Article

Volume 22 (2026), pp. 11-30
American Journal of STEM Education: Issues and Perspectives
eISSN 30.3-1190| Print ISSN: 3069-0072
Star Scholars Press
https://doi.org/10.32674/hrmf4b38

Reforming Higher Education for Graduate Employability in Nigeria: Policy Direction for Industrial–Institutional Collaboration

Temiloluwa Emmanuel Joshua
University of Sussex, United Kingdom
https://orcid.org/0009-0003-9235-3523

Olalekan Adeyinka
University of Lagos, Nigeria
https://orcid.org/0009-0004-6261-6086

ABSTRACT

Nigeria's persistent graduate unemployment and skills mismatch underscore the urgent need to reform higher education to better align with labor market demands. This study explores policy directions to strengthening industrial–institutional collaboration as a pathway to improving graduate employability. Guided by the Sen–Bourdieu Analytical Framework and a critical structural philosophy, it adopts a qualitative research design involving semi-structured interviews with students from three tertiary institutions in Lagos State and analysis of key education policy documents. Findings reveal three interlinked challenges: weak and short-term industry partnerships, outdated and theory-heavy curricula with limited practical exposure, and fragmented policy implementation arising from poor coordination and underfunding. The study recommends the establishment of Industry Skills Councils, expansion of internship schemes, and fiscal incentives for industry engagement, alongside the upgrading of polytechnics to degree-awarding status. These reforms would institutionalize collaboration, strengthen policy coherence, and transform Nigeria's higher education system into a driver of innovation, productivity, and inclusive national development.

Keywords: Graduate employability, higher education, industrial- institution collaboration, policy reform, Sen Bourdieu analytical framework, skill development.

INTRODUCTION

Nigeria stands at a pivotal moment in its development trajectory. Despite hosting one of the largest higher education systems in sub-Saharan Africa, the country continues to experience rising levels of graduate unemployment and underemployment. International labour statistics indicate that Nigeria's youth unemployment and skills mismatch remain among the most severe in the region, driven largely by weak alignment between education outcomes and labour market needs (International Labour Organization [ILO], 2024; World Bank, 2025). Recent projections further suggest that without structural reforms in education and skills policy, graduate unemployment will intensify as labour markets become more digitised and knowledge-driven (African Development Bank [AfDB], 2025; UNESCO, 2025).

At the centre of this challenge is the persistent misalignment between higher education and the demands of industry. Each year, thousands of graduates leave Nigerian universities, polytechnics, and colleges of education, yet many struggle to secure employment that reflects their qualifications. Employers consistently report that graduates lack practical competencies, problem-solving ability, and workplace adaptability skills that are increasingly essential in an innovation-oriented economy (ILO, 2025; OECD, 2025; World Bank, 2025;). This mismatch has contributed to reduced productivity, rising graduate frustration, and continued

dependence on expatriate labour in technical and industrial sectors (UNESCO, 2024).

Globally, higher education systems that prioritise employability such as those in Germany, Australia, and Singapore have institutionalised collaboration among universities, industries, and governments. These systems embed work-based learning in curricula, promote joint curriculum design, and link research directly to industrial development (OECD, 2025; UNESCO, 2025). In contrast, Nigeria's higher education sector remains fragmented. Most institutions operate with limited industry participation and outdated curricula. Although frameworks such as the Students Industrial Work Experience Scheme (SIWES) were designed to address this gap, weak implementation, limited monitoring, and poor policy coordination have constrained their effectiveness (ILO, 2025).

Despite growing recognition of the employability crisis, there remains a significant information gap in empirical research on how industrial–institutional collaboration operates in practice within Nigerian tertiary institutions and how policy structures shape these relationships. Existing studies tend to focus either on unemployment statistics or curriculum weaknesses, with limited attention to the institutional mechanisms that could sustainably link higher education to labour market needs (AfDB, 2025; UNESCO, 2024). This gap underscores the importance of examining collaboration as a policy and governance issue rather than merely a pedagogical concern.

This paper therefore investigates how reforming higher education through structured industrial–institutional collaboration can enhance graduate employability in Nigeria. Drawing on qualitative evidence from tertiary institutions in Lagos State and analysis of national policy documents, the study identifies gaps in partnership frameworks, curriculum design, and governance arrangements.

