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Workplace Readiness and Employability Skills Among Nigerian Technical College Students in Electrical Installation

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Abstract: *This paper explores workplace readiness and employability skills among Nigerian technical college students specialising in electrical installation. As the demand for skilled technical labour continues to rise, there is growing concern about whether the training provided by technical colleges adequately prepares students for real-world employment. The study, which is literature-based, examines the existing curriculum structure, the integration of soft and hard skills, the nature of industry-academic collaboration, and the relevance of assessment and certification methods in aligning with labour market needs. Findings from reviewed literature indicate that while technical colleges in Nigeria offer foundational knowledge in electrical installation, there are significant gaps in employability skill development. These include insufficient soft skill training, limited industry exposure, outdated curriculum content, and inadequate infrastructure. Furthermore, the weak link between educational institutions and the private sector has contributed to the growing disconnect between training and actual workplace expectations. The paper recommends curriculum reform that reflects current industry practices, strengthened partnerships between colleges and employers, competency-based assessments, and improved training for educators. It also emphasises the need for embedding employability-focused learning approaches that balance technical proficiency with critical soft skills.*

Keywords: employability skills, workplace readiness, technical education, electrical installation, curriculum reform, industry partnership

INTRODUCTION

Technical and vocational education and training (TVET) have gained prominence in global discourses on human capital development, economic growth, and youth employment. In Nigeria, technical colleges offer specialised training in various trades, including electrical installation, aimed at

equipping students with practical skills for workplace integration. However, the persistent mismatch between skills acquired in school and those demanded by the industry raises questions about the adequacy of training programmes, particularly concerning workplace readiness and employability. This paper examines workplace readiness and employability skills among Nigerian technical college students specialising in electrical installation, based on a literature-based approach to understanding gaps, trends, and recommendations in the field.

The background to this study is situated within the growing concern over youth unemployment in Nigeria, especially among technical college graduates. Despite the emphasis on technical education as a tool for self-reliance and economic empowerment, many graduates remain jobless or underemployed, largely due to a perceived lack of relevant employability skills. Electrical installation, a vital trade within technical colleges, provides students with the opportunity to learn how to wire buildings, repair electrical systems, and maintain electrical infrastructure. Nevertheless, the efficiency and success of such training depend on how well students are prepared for real-world challenges and workplace dynamics. According to the Federal Republic of Nigeria (2014), the curriculum for electrical installation and maintenance work in technical colleges was designed to develop students' cognitive, affective, and psychomotor domains, yet practical implementation remains suboptimal.

Workplace readiness involves not only technical proficiency but also the possession of generic employability skills such as communication, teamwork, critical thinking, and adaptability. In the technical education sector, these skills are crucial as they complement trade-specific expertise and foster successful integration into the labour market. Odika and Tom (2020) observed that technical college graduates often fall short in demonstrating such essential competencies, thus limiting their prospects in the highly competitive and evolving world of work. Therefore, enhancing workplace readiness in technical colleges, particularly in the electrical installation trade, is vital for national development and youth empowerment.

The relevance of employability skills in electrical installation cannot be overstated. With the constant evolution of technologies in the construction and energy sectors, the role of an electrical installer now extends beyond basic wiring to include problem-solving, technical drawing interpretation, health and safety compliance, and customer service. Olojuolawe and Fadila (2019) emphasised that employability skills are central to the performance and professional success of electrical technology students, noting that a lack of such skills hinders both employability and career progression. Employers increasingly demand graduates who can think critically, adapt quickly, and work effectively in teams, skills that must be cultivated during technical education. Despite the curriculum objectives and the growing emphasis on skill acquisition, there exists a gap between curriculum content and the actual skills possessed by students upon graduation. Manabete and Makinde (2016) highlighted that many technical colleges are hampered by a lack of modern equipment, inadequate instructional materials, and insufficient industrial exposure. Consequently, students are not adequately trained to meet the demands of the workplace, leading to high graduate unemployment and underemployment rates.

