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Quality Assurance in West African TVET Institutions: A Brief Literature Review

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Abstract

The study reviews the role of quality assurance in Technical and Vocational Education and Training (TVET) systems in supporting economic development, enhancing labor market competitiveness, and meeting industry expectations. The authors use a desk research strategy, focusing on document review and qualitative content analysis to analyze credible reports on the role of quality assurance in TVET to promote competent workforce. As per findings, quality assurance in TVET institutions is crucial to ensuring that graduates possess the necessary skills and competencies for the workforce, reducing skills gaps and enhancing employability. It aligns TVET programs with industry standards, enabling graduates to contribute effectively to the workforce. Quality assurance mechanisms also enhance the credibility and reputation of TVET institutions, increasing their attractiveness to students and employers. It helps produce highly skilled individuals, contributing to the country's economic development and global competitiveness. However, the TVET sector in West Africa faces several challenges, including inadequate infrastructures, curriculum relevance, teaching and learning quality, limited industry collaboration, and lack of quality assurance mechanisms. To address these issues, the authors suggest some innovative dimensions of quality standards to strengthen and improve quality assurance in TVET institutions. These quality standards include leadership, governance, management, physical environment, human resources, curriculum, student participation, access, equity, career guidance, financial management, program evaluation, research, innovation and development. All of these are interrelated, thereby spurring the overall quality and effectiveness of TVET programs and institutions.

Keywords: quality assurance, TVET, competent workforce, TVET institutions, quality standards

Introduction

The Technical and Vocational Education and Training (TVET) is a crucial sector in education, with unique features that are central to the global economy's development

(Gyimah, 2020). The discussion of knowledge acquisition, skills development, skills shortages, employment, employability and unemployment are closely related to TVET

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not only in Africa but also worldwide (South African Qualifications Authority, 2016). Therefore, giving prime attention to TVET is essential for any economy aiming to achieve sustainability in its national development (Gyimah, 2020). TVET holds particular importance for African development due to high rate of youth unemployment in the continent. This has led to frustration among a large section of the population, as the African countries' economies lack capacity to absorb millions of young people entering the workforce each year (African Development Bank, 2016). The ADB report further elucidated that 10 to 12 million youth enter the labor market annually, but only 3.1 million jobs are created, which is insufficient to meet the employment needs of the African youths, implying that less than one-third of the African employable population is absorbed into the public sector.

This particular situation of unemployment in Africa underscores the justification of this paper, as it highlights the importance of quality assurance in TVET in order to ensure that individuals are equipped with the skills necessary for self-employment and potentially employing labor in their private businesses, thereby reducing unemployment rates within the continent (Afeti, 2018). The emphasis on self-employment is very pertinent as the future of employment in Africa has been described as bleak, with an estimated 263 million African youths lacking economic opportunities by 2025 (African Development Bank, 2016). If the future of employment in Africa will depend so much on self-employment of TVET graduates, it thus becomes crucial for TVET institutions to closely monitor and enhance the standards of its input and process in order

to produce graduates with skills that are marketable and capable of creating wealth, generating jobs and sustaining nation's economy (Okoli & Okoli, 2021). Okoli and Okoli (2021) further identified certain factors as essential to ensuring quality assurance in TVET institutions, including the setting and execution of necessary plans and policies, and the monitoring supervision and evaluation of standards to secure access to adequate teaching and learning facilities, and the application of effective instructional approaches among TVET instructors.

Several African countries, including Botswana, Ghana, Kenya, Malawi, Namibia, Rwanda, Tanzania, Uganda, and South Africa, have recognized the importance of TVET to national development and are now investing in and encouraging skill acquisition development among youths (Afeti, 2018). However, the TVET sector in many Sub-Saharan countries is not performing optimally due to various factors, such as its small size, impracticability of programs, mismatch between programs and labor market needs, inadequate infrastructure and low outputs (Eicker, Haseloff, & Lennartz, 2017). To fully reap the benefits of the TVET sector in their economies, African countries need to address these challenges that impede both the impartation and acquisition of TVET programs through constant application of quality assurance measures to TVET institutions in order to achieve best practices. It is crucial for fully developing and revitalizing the TVET sector to stimulate economic growth in the continent. Efforts should also extend beyond formal school or college settings to include training centers in private workshops within the informal sector. In addition, TVET encompasses

education, training, and skills development across a broad spectrum of occupational fields, production, services and livelihoods (UNESCO, 2016b). Its significance lies in its provision of knowledge and skills for employment through formal, non-formal, and informal learning. TVET is viewed as an approach to training and skill development aimed at imparting market-relevant competencies to trainees, thereby producing work-ready graduates. This recognition underscores its role as a vital driver of social equity, inclusion, and sustainable development.

In order to achieve optimum results in and reap the full benefits of TVET in a system, specific processes and procedures are necessary to ensure that TVET provisions, management, curriculum design, and development adhere to specified quality standards. Quality standards in TVET programs, like in every other educational sector, have been directly linked to the quality of their graduates. (Okoli & Okoli, 2021). These quality standards are essential for each TVET institution to achieve the expected quality training and job prospects. The intention behind these standards is to enhance the institution's quality and integrate them into the institution's objectives. This necessitates the need for the development and implementation of local and international quality assurance measures for the achievement of standards and qualifications comparability in African countries (Mutebi & Ferej, 2023). This paper is a review of the literature on quality assurance in West African TVET institutions. This brief literature review aims to provide insights into the current landscape of quality assurance in TVET institutions across the West African

countries with a focus on Nigeria, Benin and Ghana. By examining existing literature, this article seeks to identify key challenges, best practices, and opportunities for enhancing the quality assurance frameworks within the region's TVET sector.

