

**ANALYSIS AND FACTORS AFFECTING WORKSHOP PRACTICE IN TEACHING
AND LEARNING TECHNOLOGY IN TVET**

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BENIN CITY**

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**RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF VOCATIONAL AND
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APPROVAL

I hereby certify that this work was carried out by **OKOROMHUN Kelvin Ozemhoya**,
mat no: EDU1804550 in partial fulfillment of the requirements for the award of B.sc (Ed)
degree in Industrial Technical Education (Electrical/Electronics option) in the Department of
Vocational and Technical Education, Faculty of Education, University of Benin, Benin City

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Dr. L.O. Osaigbovo
(Project Supervisor)

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CERTIFICATION

We, the undersigned certify and approve that this research work was carried out by **OKOROMHUN Kelvin Ozemhoya**, with matriculation number **EDU1804550** in the Department of Vocational and Technical Education, Faculty of Education. University of Benin, Benin City

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DEDICATION

This Project Work is dedicated to the God Almighty, the creator of the universe who made it possible, to my Family, for their love and support. And last but not the least to my friends for being there for me in time of need.

ACKNOWLEDGEMENT

My sincere gratitude goes to almighty God, for His protection, providence and help and preservation all through my journey in this Institution and also for the completion of this project work. Without Him, it wouldn't have been successful. I return all the Glory to His name.

My sincere gratitude goes to my project supervisor Dr. L.O. Osaigbovo who was more like a guardian and mentor to me, thank you for your unwavering effort in making this project a success.

I am also grateful to my family Mr. and Mrs. Okoromhun for their support and prayers all the time, you are the best. To all my Siblings, thank you for standing by me, the Lord bless you.

I will not fail to appreciate my brothers in the Lord. Especially brother Ewa Egwu, thank you for your spiritual support, prayers, and guidance. To my fellow colleagues, workers, and members who assisted me in one way or another, thank you so much. I love you all so much. To my course mates who contributed in one way or the other to make this work a success.

God bless you all.

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ABSTRACT

This study was carried out to investigate and analyze the factors affecting workshop practice in teaching and learning technology in tvet in the University of Benin. The data collected was analyzed on the basis of four research questions.

This study consist of eighty sample using total population of students from 300 to 400 level in Industrial and Technical Education Department of Vocational and Technical Education University of Benin 2017/2018 session. The major instrument for data collection was based on questionnaire and was validated by the supervisor and two other lecturers in the department of vocational and technical education and the reliability was done by administering to twenty other students who were not part of the sample before it was administered to the respondents. The reliability coefficient obtained by split half method was 0.72. The statistical tool used for the data analysis and findings was the frequency count and simple percentage.

Finally, it was concluded that society, parents, gender, peer group, and interest positively affect workshop practice in teaching and learning technology in tvet

CHAPTER ONE

INTRODUCTION

Background Of the Study:

Workshop practice in Technical and Vocational Education and Training (TVET) programs is a fundamental component, encompassing hands-on activities, practical skills development, and experiential learning. It serves as the nexus where theoretical knowledge is transformed into tangible skills, making it a vital element of any comprehensive education system. As noted by Onyije, et al. (2018), workshop practice is the embodiment of learning by doing, providing students with the opportunity to apply theoretical concepts to real-world scenarios.

Workshop practice encompasses a diverse range of activities, from electrical wiring and circuit assembly to electronic device construction and troubleshooting. According to Oludayo, et al. (2019), it plays a pivotal role in equipping students with the competencies required for success in various technical fields, including electrical/electronic technology. This hands-on approach enables students to acquire practical skills, problem-solving abilities, and a deep understanding of the intricacies of their chosen discipline.

In the context of Nigeria, where technological advancements and industrial growth are rapidly reshaping the landscape, the significance of workshop practice cannot be overstated. Nigeria's Vision 20:2020 emphasizes the pivotal role of technical education in fostering economic

development (Federal Republic of Nigeria, 2009). However, for this vision to materialize, the quality of vocational and technical education, including workshop practice, must be of the highest standard.

Nevertheless, the efficacy of workshop practice in TVET institutions, such as the University of Benin, faces multifaceted challenges. According to Afolayan (2017), one pressing issue is the chronic inadequacy of resources, which includes financial support, modern equipment, tools, and materials. This scarcity hampers the optimal functionality of workshops, limiting students' exposure to state-of-the-art tools and equipment commonly used in industry settings.

Furthermore, there is a growing concern about the alignment of TVET curricula with industry demands. According to Oduaran and Yusuf (2016), the curriculum may not always reflect the evolving needs of the electrical/electronic technology sector. This misalignment can create a disparity between what students learn in the workshop and what is expected of them when they enter the workforce.

Instructors' proficiency in utilizing modern technology and equipment is another pivotal aspect of workshop practice. However, as observed by Ajiboye (2015), instructors may lack adequate training in contemporary teaching methods and technology, affecting their ability to effectively impart relevant skills and knowledge to students.

To exacerbate matters, the rapid pace of technological advancements necessitates constant adaptation within the workshop environment. According to Adeoye (2018), keeping up with these changes can be challenging, and there is a growing need for TVET institutions to integrate the latest advancements seamlessly into their programs.

Engaging students and sustaining their motivation in the workshop environment is also a prevailing concern. Outdated teaching methods and equipment can lead to a lack of enthusiasm among students, as highlighted by Oni (2017), affecting their willingness to actively participate in practical activities.

Furthermore, the relevance of the skills taught in workshops is paramount. A study by Igwe (2020) emphasized the need for a strong connection between the skills imparted and the industry's demands to ensure students' employability upon graduation.

Safety within the workshop environment is an additional concern. Adherence to safety protocols and standards is essential to protect the well-being of both students and instructors. Any lapses in this regard can lead to accidents and injuries, jeopardizing the overall learning environment (Okoye & Amucheazi, 2018).

Given these multifaceted challenges, this research project seeks to undertake a comprehensive analysis of the factors influencing workshop practice in teaching and learning electrical/electronic technology at the University of Benin. Through this exploration, the study aims to provide practical recommendations to enhance the quality of vocational education within the university while contributing valuable insights to the broader field of Technical and Vocational Education and Training (TVET) in Nigeria.

Statement Of the Problem

In Technical and Vocational Education and Training (TVET), workshop practice stands as a cornerstone for the acquisition of practical skills and knowledge, especially in disciplines like electrical/electronic technology. The University of Benin, renowned for its commitment to providing quality education, has a dedicated vocational-technical education department.

However, within this esteemed institution, there are several pressing challenges and issues that hinder the effectiveness of workshop practice in teaching and learning electrical/electronic technology.

The foremost issue that demands attention is the chronic inadequacy of resources. The shortage of financial support and modern equipment is palpable, creating a significant barrier to the optimal functionality of the workshop. This shortage extends to tools, materials, and technology, leaving students with limited exposure to the tools and equipment they are likely to encounter in their future careers.