Given this situation, the objectives of this study are to explore the concept of workplace readiness in the context of technical education, identify the core employability skills required in electrical installation, assess how the Nigerian technical college curriculum addresses these needs, and analyse literature-based recommendations for bridging identified gaps. By doing so, this paper aims to

contribute to ongoing debates on reforming TVET in Nigeria and improving the relevance and quality of technical training.

This study is justified by the urgent need to align technical education with labour market realities. Tumba and Halliru (2016) proposed that the success of technical education hinges on the extent to which students are adequately equipped with both practical and employability skills. Addressing this concern through a thorough literature review can provide valuable insights into the challenges and potential strategies for enhancing workplace readiness in Nigeria's technical education system. Therefore, the rationale for this study lies in its potential to inform policy and curriculum reform, improve training outcomes, and ultimately reduce youth unemployment in the country.

Conceptual Review

Workplace readiness has become a vital concept in educational discourse, especially in Technical and Vocational Education and Training (TVET) systems that seek to prepare students for gainful employment. Workplace readiness refers to the possession of skills, behaviours, and attributes necessary for effective functioning in real work environments. It entails not only technical proficiency but also soft skills such as communication, punctuality, teamwork, and adaptability (Mansour & Dean, 2016). In the context of Nigerian technical colleges, particularly within electrical installation trades, workplace readiness goes beyond classroom instruction to include exposure to real-world challenges and problem-solving dynamics (Odika & Tom, 2020). This is crucial in bridging the transition from school to the workplace, ensuring that graduates can confidently apply their skills in diverse industrial settings.

Employability skills, on the other hand, are the generic and transferable skills that enhance an individual's ability to secure and retain employment, progress at the workplace, and adapt to changing job demands. These skills include but are not limited to communication, teamwork, critical thinking, problem-solving, digital literacy, emotional intelligence, and personal responsibility (Sodipo, 2014; Ismail & Mohammed, 2015). The importance of these skills has been reiterated across industries and academia, as they are seen as indispensable to workplace success, particularly in a fast-changing global labour market. Employers increasingly expect graduates of TVET institutions, including those specialising in electrical installation, to demonstrate both theoretical knowledge and practical employability skills (Olojuolawe & Fadila, 2019). However, studies have shown a significant mismatch between the skills taught in schools and the ones required by industries, which often hampers graduates' employment prospects (Emah et al., 2025).

Technical and Vocational Education and Training (TVET) is a form of education that equips learners with technical knowledge, practical experience, and work-related competencies for employment or entrepreneurship. It is particularly targeted at equipping students with occupational skills in fields such as engineering, construction, ICT, and electrical trades (Manabete & Makinde, 2016). TVET programmes are integral to national development strategies as they support the creation of a skilled workforce, reduce unemployment, and contribute to economic productivity. In Nigeria, the relevance of TVET is underpinned by the need to address youth unemployment and prepare students for the Fourth Industrial Revolution (Peters, 2017). However, inadequate infrastructure, obsolete equipment, and misalignment with industry demands often affect the effectiveness of these programmes (Adeagbo

et al., 2024). Despite these challenges, there remains a strong emphasis on TVET as a critical pathway to acquiring employable skills, especially in technical fields like electrical installation.

Electrical installation, as a technical discipline within TVET, encompasses the practical and theoretical aspects of installing, maintaining, and repairing electrical systems and components. This includes domestic, commercial, and industrial electrical systems, with a focus on safety, design, and compliance with regulations. The curriculum for electrical installation in Nigeria, as specified by the National Board for Technical Education (NBTE), covers areas such as electrical theory, wiring regulations, circuit design, and fault diagnosis (FRN, 2014). Practical hands-on training is central to the programme, with emphasis on the acquisition of competencies that meet the standards of the workplace. However, studies indicate that many technical colleges lack adequate facilities and modern equipment for effective skill training in electrical installation (Manabete & Makinde, 2016). Furthermore, the increasing technological complexity of modern electrical systems necessitates continual curriculum updates and capacity-building for instructors to ensure students gain relevant and current competencies (Odika & Tom, 2020).

