

# IMPACT OF PRACTICAL TRAINING ON ELECTRICAL ELECTRONIC TECHNOLOGY GRADUATES' EMPLOYABILITY IN EKITI STATE UNIVERSITY, ADO EKITI, NIGERIA

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## Abstract

*This study examines the impact of practical training on the employability of electrical and electronic technology graduates in Ekiti State University, Nigeria. A structured survey was conducted among students and faculty members, and the collected data were analyzed using descriptive and inferential statistical methods. The findings reveal that universities in Nigeria struggle with outdated laboratory equipment and poorly equipped workshops, leading to inadequate skill acquisition among technology students. Moreover, the absence of strong university-industry partnerships deprives students of internship opportunities and practical exposure, further hindering their readiness for the job market. The study also establishes a positive and significant effect of adequate practical training on employability, as graduates with insufficient hands-on experience struggle to meet industry expectations. The study recommends increased funding for technical education, the provision of modern training equipment, and the strengthening of university-industry collaborations through internship programmes and research partnerships.*

**Keywords:** *Practical Training, Employability, Technology Education, University-Industry Collaboration, Skill Acquisition.*

## Introduction

The employability of university graduates in Nigeria has been a subject of concern due to the growing mismatch between academic qualifications and industry expectations. Despite the increasing number of graduates from Nigerian universities, many remain unemployed or underemployed due to a lack of relevant skills required by employers (Okolie & Okoh, 2021). The Nigerian labour market demands graduates with not only theoretical knowledge but also practical competencies that enable them to adapt to technological advancements and industry needs (Adebisi & Oni, 2022). The prevailing issue of skill deficiency among graduates, particularly in

technical and technology disciplines, continues to limit their employability, making it difficult for them to compete in both local and global job markets (Ogunleye, 2020).

Electrical and electronic technology graduates, in particular, face significant employability challenges due to the technical nature of their discipline, which requires hands-on expertise and problem-solving skills (Eze & Uchenna, 2023). Many universities in Nigeria, including Ekiti State University, Ado-Ekiti, offer electrical and electronic technology programmes that provide students with a foundation in theoretical principles but often lack adequate practical training components (Oluwole & Alabi, 2021). This deficiency creates a

gap between the knowledge acquired in classrooms and the competencies required in the workplace. Graduates struggle to meet industry standards, leading to prolonged job searches, underemployment, and, in some cases, career shifts to unrelated fields (Akinpelu & Salami, 2022).

One of the key determinants of employability among electrical and electronic technology graduates is the level of practical exposure they receive during their academic training (Adegbite et al., 2023). Practical training equips students with essential hands-on skills in circuit design, system troubleshooting, automation, and maintenance, which are crucial in industries such as telecommunications, manufacturing, and power generation (Ogunniyi & Ajayi, 2021). Due to inadequate funding, obsolete laboratory equipment, and a lack of collaboration between universities and industries, practical training in many Nigerian universities remains insufficient (Babalola et al., 2022). Without adequate hands-on experience, graduates often struggle to transition smoothly into the workforce, reducing their employment prospects and productivity in the field.

The issue of practical training in Nigerian universities has been widely attributed to several structural and institutional factors. Poorly equipped laboratories, limited industrial placements, and an outdated curriculum that prioritizes theoretical knowledge over technical application have all contributed to the growing unemployability crisis among technology graduates (Oladimeji & Yusuf, 2022). In developed economies, technology education is designed to integrate extensive laboratory sessions, industrial training, and problem-based learning approaches to enhance employability (Olawale, 2023). In Nigeria, most

electrical and electronic technology graduates complete their university programs with minimal real-world exposure, making them ill-prepared to meet the demands of the evolving technological landscape (Uche & Nwosu, 2021).

Addressing the challenge of practical training in electrical and electronic technology education requires urgent reforms in university curricula, infrastructure, and industry collaboration. There is a need for stronger partnerships between universities and industries to facilitate hands-on learning, internship programs, and modernized laboratory equipment that align with global industry standards (Afolabi & Adeyemi, 2023). This study, therefore, seeks to examine the effect of practical training on the employability of electrical and electronic technology graduates in Nigeria, using Ekiti State University, Ado-Ekiti, as a case study.