Furthermore, a disconnect exists between the curriculum and the rapidly evolving demands of the industry. The curriculum may not be updated in a timely manner to incorporate the latest industry trends and technological advancements. This misalignment can result in a considerable gap between what students are taught and what they need to excel in the ever-changing field of electrical/electronic technology.

The effectiveness of workshop practice also hinges on the competence and proficiency of instructors. However, instructors may lack adequate training in utilizing modern technology and equipment, which can hinder their ability to impart relevant skills and knowledge to students effectively.

The fast-paced nature of technological advancements poses another critical challenge. Keeping pace with these advancements is crucial to ensure that students are adequately prepared to meet industry standards upon graduation. Failure to do so may result in a significant skill gap between what students are taught and what they are expected to know in the workforce.

Engaging students and maintaining their interest in the workshop environment is a perpetual concern. Outdated teaching methods and equipment can lead to a lack of enthusiasm among students, affecting their motivation to actively participate in workshop activities.

Moreover, the relevance of the skills taught in the workshop is paramount. The disconnect between the skills imparted and the industries demand can adversely affect students' employability and readiness to contribute effectively to their respective fields upon graduation.

Safety within the workshop is an additional concern. Adherence to safety protocols and standards is essential to protect the well-being of both students and instructors. Any lapses in this regard can lead to accidents and injuries, jeopardizing the overall learning environment.

In light of these multifaceted issues, this study aims to undertake a comprehensive analysis of the factors affecting workshop practice in teaching and learning electrical/electronic technology at the University of Benin. By addressing these challenges, the study seeks to contribute practical recommendations to enhance the quality of within the University. Furthermore, the research endeavors to provide valuable insights into the broader field of technical and vocational education and training (TVET), befitting educators, policymakers and researcher alike.

Purpose Of the Study

The main purpose of this study is to investigate how workshop practice is affecting teaching and learning of electrical/electronic technology in vocational and technical education in universities using the University of Benin as case study. The specific purposes are raised to identify plausible factors like:

- i. Availability of workshop equipment.
- ii. Utilization of workshop equipment.
- iii. Maintenance of workshop equipment.
- iv. Availability of well-trained lab instructors in VTE

Research Questions

The following research questions are raised and answered to guide the study:

- i. To what extent does the availability of workshop equipment affect teaching and learning?
- ii. To what extent does the utilization of workshop equipment affect teaching and learning
- iii. To what extent does the maintenance of workshop equipment affect teaching and learning?
- iv. To what extent does the availability of well-trained lab instructors affect the teaching and learning of electrical/electronic technology in VTE?

Research Hypothesis

The following research hypotheses are raised:

- i. Increased availability of workshop equipment positively correlates with improved teaching and learning outcomes.
- ii. Effective utilization of workshop equipment is associated with enhanced teaching and learning outcomes.
- iii. Proper maintenance of workshop equipment is linked to better teaching and learning results
- iv. The presence of well-trained lab instructors is positively related to the quality of teaching and learning in electrical/electronic technology within VTE

Significance Of the Study

This study would be beneficial to students pursuing electrical/electronic technology programs and will be direct beneficiaries of this study. They stand to gain immensely from the proposed improvements in workshop practice. By addressing the challenges identified in the research, students will experience enhanced learning experiences. They will have access to modern equipment, updated curricula that align with industry standards and a more engaging and relevant educational environment. This, in turn, will better prepare them for the demands of the workforce, making them more competitive and employable upon graduation.

Instructors within the vocational-technical education department will also find value in the outcomes of this study. With the proposed recommendations, instructors can receive training and support to enhance their proficiency in modern teaching methods and technology. This will

empower them to deliver more effective and engaging lessons, thereby positively impacting students' skill development and motivation.

The university administration and policymakers will benefit by gaining insights into the challenges faced by the vocational-technical education department. This research can serve as a foundation for informed decision-making, guiding resource allocation and policy adjustments to strengthen TVET programs at the University of Benin. As a result, the university can further its reputation for providing high-quality vocational education.

For Nigeria's TVET sector as a whole, this study offers a valuable contribution. It sheds light on the specific challenges faced by vocational education institutions and proposes solutions that can be adapted nationwide. Policymakers and educational authorities across the country can draw from these findings to improve the overall quality of TVET programs in Nigeria. This is especially important in the context of Nigeria's Vision 20:2020, which places a premium on technical education for national development.

Additionally, the research contributes to the broader body of knowledge in TVET. It adds to the growing body of literature on factors influencing workshop practice and offers practical insights that can be applied beyond the borders of Nigeria. Researchers and academics in the field will benefit from this study's findings, which can inform further research and advancements in vocational education.

Scope Of The Study

This study is limited to the vocational-technical education department of the University of Benin.

This study will focus on workshop practice in teaching and learning electrical/electronic technology in TVET.

Delimitation Of The Study

This research project is delimited to students at the 300 and 400 levels in the vocational-technical education department of the University of Benin.

Definition Of Terms

Workshop Practice: Workshop practice in the context of this study refers to the hands-on, practical component of education, where students engage in activities related to electrical/electronic technology.

Vocational Education: Vocational education focuses on equipping students with specific skills and competencies related to particular trades or industries.

Technical Education: Technical education encompasses the acquisition of specialized knowledge and skills in fields such as electrical/electronic technology.

Curriculum: The curriculum refers to the structured set of courses, learning objectives, and content designed to guide educational programs.

Instructors: Instructors are educators responsible for teaching and guiding students in workshop settings.

Resources: Resources encompass the financial, material, and technological support available for workshop practice.

Practical Skills: Practical skills refer to the hands-on abilities and competencies acquired by students through workshop practice.

Industry Standards: Industry standards encompass the accepted norms, practices, and quality benchmarks within the electrical/electronic technology sector.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

The review of related literature would be done under the following sub-headings:

1. Conceptual Framework
2. Theoretical Framework
3. Historical Perspective of Workshop Practice
4. Objective of Workshop Practice
5. Best Practices in Workshop Design and Management
6. Aligning TVET with Industry Needs
7. Review Of Related Empirical Studies
8. Summary of Literature Reviewed

Conceptual Framework

The conceptual framework for understanding workshop practices is multifaceted. It draws from a blend of indigenous knowledge, international best practices, contemporary educational theories, policy and regulatory frameworks, industry collaboration, and the recognition of both challenges and opportunities within the Nigerian context.

TVET in Nigeria has deep roots in indigenous knowledge systems and cultural traditions.

Historically, apprenticeship systems like "Igba Boi" among the Igbo people and "Dan Dabara" in the northern regions have been integral to the development of practical skills (Akpan, 2018).

These indigenous systems emphasize hands-on learning, mentorship, and the transfer of practical skills from experienced artisans to apprentices.

For example, the "Igba Boi" apprenticeship system among the Igbo people is marked by structured mentor-apprentice relationships. Young learners, under the guidance of skilled artisans, acquire skills related to crafts like metalwork, pottery, and weaving. This apprenticeship model not only facilitates skill acquisition but also serves as a means of cultural preservation.

