Assessing continuous professional development practices for TVET trainers of trainers in Uganda: A mixed-methods study

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ABSTRACT

Technical and Vocational Education and Training (TVET) is central to equipping learners with practical and employable skills in Uganda. The quality of this training hinges on the competence of TVET master trainers, which is sustained through Continuous Professional Development (CPD). This study assessed the current CPD practices available for TVET master trainers in instructor training institutions in Uganda and examined their relationship with the professional competences of TVET master trainers. This study was grounded in the Experiential Learning Theory (ELT). A convergent parallel mixed-methods research design within a descriptive framework was employed, collecting data via questionnaires, interviews, and document analysis from 166 master trainers, administrators, trainees, and policymakers, achieving an 87.5% response rate. The findings reveal that CPD programs are regularly organized and perceived as relevant, yet their implementation is fragmented, inaccessible to many, and heavily reliant on donor support and individual initiative. A significant positive correlation was found between CPD practices and trainer competences ($r = 0.459$). Critically, regression analysis established that current CPD practices explain 21% of the variance in the professional competences of TVET master trainers ($R^2 = 0.211$). This underscores the substantial, yet under-optimized, role of CPD. The study concludes that, despite a positive relationship, CPD delivery in Uganda remains inconsistent. It recommends the establishment of a robust national CPD framework, formalized industry partnerships, improved accessibility through blended learning, and the integration of CPD participation into career progression and reward systems to enhance its effectiveness and impact.

Keywords: Continuous Professional Development, Instructor Training Institutions, TVET Master Trainers, Trainer Competences

I. INTRODUCTION

Globally, the attention to Technical Vocational Education and Training (TVET) is on the rise, underpinned by a belief in its capacity to strengthen economic growth, a national competitiveness and development. TVET is considered essential in addressing the problems of globalization, climate change, and knowledge and skill gaps in achieving the Sustainable Development Goals (SDGs). TVET has the potential of transforming education systems by aligning them with the demands of advanced technologies, growing industries, and knowledge-based economies (Hasanah et al., 2025). The researcher was motivated by the ideology that in lifetime history, TVET has been considered a programme for preparing trainees for the world of work. Until today, the perception about TVET persists that even countries with desirable education systems like Finland, China, South Korea, Japan, Singapore, Germany, and Norway still envisage TVET as a springboard for a sustainable future (Hlatjwako et al., 2025). UNESCO-UNEVOC's policies, notably its Medium-Term Strategy 2024-2026, emphasise transformation (TVET) to meet the needs of a changing world. The primary initiatives include providing adolescents and adults with job and entrepreneurial skills, boosting innovation, promoting fairness and inclusion, and assisting the global economy's "dual green and digital transformation". TVET has been a consistent international emphasis for decades, with countries such as China, India, Saudi Arabia, South Korea, and Uganda investing in it.

A TVET Master Trainer is a specialized professional who develops the skills and capabilities of TVET instructors. Their major responsibility is to teach, coach, and assist TVET trainers so that they may effectively provide competency-based education that satisfies industry requirements. TVET master trainer aim to improve trainers' technical and pedagogical abilities, such as curriculum building, instructional delivery, and learner assessment. ToTs contribute significantly to the overall quality and relevance of technical and vocational education and training systems by providing trainers with current information, effective teaching methodologies, and industry-relevant approaches (Ministry of Education and Sports [MoES], 2016).

Technical Vocational Education and Training (TVET) is central to equipping learners with practical and employable skills that meet the demands of Uganda's dynamic labor market (Barigye, 2024). The quality of training within this sector depends heavily on the competence of TVET trainers, who are tasked with delivering competency-based and industry-relevant instruction. To maintain relevance in changing economic and technological contexts, these trainers require ongoing support through structured capacity-building initiatives, particularly continuous professional development (CPD) (Niyomushobozi & Kiarie, 2024).

Uganda has introduced several reforms aimed at revitalizing the TVET sector, including the Skilling Uganda Strategy (2012–2022) and the TVET Policy (2019) (Kim, 2021). Both frameworks emphasize the critical role of CPD in improving the quality of instruction and aligning training programs with industry standards. However, CPD practices in Uganda's instructor training institutions remain fragmented, often depending on donor support, short-term projects, or institution-specific initiatives. Studies have highlighted limited institutional capacity, weak monitoring structures, and inconsistent funding as persistent barriers to effective CPD implementation (Okware & Ngaka, 2017; Mutebi & Ferej, 2023). These challenges have resulted in uneven professional competences among trainers and constrained the sector's ability to deliver high-quality skills training.

Assessing the current CPD practices in instructor training institutions becomes critical. Understanding what strategies are in place, how they are implemented, and the extent to which they enhance professional competences of TVET master trainers can provide a clearer picture of both progress and gaps. This study therefore set out to examine the current CPD practices available for TVET master trainers in Uganda's instructor training institutions and to test whether these practices significantly relate to the professional competences of trainers. The findings are expected to inform evidence-based policy reforms, strengthen institutional CPD frameworks, and promote sustainable capacity development in the TVET sector.