Literature Review

In this section, a comprehensive desk research review is done on TVET in Africa focusing on document review and qualitative content analysis of relevant reports on the role of TVET quality assurance in promoting competent workforce in West Africa. The purpose of this literature review is to gain insights of the meaning and purpose of quality assurance, its importance, and its contribution to economic development and labor market competitiveness.

Meaning and Purpose of TVET Quality Assurance

According to UNESCO-UNEVOC (2013), quality assurance in TVET institutions refers to the systematic process of ensuring that the education and training provided meets specified standards of quality. The overarching purpose of quality assurance in TVET is to enhance the relevance, effectiveness, and credibility of vocational education and training programs (Lopez, 2012). This includes confirmation that graduates are equipped with necessary knowledge, skills, and competencies to meet the demands of the labor market and contribute to economic development. As emphasized by UNESCO-UNEVOC (2013), important aspects of quality assurance in TVET institutions comprise relevant curriculum, skilled teaching staff, sufficient learning resources, industry connections

and effective assessment systems. Through quality assurance mechanisms, TVET institutions seek to maintain and improve the quality of education and training they provide, ultimately spurring overall development of a skilled workforce (Lopez, 2012). By adhering to established standards and continual improvement, TVET institutions can uphold their commitment to delivering high-quality vocational education. However, for the past years, Nigerian TVET programs are faced with numerous challenges that have been affecting the quality of TVET programs both in output and input (Afred & Kayoma, 2012; Oganwu, 2011; Okoye & Okwelle, 2013; Onyesom & Ashibogwu, 2013; Uwaifo & Uwaifo, 2012 as cited in Ayonmike, 2015). The federal government of Nigeria has pushed educational institutions to design their curricula with a focus on vocational relevance in order to produce graduates with necessary skills for self-employment and self-relevance (Igwe et al., 2013).

Importance of TVET Quality Assurance

Quality assurance in TVET institutions holds immense significance for several compelling reasons. Firstly, quality assurance measures are essential for ensuring that graduates from TVET institutions possess required skills and competencies that industry and the workforce demand. This leads to reducing skills gaps and enhancing employability (Hager, 2015). Secondly, such measures are crucial in ensuring that TVET programs are aligned with current industry needs and standards, thereby enabling graduates to prompt the workforce upon completion of their studies (European Centre for the Development of Vocational Training [CEDEFOP], 2017). Thirdly, quality

assurance mechanisms enhance credibility and reputation of TVET institutions, both domestically and internationally, thereby increasing their attractiveness to students and potential employers (Froy, Giguère, & Thakur, 2015). Lastly, with a focus on quality, TVET institutions can produce highly skilled individuals who can contribute to country's economic development and global competitiveness (UNESCO-UNEVOC, 2018a). In short, quality assurance helps TVET institutions and parent organizations develop and measure their performance, strengthening societal confidence in educational quality and services. These standards facilitate decision-making on financial allocations, provide quality information to learners, parents, companies, and the government; and enhance transparency, equity and accountability in education, particularly for public institutions.

We have typically noted that in Africa, graduates of TVET programs gain expertise in specific disciplines, but they are not prepared to use that information in real-world situations outside classroom. The notion of quality has been one of the most significant concepts in modern educational terminology (Zelvys, 2004 as cited in Ayonmike, 2015). Thus, the study is emphasizing the quality output aspect that is rendered to graduates in TVET. According to Oyebade, Oladpo, and Adetoro (2012 as cited in Ayonmike, 2015), factors that boost quality of education include effectiveness and caliber of the teachers; the availability and sufficiency of the resources and facilities required for efficient teaching and learning; and the degree to which the graduates are equipped to handle life's challenges and address societal issues.

TVET Quality Assurance for Economic Development and Labor Market Competitiveness

TVET is a type of specialized education that aims to empower students by enhancing their human potential, technical proficiency, cognitive comprehension, attitudes, and work habits; thus, it plays a key role in supporting economic development, the creation of national wealth, and contributing to poverty reduction (Schneider, 2012). According to UNESCO (2016a), to address the growing expectations of industries, continuous enhancement of TVET quality should remain a priority. TVET systems are widely considered to be dependent on quality development. As such, quality development plays a critical role in fostering trust among TVET stakeholders, enhancing the TVET brand, and persuading businesses and industries to actively participate in TVET systems and hire TVET graduates. Thus, stakeholder demand for the development of quality assurance procedures to establish standards and standardize TVET has increased significantly (Hoque, 2016). In the context of Asia-Pacific integration, quality assurance in TVET has, in recent years, become a significant element in the efforts to promote regional labor mobility and build a more integrated regional labor market.

We postulate that TVET plays a vital role in the economy by creating a sufficient number of middle-level professionals. To this end, it is imperative for countries to build a modern, strong, and efficient TVET system, as the goal is to produce competent workers whose skills are evaluated and matched to industry-driven, globally recognized benchmarks for occupational competence. According to Budu-Smith (2005 as cited in

Chukwuedo, 2015), national progress would essentially come to a standstill without the skilled technical manpower generated by the polytechnic, technical, and vocational institutes for industry, commerce and agriculture. The program's ultimate goal is to educate and train competent graduates in all sectors of the economy who are prepared to grasp innovations and technology needed to create jobs, entrepreneurship and wealth (Reinsch & Nyangweta, 2023). One of the TVET system's main responsibilities is to collect data on labor market. In order to do this, techniques for interviewing employers must be created. Then, based on data from the job market, training programs for recent graduates, employee upskilling, and student attendance at TVET schools and other training organizations must be directed (Hoque, 2016).