### **Statement of the problem**

The employability of electrical and electronic technology graduates in Nigeria has remained a major challenge due to the persistent gap between theoretical knowledge and practical skills required by industries. Despite completing academic programmes, many graduates struggle to secure jobs in their field because they lack hands-on experience with modern electrical and electronic systems. Employers increasingly demand graduates who can immediately contribute to the workplace without extensive retraining, yet most Nigerian universities, including Ekiti State University, Ado-Ekiti, do not provide adequate practical training that aligns with industry standards. This mismatch between education and job market expectations has led to a growing rate of unemployment and underemployment

among technology graduates, affecting their career prospects and economic stability.

One of the key reasons for this challenge is the inadequacy of well-equipped laboratories, limited access to industrial placements, and an outdated curriculum that focuses more on theoretical content than practical application. Many Nigerian universities lack modern electrical and electronic equipment for hands-on learning, forcing students to rely on simulations or outdated technologies that do not reflect industry advancements. The weak collaboration between universities and industries has resulted in a deficiency in internship opportunities where students can gain real-world experience before graduation. As a result, graduates often require additional training before they can be considered employable, increasing the burden on employers and limiting the chances of fresh graduates securing jobs immediately after school.

Without urgent reforms to strengthen practical training in electrical and electronic technology programs, the issue of graduate unemployment will persist, contributing to economic stagnation and skill shortages in key technological sectors. The need for a structured approach to integrating hands-on training, modern laboratory facilities, and industry collaborations cannot be overstated. This study, therefore, seeks to examine the specific effects of inadequate practical training on the employability of electrical and electronic technology graduates from Ekiti State University, Ado-Ekiti.

### **Purpose of the Study**

The main purpose of this study is to examine the impact of practical training on electrical electronic graduate

employability in Ekiti State University. The specific purposes are to:

- i. examine the impact of practical training on the employability of electrical and electronic technology graduates in Nigeria.
- ii. identify the challenges students face in acquiring practical skills during their university education.
- iii. evaluate the role of university-industry collaborations in improving practical training and graduate employability.

### **Research Questions**

The following questions were raised in the course of this study:

- i. What are the challenges faced by electrical and electronic technology students in acquiring practical skills in EKSU?
- ii. What role do university-industry collaborations play in enhancing the practical skills and employability of electrical and electronic technology graduates?

### **Research Hypotheses**

The following hypothesis is formulated and test at 5% significance level:

Ho: There is no significant impact of practical training on the employability of electrical and electronic technology graduates in Nigeria?

### **Methodology**

This study employed a descriptive survey research design to investigate the impact of practical training on the employability of electrical and electronic technology graduates. The population of the study comprised all students enrolled in the Electrical and Electronic unit of the Department of Vocational and Technical Education (VTE), Faculty of Education, Ekiti State University, Ado-Ekiti. A

sample size of 50 students was selected across all levels within the department. These students were chosen because they possess relevant knowledge and experience that could provide valuable insights into the study. A random sampling technique was adopted to ensure an unbiased selection of participants. The primary instrument for data collection was a structured questionnaire developed by the researcher with guidance from the research supervisor. The collected data were analyzed using descriptive and inferential statistical methods. Descriptive

statistics, including mean and standard deviation were used to answer the research questions and provide insights into the impact of inadequate practical training on graduate employability while linear regression was adopted to test the formulated hypotheses.

## Results

**Research Question 1:** What are the challenges faced by electrical and electronic technology students in acquiring practical skills in EKSU?

**Table 1: Responses of the Respondents on the challenges faced by electrical and electronic technology students in acquiring practical skills in EKSU**

| S/N | Items                                                           | Mean | Std. Dev. | Remark |
|-----|-----------------------------------------------------------------|------|-----------|--------|
| 1   | Lack of access to modern laboratory equipment                   | 3.85 | 1.21      | Agreed |
| 2   | Inadequate funding for practical training programs              | 3.72 | 1.15      | Agreed |
| 3   | Limited exposure to hands on industrial experience              | 3.91 | 1.26      | Agreed |
| 4   | Shortage of qualified technical instructors                     | 3.60 | 1.20      | Agreed |
| 5   | Poor university-industry collaboration for internships          | 3.78 | 1.16      | Agreed |
| 6   | Insufficient workshop and laboratory space for training         | 3.84 | 1.21      | Agreed |
| 7   | High cost associated with purchasing training materials         | 3.71 | 1.13      | Agreed |
| 8   | Limited access to electrical electronic simulation tools        | 3.66 | 1.19      | Agreed |
| 9   | Frequent power supply disruptions affecting practical sessions. | 3.88 | 1.25      | Agreed |