1.1 Statement of the Problem

Uganda Vision 2040, the Fourth National Development Plan (NDP IV), the African Union's Agenda 2063, the Continental Education Strategy for Africa (CESA), and the Sustainable Development Goals (SDGs) all position Technical and Vocational Education and Training (TVET) as a key driver of industrialization, innovation, and inclusive economic growth. These frameworks envision a robust TVET system sustained by highly competent Master trainers (ToTs) equipped with modern technical, pedagogical, and industry-relevant skills to produce a skilled, employable, and innovative workforce (MoES, 2016). Ideally, ToTs should embody occupational expertise, andragogical competence, and soft skills that enable learner-centred instruction, innovation, research, assessment, and mentorship, all essential to achieving sustainable national development goals.

However, the current reality in Uganda's TVET sector sharply contrasts with this vision. Despite policy recognition of TVET's importance, the system is undermined by weak institutional capacity and a near-total absence of a structured, continuous professional development (CPD) framework. Existing CPD initiatives are sporadic, donor-driven, and lack coordination, standardization, and linkage to career advancement (Kintu et al., 2019). Many ToTs operate with outdated technical and pedagogical knowledge, minimal industry exposure, and within poorly resourced institutions with limited digital infrastructure (Agole et al., 2022). These challenges are compounded by chronic underfunding, with TVET receiving only 0.4% of the national education budget (Mutebi & Ferej, 2023), making sustainable CPD nearly impossible. Consequently, efforts to implement competence-based training have had limited success due to the absence of systemic investment and institutional support mechanisms.

The persistent CPD deficit has far-reaching implications. Institutionally, it perpetuates outdated instructional methods, low morale, and inefficient resource utilization. At the national level, it fuels a skills mismatch between graduates and labour market demands, leading to high youth unemployment and low productivity (Okware & Ngaka, 2017). Internationally, it weakens Uganda's progress toward SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth). This study, therefore, seeks to empirically examine the gaps in CPD practices for TVET ToTs, analyze mechanisms for identifying training needs, and propose contextually grounded strategies for a sustainable, coordinated, and impactful CPD framework. The findings aim to guide policy formulation and institutional reforms that enhance trainer competence and strengthen the overall quality of Uganda's TVET system.

1.2 Research Objective

Assess the current CPD practices available for TVET master trainers in instructor training institutions in Uganda.

1.3 Research Hypothesis

Ho_2: There is a significant relationship between the current CPD practices implemented in instructor training institutions and the professional competences of TVET trainers of trainers in Uganda.

II. LITERATURE REVIEW

2.1 Theoretical Framework

This study was grounded in the Experiential Learning Theory (ELT).

2.1.1 Experiental Learning Theory (ELT)

The theory was developed by David Kolb in 1984, building on earlier works by educational theorists such as John Dewey, Kurt Lewin, and Jean Piaget, who emphasized learning as an active, socially grounded, and iterative process (Kolb & Kolb, 2009). ELT assumes that effective learning occurs when individuals engage in a four-stage cyclical process: Concrete Experience, where the leaner actively participates in a new task or situation, such as attending a CPD workshop, testing a new teaching method, or using a new digital tool. Reflective Observation, in which the learner looks back on the experience, assessing what happened, what worked, and what did not, often through journaling, peer discussions, or self-evaluation. Abstract Conceptualization, where insights from reflection are used to develop new understandings or revise existing frameworks; this might involve linking practice to theory or identifying principles that can guide future instruction. Active Experimentation, where the learner applies the latest ideas or strategies in practice, setting the stage for fresh experiences and further learning (Kolb & Kolb, 2009).

Experiential Learning Theory (ELT) has been widely applied across diverse fields including education, health sciences, engineering, and vocational studies, demonstrating its versatility in guiding both formal and informal learning processes. In teacher education, ELT has been used to design reflective practicum experiences where student-teachers alternate between classroom teaching, reflective journaling, and feedback sessions to refine their pedagogical skills (Nuraeni & Heryatun, 2021). In the health sciences, particularly nursing and medical training, ELT underpins simulation-based learning, where learners engage in hands-on clinical scenarios followed by debriefs and theoretical integration to strengthen clinical judgment and decision-making (Uppor et al., 2024). The theory has also been pivotal in engineering and technical training, where students work on design projects or field-based assignments, then reflect and reapply insights to improve their processes.

Despite its wide applicability, Experiential Learning Theory (ELT) has faced several criticisms. One major critique is its overly linear and cyclical structure, which some scholars argue does not reflect the unpredictable, non-sequential nature of real-world learning, especially in complex institutional setting (Kayes, 2002). Others argue that ELT overemphasizes the individual learner while neglecting the social, cultural and political context of learning, downplays the role of emotion and power dynamics essential to adult development, and lacks robust empirical tools for effectively measuring and applying its learning cycle stages (Bergsteiner et al., 2010). To address these limitations, the current study integrated ELT with a strong focus on contextual factors, particularly the institutional environment in which CPD occurs, and included qualitative insights that captured the lived experiences, constraints, and institutional cultures shaping trainer learning. By doing so, the study offered a more grounded application of ELT that reflected the realities of TVET master trainer development in Uganda.

