaluate what works best or what needs improvement, helps trainees to focus on the essential learning and offers an opportunity for the trainer to provide individual feedback to the trainees.

With regard to the trust the trainers have in the teaching and learning process, the trainers had concerns with the way they were being motivated at their institutions. Trust is a process of safety and comfort where trainers can collectively have honest dialogue about trainees, their practices and their impact regarding whether learning happened or not. Trainers need to be highly motivated to trust and sustain teaching and learning activities at the institutions.

The trainers also established that the instructional tools and materials they use for training were inadequate. In TVET, tools and materials act as a guide for both the trainers and trainees in that they offer a valuable routine for practice. They are one of the critical features for competence development in TVET.

VI. Recommendations

The TVET institutions should lobby the government for more funds to enhance trainers' salaries as a way of motivating them.

The government should consider an increased budget for TVET institutions to enable them purchase the latest training equipment and materials which will enable the graduates develop the necessary skills required in the world of work.

It is recommended that the TVET institution administrators control the quality of training by establishing quality assurance offices to coordinate all levels of TVET training.

It is further recommended that TVET institution administrators lobby for funding through; fellowships and research grants, international donor agencies, tax rebates etc. to fund the purchase of the expensive latest instructional equipment and materials.

Due to the constant advancement in technology TVET institutions should develop mechanisms for anticipating and responding accordingly by offering appropriate programmes, relevant curriculum, develop modern ways of teaching-learning and assessment of the trainees.

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