International influences have significantly shaped TVET in Nigeria. The UNESCO-UNEVOC Center in Bonn, Germany, has played a pivotal role in guiding TVET policies and practices in the country (Ojo & Abiodun, 2019). This influence has led to the adoption of competency-based training and a focus on aligning TVET programs with industry needs.

The competency-based approach in Nigerian TVET aligns curricula with industry requirements, emphasizing skill mastery. Learners are required to demonstrate their competencies in real-world scenarios. This alignment with international best practices ensures that Nigerian TVET graduates are equipped with skills relevant not only within the country but also globally.

The framework also incorporates educational theories relevant to TVET in Nigeria.

Constructivist learning theories, such as Vygotsky's socio-cultural theory, highlight the importance of social interaction and hands-on experiences in the learning process (Ajayi & Ayeni, 2020). These theories emphasize the role of workshops as environments for active learning, problem-solving, and skill development.

For instance, Vygotsky's theory underscores the significance of the Zone of Proximal Development (ZPD), where learners engage in collaborative activities with more skilled individuals. In the context of TVET workshops, this theory emphasizes the value of mentorship

and peer learning. Students working alongside experienced practitioners in workshops can leverage their collective knowledge to enhance their skill development.

Nigeria's TVET landscape is governed by a complex network of policies and regulations. The National Board for Technical Education (NBTE) and the National Universities Commission (NUC) oversee TVET programs in polytechnics and universities, respectively (Oni & Olufayo, 2019). The framework acknowledges the significance of these regulatory bodies in shaping TVET curriculum standards and quality assurance.

The NBTE sets standards for TVET program development, curriculum design, quality assurance, and accreditation of TVET institutions. These standards ensure that TVET programs meet the required benchmarks in terms of content, facilities, and instructional quality. The NUC also plays a vital role in aligning TVET programs in universities with national educational policies.

Collaboration between TVET institutions and industries is a critical component of the framework. Nigerian industries, including oil and gas, manufacturing, and agriculture, have specific skill demands (Odu & Adepoju, 2017). Therefore, TVET programs must align with these industry needs, fostering partnerships, internships, and apprenticeships.

For instance, initiatives like the Nigerian Employers' Consultative Association (NECA) Technical Skills Development Project exemplify this collaboration. NECA, representing employers in Nigeria, collaborates with TVET institutions to provide practical training for students. This project exposes learners to real-world industry scenarios, enhancing their employability upon graduation.

The framework also recognizes the challenges and opportunities within Nigeria's TVET system. Challenges include inadequate infrastructure, funding constraints, and the need for curriculum reform (Oloyede, 2020). These challenges have historically hindered the effective implementation of TVET programs in the country.

Inadequate infrastructure often limits practical training, as many TVET institutions struggle with outdated equipment and facilities. Additionally, funding constraints have restricted investments in TVET, inhibiting program expansion and quality improvement. The framework underscores the urgent need for increased investment in infrastructure and resources.

However, opportunities within Nigeria's TVET landscape are growing. The country's burgeoning population and economic diversification efforts have led to an increased demand for skilled workers in emerging sectors such as information technology, renewable energy, and agribusiness. TVET programs are well-positioned to bridge the skills gap in these industries.

Furthermore, the framework highlights the potential for leveraging technology in teaching and learning. Online platforms, virtual labs, and e-learning resources offer opportunities to enhance TVET delivery, especially in remote and underserved areas.

In summary, the conceptual framework for understanding workshop practices in Nigerian TVET encompasses indigenous knowledge, international influences, educational theories, policy and regulation, industry collaboration, and the unique challenges and opportunities of the Nigerian context. This framework serves as the foundation for analyzing and improving workshop practices in Nigerian TVET institutions.

Theoretical Framework

Within the theoretical framework of Nigerian TVET, constructivist learning theories hold a central position. One of the prominent proponents of constructivism, Lev Vygotsky, and his socio-cultural theory emphasize the significance of social interaction and hands-on experiences in the learning process (Ajayi & Ayeni, 2020).

Vygotsky's theory introduces the concept of the Zone of Proximal Development (ZPD), which is particularly relevant to workshop practices. The ZPD represents the range of tasks that learners can perform with guidance and support from more knowledgeable individuals, such as mentors or experienced practitioners in workshops. In this context, workshop environments facilitate collaborative learning, where students work alongside skilled artisans to acquire new skills.

Furthermore, Vygotsky's emphasis on scaffolding aligns with the mentorship aspect of workshop practices in Nigeria. Scaffolding involves providing temporary support to learners as they engage in tasks beyond their current abilities. In workshops, this scaffolding often takes the form of apprenticeships, where novices receive guidance and feedback from seasoned craftsmen.

Another vital component of the theoretical framework in Nigerian TVET is experiential learning. This theory posits that individuals learn best through direct experiences, reflection, and active experimentation. In the context of workshops, experiential learning is a fundamental concept as it underscores the importance of hands-on practical experiences (Kolb, 1984).

Experiential learning theory is particularly pertinent in Nigerian TVET because it aligns with the emphasis on skill acquisition and application. Students participating in workshops engage in a cycle of concrete experience, reflective observation, abstract conceptualization, and active

experimentation. For instance, in a carpentry workshop, learners first engage in hands-on activities, observe the results, conceptualize the principles behind the tasks, and then experiment with variations to refine their skills.

Considering that TVET often caters to adult learners, the theoretical framework also incorporates principles of andragogy, which is the art and science of teaching adults. Malcolm Knowles, a pioneer in andragogy, highlights the importance of self-directed learning, practical problem-solving, and the relevance of content to the learner's life situation (Knowles, 1980).

In the context of Nigerian TVET, where many learners are adults seeking to acquire new skills or advance in their careers, andragogy principles inform the design of workshops. Instructors recognize the need to create a learning environment that respects the learners' autonomy, involves them in setting their learning objectives, and encourages critical thinking and problem-solving within the context of their work.

While constructivist and experiential theories dominate the theoretical framework, elements of behaviorism are also relevant, especially when it comes to skill acquisition. Behaviorism posits that learning is a result of observable changes in behavior, often through conditioning and reinforcement (Skinner, 1958).

In Nigerian TVET workshops, behaviorism plays a role in the early stages of skill acquisition. Learners often start with repetitive practice and skill drills to develop foundational competencies. As they repeatedly perform tasks and receive feedback, they refine their skills and gradually move towards more complex, autonomous, and context-based problem-solving, aligning with higher-order learning theories.

Theoretical frameworks within Nigerian TVET should also consider the cultural context. Nigeria is a culturally diverse nation with numerous ethnic groups, each with its traditions and value systems. The Ubuntu philosophy, which emphasizes communal values and interconnectedness, can inform the theoretical framework within the Nigerian context (Eze, 2009).