Experiential Learning Theory, was chosen in for this study because the model is applicable in the context of TVET, where professional growth relies not only on content knowledge but on continuous application, adaptation, and innovation in real-world instructional environments. The theory's four-stage cycle closely aligns with the aims of CPD, which is the study's core independent variable. Each of the CPD strategies under investigation, such as current practices, training needs identification, and innovative approaches, directly engages trainers in experiential learning processes that ultimately shape their competencies in areas like instructional planning, participatory teaching methods, ICT use, and assessment. ELT was used in this study to interpret how these CPD interventions translate into measurable changes in trainer behaviour and skill application, particularly within the context of institutional environments that may either support or constrain the experiential cycle. By anchoring the conceptual framework in ELT, the study explored not just whether CPD influences trainer competencies, but how the process of learning through experience unfolds in practice and what institutional factors enhance or inhibit that learning.

2.2 Empirical Review

A review of Training Competencies for Malaysian Mechanical Industries' Continuing Professional Development (CPD) was conducted in Malaysia to produce highly skilled workers who will enhance organizational productivity in high-income countries and improve customer satisfaction (Wan Ngah & Buniyamin, 2021). The researchers noted that there was a change in Malaysia, which made them come up with a review. For that matter, it is possible that after the review, the situation improved. By focusing on the review in Malaysia, it is important that developing countries, including Uganda, may also need such a review. Gaps: the TVET system in Malaysia is different from that in Uganda, and trainees who joined are also different.

In a similar vein, the Queensland Academy of Teachers in Australia created the Continuing Professional Development (CPD) Policy and Framework to outline the requirements for registration renewal and recognize the

significance of teacher participation in CPD (Aryee et al., 2024). Fortunately, similar arrangements are underway in Uganda. The TVET subsector developed the TVET policy in 2019 and the TVET Act 2025, which advocates for compulsory and mandatory CPDs for TVET trainers to enable them to keep updated with ongoing advancements in technology and the renewal of their practicing licenses. From the perspective of Uganda, the major intention was to create employer-led TVET. At the same time, the arrangement is intended to strengthen public-private partnerships and address the quality of TVET trainers. The gap between this study and Aryee et al. (2024) study is specific to the renewal of registration, and for Uganda, it is One of the goals of research carried out in South Africa was to evaluate the roles and responsibilities of important stakeholders. The findings demonstrate that explicit and strict adherence to the duties and responsibilities of all relevant parties is necessary for CPD to continue as a viable and essential component of local teacher development. Depending on the current educational frameworks in each nation, the actors engaged may vary. The researcher wholeheartedly concurs that including stakeholders in the creation of his CPD for VET trainers allows for the contribution of numerous ideas and the insight of creative individuals.

A study entitled "Current Status of TVET Teachers' Continuous Professional Development Practice in Case of Addis Ababa, Ethiopia" was carried out by Negash et al. (2024). The study finding points out that TVET instructors benefit from various forms of continual professional development. Most teachers at TVET College and Institute have ongoing professional development opportunities. The study found that various forms of CPD are necessary to improve student results. TVET teachers cannot effectively support and motivate students if their professional growth is not documented. This study suggests that CPD programs should be tailored to meet the requirements of instructors and increase student results over time. The results of the TVET College and Federal TVET Institute questionnaires, as well as teachers' responses, suggest that need-based CPD activities are beneficial for improving teachers' practice and student outcomes in Ethiopia (Negash et al., 2024).

According to Njenga (2024a), the research indicates that certain VET teachers in Kenya may not possess the necessary teaching abilities and knowledge, which might account for some of the ongoing issues faced by TVET teachers. As a result, Kenya's VET instructors have a critical need for ongoing professional development (CPD). According to the report, a dearth of supporting legislation contributes to Kenya's irregular ongoing professional development (CPD) for VET teachers. Several important Kenyan education policy papers have been analysed, and the results show that the policies intended to direct teachers' ongoing professional growth are unclear. According to the multi-stream paradigm, policymakers' lack of specific and practical policy alternatives to advance and maintain the CPD is the root cause of the policy gap. A variety of policy choices are thus suggested by a survey of the research on effective professional development. Among these are policy frameworks that are supportive rather than prescriptive and that make it possible for teachers to make creative decisions about what and how they learn. Furthermore, combining professional learning with professional advancement is suggested. To help with the creation of a workable policy framework, an empirical analysis of the present learning practices of VET instructors and the viability of suggested remedies is required.

According to research by Papier (2016), student performance and satisfaction increased by 70% at TVET colleges that adopted complete CPD programs. According to research undertaken by the National Board for Technical Education (NBTE) in Nigeria, CPD programs that incorporated interactions with business partners were particularly useful. This cooperation made it simpler to align industry demands with TVET courses, ensuring that the education was current and appropriate. The survey also showed that, at 65% of the schools that used CPD programs, graduates' employability increased dramatically, highlighting the direct effect of CPD on student outcomes.