The research is guided by the following questions:

1. How effectively do Nigerian tertiary institutions collaborate with industries to enhance graduate employability?
2. What institutional and policy barriers hinder sustainable industrial–institutional collaboration?
3. What policy mechanisms can strengthen these collaborations to align higher education outputs with labour market demands?

By addressing these questions, the study contributes to current debates on skills development and education reform in sub-Saharan Africa. It argues that institutionalising collaboration between academia, industry, and government is essential for transforming Nigerian higher education into a driver of productivity, innovation, and inclusive national growth.

It also argues the need for the establishment of an industry skill council which determine the skill needs for the nation, and influences curriculum development of

technical courses to be more functional to the skill needs of the labour market. The need to expand industry placement and upgrade of training infrastructure was emphasized in this study. The implementation of policies that ensures a functional higher education curriculum and improved funding of training programs are pivotal in ensuring economic and national development.

LITERATURE REVIEW

Global Models of Industrial–Institutional Collaboration

Industrial–institutional collaboration has become a defining feature of contemporary education systems, underpinning the global pursuit of sustainable skills development and economic competitiveness. As labor markets become increasingly complex, higher education institutions (HEIs) are being re-envisioned as partners in innovation and workforce development rather than isolated centers of academic knowledge. Countries such as Germany, Australia, and Singapore have demonstrated that structured collaboration between academia and industry fosters a virtuous cycle of skill formation, technological innovation, and social inclusion (UNESCO, 2022; World Bank, 2015).

The dual education systems in Germany and Austria are often cited as benchmarks. These systems integrate classroom-based instruction with structured apprenticeships, allowing students to alternate between theoretical study and practical workplace experience (OECD, 2022). Industry associations, trade unions, and government agencies jointly define occupational standards and training curricula (Euler, 2013). The result is a highly skilled workforce whose qualifications are both academically grounded and professionally relevant.

Australia's model mirrors these features but in a more decentralized context through its Technical and Further Education (TAFE) system. TAFE reforms emphasized that workforce development must be industry-led and responsive to technological change (Shreeve et al., 2013). Australia's Industry Skills Councils (ISCs) help bridge institutional silos by identifying skills gaps, developing competency frameworks, and guiding vocational standards (Smith & Brennan-Kemmis, 2013). This collaborative governance structure enables curricula that remain attuned to market demands while retaining flexibility for innovation and lifelong learning.

In Asia, Singapore offers a dynamic example of industrial collaboration driving national transformation. Its education system is tightly linked to long-term economic planning through agencies such as SkillsFuture Singapore, which integrates lifelong learning, career guidance, and workforce training (Gog et al., 2024; Law, 2010). Cooperation between polytechnics, universities, and industry stakeholders in Asia is embedded in policy via strategic blueprints co-developed

by government, business, and academia (National Board for Technical Education, 2025).

Maclean and Pavlova (2011) observed that universities worldwide are increasingly moving toward vocationalization of curricula to close the gap between academic learning and employability. The massification of higher education has reduced enrolment in formal Technical, Vocational, Education and Training (TVET) institutions, contributing to skills deficiencies that universities must now address by embedding professional training and transferable skills into degree programs (Maclean et al., 2013). Across Europe and East Asia, work-based learning within formal education was widespread (OECD, 2022).

Beyond these models, sub-Saharan Africa offers emerging evidence of how demand-led skills training can improve employability outcomes. A recent systematic review found that high-quality, multipronged skills programs in the region are increasingly showing positive employment effects when aligned with local demand (Beber et al., 2025). This confirms that industry collaboration, responsive curriculum, and stakeholder governance matter for improving academic alignment with the industrial skill demand.

One of the key institutional mechanisms facilitating collaboration globally is the establishment of National and Regional Qualifications Frameworks (NQFs/RQFs), which create common standards for assessing and recognizing skills (Allais, 2017). In Europe, the European Qualifications Framework (EQF) has harmonized national systems, enabling smoother skills mobility (Cedefop, 2020). Additionally, ISCs act as important interfaces between education and industry by convening employers, academics, and policymakers to update occupational standards and advise curriculum reform (OECD, 2019; Shreeve et al., 2013).