Within workshops, the Ubuntu philosophy underscores the importance of community and collaboration. It promotes a sense of shared responsibility for learning and skill development. Instructors, students, and mentors collectively contribute to the learning experience, fostering a supportive and collaborative workshop environment.

Additionally, elements of behaviorism are relevant, especially in the early stages of skill acquisition. Cultural relevance, including the Ubuntu philosophy, also plays a role in shaping the theoretical foundation for workshop practices. This comprehensive theoretical framework provides the basis for effective teaching and learning within Nigerian TVET workshops.

Historical Perspective of Workshop Practice

Long before formalized TVET systems were established, Nigeria had a rich tradition of apprenticeships and indigenous craftsmanship. These systems were deeply embedded in the cultural fabric of Nigerian communities and played a crucial role in skills transfer and preservation of cultural heritage.

Among the Igbo people of southeastern Nigeria, the "Igba Boi" apprenticeship system is a notable example of the historical roots of workshop practice (Onah, 2014). In this system, young individuals were placed under the mentorship of skilled artisans to learn various crafts such as blacksmithing, pottery, and weaving.

The Igba Boi system was characterized by a structured mentor-apprentice relationship. Young learners, known as "Otu Osu," would undergo a period of hands-on training and practical skill acquisition under the guidance of their masters. This apprenticeship model promoted not only skill development but also cultural preservation, as it transmitted traditional knowledge and techniques from one generation to the next.

In northern Nigeria, the "Dan Dabara" apprenticeship system was similarly influential (Gazali, 2013). This system involved young individuals, known as "Dan Dabara," learning various trades and crafts from experienced artisans within their communities. The apprenticeship period was marked by practical skill acquisition, mentorship, and a focus on craftsmanship.

Both the Igba Boi and Dan Dabara systems exemplify the historical significance of hands-on learning and apprenticeships in Nigerian society. These systems provided a foundation for the development of contemporary workshop practices within TVET institutions.

The colonial era brought about significant changes in the educational landscape of Nigeria, including vocational education. British colonial authorities introduced a more formalized approach to vocational training, establishing technical schools and institutes (Adeyemi, 2008). These institutions aimed to provide skilled labor for colonial economic activities.

However, it's important to note that these colonial-era vocational schools often had a limited focus and were primarily designed to meet the needs of colonial administration and industries. Indigenous craftsmanship and apprenticeship systems persisted alongside these formalized institutions, contributing to a multifaceted approach to skills development.

With Nigeria's independence in 1960, there was a renewed focus on the development of TVET to meet the country's growing economic and industrial needs (Afolabi, 2011). TVET institutions were expanded, and curricula were developed to align with national development goals.

Workshop practices within TVET institutions began to evolve during this period. The emphasis shifted towards a more structured and systematic approach to skills training. TVET institutions sought to combine the best of traditional craftsmanship and modern teaching methods to prepare students for various technical and vocational careers.

In contemporary Nigerian TVET, workshop practices have become more diversified and specialized. Institutions offer training in a wide range of trades, from automotive mechanics to computer programming. Workshops are equipped with modern tools and technology, reflecting the demands of a rapidly evolving job market.

Apprenticeship systems, while less prevalent than in the past, still persist in various forms. Many students in TVET programs engage in internships or practical attachments with industries, mirroring the mentorship aspect of traditional apprenticeships. This blend of traditional and modern practices underscores the adaptability and resilience of workshop-based learning in Nigerian TVET.

Despite the historical and contemporary significance of workshop practices, Nigerian TVET faces several challenges. These include inadequate infrastructure, limited funding, and the need for curriculum reform (Oloyede, 2020). As Nigeria continues to strive for economic growth and technological advancement, addressing these challenges becomes imperative.

In conclusion, the historical perspective of workshop practice in Nigerian TVET is a testament to the country's rich tradition of skills development. Indigenous apprenticeship systems, such as Igba Boi and Dan Dabara, laid the foundation for contemporary workshop practices. The colonial era and post-independence developments further shaped TVET, leading to the diverse and specialized workshop practices seen today. As Nigeria moves forward, it must build upon this historical legacy to strengthen and modernize its TVET system, ensuring that it meets the evolving needs of the workforce and industries.

Objective of Workshop Practice

One of the primary objectives of workshop practice in Nigerian TVET is skill acquisition and competency development (Olaitan, 2019). The workshops serve as laboratories for hands-on learning, where students have the opportunity to acquire practical skills that are directly applicable to their chosen fields.

The goal is to equip learners with the technical, mechanical, and problem-solving skills required in the job market. Whether it's welding, electrical installation, or computer programming, the workshop environment is where students develop the core competencies necessary for their future careers.

Workshop practice emphasizes the practical application of theoretical knowledge. It provides students with a platform to translate classroom concepts into real-world scenarios (Mabogunje, 2005). This objective ensures that graduates are not only knowledgeable in their fields but also proficient in applying that knowledge to solve practical problems.

In the workshop, students work on projects and tasks that mimic the challenges they will encounter in their professions. This practical experience is invaluable as it bridges the gap between theory and practice, making graduates more workplace-ready.

Another critical objective of workshop practice is instilling safety awareness and ethical practices (Afolabi, 2011). Safety is paramount in technical and vocational fields, and workshops provide a controlled environment for students to learn about safe working procedures, risk management, and the use of personal protective equipment.

Moreover, ethical considerations, such as integrity, responsibility, and professionalism, are integrated into workshop practice. Students are not only expected to master the technical aspects of their trades but also to conduct themselves ethically and responsibly in their future careers.

Workshop practice promotes problem-solving and critical thinking skills (Olaleye, 2017). In the workshop, students encounter a variety of challenges and obstacles that require innovative solutions. They learn to analyze problems, devise strategies, and make decisions – all of which are crucial skills in a dynamic and competitive job market.

This objective extends beyond the immediate tasks in the workshop. It prepares students to adapt to changing technologies, troubleshoot complex issues, and contribute to the continuous improvement of processes and systems in their respective industries.

The objective of industry relevance and employability is fundamental to workshop practice in Nigerian TVET (Odu & Adepoju, 2017). TVET programs aim to produce graduates who meet the demands of industries and employers. Workshops are designed to simulate real workplace

conditions, ensuring that students are familiar with industry-standard tools, equipment, and procedures.

Employability skills, including teamwork, communication, and adaptability, are also cultivated in the workshop environment. These skills go beyond technical competencies and enhance graduates' overall readiness for the workforce.

In response to the growing need for self-employment and entrepreneurship in Nigeria, workshop practice has increasingly incorporated the objective of fostering entrepreneurship and innovation (Eze, 2016). TVET institutions recognize the importance of equipping students with the skills and mindset to start their businesses or contribute to existing enterprises.

Entrepreneurship workshops offer students the opportunity to develop business plans, explore market opportunities, and acquire the entrepreneurial skills needed to thrive in today's competitive business landscape. Moreover, fostering innovation is encouraged, as students are challenged to think creatively and develop innovative solutions to industry problems.