Another significant piece of research that looked at the challenges and successes of CPD in TVET schools in Nigeria was carried out by Philogene et al. (2024). The poll found that although 60% of TVET teachers saw the value of CPD programs, only 40% of them routinely had access to them due to practical and financial constraints. Despite the challenges, the survey discovered that CPD participants reported a 50% increase in their confidence and effectiveness in delivering technical training. The researchers recommended increasing funding for CPD programs and establishing rules to ensure that all TVET instructors have access to ongoing professional development in order to overcome these challenges. The study also highlighted the need for government and private sector collaboration to create sustainable CPD programs that can adapt to the changing demands of the workforce.

III. METHODOLOGY

This study employed a convergent parallel mixed-methods design within a descriptive framework, which integrates quantitative and qualitative approaches to provide a comprehensive understanding of a research problem (Creswell & Plano Clark, 2018). This design enabled the systematic and simultaneous documentation of CPD practices, trainer competences, institutional strategies, and gaps. Quantitative data were collected via structured questionnaires, while qualitative insights were gathered through interviews and document analysis from TVET trainers, administrators,

policymakers, and partners. The separate analysis and subsequent triangulation of both data types ensured a holistic and evidence-based understanding of Uganda's CPD landscape.

The study engaged a total of 189 participants strategically selected from Uganda's TVET sector, comprising 74 TVET lecturers and technicians, 18 institutional managers and principals, 44 officials from the Ministry of Education and Sports, 4 development partner managers, 27 trainees, and 5 industry representatives. This diverse sample ensured insights from all levels involved in the planning, delivery, and reception of Continuing Professional Development (CPD). The distribution of participants across these key stakeholder groups is summarized in the table below.

Table 1

Study Population, Sample Size, and Sample Techniques

Category	Population	Sample size	Sampling Techniques
MoES Officials	4	4	Purposive
Principals	3	3	Purposive
EDPs	4	4	Purposive
Industrial Partners	5	5	Purposive
Institutional Management Staff	15	15	Purposive
HTVET Staff	40	40	Purposive
TVET Trainees	27	27	Purposive
TVET Master Trainers	91	74	Stratified Random
Total	**189**	**172**	

Both probability and non-probability techniques were used. Purposive sampling targeted key informants such as Ministry of Education and Sports officials, principals, and development partners due to their expertise in CPD and policy implementation (Palinkas et al., 2015). Stratified random sampling was applied to trainers, dividing them into strata by institution and role (lecturers and technicians) to ensure representativeness across Jinja Vocational Training Institute, National Instructor's College-Abilonino, and Nakawa Training Vocational College (Etikan et al., 2016).

Four research instruments were employed: structured questionnaires, interview guides, focus group discussion guides, and document review guides (Creswell, 2014). The structured questionnaires captured quantitative data on CPD practices and trainer competences using Likert-scale items, while the qualitative guides elicited in-depth insights from officials, partners, staff, and trainees. To ensure validity, all instruments underwent rigorous expert review by academic supervisors, ethics committees, and a Ministry of Education and Sports (MoES) specialist. The questionnaire's construct validity was confirmed through a pilot study and Exploratory Factor Analysis, which showed all items had factor loadings above 0.5. Furthermore, the instrument demonstrated strong reliability, with all categories achieving Cronbach's Alpha values above 0.70, indicating high internal consistency. These tools are available as supplementary material.

Quantitative data from questionnaires were entered in Kobo Collect, cleaned in Excel, and analyzed in SPSS v27. Descriptive statistics (frequencies, means, percentages) summarized trainer responses, while inferential techniques such as correlations and regression tested relationships between CPD strategies and competences. The mediating role of instructor training institutions was examined using the PROCESS macro (Ott & Longnecker, 2010). Qualitative data from interviews, FGDs, and documents were transcribed, coded thematically in NVivo v15, and analyzed using both inductive and deductive approaches to capture patterns and contextual insights (Flick, 2013).

The research process was initiated with approval from the University of Eldoret's Postgraduate Research Committee. Ethical clearance was then obtained from the Gulu University Research Ethics Committee (GUREC) and a research permit was secured from the Uganda National Council for Science and Technology (UNCST). Official permission was granted by the Permanent Secretary of the Ministry of Education and Sports (MoES) to access the study sites. All participants provided informed consent, and data were anonymized and handled with strict confidentiality to ensure ethical integrity. The study observed ethical principles of informed consent, confidentiality, beneficence, and integrity (Kessio & Chang'ach, 2020).

IV. FINDINGS & DISCUSSION

4.1 Findings

The results for descriptive statistics on current CPD practices available for TVET Master trainers based on objective in summary present findings for both independent and dependent variables

Table 2

Descriptive Statistics on Current CPD Practices available for TVET Master Trainers