Globally, partnerships between universities and industries have also evolved in the digital era. The Triple Helix Model (Etzkowitz & Leydesdorff, 2000) conceptualizes the dynamic network of university, industry, and government relations that drives the co-production of knowledge and new industries. Nations such as Finland and South Korea have adopted this through national innovation systems that integrate higher education research with industrial development (Lee, 2014).

Ultimately, these global models show that education systems thrive when tightly linked to the realities of work and production. Whether via dual education, TAFE reforms, qualification frameworks, or innovation networks, the principle holds: effective collaboration bridges the gap between knowledge creation and practical application. Alignment across academic curricula, vocational training, and industrial policy cultivates resilient, innovative workforces capable of adapting in a rapidly changing global economy. These insights provide the comparative foundation on which the Nigerian context and its rationale for reform can draw.

The Nigerian Context in Education Policy and Curricula

Nigeria's tertiary education system continues to grapple with the historical legacy of its colonial origins, which privileged academic knowledge over practical competence. The system inherited from the British colonial administration was designed to produce clerical and administrative personnel rather than innovative thinkers or skilled technicians capable of industrial development (Fafunwa, 1991; Kanu, 2003). As Kanu (2003, p. 72) emphasizes, "the purpose of colonial university education was to impart knowledge to the student," yet that knowledge often lacked relevance to Nigerian realities, inhibiting creativity and problem-solving.

Following independence in 1960, Nigerian policymakers expanded access to higher education as a symbol of national progress. However, the expansion often reproduced the colonial model rather than transformed it. The Ashby Commission Report (1960) reinforced a utilitarian view of education as a means to produce manpower for the civil service (Fafunwa, 1991; Obanya, 2004). University curricula remained predominantly theoretical with limited practical skill acquisition, contributing to the overproduction of graduates in fields with low labor-market demand while technical and vocational education remained undervalued (Pitan, 2017).

The National Policy on Education (NPE), introduced in 1977 and revised in 2013, set ambitious goals for tertiary education, including self-reliance, entrepreneurship, and producing manpower aligned with labor-market needs (Federal Government of Nigeria [FGN], 2013, p. 26). However, implementation has been inconsistent and undermined by inadequate funding, poor policy coordination, and institutional weakness (Abdu-Raheem, 2022; World Bank, 2021).

Even with reforms, Nigerian universities often prioritize credentials over employability skills. The National Universities Commission (NUC) acknowledged a persistent "mismatch between university outputs and labor market needs" (NUC, 2020). Employers report that graduates are poorly prepared for workplace demands, often requiring retraining (Okolie et al., 2021).

TVET institutions, which should underpin skills development, are typically seen as inferior to universities in Nigerian public perception, a legacy of credentialism inherited from colonial systems (Odukoya et al., 2018; Oviawe, 2018). The Nigerian case illustrates that without structural reform in collaboration, curriculum, and governance, higher education struggles to realize its potential.

RESEARCH METHOD

This study adopts a critical structural philosophical orientation, which examines how public policy and academic curricula utilized by educational institutions result in opportunities for increased employability in developing countries. The philosophical foundation is rooted in the Sen–Bourdieu Analytical Framework, which provides a lens to understand how higher education, as a form of capital, can be converted into real capabilities that foster employability (Hart, 2019; Unterhalter et al., 2014).

Sen's (1985) Capability Approach posits that access to resources or education alone does not ensure improved outcomes unless individuals possess the skills and enabling conditions necessary to transform these resources into meaningful achievements. Bourdieu's (2010) concepts of *capital, field, and habitus* further clarify how institutional practices, social positioning, and access to various forms of economic, cultural, and social capital shape an individual's educational and occupational opportunities. When combined, these perspectives offer a powerful foundation for exploring how structural reform within Nigeria's higher education system can enhance employability through stronger and more sustainable industry–institutional collaboration.

Given the study's emphasis on understanding experiences, perceptions, and policy contexts, a qualitative research design was adopted. This approach enables in-depth engagement with participants lived realities and allows for the critical interpretation of meanings attached to institutional practices (Olajide, 2023). It aligns with the critical structural paradigm by questioning how power, access, and institutional arrangements shape the relationship between higher education and employability (White & Green, 2020). Two key methods were employed in this study: semi-structured interviews and policy document analysis. Together, these methods provided a comprehensive view of how collaboration between industry and higher education is understood and practiced in Nigeria.