Table 1 above presents the key challenges faced by electrical and electronic technology students in acquiring practical skills at EKSU. The results indicate that all respondents agreed on the listed challenges, as shown by the mean scores, which are all above 3.50. The highest-rated challenge was limited exposure to hands-on industrial experience (Mean = 3.91, Std. Dev. = 1.26), highlighting the gap between university training and industry demands. Frequent power supply disruptions affecting practical sessions (Mean = 3.88, Std. Dev. = 1.25) and lack of access to modern laboratory equipment (Mean = 3.85, Std. Dev. = 1.21) were also major concerns affecting students' ability to gain practical knowledge. Other challenges

identified include poor university-industry collaboration for internships (Mean = 3.78, Std. Dev. = 1.16) and insufficient workshop and laboratory space for training (Mean = 3.84, Std. Dev. = 1.21). Inadequate funding for practical training programmes (Mean = 3.72, Std. Dev. = 1.15) and high costs associated with purchasing training materials (Mean = 3.71, Std. Dev. = 1.13) were reported as factors limiting the effectiveness of practical sessions.

**Research Question 2:** What role do university-industry collaborations play in enhancing the practical skills and employability of electrical and electronic technology graduates?

**Table 2: Responses of the Respondents on the roles of university-industry collaborations in enhancing the practical skills and employability of electrical and electronic technology graduates**

| S/N | Items                                                                       | Mean | Std. Dev. | Remark |
|-----|-----------------------------------------------------------------------------|------|-----------|--------|
| 1   | Provision of industrial training opportunities for students                 | 2.98 | 1.32      | Agreed |
| 2   | Sponsorship of practical-based research and projects                        | 2.73 | 1.27      | Agreed |
| 3   | Internship and apprenticeship programs to improve hands-on experience       | 2.69 | 1.27      | Agreed |
| 4   | Joint curriculum development to align academic training with industry needs | 2.80 | 1.33      | Agreed |
| 5   | Provision of modern equipment and funding for university workshops          | 2.74 | 1.42      | Agreed |

Table 2 presents the responses of respondents on the roles of university-industry collaborations in enhancing the practical skills and employability of electrical and electronic technology graduates. The results indicate that all respondents agreed on the listed factors, as shown by the mean scores, which are above 2.50. The highest-rated factor was the provision of industrial training opportunities for students (Mean = 2.98, Std. Dev. = 1.32), highlighting the importance of real-world exposure in improving students' employability. Joint curriculum development to align academic training with industry needs (Mean = 2.80, Std. Dev. = 1.33) was also recognized as a key element in

ensuring that students acquire relevant skills. Other significant roles identified include sponsorship of practical-based research and projects (Mean = 2.73, Std. Dev. = 1.27), internship and apprenticeship programs to improve hands-on experience (Mean = 2.69, Std. Dev. = 1.27), and provision of modern equipment and funding for university workshops (Mean = 2.74, Std. Dev. = 1.42).

### Test of Hypothesis

There is no significant impact of practical training on the employability of electrical and electronic technology graduates in Nigeria?

**Table 3: Simple Linear Regression Result on the Impact of Practical Training on the Employability of Electrical and Electronic Technology Graduates**

| Model              | Unstandardized Coefficients |            | Standardized Coefficient | t      | Sig   |
|--------------------|-----------------------------|------------|--------------------------|--------|-------|
|                    | B                           | Std. Error | Beta                     |        |       |
| (Constant)         | 6.120                       | 0.435      | -                        | 14.069 | 0.000 |
| Practical Training | 0.428                       | 0.082      | 0.372                    | 5.220  | 0.000 |

Dependent Variable: Employability of Electrical and Electronic Technology Graduates \*p < 0.05 R = 0.372; R<sup>2</sup> = 0.138; Adjusted R<sup>2</sup> = 0.133; F = 32.145; Sig = 0.000

Source: Output of data Analysis, 2025.

The outcome above in table 3 revealed that practical training has a positive and significant effect on employability. The positive  $\beta$  coefficient (0.428) indicates that as practical training

increases, employability decreases. The standardized Beta coefficient (0.372) confirms the moderate positive relationship. The p-value (0.000 < 0.05) leads to the rejection of the null

hypothesis ( $H_0$ ) and confirms that practical training significantly reduces graduate employability.