At the core of workplace readiness and employability are key components that transcend disciplinary boundaries. These core employability skills, sometimes referred to as "soft skills" or "21st-century skills," are universally recognised by employers. Communication skills, which include listening, speaking, and writing effectively, are critical for interactions with clients, supervisors, and colleagues in the workplace (Ismail & Mohammed, 2015). Teamwork and collaboration are equally vital, especially in industries like electrical installation where tasks are often performed in teams or require coordination with other trades. Problem-solving and critical thinking enable technicians to diagnose and rectify faults efficiently, an essential aspect of electrical work (Tumba & Halliru, 2016). Additionally, digital literacy has become increasingly important as modern electrical systems integrate programmable logic controllers (PLCs), smart devices, and automation systems. Consequently, graduates must possess a level of ICT proficiency that aligns with these advancements (Adeagbo et al., 2024).

Adaptability and a positive work ethic are other crucial attributes. In a dynamic work environment, employees are expected to cope with changes, meet deadlines, and take initiative. Emotional intelligence and time management also fall under employability skills, contributing to workplace harmony and personal effectiveness (Mansour & Dean, 2016). In the Nigerian context, a significant number of employers prioritise these soft skills over technical qualifications during recruitment (Akinloye, 2018). This preference highlights the urgent need for TVET institutions to incorporate soft skill development into their training regime. Unfortunately, research indicates that many Nigerian technical colleges emphasise theoretical learning at the expense of practical exposure and soft skill development (Emah et al., 2025; Odika & Tom, 2020).

Therefore, aligning TVET programmes, especially in electrical installation, with labour market demands requires a dual emphasis on technical mastery and employability skills. This calls for strategic partnerships between schools and industries, curriculum revision, staff development, and the use of real-life scenarios in teaching (Tumba & Halliru, 2016). It also requires the integration of entrepreneurship education, which prepares students to create jobs rather than only seek them

(Adeagbo et al., 2024). By fostering these competencies, technical colleges can produce graduates who are not only technically proficient but also workplace ready.

Status of Technical and Vocational Education in Nigeria

The status of Technical and Vocational Education and Training (TVET) in Nigeria has gained increasing attention due to the country's rising youth unemployment and the growing need for skilled manpower in technical sectors. TVET, particularly in trades like electrical installation, is expected to provide students with both the theoretical and practical competencies required for employability and workplace readiness. However, concerns remain about the extent to which Nigerian technical colleges adequately prepare students to meet modern labour market demands. According to Jackson, Ekong, and George (2022), the incorporation of digital literacy and modern technologies such as generative artificial intelligence is still limited within Nigeria's TVET framework, which significantly hampers the readiness of students to function in technologically evolving industries.

Employability in the 21st-century workplace now transcends technical skills; it encompasses a blend of soft skills, innovation capacity, and adaptability. Akinloye (2018) notes that many Nigerian firms, particularly in the informal and semi-formal sectors, prioritise practical skills and hands-on competence over paper qualifications. Despite this, the technical college curriculum often remains rigid and outdated, with minimal responsiveness to the evolving industrial requirements. Herbert et al. (2020) also highlight the global shift towards work-readiness frameworks, emphasising problem-solving, communication, teamwork, and digital fluency as core to employability, yet these are often insufficiently embedded in Nigerian technical education programmes.

Furthermore, ethical considerations and policy constraints impact the implementation of modern educational technologies in Nigerian TVET institutions. Omeh, Olelewe, and Hu (2024) emphasise that although artificial intelligence and other emerging tools offer potential for enhancing learning outcomes, their integration is limited by infrastructural inadequacies and a lack of skilled educators. Similarly, the work of Olawale and Olaseni (2019) on welding and fabrication students in Ogun State underscores a broader challenge facing all TVET sectors: the mismatch between the skills acquired in school and the expectations of employers in the job market.

In response to these concerns, the Federal Government through the National Board for Technical Education (NBTE) has made efforts to revise the electrical installation curriculum (FRN, 2014). However, implementation remains inconsistent across institutions, particularly in rural or underfunded colleges. As such, for Nigerian TVET to fulfil its potential, there must be a coordinated effort to update curricula, invest in teacher training, and integrate industry-based learning experiences. Only through such reforms can technical education in Nigeria produce graduates who are truly ready for the challenges of a dynamic and competitive workforce.