A purposive sampling strategy guided the selection of participants. The sample comprised six penultimate-year students drawn from three tertiary institutions in Lagos State. These institutions were chosen because they represent distinct types within Nigeria's tertiary education system: a university, a polytechnic, and a technical college, allowing for comparison across institutional contexts. All participants were enrolled in engineering or technically related courses and had either completed or were currently undertaking the Students Industrial Work Experience Scheme (SIWES). This ensured that participants possessed first-hand experience of industrial collaboration and could provide informed reflections on how effectively such programs prepare students for the labor market.

Although the sample size was relatively small, it was sufficient for a qualitative study of this nature. As Creswell and Poth (2018) note, the aim of

qualitative research is depth rather than breadth; a small, focused sample facilitates detailed exploration of participants' experiences until thematic saturation, the point at which no new insights emerge, is achieved. Nevertheless, due to the limited sample size, the findings cannot be generalized.

Table 1
Participants' Demographic Characteristics

Partici-pant ID	Institution Type	Programme/Discipline	SIWES Status	Gender	Age Range
P1	University	Electrical Engineering	Completed	Male	20–24
P2	University	Mechanical Engineering	Ongoing	Female	20–24
P3	Polytechnic	Computer Engineering	Completed	Male	20–24
P4	Polytechnic	Electrical Engineering	Ongoing	Male	20–24
P5	Technical College	Electrical Technology	Completed	Female	18–22
P6	Technical College	Building Technology	Ongoing	Male	18–22

Note. Participant identities are anonymized to preserve confidentiality. SIWES refers to the Students Industrial Work Experience Scheme. Data collected by author on the 14th of July 2024.

Primary data were collected through semi-structured interviews conducted via Microsoft Teams following participants' consent. The interview questions were designed to elicit responses on perceptions of employability, the relevance of academic training to workplace demands, and participants' experiences with institutional–industrial collaboration. Each interview lasted between forty-five and sixty minutes and was recorded and transcribed for analysis. To complement the interviews, secondary data was gathered through policy document analysis. Documents were selected based on their relevance, authority, and recency, focusing on materials such as the National Policy on Education (2013), reports from the Tertiary Education Trust Fund (TETFund), and publications by international organizations such as United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Bank, and the International Labor Organization (ILO). These sources provided valuable insights into national and international perspectives on employability, industrial partnership, and educational reform.

The analysis of both interview and policy data employed Critical Discourse Analysis (CDA) (Fairclough, 2010). This analytical approach examines how

language and discourse construct, reproduce, or challenge power relations within social and institutional contexts. In this study, CDA enabled a detailed examination of how students and policymakers articulate employability and collaboration, as well as how these narratives reflect broader structural inequalities in education and labor policy. The data analysis followed an open coding process. Initial codes were generated inductively from the interview transcripts and policy texts, capturing recurring ideas such as skill development, industrial relevance, and policy implementation gaps. These codes were then refined deductively using the Sen–Bourdieu framework, linking emerging themes to theoretical constructs such as *conversion of capital to capability* and *institutional habitus*.

To ensure trustworthiness and validity, the research employed several strategies. Triangulation was achieved through the combination of interviews, policy analysis, and secondary statistical data from both national (NBS) and international sources (UNESCO, 2022; World Bank, 2021). This allowed for the comparison and corroboration of findings across multiple data sources. Member checking was conducted by sharing summaries of interview transcripts with participants to confirm the accuracy of their views and interpretations. Furthermore, reflexivity was maintained throughout the research process, as the researcher documented reflections and analytical decisions in a field journal to minimize bias and enhance transparency. Direct quotations were also used in reporting findings to preserve participants' voices and authenticity.

Ethical approval for the study was obtained from the University of Sussex Social Sciences & Arts Cross-School Research Ethics Committee. Participants received detailed information sheets outlining the research objectives, confidentiality measures, and their right to withdraw at any time. Pseudonyms were assigned to protect participant identity, and all data were securely stored in compliance with ethical standards.