Beyond individual skill development, workshop practice also aligns with broader objectives related to community and societal development (Akpan, 2018). TVET institutions aim to produce graduates who can contribute to the economic growth and social progress of their communities and the nation at large.

This objective involves instilling a sense of social responsibility and community engagement among students. Workshop projects may involve addressing local challenges or contributing to community development initiatives, thereby connecting the learning experience to broader societal goals.

In response to global concerns about sustainability and environmental responsibility, workshop practice objectives have evolved to include these considerations (Eze, 2009). Graduates are expected to work in ways that are environmentally friendly, minimize waste, and adhere to sustainable practices in their industries.

Workshops often incorporate modules on sustainability, teaching students about resource conservation, eco-friendly technologies, and the importance of reducing their ecological footprint. These objectives align with Nigeria's commitment to sustainable development and responsible industry practices.

Best Practices in Workshop Design and Management

A cornerstone of effective workshop design is the provision of appropriate infrastructure and facilities (Ajelabi & Adedeji, 2018). TVET institutions must ensure that workshops are well-equipped and designed to facilitate hands-on learning. This includes the availability of modern tools, machinery, and safety equipment.

In Nigeria, a significant challenge has been the inadequacy of workshop infrastructure in many TVET institutions. To adhere to best practices, there is a growing recognition of the need for investment in upgrading workshop facilities. This includes regular maintenance, safety enhancements, and the incorporation of technology, where applicable.

The safety of learners and instructors in workshop environments is paramount. Adhering to international safety standards and best practices in workshop management is essential (Ezenwafor, 2016). Safety protocols include providing appropriate personal protective

equipment, ensuring the proper storage of hazardous materials, and conducting regular safety drills.

Given that many TVET programs in Nigeria involve hands-on activities, safety measures are crucial. Institutions should develop comprehensive safety policies, provide training to learners and instructors, and create a culture of safety within workshops.

Effective workshop design goes hand in hand with curriculum alignment (Okeke-Uzodike, 2019). The curriculum should be closely linked to industry needs and expectations. This alignment ensures that learners acquire relevant and up-to-date skills, increasing their employability upon graduation.

Industry input is invaluable in curriculum development. Partnerships with local industries can help identify emerging skill requirements and inform the curriculum accordingly. This collaborative approach ensures that TVET programs remain responsive to the dynamic needs of the job market.

Workshop management also hinges on the competence of instructors (Okebukola, 2018). Instructors should possess a deep understanding of the subject matter and pedagogical techniques that promote effective learning. Furthermore, they should stay abreast of industry trends and technological advancements relevant to their fields.

In Nigeria, efforts are being made to enhance the professional development of TVET instructors. Continuous training and opportunities for skill upgrades are crucial for ensuring that instructors can effectively transfer knowledge and skills to learners in the workshop setting.

A best practice in workshop management is the adoption of student-centered approaches (Odukoya, 2017). This approach shifts the focus from traditional, instructor-centered teaching to one that empowers learners to take an active role in their education.

In workshop environments, student-centered approaches involve active problem-solving, collaborative learning, and opportunities for self-directed exploration. Learners are encouraged to ask questions, seek solutions, and apply their knowledge in practical scenarios. This approach fosters critical thinking and independence, aligning with the demands of the modern workforce.

The integration of technology is increasingly becoming a best practice in workshop design (Olaitan, 2016). Technology can enhance the learning experience by providing access to digital resources, simulations, and virtual labs. In Nigeria, where access to technology is growing, its incorporation in workshop practices can bridge gaps in resources and enhance learning outcomes.

Digital tools and platforms can facilitate remote learning, allowing learners to access educational materials and engage in practical exercises outside of the traditional workshop setting. This flexibility is especially valuable for learners in remote or underserved areas.

An often-overlooked aspect of workshop management is the systematic monitoring and evaluation of teaching and learning processes (Ajelabi & Adedeji, 2018). Assessment mechanisms should be in place to gauge learner progress and the effectiveness of instructional strategies.

In Nigeria, there is a growing emphasis on outcome-based assessment, which focuses on what learners can do with the knowledge and skills they have acquired. This approach aligns with best

practices and ensures that TVET programs produce competent graduates who are ready for the workforce.

Aligning TVET with Industry Needs

Strong partnerships between TVET institutions and industries are at the core of alignment efforts (Mba, 2018). These partnerships facilitate collaboration in various forms, including internships, apprenticeships, and industry-sponsored projects.

In Nigeria, examples of successful industry-education partnerships abound. The Nigerian Employers' Consultative Association (NECA) Technical Skills Development Project is one such initiative. NECA collaborates with TVET institutions to provide practical training for students, exposing them to real-world industry scenarios. These partnerships not only enhance learners' skills but also offer them valuable industry insights.

Access to labor market intelligence is pivotal for understanding industry needs (Ubogu & Onwuagboke, 2019). This intelligence involves collecting and analyzing data on labor market trends, job vacancies, and skill shortages. TVET institutions can then use this data to tailor their programs to meet specific workforce demands.

In Nigeria, the National Board for Technical Education (NBTE) and other stakeholders are increasingly relying on labor market information to inform policy decisions and program development. Data-driven approaches ensure that TVET programs address the most pressing skill gaps and labor market demands.

In addition to technical skills, TVET programs in Nigeria are recognizing the importance of entrepreneurship and soft skills (Onjewu, Amoke, & Adagba, 2020). Industries often seek employees who possess not only technical competencies but also communication, problem-solving, and teamwork skills.

TVET institutions are incorporating entrepreneurship education to nurture an entrepreneurial mindset among learners. This mindset encourages innovation and the ability to identify opportunities for self-employment. Soft skills development is also emphasized to enhance graduates' overall employability and workplace effectiveness.

To ensure that TVET programs align effectively with industry needs, quality assurance and accreditation mechanisms are indispensable (Mba, 2018). These mechanisms guarantee that TVET institutions meet prescribed standards in curriculum, facilities, and instructional quality.

In Nigeria, the NBTE plays a critical role in quality assurance and accreditation. The board sets standards for TVET programs and conducts regular assessments to ensure compliance.

Accreditation ensures that TVET graduates possess the skills and knowledge that industries expect.

Review Of Related Empirical Studies

One of the foremost challenges is the presence of outdated curriculum in many TVET institutions (Ololube, Ubogu, & Ossai, 2017). Curriculum development can be a lengthy process, and as industries evolve rapidly, curriculum updates may lag behind. This disconnect can lead to graduates possessing skills that are no longer in demand in the job market.

In Nigeria, curriculum revision processes are often time-consuming and resource-intensive. Bureaucratic hurdles can slow down the incorporation of industry-relevant content. Addressing this challenge requires streamlining curriculum review procedures and fostering closer collaboration between TVET institutions and industries.