S/N	Items	*SD (%)*	*D (%)*	*NS (%)*	*A (%)*	*SA (%)*	*Mean*	*σ*
1	My institution regularly organizes CPD programmes for trainers.	2 (2.7)	12 (16.2)	7 (9.5)	33 (44.6)	20 (27.0)	3.77	1.105
2	CPD programmes at my institution are relevant to my technical field.	4 (5.4)	2 (2.7)	4 (5.4)	38 (51.4)	26 (35.1)	4.08	1.001
3	CPD activities are accessible to all trainers regardless of their location.	10 (13.5)	17 (23.0)	0 (0)	40 (54.1)	7 (9.5)	3.23	1.288
4	I receive timely information about upcoming CPD opportunities.	6 (8.1)	12 (16.2)	9 (12.2)	37 (50.0)	10 (13.5)	3.45	1.160
5	CPD programmes include both theoretical and practical components.	2 (2.7)	15 (20.3)	2 (2.7)	40 (54.1)	15 (20.3)	3.69	1.097
6	CPD sessions are facilitated by knowledgeable and experienced instructors.	2 (2.7)	4 (5.4)	6 (8.1)	38 (51.4)	24 (32.4)	4.05	.935
7	The content of CPD programmes is regularly updated to reflect industry trends.	4 (5.4)	6 (8.1)	15 (20.3)	29 (39.2)	20 (27.0)	3.74	1.111
8	My institution encourages trainers to share knowledge gained from CPD with colleagues.	2 (2.7)	6 (8.1)	13 (17.6)	34 (45.9)	19 (25.7)	3.84	.993
9	Participation in CPD programmes is recognized and rewarded by my institution.	4 (5.4)	23 (31.1)	10 (13.5)	28 (37.8)	9 (12.2)	3.20	1.170

The results show that while CPD programmes are fairly regular and relevant, gaps remain in accessibility and consistency. Most respondents agreed (44.6%) or strongly agreed (27.0%) that their institutions organize CPD, with a mean of 3.77, though variability (SD=1.105) suggests uneven access. Relevance was rated highly, with 51.4% agreeing and 35.1% strongly agreeing, yielding a mean of 4.08 (SD=1.001), indicating strong alignment with trainers' technical fields. However, accessibility was less assured: 54.1% agreed and 9.5% strongly agreed, but 23.0% disagreed and 13.5% strongly disagreed, giving a mean of 3.23 (SD=1.288). These disparities suggest logistical, infrastructural, and resource-related barriers that limit equitable CPD participation.

The qualitative findings indicate that CPD implementation in Uganda's TVET institutions is generally well-received and relevant but remains inconsistent, fragmented, and often reliant on individual initiative or donor support. Programs tend to be sector-specific, with agriculture receiving more attention due to funding priorities, which limits opportunities for trainers in other technical fields. Accessibility is constrained by logistical challenges, funding limitations, and geographic disparities, though mechanisms such as centralized planning, budgeting, and institutional-level programs help mitigate these barriers. Trainers value CPD for addressing skills gaps, career advancement, and aligning with curriculum and technological updates. As one informant noted,

> *"Trainers view it positively, especially because it is a new initiative and demand-driven. Since the training is based on needs that cut across many staff members, the interest levels remain high. We have observed active participation, which is a clear indicator that the content resonates well with them"* ***(KI8, 2025).***

Another highlighted the role of inclusivity within institutions:

> *"At the National Instructors College Abilonino (NICA), CPD programs are designed to be inclusive and accessible to all trainers within the institution. The programs are structured to address the identified gaps across all instructors, ensuring no one is left behind within that context"* ***(FGD3, 2025).***

The findings show that trainers generally perceive CPD programmes positively, though some inconsistencies exist. About 63.5% of respondents felt they received timely information on CPD opportunities (mean=3.45, SD=1.160), suggesting communication gaps affect some trainers. Most agreed that CPD balances theory and practice (mean=3.69, SD=1.097), but variability indicates not all programmes achieve this integration, likely due to non-standardized curricula or resource constraints. Facilitators were rated highly, with 83.8% agreeing or strongly agreeing on their competence (mean=4.05, SD=0.935), indicating that sessions are generally well-delivered, though minor differences in facilitator quality persist across institutions.

The qualitative findings indicate that communication of CPD opportunities within institutions is informal and inconsistent, often relying on peer-to-peer updates through platforms like WhatsApp alongside occasional official notices, which limits trainers' ability to plan effectively. While many CPD programmes aim to integrate both theoretical and practical components, this balance is not consistently applied, with some workshops remaining largely theoretical. Facilitators are generally knowledgeable, often drawn from industry, ensuring relevance and practical insights; however, there is no standardized national process for selecting or training CPD facilitators, resulting in variability in quality. As one informant noted,

"There are no clear, formal strategies for communicating CPD opportunities. Typically, instructors share information amongst themselves using platforms like WhatsApp" ***(KI3, 2025).***

Another highlighted the facilitator selection gap:

"There is no formal, procedural process at the national level for selecting or training CPD facilitators. Institutions independently identify subject matter experts to lead and facilitate CPD sessions" ***(KI3, 2025).***

The results indicate that while CPD content is generally updated to reflect industry trends (mean=3.74, SD=1.111) and knowledge sharing is encouraged (mean=3.84, SD=0.993), these practices are not uniform across institutions. About 66.9% of trainers agreed that content updates occur, yet variability suggests gaps, likely due to weak industry linkages and irregular curriculum reviews. Knowledge sharing is largely supported, with most respondents perceiving a positive culture for disseminating CPD insights. However, recognition and rewards for CPD participation are inconsistent (mean=3.20, SD=1.170), with nearly one-third of trainers feeling unrewarded, highlighting a lack of formal policies linking CPD to career progression or incentives, which may reduce motivation to engage in professional development.