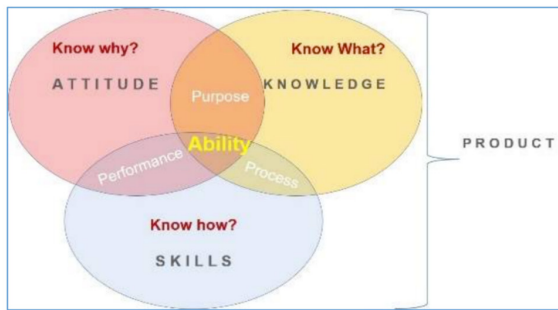
According to Kenya National Qualifications Authority (2018), TVET quality relates to the achievement of the outcomes and competences (knowledge, skills and attitudes) in meeting needs and expectations. All TVET institutions' internal quality assurance and quality management systems must be used in conjunction with external quality assurance (Reinsch & Nyangweta, 2023). TVET is one of educational programs tasked with creating necessary and demand-driven industrial/technological labor force for Nigeria (Ahobee, n.d.; Musa & Okorieocha, 2012; Ansah & Kissi, 2013; Okorieocha & Duru, 2013 as cited in Chukwuedo, 2015). However, despite its significance, quality is a difficult word to define and quantify in TVET in particular and in education in broader. Education quality is an elusive concept and a dynamic idea. It's the quality that transpires during the delivery process as well as during

the process of interaction between the trainer and the trainee (Reinsch & Nyangweta, 2023).

The figure below describes graduate competence with the “Ability Model”. Here, "ability" refers to the trainee's or graduate's capacity to operate in accordance with particular industry standards for their line of work. The model illustrates how aptitudes and competencies interact to enable production of goods and services. Thus, as seen on the left, quality assurance must take into account every facet of individual capacity.

Figure 1

Quality Assurance and the 4P Ability Model



(Source: Reinsch & Nyangweta, 2023)

Hoque(2016)indicatedthatoutcome-oriented quality assurance ought to be founded on the needs of the nation's employers. Information, priorities, occupational areas, and supply and demand curves are all necessary for a trustworthy labor market. Whereas, technological innovation makes it possible to develop goods and services of higher quality. Market-driven necessitates cooperation and coordination with employers. It is important that domestic industries play an integral role

in the TVET system so that training is in line with the demands and TVET students can be integrated into their workforce. These days, it's critical to focus on quality assurance, as it cultivates highly skilled workers that can handle any challenge in an African environment. As a result, they are able to fill the nation's employment demands- both domestically and abroad (Hoque, 2016). According to Imogie (2014 as cited in Chukwuedo, 2015), without an efficient and productive educational system, no country can reach its full potential and stay up to date with scientific and technological advancements.

Methods

This paper aims to assess current state of quality assurance frameworks, identifying key challenges impacting effectiveness, exploring best practices and innovative approaches, and recommending strategies for strengthening and improving quality assurance in these institutions. The review also explores best practices and innovative approaches employed in the region mainly in Benin, Ghana and Nigeria to enhance quality of TVET programs. To collect relevant information, we examined current literature dating back ten (10) years, encompassing academic journals, government reports, policy documents, and pertinent publications from international organizations concerning quality assurance in West African TVET institutions. Likewise, relevant literature and documents were chosen based on their date of publication, relevance to the research topic, and the credibility of the sources (Cohen et al., 2018). Information was also obtained from electronic databases and the websites of prominent organizations

and institutions involved in TVET quality assurance (Creswell & Creswell, 2023). A time period of 10 years ago, the literature was selected to argue the article views and presentation. Various credible sources were utilized as clearly referenced- the sources that are cited were selected as the sources fit the study and gave deeper knowledge and understanding in supporting the article views. Additionally, the sources help in examining the importance of additional research. Several sources that were analyzed were studied chronologically, starting with the earliest publication and to the most recent to identify arguments and facts. After making a note of significant points, themes and concepts were arranged. The data gathered were thematically analyzed to identify the essential quality assurance standards for effective and efficient TVET institutions. The study, thus, relied on secondary sources of data for its related literature.

Findings and Discussion

The findings underscore the essentiality of TVET in creating a skilled and competent workforce to meet the needs of both domestic and international labor markets, thereby contributing significantly to national progress and global competitiveness. In this regard, we present the current state of TVET quality assurance, best strategies, key challenges and strategies for strengthening and improving TVET quality assurance in West Africa.

Current State of TVET Quality Assurance in West Africa

We notice nowadays that TVET quality assurance situations in West African countries vary from one country to another

and are subject to ongoing development and refinement. In general, several West African countries have established and are in the process of setting up national quality assurance agencies, specifically tasked with overseeing and regulating the quality of TVET provision (Aryeetey, 2019). These agencies are responsible for defining standards, conducting program evaluations, accrediting institutions, and monitoring compliance with prescribed quality criteria. Similarly, in most countries, quality assurance frameworks often involve mechanisms for industry engagement and validation to ensure the relevance and currency of TVET programs (West African Quality Assurance Network [WAQAN], n.d.). This includes the establishment of industry advisory boards, regular consultations with employers, and the integration of industry-recognized certifications or standards into vocational curricula. In countries like Nigeria, Benin and Ghana, we realize that the frameworks are not similar but they ensure effectiveness and relevance of vocational education and training programs. These frameworks include the National Vocational Qualification Framework (NVQF) in Nigeria, which standardizes and recognizes qualifications across different TVET providers, promoting consistency and quality in vocational education and training (Ndukwe & Allen, 2018). In Ghana, the TVET Quality Assurance System monitors and evaluates the quality of vocational education and training programs, including the development of standards, accreditation processes, and regular assessments (Darteh, 2018). However, in Benin, the National Agency for the Promotion of Vocational Education (ANPE) plays a key role in promoting and regulating TVET programs, developing and