Curriculum Content and Skill Development in Nigerian Technical Colleges

The curriculum content in Nigerian technical colleges plays a pivotal role in preparing students for the world of work, particularly in specialised trades such as electrical installation. In recent years, concerns have been raised about the relevance, depth, and adaptability of technical college curricula in meeting contemporary industry demands. A core issue is the gap between curriculum content and employability expectations, which leaves many graduates ill-prepared for the dynamic and skill-intensive nature of modern workplaces (Herbert et al., 2020). While technical education in Nigeria aims to foster both

theoretical and practical competencies, a lack of regular curriculum updates often results in outdated content that does not reflect recent technological trends or workplace practices.

One of the major challenges is the disconnection between what is taught and what is required in real industry settings. Employers increasingly demand practical competencies, digital literacy, problem-solving abilities, and interpersonal skills, which are not always prioritised in existing curricula (Succi & Canovi, 2020). In sectors like electrical installation, where safety, precision, and real-time diagnostics are critical, students require hands-on training and exposure to current industry tools. However, many technical colleges lack the infrastructure and equipment needed to provide such training, thereby limiting the development of critical employability skills (Olawale & Olaseni, 2019). Furthermore, digital transformation is reshaping the labour market, and technical education must evolve to accommodate these changes. The integration of artificial intelligence, smart devices, and generative technologies into vocational curricula is necessary to keep Nigerian students globally competitive (Jackson et al., 2022). Unfortunately, the adoption of these innovations remains minimal in many Nigerian technical colleges, largely due to limited funding, lack of policy implementation, and insufficient capacity building for educators (Omeh et al., 2024). When teachers themselves are not adequately trained to use emerging technologies, they cannot effectively transfer relevant skills to students, thereby perpetuating a cycle of inadequacy.

The mismatch between skills taught and those demanded by industries has led to increased unemployment or underemployment among graduates of technical institutions. As observed by Akinloye (2018), several Nigerian companies now hire based on demonstrated competencies rather than academic credentials, underscoring the importance of practical training and workplace readiness. Thus, technical education must be reoriented to include not just technical proficiency but also soft skills such as communication, teamwork, and adaptability, which are essential for professional success in dynamic work environments (Olagbaju, 2020).
To address these challenges, there is a growing emphasis on teacher training and curriculum reform. Adeagbo et al. (2024) argue that focused training programmes for technical educators and the inclusion of edupreneurship elements can enhance both teaching quality and student outcomes. Inculcating entrepreneurial thinking in students can further broaden their career prospects beyond formal employment, enabling them to create their own opportunities in the electrical installation sector and beyond.

In summary, curriculum content in Nigerian technical colleges must be urgently revised to align with the changing landscape of the labour market. Emphasis should be placed on practical skills, digital literacy, and soft skills development. Collaborative efforts between government, industry, and educational institutions are essential to ensure that students are not only workplace-ready but also capable of contributing to national economic development.

Assessment and Evaluation of Employability Skills
The assessment and evaluation of employability skills among technical college students, especially in the field of electrical installation, have become critical in determining their readiness for the world of work. With the dynamic nature of the labour market, traditional metrics of academic success are no longer sufficient to guarantee employment. In Nigeria, there is a growing emphasis on practical competencies, soft skills, and digital literacy as essential components of employability. Employers

now increasingly recruit based on demonstrable skills rather than certificates alone, shifting the focus to outcome-based assessments (Akinloye, 2018).

Effective assessment strategies must go beyond theoretical knowledge to measure a student's ability to apply technical, cognitive, and interpersonal skills in real-life scenarios. Technical and vocational education and training (TVET) institutions are therefore expected to adopt competency-based evaluation models that assess learners' hands-on abilities and soft skills simultaneously (Herbert et al., 2020). However, many Nigerian technical colleges still rely heavily on traditional examination systems that inadequately capture the multifaceted nature of employability. This limits students' exposure to workplace realities and reduces their readiness for employment in both local and global contexts.