In summary, this methodology integrates critical analysis, qualitative depth, and ethical integrity to explore how Nigeria's higher education system can be restructured to promote employability through stronger collaboration with industry. By bridging lived experiences with policy discourse, it provides a holistic understanding of how higher education can transform educational capital into meaningful capabilities that drive innovation, productivity, and inclusive national development.

RESULTS

The following findings were drawn from the semi-structured interviews conducted with the research participants, as well as a critical analysis of national policies driving education in Nigeria. The findings are discussed in four major themes: lack of structured industrial partnerships, curriculum obsolescence and

limited practical exposure, funding and governance challenges, and policy implications for reform.

Lack of Structured Industrial Partnerships

The findings indicate that most tertiary institutions in Nigeria continue to operate with limited and inconsistent engagement with industry. Although national policy instruments such as the National Policy on Education and the National Skills Qualification Framework emphasise collaboration (FGN, 2013) evidence from interviews suggests that such partnerships are rarely institutionalised. Instead, they are often short-term, informal, or dependent on personal networks rather than embedded within institutional structures.

One university participant noted:

"Our school has some collaborations, but they come and go. Sometimes a company visits for career talks or donates equipment, but it doesn't continue. There's no real follow-up or integration into our learning." (University student 1, personal communication, July 6, 2024).

Similarly, a student from the polytechnic explained:

"Most of the industrial attachments are arranged through personal connections. If you don't know someone in a company, you may not even get placement." (Polytechnic student 2, personal communication, July 14, 2024).

These accounts suggest that collaboration is uneven and inaccessible, leaving many students excluded from meaningful industrial exposure. While the Students Industrial Work Experience Scheme (SIWES) was repeatedly mentioned as a positive initiative, participants felt that its implementation was weak. The typical three- to six-month duration was widely regarded as insufficient for acquiring deep, transferable skills. Several students described SIWES as an observational exercise rather than a hands-on learning experience.

Overall, the findings reveal that industrial partnerships exist in principle but lack continuity, coordination, and accountability. This fragmentation limits students' opportunities to engage with real workplace practices and constrains the development of employability skills.

Curriculum Obsolescence and Limited Practical Exposure

Participants consistently described their curricula as outdated and overly theoretical. Many courses were perceived as disconnected from contemporary

industry practices, particularly in fast-evolving technical fields such as engineering, automation, and digital technology.

A student from a technical college stated:

"What we learn in class is mainly theory. Most of the software and machines we use during SIWES are things we never touched in school." (Technical college student 1, personal communication, July 6, 2024).

A university engineering student provided a detailed reflection on unmet expectations:

"I came in expecting hands-on work, labs, practical experience. But everything became very theoretical. Along the line I had to put my expectations aside and go with the flow." (University student 2, personal communication, July 14, 2024).

Several respondents emphasised that they had acquired more practical and relevant skills through self-directed learning than through formal instruction. Online platforms such as Coursera, Udemy, and YouTube were frequently cited as alternative sources of learning.

A student from the polytechnic explained:

"The train is moving, so you have to move with it. Technology is advancing, and the skills needed keep changing. I've been learning networking and cybersecurity online because that's where my interest is." (Polytechnic student 1, personal communication, July 14, 2024).

These findings align with evidence from *Pitan (2017)*, where students similarly reported relying on external platforms to compensate for institutional gaps. Across institutions, limited access to modern laboratories, outdated equipment, and overcrowded classes further constrained practical learning.

Funding and Governance Challenges

Underfunding emerged as a persistent constraint across all institutions represented in the study. Participants highlighted inadequate laboratories, obsolete equipment, and limited access to digital infrastructure as barriers to effective skill acquisition.

Policy document analysis supports these accounts, revealing ongoing budgetary shortfalls and structural inefficiencies. Governance fragmentation particularly overlapping responsibilities among regulatory bodies such as the NUC,

NBTE, and NERDC was identified as a factor weakening curriculum coordination and reform implementation (World Bank, 2021).

Policy and Institutional Gaps

The findings suggest that Nigeria's employability challenge stems less from the absence of policy frameworks and more from weak implementation. Initiatives such as SIWES and the NSQF were widely recognized by participants, yet few experienced their full intended benefits. The absence of robust monitoring, limited employer accountability, and weak incentives for industry participation were recurring themes. As a result, policies designed to enhance employability often fail to translate into tangible student outcomes.