implementing quality assurance measures, including curriculum standards, instructor qualifications and assessment protocols (Nouatin et al., 2019). In these three West African countries, collaborative efforts among TVET institutions and industry stakeholders have led to the development of industry-relevant certification programs and standards, ensuring that TVET programs align with current industry needs and equip students with skills in demand (WAQAN, n.d.). Similarly, regulatory bodies and accreditation agencies oversee and enforce quality standards in TVET institutions, conducting accreditation processes, institutional audits, and quality assurance reviews (Igwe et al., 2013). Moreover, collaboration with international organizations and donors often supports the development and implementation of TVET quality assurance frameworks through funding, technical assistance and knowledge sharing (Oduaran & Bierema, 2015). These examples illustrate various approaches and initiatives aimed at enhancing TVET quality assurance in the West African countries, ultimately contributing to the improvement of vocational education and training programs in the region (Korter, 2023). Furthermore, quality assurance frameworks encompassed the formulation and dissemination of clear quality standards and criteria against which TVET institutions and programs were assessed (Okorafor & Nnajiifo, 2017). These standards often encompassed aspects, such as infrastructure, teaching staff qualifications, curriculum relevance, student support services, learning outcomes, and links to the labor market. Finally, we notice that efforts towards regional harmonization of TVET quality assurance frameworks were observed through collaborative initiatives between

West African countries. Regional bodies such as ECOWAS (Economic Community of West African States) played a role in promoting alignment, mutual recognition of qualifications, and the exchange of best practices to enhance the overall quality of vocational education across the region (Faye, 2016). It is important to note that developments in TVET quality assurance frameworks may have evolved since the last updates, with new policies, initiatives, or regional collaborations shaping the landscape.

Best Practices in West African TVET Quality Assurance

The literature shows that quality assurance in TVET is crucial for graduates to meet the labor market's demands. In West Africa, several best practices and innovative approaches have emerged to enhance TVET quality. According to Oduaran and Bierema (2015), stakeholder engagement, competency-based training, accreditation and certification, quality assurance frameworks, and public-private partnerships are essential for ensuring the relevance and effectiveness of TVET programs. Involving various stakeholders, such as industry representatives, employers, and local communities, in the design and review of TVET programs can enhance relevance and quality (Oduaran & Bierema, 2015). Competency-based training (CBT) focuses on developing specific skills and competencies required by industries as emphasized by the International Labour Organization (ILO, 2019a). Accreditation and certification mechanisms, such as the West African Examination Council (WAEC), help ensure quality standards (Aryeetey, 2019). Quality assurance frameworks, such

as the West African Quality Assurance Network (WAQAN) encompasses program evaluation, teacher training, infrastructure assessment, and student assessment (WAQAN, n.d.). Public-private partnerships (PPPs) between TVET institutions and private sector entities can enhance the relevance of programs and provide work-integrated learning opportunities. These best practices and innovative approaches can serve as a foundation for further enhancing TVET quality in West Africa, promoting economic development and meeting the evolving demands of the labor market.

Key Challenges Impacting Effectiveness of TVET Quality Assurance in West Africa

The quality assurance of TVET in West Africa is undergoing significant improvement. The TVET landscape in West Africa faces several challenges that impact effectiveness of quality assurance (ILO, 2017). One of the key challenges is inadequate infrastructure and resources. Due to limited funding and resources, many TVET institutions in West Africa struggle with inadequate infrastructure, outdated equipment, and insufficient teaching materials, which hinder the delivery of high-quality vocational training (Amuah, 2017). The relevance of TVET curricula to the needs of industries is often questioned, leading to a mismatch between the skills acquired by graduates and demands of the labor market. This misalignment affects the overall quality and relevance of TVET programs (Ajayi et al., 2018). Similarly, the shortage of qualified instructors and trainers in TVET institutions contributes to inconsistent teaching standards and impacts the quality of learning experiences for students (Kilay,

2018). Additionally, lack of professional development opportunities for teachers hinders their ability to stay updated with industry trends and teaching methodologies (Dassah et al., 2019). Moreover, insufficient collaboration between TVET institutions and industries results in a gap between the skills taught and industry requirements. This lack of partnership diminishes relevance and effectiveness of TVET programs, as they may not adequately address the current needs of labor market (Nyarko, 2016). Furthermore, there are weak quality assurance mechanisms; and accreditation processes which undermine the credibility and standardization of TVET programs. Inadequate monitoring and evaluation systems further exacerbate the challenge of ensuring consistent quality across different TVET institutions in the region (Owings et al., 2020). We particularly notice that in West African countries like Benin, Ghana and Nigeria, there is a significant challenge due to several factors. These include lack of standardization, limited infrastructure and resources, shortage of qualified and experienced instructors, industry relevance, weak governance and regulatory frameworks, societal attitudes and perceptions towards vocational education, and a skills gap (ILO, 2017; Kilay, 2018). Inconsistent standards across different TVET institutions make it difficult to maintain consistent quality assurance practices, leading to disparities in education and training (ILO, 2019a). Similarly, inadequate funds for infrastructure development and maintenance hinder the establishment of well-equipped training facilities, while the lack of modern equipment and technology affects the practical hands-on learning experience for students (UNESCO-UNEVOC, 2019).