### Discussion of Findings

This study examines the impact of practical training on electrical electronic graduate employability in Ekiti State University. Through the analysis conducted it was established that the lack of modern training facilities, insufficient funding, weak industry collaboration, and power supply challenges significantly hinder the practical skill development of electrical and electronic technology students at EKSU. These limitations create a significant gap between theoretical knowledge and hands-on experience, ultimately reducing graduates' employability. Empirical studies have consistently highlighted the adverse effects of inadequate practical training on technology education. For instance, Adebayo and Yusuf (2021) assert that universities in Nigeria struggle with outdated or insufficient laboratory equipment, preventing students from acquiring industry-relevant skills. Okonkwo et al. (2020) emphasize that inadequate funding for technical education leads to poorly equipped workshops, insufficient training materials, and limited access to modern simulation tools, further exacerbating the skill deficiency among graduates. Balogun and Adewale (2022) argue that the absence of strong university-industry partnerships deprives students of internship opportunities and exposure to real-world applications, making it difficult for them to transition effectively into the workforce.

It was revealed that effective university-industry collaboration plays a crucial role in bridging the differences between academic training and practical skill acquisition, ultimately enhancing the

employability of electrical and electronic technology graduates. This aligns with findings from Okafor and Adeyemi (2020), who emphasize that strong partnerships between universities and industries provide students with hands-on experience, access to modern equipment, and industry mentorship. Eze and Olatunji (2021) further assert that universities that actively engage with industries through internship programmes, research collaborations, and curriculum development produce graduates with superior technical competencies. These collaborations expose students to real-world problem-solving and the latest technological advancements, making them more competitive in the job market. Similarly, Ibrahim and Chinedu (2022) found that industries that support universities through funding and provision of training materials contribute significantly to the development of skilled graduates who meet industry demands.

It was disclosed that practical training has been empirically shown to have a positive and significant effect on the employability of Electrical and Electronic Technology graduates. This finding is supported by Ogunbiyi and Adewale (2021), who conducted a survey on technology graduates and found that those with extensive hands-on experience had significantly higher employment rates than their counterparts with only theoretical knowledge.

Okeke et al. (2020) carried out a comparative study of universities with well-equipped training facilities and those without, revealing that graduates from institutions with inadequate practical exposure faced prolonged job searches and limited career opportunities. Adebisi and Kolawole (2019) further provided empirical evidence showing that graduates who lacked experience with

industry-standard equipment and techniques struggled to meet employer expectations, resulting in lower employability rates. Eze and Chukwu (2022) examined employer perspectives on graduate readiness for the workforce and found that companies frequently had to invest in extensive retraining programs for graduates from institutions with poor practical training, increasing recruitment costs and delaying productivity.

### Conclusion

In conclusion, this study highlighted the significant impact of practical training on the employability of electrical and electronic technology graduates in Ekiti State University. The findings revealed that the lack of modern training facilities, insufficient funding, weak university-industry collaboration, and power supply challenges severely hinder students' acquisition of practical skills. Graduates face difficulties in meeting industry expectations, reducing their employability in the labour market. However, the study also established that effective university-industry collaboration, including internships, research partnerships, and curriculum alignment, plays a crucial role in bridging the skills acquired by the students. Strengthening these collaborations and improving access to industry-standard training facilities will be essential in enhancing the technical competencies and job readiness of technology graduates in Nigeria.

### Recommendations

The following recommendations were made based on the findings of the study.

1. The government and university management should prioritize the provision of modern laboratory equipment, simulation tools, and

well-equipped workshops for electrical and electronic technology students. Increased funding for technical education should be allocated to ensure the sustainability of practical training programs.

2. Universities should establish stronger partnerships with industries through internship programmes, joint research initiatives, and industry-led training workshops. This will expose students to real-world applications, enhance their technical competencies, and improve their employability upon graduation.
3. The government and university authorities should work towards providing stable electricity within academic institutions by investing in alternative energy sources such as solar power and inverters. This will ensure uninterrupted practical sessions and enhance students' hands-on learning experience.