The qualitative findings reveal that CPD content in Uganda's TVET institutions is developed through collaboration between institutions, the Ministry of Education, and industry stakeholders, which helps ensure relevance to industry demands and technological trends. Structured engagements such as workshops, supervision visits, and Public-Private Partnership meetings support curriculum alignment, yet integration of industry feedback remains inconsistent, and resource limitations hinder practical application. Trainers are expected to share knowledge through cascading or peer workshops, but heavy workloads and the absence of formal follow-up mechanisms reduce the effectiveness of this practice. Recognition and rewards for CPD participation are also limited, with certificates inconsistently issued and little linkage to promotions or career advancement. As one informant noted,

"Those trained at the national level are expected to cascade knowledge by training others, essentially serving as trainers-of-trainers. However, there is no follow-up mechanism to verify whether this cascading is happening or effective" ***(KI1, 2025).***

Another highlighted the lack of incentives:

"Currently, we have no recognitions or certificates linked to CPD participation. That is why I mentioned that we need some form of motivator. Since CPD is becoming a requirement for lecturers to renew their licenses, introducing certificates would be timely. It would not only motivate attendance but also serve as a quality assurance tool during license renewals" ***(KI8, 2025).***

The findings revealed mixed perceptions among trainers regarded whether CPD participation leads to meaningful recognition or career advancement. Whereas some trainers associated CPD with professional growth, most noted that formal incentives, such as promotions, salary increments, or workload adjustments were rarely tied to participation. This mirrors Chuprynko's (2020) finding that the absence of tangible rewards discourages consistent CPD engagement, especially when participation requires personal sacrifices. The inconsistency in issuing certificates, combined with their limited utility in promotion processes, reduces motivation and weakens the institutional value placed on CPD. Njenga (2024b) similarly reported that despite broad endorsement of CPD's value, systemic recognition mechanisms were lacking. These findings underscore the need for formalized reward systems that not only recognize CPD participation but also integrate it into career progression pathways, thereby reinforcing its role as a driver of professional excellence and institutional growth.

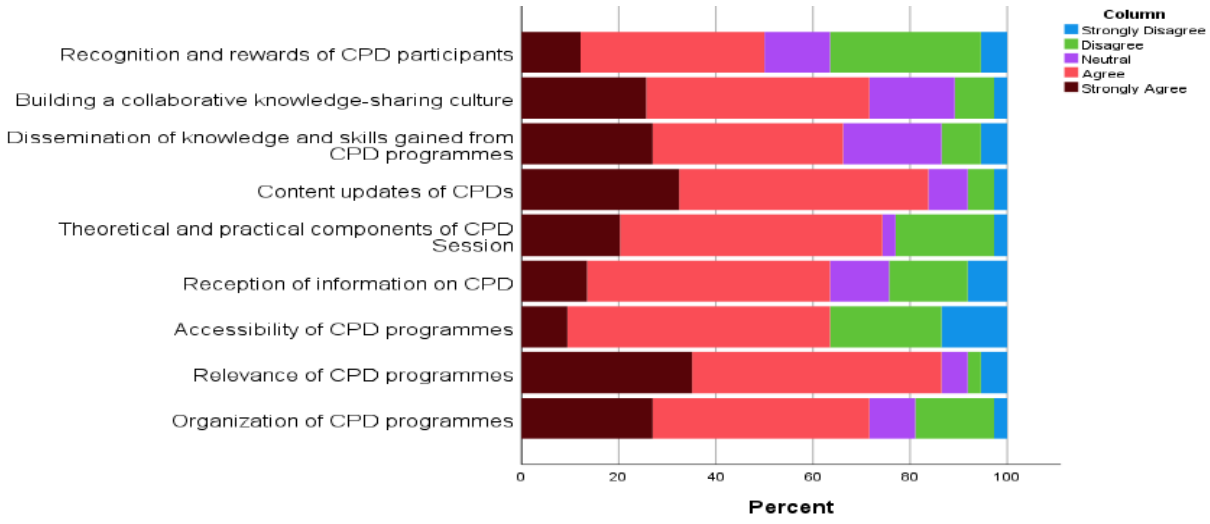

Figure 1

The current CPD Practices Available for TVET Master Trainers

Table 3

Correlation Analysis between current CPD practices and TVET Trainer Competences

Correlations			
		Current CPD practices	TVET Trainer Competences
Current CPD practices	Pearson Correlation	1	.459**
	Sig. (2-tailed)		.000
	N	74	74
TVET Trainer Competences	Pearson Correlation	.459**	1
	Sig. (2-tailed)	.000	
	N	74	74

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

Source: Primary Data (2025)

The correlation analysis in table 3 revealed a moderate and statistically significant positive relationship between the current CPD practices implemented in instructor training institutions and the professional competences of TVET master trainers in Uganda. The Pearson correlation coefficient (r = 0.459) indicated that improvements in CPD practices are associated with higher levels of trainer competences. This relationship was statistically significant at the 0.01 level (2-tailed), with a p-value of 0.000, which was well below the conventional threshold of 0.05. Therefore, we accept the hypothesis, which posits that there was a significant relationship between current CPD practices and the professional competences of TVET master trainers in Uganda. This finding suggested that investing in and strengthening CPD practices within instructor training institutions could play a pivotal role in enhancing the skills and competences of trainers, ultimately improving the quality of TVET delivery in the country.