Despite the development of numerous education and labor-market policies, Nigeria's tertiary education sector continues to suffer from deep structural and implementation gaps. Initiatives such as the Students Industrial Work Experience Scheme (SIWES) were created to provide industrial exposure but are often poorly coordinated and seldom evaluated for impact (ITF, 2019). In many cases, SIWES functions as a procedural requirement rather than a transformative experience.

The real policy gap lies not in the absence of reform frameworks but in their weak institutionalization and fragmentation. Agencies such as the National Universities Commission (NUC), the National Board for Technical Education (NBTE), and the Nigerian Educational Research and Development Council (NERDC) often operate in silos, with overlapping mandates and limited collaboration (World Bank, 2021). The result is duplication of efforts, inconsistent standards, and delayed implementation. Moreover, university-industry partnerships frequently rely on personal networks or donor funding rather than systemic national coordination (UNESCO, 2023).

Another significant gap is the lack of incentives for industry engagement. Employers often view collaboration as costly and bureaucratic, while educational institutions face resource and capacity constraints that inhibit responsiveness to labor-market dynamics (Okolie et al., 2021). For reform to be effective, education must be aligned with national economic priorities through incentive-based frameworks, strong regulatory synergy, and institutionalized mechanisms of collaboration and evaluation. A focus on the implementation of existing policies in line with an improved industrial-institutional collaboration would help reduce graduate unemployability and reduce training cost for employers in the Nigerian labor market (Pitan, 2017).

DISCUSSION & CONCLUSIONS

This study examines how industrial–institutional collaboration shapes graduate employability in Nigeria's higher education system. The findings reveal

that while policy frameworks acknowledging employability and skills development exist, their practical translation into institutional practice remains weak. Interpreted through the Sen–Bourdieu Analytical Framework, the results point to a structural failure in converting educational resources into meaningful employability outcomes, rather than a lack of individual effort or aspiration among students.

The absence of structured and sustained industrial partnerships emerged as a central challenge. Although policies such as the National Policy on Education emphasize collaboration, the findings show that partnerships are largely ad hoc, short-term, and dependent on informal networks. This aligns with Okolie et al. (2021), who argue that Nigerian higher education institutions engage industry episodically rather than strategically, resulting in weak feedback loops between training and labor-market needs. Without institutionalized mechanisms, collaboration remains vulnerable to leadership changes, funding constraints, and shifting priorities.

From a Bourdieuan perspective, this fragmentation reflects a misalignment between the educational curricula and the industrial skill demand. Bourdieu (2010) argues that fields operate according to distinct logics, and where bridges are weak, capital cannot circulate effectively. In the Nigerian context, the lack of institutionalized collaboration prevents students from acquiring the social and cultural capital embedded in workplace practices. Consequently, graduates leave university with credentials but without the relational and experiential assets valued by employers.

Sen's Capability Approach further illuminates this gap. While students possess formal educational resources, their ability to convert these resources into valued functioning such as stable employment or professional competence is constrained by institutional conditions (Sen, 1985). Weak industrial collaboration functions as a negative conversion factor, limiting opportunities for applied learning, mentorship, and skill refinement. This helps explain why SIWES, despite its conceptual relevance, delivers uneven employability outcomes.

The findings relating to curriculum obsolescence deepen this analysis. Participants' accounts of outdated, theory-heavy curricula echo through their responses to questions asked on the reason for the prevailing high graduate unemployment in Nigeria. Participants perceive formal instruction as disconnected from contemporary workplace realities. This persistent curriculum lag reflects what Adeosun and Ohiani (2020) describe as a structural inertia within Nigerian higher education, where curriculum review processes are slow and insufficiently informed by industry trends.

Students' reliance on self-directed online learning platforms further illustrates this misalignment. While such initiative demonstrates adaptability, it also reveals institutional failure. Unterhalter et al. (2014) caution that when capability development is shifted onto individuals without institutional support, inequalities

are reproduced. Students with access to digital resources and prior exposure can compensate for curriculum gaps, while others fall behind, undermining higher education's equity function.

Bourdieu's concept of habitus is particularly relevant here. Academic habitus within Nigerian institutions continues to privilege theoretical knowledge and examination performance over practical competence and innovation. As a result, students internalize expectations that academic success, rather than skill mastery, defines achievement. This institutional culture constrains pedagogical reform and reinforces what Shreeve et al. (2013) describe as "credentialism without competence."