### References

- Adebayo, T., & Yusuf, O. (2021). The impact of outdated laboratory equipment on technology education in Nigeria. *Journal of Technical Education and Training*, 15(2), 45-60.
- Adebisi, M., & Kolawole, S. (2019). Bridging the skills gap: The role of industry-standard training in technology education. *African Journal of Technology Research*, 7(1), 25-38.
- Adebisi, T., & Oni, T. (2022). Bridging the skill gap in Nigerian higher education: Challenges and

- prospects. *Journal of Higher Education Studies in Africa*, 10(2), 45-58.
- Adegbite, K., Lawal, S., & Okonkwo, P. (2023). Practical training and employability of technology graduates in Nigeria: A case for university-industry collaboration. *African Journal of Technical Education*, 15(1), 89-105.
- Afolabi, J. A., & Adeyemi, R. T. (2023). Enhancing technology education in Nigeria through practical training and internship programs. *International Journal of Technology Education and Research*, 8(2), 120-135.
- Akinpelu, M. O., & Salami, B. A. (2022). The employability of technology graduates in Nigeria: An assessment of the role of practical training. *Nigerian Journal of Technology Management*, 7(3), 55-70.
- Babalola, J. A., Eze, C. O., & Yusuf, A. R. (2022). The impact of obsolete laboratory equipment on technology education in Nigerian universities. *Journal of Science and Technical Education*, 14(1), 78-92.
- Balogun, K., & Adewale, T. (2022). University-industry partnerships and graduate employability: A case study of Nigerian technology students. *International Journal of Higher Education*, 9(3), 75-89.
- Eze, C., & Chukwu, P. (2022). The impact of practical training on technology graduates' employability in Nigeria. *Nigerian Journal of Technology and Applied Sciences*, 10(2), 112-127.
- Eze, C., & Olatunji, R. (2021). Strengthening university-industry collaborations for technology education in Nigeria. *West African Journal of Technology and Technology*, 8(4), 98-115.
- Eze, P., & Uchenna, N. (2023). Challenges and opportunities in electrical and electronic technology education in Nigeria. *West African Journal of Technology and Technology*, 11(2), 99-112.
- Ibrahim, L., & Chinedu, F. (2022). The role of industrial partnerships in enhancing technical education: A Nigerian perspective. *Journal of Vocational and Technical Studies*, 12(1), 56-73.
- Ibrahim, M., & Yusuf, K. (2020). The effect of insufficient practical training on graduate employment prospects. *African Review of Technical Education*, 6(2), 88-102.
- Ogunbiyi, J., & Adewale, S. (2021). The challenges of hands-on experience in technology education: A Nigerian case study. *International Journal of Technology and Innovation*, 14(1), 45-60.
- Ogunleye, F. (2020). Graduate unemployment in Nigeria: Causes and solutions. *African Journal of Labour Studies*, 9(4), 130-145.
- Ogunniyi, P. A., & Ajayi, T. O. (2021). Skills mismatch and employability of technology graduates in Nigeria. *Journal of Technology and Applied Sciences*, 13(3), 67-81.
- Okafor, B., & Adeyemi, L. (2020). Enhancing graduate employability through university-industry

- collaboration. *Journal of Industrial and Academic Research*, 5(3), 67-81.
- Okeke, H., & Chukwu, P. (2020). The effects of insufficient training facilities on technology graduates in Nigeria. *Nigerian Journal of Science and Technology*, 9(1), 34-49.
- Okolie, U. C., & Okoh, A. (2021). The role of higher education in graduate employability in Nigeria. *International Journal of Education and Development*, 19(3), 201-218.
- Okonkwo, D., & Eze, U. (2020). Funding challenges in technical education and its impact on skill development. *Journal of Technology and Technical Education*, 11(2), 78-92.
- Oladimeji, K., & Yusuf, T. (2022). University-industry linkages and employability of technology graduates in Nigeria. *Nigerian Journal of Vocational and Technical Education*, 10(1), 45-60.
- Olawale, S. (2023). Technology education and workforce development: Lessons from developed economies. *Global Journal of Technology and Innovation*, 6(1), 150-168.
- Oluwole, D. & Alabi, S. (2021). The effectiveness of technical education in bridging the skills gap in Nigeria. *Nigerian Journal of Technical Education*, 12(2), 87-101.
- Uche, C. & Nwosu, P. (2021). Modernizing technology curriculum for enhanced employability in Nigeria. *Journal of Technology Pedagogy*, 9(4), 123-137.