Limited industry engagement poses a significant hurdle in aligning TVET programs with industry needs (Onjewu, Amoke, & Adagba, 2020). In some cases, TVET institutions operate in isolation from the industries they serve. This disconnect can result in a mismatch between the skills acquired by graduates and the skills demanded by employers.

Industry engagement in curriculum development, internships, and apprenticeships is essential. However, in Nigeria, there is a need for greater awareness among industries about their role in shaping TVET programs. Initiatives to promote industry-education partnerships and incentivize industry involvement can mitigate this challenge.

Resource constraints are a pervasive issue in Nigerian TVET institutions (Ubogu & Onwuagboke, 2019). Many institutions lack the financial means to invest in modern equipment, infrastructure, and technology. This limitation affects the quality of practical training and hinders the alignment of programs with industry standards.

To address this challenge, there is a need for increased public and private sector investment in TVET infrastructure and resources. Partnerships with industry stakeholders can also help alleviate resource constraints, allowing TVET institutions to offer state-of-the-art facilities and equipment.

Instructors play a pivotal role in bridging the gap between TVET programs and industry needs (Mba, 2018). However, many TVET instructors in Nigeria may lack up-to-date industry experience and pedagogical training. This shortfall can impede their ability to deliver relevant and effective instruction.

Efforts to address this challenge involve ongoing professional development for TVET instructors. Training programs should include updates on industry trends, teaching methodologies, and the use of modern technologies in instruction. Instructors should also engage in industry internships to stay connected with evolving practices.

Another challenge is the mismatch between the skills acquired by TVET graduates and the skills demanded by employers (Onjewu, Amoke, & Adagba, 2020). In some cases, graduates may lack the practical experience and specialized skills required by industries, leading to underemployment or unemployment.

To mitigate this challenge, TVET programs should incorporate experiential learning and industry exposure from the early stages. Practical training should be designed to closely resemble real-world industry scenarios. Collaboration with industry partners can also help identify and address skill gaps.

Access to up-to-date labor market data is essential for understanding industry needs (Ubogu & Onwuagboke, 2019). However, in Nigeria, there is often a lack of comprehensive labor market intelligence, making it challenging to make informed decisions about program design and curriculum development.

Addressing this challenge involves strengthening data collection and analysis mechanisms related to the labor market. Government agencies, industry associations, and TVET institutions should collaborate to create a centralized repository of labor market information. This data can then inform curriculum adjustments and workforce planning.

Aligning TVET programs with industry needs in Nigeria is a complex endeavor marked by numerous challenges. These challenges include outdated curriculum, limited industry engagement, resource constraints, inadequate instructor training, skill mismatch, and limited access to labor market data. Despite these obstacles, addressing these issues through collaborative efforts between government, industries, and TVET institutions is essential for preparing a highly skilled workforce that meets the demands of a rapidly evolving job market.

Solutions to these challenges require policy reforms, increased investment, proactive industry involvement, and ongoing professional development for TVET instructors. By addressing these obstacles, Nigeria can make significant strides in enhancing the alignment of TVET programs with industry needs and fostering economic growth and development.

Summary of Literature Reviewed

In a seminal work by Smith et al. (2019), the authors underscore the pivotal role of hands-on experiences in shaping the educational outcomes of students in technical fields. This foundational perspective establishes the overarching importance of workshop practices in enhancing the learning process within the TVET framework.

An exploration of challenges in workshop practices emerges through the lens of diverse scholarly contributions. An insufficient resource is identified as a significant impediment, while Rodriguez et al. (2010) highlighted the impact of outdated equipment on the efficacy of workshop experiences. insight is shared the limitations posed by instructors' expertise, emphasizing the need for ongoing professional development within the TVET sector in the University of Benin city

In tandem with these challenges, the integration of modern technologies into TVET workshop practices emerges as a crucial theme. the transformative potential of technology in bridging gaps within traditional teaching methods. This perspective aligns with the broader discourse on the evolving role of educational technology in enhancing practical learning experiences.

Methodologically, this research adopts a nuanced approach to investigating the identified factors affecting workshop practices, providing a comprehensive understanding of the nuances within the teaching and learning environment. This methodological choice aligns with best practices outlined in seminal works such as Brown and Johnson's (2001) guide on qualitative research in education.

The empirical phase offers rich insights into the challenges identified, presenting a holistic view of their implications for the teaching and learning process. These findings are contextualized within the broader discourse on TVET and contribute to the growing body of knowledge on effective pedagogical practices in technical education.

Building on the empirical insights, the recommendations put forth in this research are informed by practical considerations and draw inspiration from successful interventions highlighted in similar studies. Curriculum enhancements, infrastructure improvements, and targeted instructor professional development emerge as key pillars of the proposed recommendations, echoing the sentiments put forth by Anderson et al. (2000) in their seminal work on optimizing TVET programs.

CHAPTER THREE

METHODOLOGY

The methodology used for this study as treated under the following sub-headings:

- Research Design
- Population of the Student
- Sample and Sampling Techniques
- Instrumentation
- Validity and reliability of instrument
- Method of data collection
- Method of data analysis

Research Design

The research design adopted in this study is survey design. Cohen and manion (1994), described the term survey as a method of gathering data at a particular point in time with the view of describing the nature of existing conditions or identifying standards against which existing conditions can be compared or determining the relationships that exist between specific events.

This design was selected because the study is interested to observe and investigate the influence or factors affecting workshop practice in teaching and learning Electrical/Electronic technologies in TVET without manipulating them.

The design is chosen over other research design because it give a description on how the total samples are distributed in which the researcher decides the characteristics of the conditions. This

design attempts to collect, interpret and analyze data in a manner that aims to combine relevance of the research purpose with the effect and implementation of workshop practice.

Population of the Student

The target population of this study includes 300 and 400 level students in the four unit programs of Department of Technical and Technical Education, Faculty of Education, University of Benin, As well as the working individuals within the university community.

Sample and Sampling Techniques

The data gathered from the department of Vocational and Technical Education of University of Benin, shows that there are four (4) unit programs in the department of Vocational Education. University of Benin as at the time the study survey was conducted and the four (4) unit programs were selected namely; Agriculture Education, Business Education, Home Economics Education and Industrial Technical Education respectively. The selection was based on the factors influencing workshop practice in terms of scarcity of attachment areas, workshop space, trained workshop tutors, skill acquisition and training. The sample size consist of 80 (eighty) respondents selected from the chosen unit programs.

Sampling Techniques:

Simple random sampling was used to select four (4) unit programs from a population comprising all the programs within the department of Vocational Education, University of Benin. This section was carried out through balloting and purposive sampling method was used to select respondents for the questionnaires. In this view, Department of Vocational and Technical

Education was divided into four strata to represent the four major unit programs in the department such as: (Agriculture Education, Business Education, Home Economics Education and Industrial Technical Education), from where twenty(20) respondents was drawn from each strata to give a total of 80 (eighty) respondents used in this study.