Funding and governance constraints compound these challenges. The findings show that under-resourced laboratories, outdated equipment, and limited digital infrastructure restrict the delivery of practical education. These constraints align with Hart's (2019) argument that capability development depends not only on individual agencies but also on institutional and material conditions. Without adequate investment, even well-designed curricula cannot translate into effective learning outcomes. Governance fragmentation further weakens reform efforts. Overlapping mandates among the NUC, NBTE, and NERDC dilute accountability and slow curriculum responsiveness. White and Green (2020) argue that fragmented governance structures often result in symbolic compliance rather than substantive change, a pattern evident in Nigeria's employability policies. This fragmentation reinforces Bourdieu's notion of structural inertia, where institutional arrangements resist transformation despite policy rhetoric.

International comparisons provide useful contrasts. In systems such as Singapore and Australia, employability is embedded through coordinated governance and structured industry engagement (Law, 2010; Shreeve et al., 2013). These systems institutionalize curriculum co-design, workplace assessment, and continuous review, ensuring alignment between education and labor-market demand. Nigeria's challenge, therefore, is not conceptual but institutional: translating similar principles into locally grounded structures.

The discussion also underscores the importance of redefining employability. Rather than viewing employability solely as immediate job readiness, the findings support a broader understanding encompassing adaptability, critical thinking, and lifelong learning. This aligns with Sen's emphasis on expanding freedoms and Bourdieu's call for equitable access to forms of capital that enable social mobility. When employability is framed narrowly, reforms focus on short-term placement rather than long-term capability development.

Institutionalizing collaboration through mechanisms such as Industry Skills Councils offers a pathway forward. Such bodies could function as boundary institutions, aligning the educational and industrial fields while facilitating capital exchange.

In sum, the discussion demonstrates that Nigeria's graduate employability challenge is structural rather than individual. Weak collaboration, curriculum inertia, funding constraints, and fragmented governance jointly obstruct the conversion of educational capital into employability capabilities. Addressing these issues requires systemic reform that repositions higher education as a collaborative, capability-enhancing ecosystem. Without such restructuring, policies will continue to articulate ambition without delivering impact, and graduates will remain credentialed yet constrained in the labor market.

Table 2

Summary of Major Barriers Identified and the Proposed Reforms Emerging from this Study

Identified Barrier	Description	Recommended Reform
Lack of structured partnerships	Fragmented, short-term collaborations	Establish Industry Skills Councils and long-term MoUs
Curriculum obsolescence	Outdated, theory-based teaching	Embed employability modules and digital literacy
Limited practical exposure	Insufficient lab facilities and SIWES duration	Expand industry placements and upgrade training infrastructure
Funding and governance fragmentation	Overlapping mandates and poor coordination	Create a unified national framework for employability governance

Note. Summary developed by the author on the 19th of January 2026.

Nigeria's aspiration for industrialization and inclusive economic growth depends largely on the ability of its higher education system to produce graduates who are not only knowledgeable but also skilled, adaptable, and innovative. The findings of this study suggest that while policy intentions are strong, embodied in frameworks such as the National Policy on Education (FGN, 2013) and the National Skills Qualification Framework (NSQF), implementation has been fragmented, underfunded, and weakly institutionalized. The persistent disconnection between universities, industries, and regulatory agencies has led to a structural skill mismatch, leaving many graduates unable to convert their educational capital into employability capabilities (Iwara, 2025).

Reforming higher education for employability, therefore, requires a holistic transformation, not merely policy revision. It calls for integrated governance, sustainable funding, and the institutionalization of industrial partnerships that

embed employability at the core of educational design and delivery. Such reform would advance the goals of both Sen's capability approach by expanding students' real opportunities and Bourdieu's concept of capital conversion by enabling education to translate into tangible social and economic outcomes.

Recommendations

Nigeria needs to establish an Industry Skill Council at national and regional levels comprising employers, academics, and policymakers to co-design, review, and accredit curricula. These councils should ensure that educational programs remain responsive to labor-market dynamics and technological change.