The integration of emerging technologies and artificial intelligence into the assessment processes presents both opportunities and ethical challenges. For instance, digital platforms can provide simulation-based assessments, enabling students to demonstrate skills in safe and controlled environments. However, equitable access to such technologies must be addressed to avoid reinforcing socio-economic disparities (Omeh et al., 2024). Additionally, training for TVET educators on the use of digital tools in assessment is crucial. Adeagbo et al. (2024) emphasise the role of focused training in building educators' capacity to implement tech-enabled evaluation techniques effectively.

Another critical aspect is the alignment of employability skills assessment with industry expectations. Employers often highlight a gap between the skills taught in colleges and those required in the workplace. To bridge this gap, regular consultation with industry stakeholders is necessary to review assessment criteria and ensure relevance (Succi & Canovi, 2020). Furthermore, incorporating digital literacy and entrepreneurship into the curriculum, as recommended by Jackson et al. (2022), will provide students with the tools needed to adapt and thrive in evolving work environments. Empirical evidence also suggests that skill acquisition programmes significantly impact self-reliance and empowerment, particularly among marginalised groups (Olagbaju, 2020). Therefore, a holistic approach to assessment, one that includes technical proficiency, soft skills, and digital capabilities will enhance the employability of technical college students in Nigeria's electrical installation sector

Employability Skills in Electrical Installation: International and Local Perspectives

In the contemporary world of work, the employability of technical college graduates, particularly in fields such as electrical installation, has emerged as a critical concern among educators, policymakers, and employers alike. Employability skills, sometimes referred to as work-readiness or transferable skills, encompass a broad range of competencies beyond technical knowledge. These include communication, teamwork, problem-solving, adaptability, and digital literacy, all of which are essential for navigating the dynamic and ever-evolving demands of the labour market. Within Nigeria, the increasing emphasis on technical and vocational education and training (TVET) is a recognition of its role in equipping young people with the practical skills needed for employment, especially in sectors such as electrical installation. However, the mismatch between the skills acquired in technical colleges and the expectations of employers remains a pressing issue (Sodipo, 2014).

Globally, there is a growing consensus on the importance of integrating employability skills into technical education programmes. In countries that have made significant progress in TVET reform,

such as Germany and Australia, employability is considered not merely as an outcome but as a core objective of vocational education. The focus is on ensuring that students graduate with a combination of technical proficiency and soft skills that enhance adaptability in different work environments (Succi & Canovi, 2020). Similarly, Mansour and Dean (2016) stress that employers worldwide value communication, teamwork, and problem-solving skills as highly as, if not more than, domain-specific technical expertise. This global perspective underscores the importance of adopting holistic training models that bridge the gap between school-based learning and workplace expectations.

In the Nigerian context, studies have shown that while technical college curricula such as the Electrical Installation and Maintenance Work Curriculum developed by the NBTE (FRN, 2014) include practical components, the delivery and emphasis on employability skills remain insufficient. Olojuolawe and Fadila (2019) note that the acquisition of employability skills in electrical installation is hindered by an overemphasis on theoretical knowledge and limited industrial exposure. Moreover, the teaching of soft skills such as communication and time management is often marginalised, leading to graduates who may be technically capable but lack the essential interpersonal and organisational skills required in the workplace.

Infrastructure and facility-related challenges further compound the situation. Manabete and Makinde (2016) highlight the poor state of electrical installation workshops in many technical colleges across Nigeria's North-East, making it difficult for students to gain hands-on experience with modern tools and technologies. This deficit not only impairs technical learning but also restricts the contextual development of work-readiness skills. Similarly, Tumba and Halliru (2016) recommend the adoption of more effective strategies, including regular industry visits, internship placements, and competency-based training models, to enhance practical skill acquisition and ensure alignment with workplace standards.

One key aspect of employability is adaptability to technological advancements, especially with the onset of the Fourth Industrial Revolution. The integration of artificial intelligence, smart technologies, and automation in electrical installation work means that technicians must be digitally literate and open to continuous learning (Peters, 2017). In this regard, Jackson et al. (2022) argue for the inclusion of digital literacy training in TVET programmes, noting that emerging technologies, including AI and cloud computing, are reshaping how electrical systems are designed, maintained, and diagnosed. The World Bank (2022) also emphasises the importance of equipping young Nigerians with 21st-century skills to address the country's high unemployment rate and enhance national productivity.