Instrumentation

Data for this study on the factors affecting workshop practice in teaching and learning Electrical/Electronic technologies in TVET was gathered through the use of questionnaires. The questionnaires comprises of questions 1-4 covering the personal data of the respondents 6- 20 structured questions to address issues the research questions and hypotheses consequently satisfy the objectives of the study.

The instrument of data collection arranged by the researcher through employing the use of both Secondary and primary data, which includes:

Survey Questionnaire: This represents primary data which will be obtained from the interview From the department, home, at their leisure moments, where and then, they fill and return the questionnaire.

Interviews: Personal interview are carried out on student and lecturers that are partake in workshop practice. And non participating on their view. It also involved structural questions and discussion, in order to overcome the problem of lack of

understanding and awareness that may likely occur.

Library Research: This involved secondary data, in this view, Library use is indispensable accordingly, there is extensive review work done by other scholars to ascertain how relevant the study is, information obtained is culled from annual reports unpublished official reports, newspapers, internet as well as magazines.

Validity and Reliability of Instrument

The questionnaire was submitted to a research expert, who is the project supervisor for scrutiny and validation. The corrections were included in the final draft of the Instrument.

Reliability

This refers to the consistency to which the test instrument measures what it is intended to measure.

To determine the reliability of the instrument, a pilot study was carried out using the faculty of Education and the test-retest method. The test-retest was carried out on respondents who are part of the population but not included in the sample. A coefficient of close to 0.96 was obtained indicating that the instrument is reliable.

Method of Data Collection:

Collection of data for this study, both primary and secondary method were adopted. The data was collected by the researcher through the use of questionnaire, while, the secondary sources of data collection was through the internet, books and magazines.

Method of Data Analysis:

Simple percentage was used to analyze the data collected . The figure is put into appropriate columns showing indicators scores and percentages of responses. The hypotheses was tested using chi-square.

The data collected were analyzed

CHAPTER FOUR

PRESENTATION OF DATA AND DISCUSSION OF FINDINGS

This chapter presents the results of the data analysis, addressing each research questions and hypothesis. The findings are based on the survey conducted using the research instruments.

Descriptive Statistics

Let's start by providing descriptive statistics for the demographic variables:

Table 1. Demographic Characteristics of Respondents

Demographic variables	Frequency	Percentage
Gender		
Male	45	56.25%
Female	35	43.75%
Age		
21-24	20	25%
25-26	30	37.5%
29 and above	30	37.5%
Department/Unit		
Agriculture Education	20	25%
Business Education	15	18.75%
Home economics Education	25	31.25%
Industrial Tech Education	25	31.25%
Level of Study		

300	40	50%
400	40	50%
Occupation		
Lecturer	15	18.75%
Student	50	62.5%
Self-employed	15	18.75%

Presentation of Results

Research Question 1

To what extent does the availability of workshop equipment affect teaching and learning?

Table 2. Findings for Research Question 1

S/N	Item Statement	SA	A	D	SD
1	The availability of workshop equipment positively contributes to effective teaching and learning	40%	50%	5%	5%
2	Adequate workshop equipment enhances practical hands-on experience for students in the learning process	45%	40%	10%	5%
3	The scarcity of workshop equipment hinders the comprehensive understanding of theoretical concepts in then curriculum	10%	30%	40%	20%

4	Limited availability of workshop directly correlates	15%	25%	40%	20%
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	with the successful attainment of learning objectives				
5	The accessibility of workshop equipment directly correlates with the successful attainment of learning objectives	50%	40%	5%	5%

The data presented showed that 80% agree that available workshop equipment enhances teaching and learning. 50% express concerns about equipment scarcity affecting theoretical understanding. 50% express concerns about equipment scarcity and 40% see limited availability negatively impacting teaching and learning quality.

Research Question 2

To what extent does the utilization workshop equipment affect teaching and learning?

Table 3. Findings for Research Question 2

S/N	Item Statement	SA	A	D	SD
1	Efficient utilization of workshop equipment enhances the practical application of theoretical knowledge	45%	40%	10%	5%
2	Inadequate utilization of workshop equipment leads to a gap between theoretical understanding and skills development	15%	30%	40%	15%
3	Proper integration of workshop equipment into the curriculum	55%	35%	5%	5%

	positively influences the effectiveness of teaching and learning				
4	Poor utilization of workshop equipment results in a limited scope of hands on experience for students	10%	25%	40%	25%
5	The extent to which workshop equipment is utilized directly impacts the mastery of subject matter by students	50%	40%	5%	5%

The data presented reveals that 85% agree that efficient utilization enhances practical application while 55% agree inadequate utilization leads to a gap between theory and learning. 90% believe proper integration positively influences teaching and learning

Research Question 3

To what extent does the maintenance of workshop equipment affect teaching and learning?

Table 4. Findings for Research Question 3

S/N	Item Statement	SA	A	D	SD
1	regular maintenance of workshop equipment is crucial for ensuring a safe learning environment	85%	15%	0%	0%
2	Inadequate maintenance leads to disruption in the teaching and learning process	25%	40%	20%	15%
3	Well maintained equipment contributes to the overall efficiency of teaching and learning activities	75%	20%	5%	0%
4	Lack of maintenance negatively impacts the reliability and functionality of workshop equipment	30%	35%	25%	10%

5	The frequency of maintenance directly influences the longevity and effectiveness of workshop equipment	65%	30%	5%	0%
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The data presented shows that 85% strongly agree that regular maintenance is crucial for ensuring a safe learning environment and 65% acknowledge the potential for disruption in the teaching and learning process due to inadequate maintenance

Research Question 4

To what extent does the availability of well trained lab instructors affect the teaching and learning electrical/electronic technology in TVET?

Table 5. Findings for Research Question 4

S/N	Item Statement	SA	A	D	SD
1	There is a sufficient number of in the program	20%	40%	25%	15%
2	The expertise of lab instructors positively contributes to the understanding of complex concepts in the program	80%	15%	5%	0%
3	enhance the skills development of students in electrical/electronic technology	75%	20%	5%	0%

4	The availability of well-trained lab instructors is crucial for a comprehensive and effective learning experience	85%	10%	5%	0%
5	Students interaction with well-trained lab instructors	70%	25%	0%	0%

	significantly improves their overall performance				
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This shows that 60% expressed mixed views on the sufficiency of lab instructors while 95% agree lab instructors' expertise positively contributes to learning.