Addressing these challenges requires a multi-faceted approach, including increased investment in infrastructure, curriculum review and industry engagement, professional development for educators, and the establishment of robust quality assurance frameworks. To this end, coordinated efforts from governments, educational institutions, industry stakeholders, and international partners are needed to strengthen TVET quality assurance frameworks and boost quality and relevance of vocational education and training in the West African countries and beyond.

Strategies for Strengthening and Improving TVET Quality Assurance

To strengthen and improve TVET quality assurance in the West African TVET institutions, it is essential to prioritize the development of comprehensive quality assurance frameworks that encompass not only academic standards but also industry relevance, student outcomes, and continuous improvement. They are essential for ensuring delivery of effective education and training to promote competent manpower that align with industry demands. Some of the key dimensions of quality standards in TVET institutions include:

Leadership, Governance and Management

Leadership is a major pillar in any organization/institution to ensure proper direction, which bears significance. According to Blom & Meyers (2003), if the leadership is dynamic and involves team building, teamwork, and decision-making, TVET programs can be implemented effectively. Similarly, governance evaluates how the governing body or authorities understand

TVET (Van den Berghe, 1996). Similarly, if the authorities have a clear vision, mission, objectives, and goals for TVET programs or institutions, authorities can design updated strategic planning that describes how it will function, earn, and provide quality training to students (Van den Berghe, 1997a). The management standard considers how resources are available and mobilized within the institutions or centers, and how management can ensure its sustainability. It appears that effective governance, leadership and management of TVET institutions are significant dimensions of quality standards. This involves assessing organizational structures, financial management, strategic planning, and transparent decision-making processes that support delivery of high-quality education.

Management of Physical Environment

Nowadays, it is critical to note here that successful leadership and TVET programs are not sufficient to measure the quality of TVET institutions. Physical facilities along with other required criteria are also important. Any institution, for example, cannot provide quality skill development programs in the absence of physical facilities or environments as well as the availability of tools, equipment and learning materials (Blom & Meyers, 2003) As a result, in order to provide quality TVET programs, a physical environment and facilities, such as good classrooms, workshops, playgrounds, labs, modern tools or equipment, and the most recent technologies are required. All of these are required in the management of the physical environment standard to make students competent and to deliver the skills accordingly. It is crucial to provide adequate

and modern facilities, equipment, and infrastructure to support practical training and learning. We assume that the availability of modern facilities, equipment, and resources necessary for effective teaching and learning is a critical dimension of the quality standards. This includes assessment of adequacy of classrooms, laboratories, workshops, and technological infrastructure. Additionally, the availability of up-to-date learning materials, textbooks, and access to relevant industry software and tools has to be considered.

Management of Human Resources

In a TVET institution, teachers, trainers and instructors are the most important stakeholders from whom students learn and acquire knowledge, skills and attitudes (Oanda et al., 2018). Students will not benefit academically if teachers are not qualified, experienced and competent, leading to limited knowledge and skills among graduates. More importantly, if teachers or instructors are well-prepared and available as well as well-motivated and well-planned with a daily well-designed lesson plan, they can provide effective and quality skill development programs (Van den Berghe, 1996). Thus, the quality of TVET programs can be assured based on the availability and sustainability of teachers or instructors as well as their regular capacity building and introduction to new technologies (Bateman & Coles, 2017). That is why, all TVET programs must be relevant; otherwise, graduates will be unable to find work. To make this possible, the training curriculum must be tailored to market demands and updated in a yearly basis to reflect new market trends (UNESCO-UNEVOC, 2018b). All in all, employing

qualified and experienced instructors who possess both industry expertise and teaching skills can contribute to the quality of training and learning. It is important to emphasize qualifications, expertise and ongoing professional development of teaching staff. This includes evaluating qualifications, industry experience and pedagogical skills of instructors. Continuous training and opportunities for professional growth are essential components of quality standards to ensure that teachers are equipped to deliver high-quality education.

Management of Curriculum and Learning Resources

In TVET institutions, the management of curriculum and learning resources standards are also crucial. If books, manuals, student learning materials and visual aids are available in classrooms, workshops, labs, and playgrounds, TVET programs will be more effective (UNESCO-UNEVOC, 2013). Similarly, if TVET programs were relevant to the labor market, teachers could ensure students' quality learning (Van den Berghe, 1996). Apart from it, it is critical to understand the teaching-learning process in which the delivery of instruction and assessment contribute to evaluation of the overall teacher-student relationship and communication across the teaching, learning and evaluation processes (Oanda et al., 2018). We notice that it is important to ensure that the curriculum is up-to-date, relevant to industry needs, and delivered through effective instructional methods. Moreover, institutions should focus on relevance, currency, and industry alignment of the curriculum. It warrants that program contents ensure reflection of latest industry

practices, technological advancements and labor market demands. Additionally, instructional methods, including the use of modern teaching techniques and technology, are evaluated to ensure effective delivery of education and training.

Students' Participation in Learning Activities

As highlighted by ILO (2019b), this standard describes how students actively participate in learning activities; how teachers involve students in practical classes; and how classes are designed with an effective lesson plan and visual teaching-learning materials (visual aids) (Van den Berghe, 1997b). As a result, in order to ensure the quality of TVET programs, teachers should make classes lively with proper use of available resources, and engage students in the guided and independent practices. Additionally, teachers should organize regular evaluations as per students' performance, tasks, assignments, and regular-based assessments so that quality of TVET programs (UNESCO-UNEVOC, 2018a) could be guaranteed. This helps ensure that the programs are designed according to the needs of the labor market and whether all targeted groups have access to and participate in the programs accordingly (Van den Berghe, 1996).