Table 4

Regression Analysis between current CPD practices and TVET Trainer Competences

Coefficients					
	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	3.110	.242		12.869	.000
Current CPD practices	.282	.064	.459	4.381	.000
a. Dependent Variable: TVET Trainer Competences					
R	R Square	Adjusted R Square	Std. Error	F Statistic	Sig.
.459[a]	.210	.200	.41987	19.195	.000[b]

Source: Primary data (2025)

The regression analysis results in Table 4 above indicated a statistically significant positive relationship between current CPD practices and the professional competences of TVET master trainers in Uganda. The R Square value of 0.210 showed that current CPD practices explain approximately 21% of the variance in trainers' professional competences. Whereas this is a modest proportion, it was meaningful in the education sector where multiple factors contribute to competences. The model's F-statistic of 19.195 and a p-value of 0.000 confirm that the model was statistically significant, meaning CPD practices reliably predict professional competences. The unstandardized coefficient (B = 0.282) suggested that for every one-unit increase in the quality or extent of CPD practices, the trainers' competences improve by 0.282 units. The standardized Beta coefficient (β = 0.459) further indicates a moderate predictive strength of CPD practices on competences. The t-value of 4.381 with a corresponding p-value of 0.000 confirms this relationship is highly significant.

These results pointed out to accept the hypothesis which states that there is a significant relationship between current CPD practices and the professional competences of TVET master trainers in Uganda. However, the R Square value also suggests that other factors, such as institutional support, trainers' motivation, availability of resources, policy environment, and engagement with industry, likely account for the remained 79% variance in trainer competences. Therefore, whereas CPD practices are essential, a more holistic approach integrating these other factors would further strengthen trainers' professional growth and effectiveness.

4.2 Discussion

The study reveals that CPD implementation for TVET trainers in Uganda is inconsistent and fragmented, reflecting a system sustained more by donor projects and individual initiative than by national coordination. This lack of a coherent framework limits equity and sustainability, a challenge also observed in Rwanda where only 31.1% of TVET teachers had formal training (Philogene et al., 2024) and in Ethiopia where less than 40% participated in CPD or

mentorship (Negash et al., 2024). Although CPD programmes are generally relevant and align with trainers' technical areas, their quality and accessibility fluctuate depending on funding, location, and institutional capacity. This explains why CPD accounts for only 21% of the variance in trainer performance, with the remaining 79% likely influenced by factors such as institutional culture, intrinsic motivation, leadership, and resource availability. These findings reinforce Njenga's (2024a, 2024b) observations that cost, time constraints, and weak employer support undermine participation, while Chuprynko (2020) highlights systemic barriers that mirror Uganda's experience. This points to a fragmented yet promising CPD landscape, with pockets of effectiveness that could be strengthened through a national CPD policy, sustainable funding, and stronger institutional support to make professional development more equitable, continuous, and performance-driven.

The study reveals that communication, content balance, and facilitation quality within Uganda's CPD system remain inconsistent, reflecting broader structural weaknesses rather than isolated issues. Information flow is largely ad hoc, relying on informal platforms such as WhatsApp and circulars, similar to patterns seen in Kenya (Njenga, 2024b) and Rwanda (Philogene et al., 2024), which limits equitable participation and coordinated planning. The design of CPD programmes also shows an uneven integration of theory and practice, echoing Hasanah et al. (2025) and Njenga (2022a), who stressed that overly theoretical instruction weakens practical skill transfer in vocational training. Facilitator quality, though generally strong where industry experts are engaged, remains variable due to the absence of clear national standards for recruitment and accreditation, as noted by Negash et al. (2024). Collectively, these findings depict a system with promising elements but lacking coherence. Strengthening communication structures, embedding hands-on learning, and instituting national facilitator standards could transform CPD into a consistent and practice-driven mechanism for professional growth across Uganda's TVET institutions.

The findings reveal that Uganda's CPD system for TVET trainers remains fragmented, with limited coordination, weak institutionalization, and minimal incentive structures. Although CPD content is occasionally updated to reflect industry needs, the process lacks consistency and structured collaboration between government and industry, mirroring Diao et al. (2024), who identified similar weaknesses in aligning TVET frameworks with technological change, and Chuprynko (2020), who linked irregular curriculum reviews to financial and logistical barriers. Peer learning after CPD is encouraged but largely informal, depending on individual initiative rather than institutional support. This aligns with Njenga (2024a), who noted underuse of co-teaching and mentoring, and Negash et al. (2024), who found that most Ethiopian teachers lacked structured mentoring systems. Trainers also reported uncertainty about CPD's role in career advancement, as participation rarely translates into promotions or financial recognition, consistent with Chuprynko (2020) and Njenga (2024b), who observed weak reward linkages across similar contexts. Together, these results depict a CPD landscape marked by sporadic relevance, informal follow-up, and weak motivation. Establishing annual content review cycles, formalized peer-learning mechanisms, and incentive-based recognition could strengthen continuity, collaboration, and performance orientation in Uganda's CPD implementation.