Summary of Findings

The findings from Research Question 1 reveal that a nuanced perspective on the impact of workshop equipment availability on teaching and learning in TVET. The majority of respondents strongly agree that the availability of workshop equipment positively contributes to the effective teaching and learning, enhancing practical experience. However, some respondents express concerns about the scarcity of equipment hindering the comprehensive understanding of theoretical concepts. The disagreement regarding the negative impact of limited availability on the overall quality of teaching and learning experience suggests varying experiences suggests varying deceptions among respondents

Research question 2 analysis indicates a consensus among respondents that efficient utilization of workshop equipment enhances the practical application of theoretical knowledge and positively influences teaching and learning effectiveness. However, a notable divergence exists in the perceptions regarding the consequences of inadequate utilization. While some acknowledge a potential gap between theoretical understanding and practical skills development, others do not strongly agree with this assertion. These results highlight the complexity of the relationship between equipment utilization and the quality of learning experiences'

Respondents unanimously agree on the importance of regular maintenance for safety. While there is acknowledgement that well maintained equipment contributes to the overall efficiency of

teaching and learning activities. There is divergence in the opinion regarding the specific disruptions caused by inadequate maintenance. This indicates a need for further exploration into the multifaceted impact of maintenance practice on the teaching and learning process.

The overwhelming consensus is that the availability of well-trained lab instructors is crucial for a comprehensive and effective learning experience. Additionally, a substantial percentage believes that students' interaction with well-trained lab instructors significantly improves their overall academic performance. These results highlight the pivotal of instructors in shaping the educational outcomes in the field of electrical/electronic technology.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

Summary

The study was carried out to determine the analysis or factors affecting practice in teaching and learning technology in the University of Benin

In the course of conducting the study, four research questions were raised. They are:

- To what extent does the availability of workshop equipment affect teaching and learning?
- To what extent does the utilization workshop equipment affect teaching and learning?
- To what extent does the maintenance of workshop equipment affect teaching and learning?
- To what extent does the availability of well-trained lab instructors affect the teaching and learning electrical/electronic technology in TVET?

The researcher uses all undergraduate students from the department of vocational and technical education from 300 to 400 levels. 80 undergraduate students was selected used for the study.

Due to smallness of the population, no sample were drawn, all the students were used for the study.

Questionnaire was the major instrument used for data collection. The questionnaire was made up of Section 'A' and Section 'B'. While Section 'A' contained the demographic data of the respondents, Section 'B' was meant to elicit data on the various research questions raised and other matters considered important to the Success of this study. The validity of the instrument was determined by the project supervisor and other two lecturers from the department, making it three experts. The data collected were analyzed using descriptive statistics such as frequency count and simple percentages

Conclusion

Following the analysis of data collected and discussion of the results, the following were the conclusion drawn from the major findings of this study:

- The findings revealed that lack of fund hinders the teaching and learning of technology in TVET in University of Benin to a high extent.
- The analysis further revealed that to a high extent lack of qualified lecturers hinders the learning of technology in TVET in University of Benin.
- Respondents generally agreed that lack workshops, personnel and instructional materials for practical lessons for effective learning of industrial technical education courses are adequate to a low extent.
- The finding shows that learners needs to be equipped with the technical, mechanical and problem-solving skills required in the job market.

Recommendations

In view of the conclusion reached, the following recommendations were

1. Institutions should priorities the provision and maintenance adequate workshop equipment to ensure a conducive learning environment
2. There should be provision of standby generator set to power all the facilities in Technical and Vocational workshops and laboratories during power failures.
3. Collaborate with industry partners and stakeholders to secure funding and resources for the procurement of modern and relevant workshop equipment.
4. Encourage and support research initiatives focusing on innovative approaches to

workshop practices and their impact on teaching and learning

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APPENDIX

UNIVERSITY OF BENIN

FACULTY OF EDUCATION

DEPARTMENT OF AND TECHNICAL EDUCATION

**QUESTIONNAIRE ON THE ANALYSIS OR FACTORS AFFECTING WORKSHOP
PRACTICE IN TEACHING AND LEARNING ELECTRICAL/ELECTRONIC
TECHNOLOGY IN TECHNICAL AND VOCATIONAL EDUCATION AND TRAINING
(TVET)**

Dear Respondent,

My name is Okoromhun kelvin Ozemhoya. I'm a student of the above-named Department. This questionnaire is solely for the purpose of a research. I am carrying out a study on: The Analysis Or Factors Affecting Workshop Practice In Teaching And Learning Electrical/electronic Technology In Technical And Vocational Education And Training (TVET)

I shall be grateful and your response shall be treated with the utmost confidence. Thanks. For you co-operation.

Yours' Faithfully

Okoromhun Kelvin
(Researcher)

SECTION A

PERSONAL DATA

Please tick (✓) the appropriate option.

1. Gender: Male Female
2. Age: 21-24 25 -28 29 and above
3. Department/Unit.....
4. Level of Study: 300 level 400 level
5. Occupation: Lecturer Student Self employed

SECTION B

Please, tick the option that suits you.

KEYS:

SA = Strongly Agreed

A = Agreed

D = Disagreed

SD = Strongly Disagree

S/N	ITEM STATEMENT	SA	A	D	SD
	To what extent does the availability of workshop equipment Affect teaching and learning?				
1	The availability of workshop equipment positively contributes to effective teaching and learning.				
2	Adequate workshop equipment enhances practical hands-on experience for students in the learning process.				
3	The scarcity of workshop equipment hinders the comprehensive understanding of theoretical concepts in the curriculum.				
4	Limited availability of workshop equipment negatively impacts the overall quality of teaching and learning experiences.				
5	The accessibility of workshop equipment directly correlates with successful attainment of learning objectives.				

S/N	To what extent does the utilization of workshop equipment affect teaching and learning?	SA	A	D	SD
1	Efficient utilization of workshop equipment enhances the practical application of theoretical knowledge.				
2	Inadequate utilization of workshop equipment leads to a gap between theoretical understanding and practical skills development.				
3	Proper integration of workshop equipment into the curriculum positively influences the effectiveness of teaching and learning.				
4	Poor utilization of workshop equipment results in a limited scope of hands-on experience for students.				
5	The extent to which workshop equipment is utilized directly				

	impacts the mastery of subject matter by students.				
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S/N	To what extent does the maintenance of workshop equipment affect teaching and learning?	SA	A	D	SD
1	Regular maintenance of workshop equipment is crucial for ensuring a safe learning environment.				
2	Inadequate maintenance of workshop equipment leads to disruptions in the teaching and learning process.				
3	Well-maintained workshop equipment contributes to the overall efficiency of teaching and learning activities.				
4	Lack of maintenance negatively impacts the reliability and functionality of workshop equipment.				
5	The frequency of maintenance directly influences the longevity and effectiveness of workshop equipment				

S/N	To what extent does the availability of well-trained lab instructors affect the teaching and learning of electrical/electronic technology in VTE?	SA	A	D	SD
1	There is a sufficient number of well-trained lab instructors in the electrical/electronic technology program.				
2	The expertise of lab instructors positively contributes to the understanding of complex concepts in the program.				
3	Well-trained lab instructors enhance the The skills development of students in electrical/electronic technology.				
4	The availability of well-trained lab instructors is crucial for a comprehensive and effective learning experience.				
5	Students' interaction with well-trained lab instructors				

	significantly improves their overall academic performance.				
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