Access, Equity and Inclusiveness in TVET

Assuring access, equity and inclusiveness in the TVET is essential for promoting quality standards and ensuring that individuals from diverse backgrounds have the opportunity to acquire relevant skills and knowledge. To this end, ILO (2019b) highlights some strategies for promoting inclusive education and training within the context of vocational

education. Likewise, Chakroun (2019) examines global perspectives on equity and inclusion in education, including TVET, and highlights the importance of community partnerships in promoting access and inclusiveness within educational systems. By prioritizing access, equity and inclusion, TVET institutions can contribute to social and economic development by providing equal opportunities to all learners regardless of their socio-economic status, gender, disability or other factors (UNESCO, 2013). This standard confirms that TVET programs are open and accessible to different target groups, such as disadvantaged groups, and the population of remote areas. If it is true then the equity and inclusiveness of TVET are assured and maintained.

Career Guidance and Student Services

After graduation, TVET students need support in making career decisions. Career counseling and student services are essential elements of meeting TVET quality standards. They help students explore interests and guide students toward a professional career that aligns with students' strengths, weaknesses, resources and opportunities (Van den Berghe, 1997a). This standard helps students develop a career plan related to job search, goal setting and methods for achieving goals and cultivating job-searching skills (Oanda et al., 2018). Therefore, students receive guidance and support in making informed career choices because career guidance is tied to graduate employability. In a nutshell, every TVET institution has to offer comprehensive support services, such as career guidance, counseling, and placement assistance to enhance the overall learning experience. It can be said that TVET institutions should

provide support services to enhance students' learning experiences and overall well-being. This includes evaluating counseling services, career guidance, job placement assistance, and academic support for students with diverse needs.

Financial Management and Financial Sustainability

According to UNESCO-UNEVOC (2018a), the financial management and financial sustainability assist in the development of labs, the purchase of modern and the technological tools and equipment, the acquisition of good learning and teaching materials or resources, and the recruitment of qualified teachers or instructors (Van den Berghe, 1997b). Financial management and financial sustainability are most important in delivering high-quality TVET programs because they help to ensure overall quality (Van den Berghe, 1997a). We realize that to ensure financial stability in TVET institutions, TVET institutions should develop comprehensive budgets, allocate resources efficiently, diversify revenue streams, establish robust financial controls, manage costs, develop long-term financial plans, form strategic partnerships, and provide staff training. These strategies further help maintain a solid financial foundation, support their educational mission, and ensure long-term viability. By implementing these strategies, TVET institutions can maintain a strong foundation for their future.

Program Evaluation, Research, Innovation and Development

Program evaluation, research, innovation and development help in determining the effectiveness of TVET programs (Bateman

& Coles, 2017). It requires overall program evaluation, research, and innovation activities. It is the most effective method for conducting internal assessments and receiving feedback from the labor market on the graduates' productivity, as well as from related stakeholders (Bateman & Coles, 2017). This standard assesses the effectiveness of programs and their contribution to the labor market as well as the enhancement of our graduates' skills, knowledge, and attitudes (Van den Berghe, 1997a). Similarly, every TVET institution has to implement fair and consistent assessment methods to evaluate student learning outcomes, leading to recognized certifications. From this, we notice that program evaluation, research, innovation and development promote a culture of continuous improvement, fostering an environment where institutions are committed to staying abreast of emerging trends, technological advancements, and industry developments. Embracing innovation and adapting to changing needs are important aspects of quality standards. More importantly, institutions have to assess the achievement of clearly defined learning outcomes and competencies of students. Assessment methods should be fair, transparent, and aligned with the learning objectives, allowing the measurement of students' knowledge, skills and abilities. The evaluation of student performance and the effectiveness of assessment tools are also crucial dimensions.

Interpersonal Relationships with different Industries and Stakeholders

Collaboration with industry and relevant stakeholders is another key dimension. In TVET institutions, collaborating with TVET

institutions and training institutes is crucial for employers to gain a competitive advantage. This collaboration involves engaging with employers, communities, and regulatory bodies to foster strong relationships with different industries and program stakeholders (Van den Berghe, 1997b). By establishing effective partnerships and collaboration, the programs can become more relevant and ensure high quality, ultimately leading to increased job prospects for graduates (Oanda et al., 2018). In short, establishing strong partnerships with industry to ensure that training programs align with current industry standards and practices. Furthermore, this key dimension helps to assess the extent to which TVET institutions engage with employers, industry associations and community organizations. This includes evaluation of the institution's ability to provide students with practical experience, internships, and exposure to real-world work environments.