Furthermore, issues of employability are not solely tied to technical knowledge or digital adaptation. The social and cultural context within which education occurs also plays a significant role. Emah et al. (2025) explore the gendered dimensions of skill acquisition in TVET, revealing that female students often face greater challenges in accessing hands-on training opportunities in male-dominated fields like electrical installation. Addressing these disparities requires deliberate policy interventions that promote inclusiveness and equal access to work-based learning experiences.

Policy and institutional reforms are central to improving employability outcomes. Ismail and Mohammed (2015) suggest that Nigeria's TVET curriculum, particularly in technical universities and polytechnics, needs to be more responsive to labour market demands. They advocate for closer

collaboration between educational institutions and industry stakeholders to co-develop curricula, assess students' competencies, and facilitate smoother school-to-work transitions. Adeagbo et al. (2024) further support this view by emphasising the importance of equipping educators with the skills to integrate emerging technologies into instructional processes. Without competent and well-trained instructors, efforts to enhance employability through curriculum innovation will be ineffective.

At the level of employers and industries, there is a noticeable shift toward skills-based hiring, where practical ability and demonstrable experience often outweigh formal academic qualifications. Akinloye (2018) documents several Nigerian companies that have adopted this approach, choosing to recruit based on technical competency and interpersonal effectiveness rather than certificates alone. This shift reflects broader global trends where employers prioritise real-world capabilities and adaptability, especially in technical roles like electrical installation that demand problem-solving in real time. Nonetheless, some progress has been made in enhancing employability among technical students. Odika and Tom (2020) report that in Rivers State, graduates of technical colleges who had access to well-equipped laboratories and consistent industry engagement demonstrated higher levels of self-employment and workplace adaptability. This suggests that when training conditions are conducive, and when students are exposed to real-world work environments, their readiness for employment improves significantly.

In addition, the incorporation of entrepreneurial education into TVET has been suggested as a way of boosting employability. Olagbaju (2020) posits that adult literacy and skill acquisition programmes that include entrepreneurship components can empower learners to create their own employment opportunities, thereby reducing dependence on formal job markets. This is particularly relevant in the Nigerian context, where unemployment rates remain high, and the informal economy absorbs a significant portion of the labour force.

Finally, there is growing interest in the ethical and policy dimensions of skill development in technical education. Omeh et al. (2024) caution that as Nigeria embraces AI and other digital tools in TVET delivery, ethical considerations regarding data privacy, equitable access, and teacher preparedness must be addressed. Only through a comprehensive and inclusive approach can TVET systems be transformed to produce graduates who are not only technically proficient but also ethically grounded and socially responsible.

Role of Industry Collaboration and Work-Based Learning in Skill Acquisition

The integration of industry collaboration and work-based learning into technical education is pivotal for enhancing the workplace readiness of Nigerian technical college students, particularly those in the field of electrical installation. Industry collaboration refers to the synergy between educational institutions and industry stakeholders to ensure that students are equipped with relevant and practical skills that align with labour market demands. This partnership facilitates not only the acquisition of technical competencies but also the development of employability skills necessary for professional success. According to Olojuolawe and Fadila (2019), such collaborations help bridge the gap between theoretical knowledge and practical application, particularly when institutions design their programmes to include industrial input and mentorship.

Work-based learning, which encompasses industrial training, internships, apprenticeships, and cooperative education, provides students with hands-on experience that enhances their technical proficiency. Manabete and Makinde (2016) emphasise that when students are exposed to real-life working environments, they develop both hard and soft skills that cannot be fully acquired in classroom settings. In the field of electrical installation, for instance, practical engagement allows students to troubleshoot systems, understand modern electrical technologies, and apply safety regulations effectively, which are crucial for their employability. The Federal Republic of Nigeria (FRN, 2014) also recognises this in its curriculum for electrical installation and maintenance work, where it mandates industrial training as part of student assessment and skill development.