V. CONCLUSION & RECOMMENDATIONS

5.1 Conclusions

CPD implementation for TVET trainers in Uganda is marked by inconsistency and fragmentation. Although programs are regularly organized, their delivery often depends on donor initiatives or individual efforts, which creates uneven access and varied quality across institutions. This patchy landscape underscores the urgent need for a cohesive national policy framework that can harmonize CPD activities, promote fairness in participation, and better align with broader institutional and national skills development objectives.

Moreover, the current CPD landscape is heavily skewed toward agriculture, largely due to donor funding preferences. This sector-specific focus leaves other technical fields under-resourced and limits the inclusivity of professional development opportunities. To address this imbalance, a more comprehensive approach is necessary; one that involves diversified funding sources and careful needs assessments to ensure all vocational disciplines receive adequate support and attention.

Accessibility remains a significant barrier, particularly for trainers in remote or underserved areas. Challenges such as logistical hurdles, centralized training venues, and limited financial resources disproportionately affect these regions, restricting equitable participation. Embracing blended learning models and decentralizing training delivery could offer practical solutions to expand reach and inclusivity.

Communication around CPD opportunities is currently inefficient and fragmented. The reliance on informal methods like WhatsApp, while helpful in some contexts, fails to guarantee timely and equitable dissemination of information. Institutions must invest in structured and reliable communication channels, such as dedicated digital platforms, to enhance transparency and enable better planning for both trainers and management.

Regarding CPD content, there is a general effort to balance theoretical knowledge with practical application, but this is unevenly realized. Resource limitations and the absence of a standardized curriculum contribute to variability,

reducing the overall effectiveness of training. Introducing mandatory practical modules and reinforcing partnerships with industry would improve the relevance and applicability of CPD programs.

Facilitators involved in CPD are often well-qualified and drawn from industry, which adds value and relevance to training sessions. However, the process for selecting these facilitators lacks standardization, resulting in inconsistent quality across programs. Developing clear criteria for facilitator qualifications and experience is critical to ensuring uniform training excellence.

The updating of CPD content is irregular, despite efforts to collaborate with industry stakeholders. Weak institutional linkages and outdated resources hinder timely revisions; risking disconnect between training and current industry trends. Regular content reviews, sustained engagement with industry, and investment in modern teaching tools are vital to maintaining the currency and usefulness of CPD offerings.

Sharing of knowledge gained through CPD remains largely informal and is not yet institutionally embedded. The absence of formal mechanisms, such as peer-learning frameworks or accountability structures, limits the effective spread of insights and best practices. Creating structured platforms for knowledge exchange and providing incentives would help build a stronger culture of professional collaboration.

Recognition for CPD participation was weak and inconsistent, which undermines motivation among trainers. Without formal reward systems such as certificates linked to career advancement or salary increases engagement in professional development can wane. Institutionalizing recognition mechanisms would not only incentivize participation but also align CPD more closely with trainers' career trajectories and aspirations.

5.2 Recommendations

Ministry of Education and Sports should develop CPD policy, framework and guidelines for TVET instructor training institutions. A standardized policy, framework and guidelines should guide content relevance, delivery methods and access, ensuring equitable, consistent, and nationally coordinated CPD provision. This policy, framework and guidelines must ensure equitable access across all institutions and regions, whereas also integrating emerging skills such as digital literacy and green technologies.

Industry partnerships should be formalized through developing Industry training attachment policy, framework and guidelines to strengthen collaboration between TVET institutions and industries. To guide the process of structured agreements that include joint curriculum reviews, trainer internships, and industry-led workshops. Industry representatives should actively participate in CPD from skills sector expert, TVET Council, Assessment Board Councils to ensure training aligns with labour market needs.

CPD recognition systems should link participation directly to promotions, salary adjustments, and professional licensing. The Ministry of Public Service, Ministry of Education and Sports, TVET council should revise appraisal mechanisms and scheme of service to reward trainers who apply and successfully attain CPD learnings. Government and development partners should invest in digital CPD infrastructure, including low-bandwidth e-learning platforms, subsidized connectivity, and ICT training for all trainers. Institutions must also equip training spaces with computers and internet to support blended learning.

Formal mentorship programmes should be embedded in institutions, pairing junior trainers with experienced colleagues under structured guidelines. Progress should be tracked through set objectives, mentorship reports, and inclusion in trainer evaluations. Hands-on training opportunities should be strengthened by expanding access to industry-standard tools, modern equipment, and real-world project engagements. Partnerships with employers should be enhanced to facilitate trainer attachments, industry workshops, and joint exposure visits with students through structured collaborations between TVET institutions and industry partners. Continuous industrial training should be institutionalized for in-service trainees to bridge existing skills gaps and provide practical, hands-on experience aligned with current industry practices. Institutions must also equip training spaces with computers and internet to support blended learning through their planning, budgeting and implementation. TVET trainer of trainers' institution should promote institutional based CPD

TVET trainers should participate in professional learning communities of practice and continuous industrial training attachments to enable skill enhancement and development. There is need to conduct action research to inform innovations in the National Instructors College Abilonino. These practices enhance the competences of TVET trainers in research.

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