Conclusion

Finally, it is important to mention that quality assurance in TVET institutions is crucial for promoting competent manpower and supporting economic growth. TVET institutions play a pivotal role in equipping individuals with the skills and competencies necessary to meet the demands of the labor market and contribute to the national development. In the West African context, ensuring quality and relevance of TVET programs has become a pressing concern. This is possible through some quality standards, which refer to a set of defined criteria, benchmarks, and expectations that guide the delivery of education and training programs. These standards are designed to guarantee that the teaching and learning

processes, facilities, resources, and outcomes are in line with established best practices and meet the needs of students, industry and society at large. These standards cover different aspects, such as curriculum design, instructional methods, assessment and evaluation practices, teacher qualifications, student support services, infrastructure, and the relevance of programs to the labor market demands. They are essential to confirm quality and credibility of TVET institutions and their programs, facilitating comparability and trust among stakeholders, ultimately enhancing the outcomes and employability of graduates. By focusing on these areas, TVET institutions equip individuals with the skills and knowledge needed to succeed in the workforce while also meeting the evolving needs of industries and employers. This further safeguards that TVET institutions are able to meet the evolving needs of their students. In crux, the aforementioned key dimensions of quality standards are interrelated and collectively play a part in the overall quality and effectiveness of TVET programs and institutions. By focusing on these dimensions, TVET institutions can strive to maintain high-quality education and training programs that are relevant to industry needs, contribute to students' employability, and support economic development.

References

- Afeti, G. (2018). Revitalising technical and vocational education and training in Africa: Issues outstanding. *Journal of Vocational, Adult and Continuing Education and Training*, 1(1), xi-xviii. <https://journals.co.za/doi/epdf/10.14426/jovacet.v1i1.298>

- African Development Bank. (2016). *Jobs for youth in Africa catalyzing youth opportunity across Africa: The role of the African Development Bank*. www.afdb.org/en
- Ajayi, L., Olojede, A. A., & Adu, E. O. (2018). Employers' perception of the relevance of skills acquired by technical and vocational education and training graduates in Nigeria. *International Journal of Education and Research*, 6(4), 89-100.
- Amuah, I. K. (2017). Challenges of technical and vocational education and training (TVET) in Ghana. *Journal of Education and Practice*, 8(21), 16-23.
- Aryeetey, E., (2019). *Technical and vocational education and training in Sub-Saharan Africa: Challenges and opportunities*. African Minds.
- Ayonmike, C.S., Okwelle, P. C. & Okeke., B. C. (2015). Towards quality technical vocational education and training (TVET) programmes in Nigeria: Challenges and improvement strategies. *Journal of Education and Learning*, 4(1), 25-34. <http://dx.doi.org/10.5539/jel.v4n1p25>
- Bateman, A., & Coles, M. (2017). *Guidelines for the quality assurance of TVET qualifications in the Asia-Pacific region*. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000259281>
- Blom, K., & Meyers, D. (2003). *Quality indicators in vocational education and training: International perspectives*. National Centre for Vocational Education Research. <http://tinyurl.com/bws58z6h>
- Chakroun, B. (2019). National Qualifications Framework and TVET teacher competence frameworks: A neglected dimension of qualifications reforms? *European Journal of Education Research, Development and Policy*, 54(3). <https://doi.org/10.1111/ejed.12359>
- Chukwuedo, S. O., & Omofonmwan, G. O. (2015). Developing industrial and technological manpower via technical vocational education and training (TVET) in Nigeria. *University of Mauritius Research Journal*, 21, 507-524. <https://www.ajol.info/index.php/umrj/article/view/125172>
- Cohen, L., Manion, L., & Morrison, K. (2018). *Research methods in education*. Taylor & Francis Group.
- Creswell, J. W., & Creswell, J. D. (2023). *Research design: Qualitative, quantitative, and mixed methods approach* (6th ed.). SAGE.
- Darteh, E. (2018). *Factors for ensuring quality assurance of technical and vocational education (TVE) delivery in Ghana* [Unpublished master's thesis]. Kwame Nkrumah University of Science and Technology, Ghana. <http://dx.doi.org/10.13140/RG.2.2.20367.71848>
- Dassah, M. O., Asante, E. A., & Adu, E. O. (2019). Perception of stakeholders on the quality of technical and vocational education and training (TVET) in Ghana. *International Journal of Education and Research*, 7(2), 143-156.
- Eicker, F., Haseloff, G. & Lennartz, B. (Eds.) (2017). *Vocational education and training*

- in Sub-Saharan Africa*. W. Bertelsmann Verlag GmbH & Co. KG. <https://doi.org/10.3278/6004570w>
- European Centre for the Development of Vocational Training. (2017). *The changing nature and role of vocational education and training in Europe. Volume 1: Conceptions of vocational education and training: An analytical framework*. <http://dx.doi.org/10.2801/532605>
- Faye, A., (2016). Regional credit transfer system: Harmonization of vocational qualifications in ECOWAS member states. *International Journal of Vocational and Technical Education*, 8(6), 60-68.
- Froy, F., Giguère, S., & Thakur, D. (2015). *Skills for a high-performing civil service*. OECD Publishing.
- Gyimah, N. (2020). *Assessment of technical and vocational education and training (TVET) on the development of the world's economy: Perspective of Africa, Asia and Europe*. <http://dx.doi.org/10.2139/ssrn.3541072>
- Hager, P. (2015). Reframing understanding of vocational education and training: Preparing individuals for decent work and life. *International Journal of Training Research*, 13(1), 1-11.
- Hoque, A. E. (2016). Quality assurance as a way to support labor markets: A reflection on TVET policies in Bangladesh. *TVET@Asia*, 7, 1-17. https://www.tvet-online.asia/issue7/hoque_tv7.pdf
- Igwe, C. O, Owodunni, S. A, Nwankwo, F. C., & Onoh C. E. C. (2013, October 21-24). *Sustainable quality assurance in technical and vocational education and training [TVET] for national security in Nigeria* [Conference session]. Nigerian Association of Teachers of Technology [NATT]. <http://repository.futminna.edu.ng:8080/jspui/handle/123456789/13241>
- International Labour Organization. (2017). *Skills for employment policy brief: West Africa*. https://www.ilo.org/wcmsp5/groups/public/--ed_emp/---emp_policy/--st/documents/publication/wcms_739568.pdf
- International Labour Organization. (2019a). *Skills for Employment Policy brief – Skills for Migration and Employment*. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/--ifp_kills/documents/publication/wcms_651238.pdf
- International Labour Organization (ILO). (2019b). Work for brighter future. Future of Work Commission. Retrieved from https://www.ilo.org/wcmsp5/groups/public/---dgreports/---cabinet/documents/publication/wcms_662410.pdf
- Kenya National Qualifications Authority. (2018). *The Kenya national qualifications framework: Shaping the future of Kenya*. <https://www.knqa.go.ke/wp-content/uploads/2018/10/KNQF-Handbook-2018.pdf>
- Kilay, A. (2018). Capacity building for effective teaching in TVET institutions in developing countries. *Journal of Technical Education and Training*, 10(2).
- Korter, O. G. (2023). Quality assurance in Nigerian technical and vocational education and training institutions:

- strategies for improvement. *Journal of Health Applied Sciences and Management*, 6(3), 109-120. <http://dx.doi.org/10.4314/johasam.v6i3.14>
- Lopez, A. (2012). Quality assurance in technical and vocational education and training: Costs and benefits. *Journal of Education and Work*, 25(4), 443-468. <https://doi.org/10.1080/13639080.2012.690106>
- Mutebi, R., & Ferej, A. (2023). A review of TVET quality assurance practice in Uganda. *East African Journal of Interdisciplinary Studies*, 6(1), 182-196. <https://doi.org/10.37284/eajis.6.1.1327>
- Ndukwe, C. I. & Allen, K. B. (2018). Quality assurance of technical vocational education and training (TVET) programme among business educators in higher institutions in Rivers State. *Nigerian Journal of Business Education (NIGJBED)*, 5(2), 9-20. <https://www.nigjbed.com.ng/index.php/nigjbed/article/download/237/236>
- Nyarko, K. M. (2016). Skills mismatches and job satisfaction: A study of Ghana's technical and vocational education and training graduates. *International Journal of Research in Management and Business Studies*, 3(3), 44-54.
- Oanda, F., Mburu, E., Otta, O., & Mueni, J. (2018). *TVET quality assurance manual*. Kenyan TVET Authority.
- Oduaran, A., & Bierema, L. (2015). *Perspectives on education and training*. Sense Publishers.
- Okoli, C. I., & Okoli, A. I. (2021). Quality assurance in technology vocational education programme in universities: Imperative for skill and sustainable development in Nigeria. In F. A. Anyogu, C. A. Eme, & J. A. Ogbodo (Eds.), *University-led knowledge and innovation for sustainable development: Book series on sustainable development* (pp. 157-175). Boldscholar Research Ltd. <http://tinyurl.com/59jc7yn5>
- Okorafor, A. O. & Nnajiifo, F. N. (2017). TVET Policies and Practices in Nigeria: Why the gap. *European Journal of Education Studies*, 3(4): 612-624. <http://dx.doi.org/10.5281/zenodo.494996>
- Owings, W., Mensah, J., & Grant, M. (2020). The role of quality assurance in technical and vocational education and training in Ghana. *International Journal of Higher Education*, 9(1), 96-108.
- Reinsch, A., & Nyangweta, J. O., (2023). *Quality assurance in workplace-based technical and vocational education and training and industrial attachments in a perspective of the qualifications' framework; the prospectus*. <http://tinyurl.com/3mwe6f2b>
- Schneider, K. (2012). *Quality assurance in the context of national qualifications framework in Pakistan*. TEVT Reform Support Programme/GIZ.
- South African Qualifications Authority. (2016). *SAQA bulletin*, 15(1), 283.
- UNESCO. (2016a). *Recommendation concerning technical and vocational education and training (TVET), 2015*. UNESCO-UNEVOC. <https://unesdoc.unesco.org/ark:/48223/pf0000245178>

- UNESCO. (2016b). *Strategy for technical and vocational education and training (TVET), (2016–2021)*. <https://unesdoc.unesco.org/ark:/48223/pf0000245239>.
- UNESCO-UNEVOC (2019). *Quality assurance in TVET*. <https://unevoc.unesco.org/home/Quality+Assurance+in+TVET>
- UNESCO-UNEVOC. (2013). *Quality assurance in technical and vocational education and training: Some reflections*. <https://unevoc.unesco.org>
- UNESCO-UNEVOC. (2018a). *Quality assurance in technical and vocational education and training: A review of quality assurance systems and indicators*.
- UNESCO-UNEVOC. (2018b). *Quality assurance in technical and vocational education and training (TVET): A practical guide for policy makers and practitioners*.
- Van den Berghe, W. (1996). *Quality issues and trends in vocational education and training in Europe*. European Centre for the Development of Vocational Training. <https://files.eric.ed.gov/fulltext/ED412418.pdf>
- Van den Berghe, W. (1997a). *Application of ISO 9000 standards to education and training: Interpretation and guidelines in a European perspective*. European Centre for the Development of Vocational Training. <https://files.eric.ed.gov/fulltext/ED417350.pdf>
- Van den Berghe, W. (1997b). *Indicators in perspective: The use of quality indicators in vocational education and training*. European Centre for the Development of Vocational Training. https://www.cedefop.europa.eu/files/1708_en.pdf
- West African Quality Assurance Network. (n.d.). *About WAQAN*. <http://waqan.org/about-waqan/>