Furthermore, industry collaboration ensures that technical institutions stay updated with technological advancements and industry practices. According to Odika and Tom (2020), graduates of technical colleges often lack employable skills due to outdated equipment and poor linkages with industry, making it imperative for these colleges to engage with private and public sector organisations. This cooperation may come in the form of donations of equipment, facilitation of student placement in companies, and regular input into curriculum review processes. As highlighted by Tumba and Halliru (2016), strategic partnerships with industries lead to improved teaching facilities and provide teachers with opportunities for industrial exposure, which further enhances instructional quality.

Additionally, industry collaboration fosters the cultivation of soft skills such as communication, teamwork, problem-solving, and adaptability skills that are increasingly valued in the job market. Succi and Canovi (2020) argue that these non-technical skills are often seen as equally or even more important than technical know-how in the modern workplace. Employers expect graduates to not only be technically proficient but also to possess interpersonal and organisational skills that facilitate smooth workplace integration and productivity.

The involvement of industries also enhances the employability prospects of students by serving as a pipeline for recruitment. Ismail and Mohammed (2015) observe that industries are more likely to recruit graduates from institutions with which they have active collaboration, as they trust the training process and are familiar with the quality of the students. Such trust can translate into internship-to-employment pathways for students, ensuring smoother transitions from school to work. Moreover, Mansour and Dean (2016) stress the importance of aligning educational outcomes with employer expectations, noting that work-based learning arrangements allow students to receive direct feedback from employers, which is crucial for their professional development.

In conclusion, industry collaboration and work-based learning are essential mechanisms for improving the employability and workplace readiness of Nigerian technical college students in electrical installation. These approaches ensure that students not only acquire relevant technical skills but also gain exposure to real-world challenges and professional environments, thereby increasing their chances of securing gainful employment and contributing meaningfully to national development

Challenges Hindering Workplace Readiness of Technical Students

Despite the growing need for skilled technicians in Nigeria's labour market, technical college students in electrical installation often face numerous challenges that hinder their readiness for the workplace. A significant barrier is the inadequate availability and utilisation of training facilities. Most technical

colleges lack up-to-date equipment and tools necessary for hands-on training in electrical installation, making it difficult for students to acquire industry-relevant practical skills. Manabete and Makinde (2016) report that many technical colleges in Nigeria's North-East geopolitical zone operate with obsolete or insufficient facilities, leading to poor competency levels among graduates. Without access to modern equipment, students are unable to develop proficiency in emerging technologies, thus widening the gap between school-based training and industrial expectations.

Curriculum-related issues also present considerable challenges to workplace readiness. The curriculum used in technical colleges often fails to reflect current industry practices and technological advancements. According to the Federal Republic of Nigeria (FRN, 2014), the curriculum for electrical installation is due for periodic review to integrate digital literacy and smart technologies, yet such updates are rarely implemented effectively. This disconnection between curriculum content and workplace demands leaves students underprepared for modern roles, particularly as the industry transitions into the Fourth Industrial Revolution (Peters, 2017). Moreover, inadequate integration of soft skills such as teamwork, communication, and problem-solving into the technical curriculum compounds the employability gap. Employers consistently emphasise the importance of these skills, yet students receive limited training in them (Ismail & Mohammed, 2015).

Furthermore, the teaching personnel in many technical colleges are often unqualified or ill-equipped to deliver modern practical instruction. Odika and Tom (2020) emphasise that many instructors lack recent industry exposure, resulting in a theoretical approach to skill training that does not align with current professional requirements. This undermines the experiential learning process and limits the ability of students to develop relevant competencies. Tumba and Halliru (2016) argue that without professional development and retooling for technical educators, students will continue to graduate with outdated skills, unable to meet the expectations of employers or entrepreneurial demands.

The issue of weak industry-college collaboration is also a critical barrier. Effective workplace readiness requires sustained partnerships between educational institutions and industry players for industrial training, curriculum development, and job placements. However, such collaboration is minimal in Nigeria. According to Olojuolawe and Fadila (2019), the absence of structured work-based learning schemes, such as internships and apprenticeships, prevents students from acquiring real-world experience. Employers are often reluctant to engage with technical colleges, citing the wide mismatch between what is taught and what is required in practice (Mansour & Dean, 2016).

Lastly, socio-economic constraints play a notable role in limiting workplace readiness. Many students from low-income backgrounds face financial difficulties that hinder their access to necessary training materials, transportation for industrial attachments, and even proper nutrition, all of which affect learning outcomes. As the World Bank (2022) highlights, poverty remains a persistent barrier to educational access and quality in Nigeria, with technical and vocational students disproportionately affected. These layered challenges not only reduce the employability of technical college graduates but also perpetuate the skills mismatch that plagues Nigeria’s labour market

CONCLUSION

The review of literature on workplace readiness and employability skills among Nigerian technical college students in electrical installation reveals a complex interplay between education, training quality, and labour market expectations. It is evident that while technical colleges in Nigeria provide foundational knowledge and hands-on skills in electrical installation, there is a significant concern about the extent to which these skills align with the dynamic demands of the contemporary workplace. The literature consistently highlights the growing emphasis on not just technical proficiency but also on soft skills such as communication, teamwork, critical thinking, and adaptability. These are essential for navigating the modern work environment, especially in technical fields like electrical installation that require precision, innovation, and collaboration.

Another major insight from the literature is the critical role of industry-academic collaboration in fostering employability. The lack of strong partnerships between technical colleges and industries often results in outdated curricula and insufficient exposure to real-life work situations. This misalignment contributes to a skills gap that leaves graduates underprepared for employment. Moreover, the literature draws attention to systemic issues such as inadequate funding, limited access to modern tools and technologies, and poorly equipped workshops, all of which compromise the quality of training received by students. These factors collectively undermine the readiness of technical college graduates to transition smoothly into the workforce.

In reflecting on the alignment between training and workplace expectations, it becomes clear that there is a misalignment that must be addressed through deliberate interventions. Although technical colleges are structured to produce skilled artisans and technicians, the fast-evolving nature of technology and workplace practices demands a continuous update of curricula, teaching methodologies, and assessment strategies. The current gap suggests a need for greater emphasis on employability-focused training that integrates both technical and non-technical skills. Enhancing work-based learning opportunities such as internships, industrial attachments, and mentorship programmes would bridge this gap and provide students with practical insights into workplace expectations.

The literature informs future interventions by highlighting areas where reforms are most needed. It points to the necessity of curriculum review, staff retraining, improved infrastructure, and policy frameworks that promote synergy between education and industry. Future research can explore innovative models of industry participation in technical training and assess the effectiveness of integrated skills development programmes. Overall, the review provides a solid foundation for developing strategies that can improve the employability of Nigerian technical college students and ensure that their training aligns with the evolving needs of the electrical installation sector

Recommendations

1. Technical colleges should undertake a comprehensive review of their electrical installation curriculum to incorporate current industry trends, technological advancements, and workplace realities. This includes integrating topics such as energy efficiency systems, digital metering, smart home technologies, and safety standards. Curriculum reform should be an ongoing process, supported by regular feedback from industry experts and alumni who are actively engaged in the labour market.

2. Collaborations between technical colleges and electrical service companies should be institutionalised through memoranda of understanding that facilitate student internships, apprenticeships, and industrial attachments. These partnerships would provide students with practical, hands-on experience in real work environments, allowing them to apply theoretical knowledge, develop professional attitudes, and become familiar with industry practices before graduation.
3. Assessment and certification methods should shift from traditional theory-heavy examinations to a competency-based approach that evaluates practical skills, problem-solving ability, and workplace readiness. Students should be assessed through performance tasks, field projects, simulation-based testing, and industry-supervised evaluations. This approach ensures that certification truly reflects a student's employability and real-world capability.
4. To improve overall employability, soft skills such as communication, teamwork, critical thinking, customer service, time management, and ethical conduct should be embedded within the technical curriculum. This could be achieved through workshops, role-playing exercises, project-based learning, and interdisciplinary subjects that simulate workplace interactions and responsibilities.
5. Teachers and instructors must be equipped with both updated technical knowledge and pedagogical skills to deliver relevant and engaging instruction. Continuous training programmes, exposure visits to industries, and certification in new technologies should be made compulsory for technical educators. This will ensure they are capable of preparing students for both the technical and professional demands of today's electrical installation industry

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