There is a need for the expansion of training programs such as SIWES beyond short-term placements to include structured mentorship, competency-based assessment, and post-placement evaluation. Partnerships with industries should promote long-term learning relationships rather than one-off attachments.

Fiscal incentives, tax credits, and corporate social responsibility recognition should be introduced for firms that contribute to curriculum development, provide apprenticeships, or invest in innovation and research hubs within universities and polytechnics.

TVET institutions such as polytechnics and colleges of education (technical) should be elevated to degree-awarding status to eliminate the hierarchy between academic and technical education. This reform will promote parity of esteem and attract greater student enrolment in skill-based programs.

Collaboration among academia, government, and industry should be encouraged through regional innovation hubs and sector-based clusters that align higher education outcomes with local economic needs. Decentralized partnerships would improve responsiveness and accountability at the institutional level.

Limitations and Future Research

This study was limited by its small sample size and focus on tertiary institutions within Lagos State. While the qualitative approach provided rich, contextual insights, it may not fully capture variations across Nigeria's diverse educational and industrial landscapes. Future research should extend this analysis to other states or employ mixed-method approaches to quantify the impact of industrial collaboration on graduate employability outcomes nationwide. Comparative studies across regions would help refine policy recommendations and identify scalable models for reform.

If implemented, these reforms would transform Nigeria's higher education from a credential-focused structure into a capability-driven system that values skill, innovation, and adaptability. Ultimately, a reimagined education-industry

partnership can empower graduates not only to secure employment but also to create opportunities and drive Nigeria's industrial and technological future.

REFERENCES

African Development Bank. (2025). *Africa's job dynamics and youth employment outlook 2025*. African Development Bank Group. https://www.afdb.org/en/knowledge/publications/african-economic-outlook

Allais, S. (2017). *Selling out education: National qualifications frameworks and the neglect of knowledge*. Sense Publishers.

Beber, B., Lakemann, T., Schnars, R., & Lay, J. (2025). Employment effects of skills trainings in sub-Saharan Africa: A systematic review of recent randomized controlled trials. *De Economist, 173*, 87–120. https://link.springer.com/article/10.1007/s10645-024-09442-6

Bourdieu, P. (2010). *The forms of capital*. Routledge.

Cedefop. (2020). *European qualifications framework for lifelong learning (EQF)*. Publications Office of the European Union.

Chen, X., Fu, J., & Pan, H. (2019). The reform of vocational education and the development of skilled labor in China. *International Journal of Educational Development*, *70*, 102–118.

Creswell, J. W., & Poth, C. N. (2018). *Qualitative inquiry and research design: Choosing among five approaches*. SAGE Publications.

Denzin, N. K., & Lincoln, Y. S. (2011). *The Sage handbook of qualitative research* (4th ed.). Sage.

Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: From national systems and "mode 2" to a triple helix of university–industry–government relations. *Research Policy*, *29*(2), 109–123.

Euler, D. (2013). *Germany's dual vocational training system: A model for other countries?* Bertelsmann Stiftung.

Fafunwa, A. B. (1991). *History of education in Nigeria*. NPS Educational Publishers.

Fairclough, N. (2010). *Critical discourse analysis: The critical study of language*. Routledge.

Federal Government of Nigeria (FGN). (2013). *National Policy on Education* (6th ed.). NERDC Press.

Gog, S. J., Tan, E., & Tan, K. (2024). Future-skilling the workforce: SkillsFuture movement in Singapore. In U. D. Ehlers & L. Eigbrecht (Eds.), *Creating the university of the future*. Springer VS. https://doi.org/10.1007/978-3-658-42948-5_26

Hart, C. (2019). Education, capabilities, and social justice: The Sen–Bourdieu framework. *Journal of Human Development and Capabilities*, *20*(4), 481–497.

International Labour Organization. (2024). *Navigating Nigeria's economic and labour market challenges: Pathways to inclusive growth and structural transformation*. ILO. https://www.ilo.org/publications/navigating-nigeria%E2%80%99s-economic-and-labour-market-challenges-pathways

International Labour Organization. (2025). *Skills anticipation and curriculum development*. ILO. https://www.ilo.org/resource/training-material/skills-anticipation-and-curriculum-development

Iwara, I. O. (2025). Graduate Employability in Africa: Reimagining Rural-Based Entrepreneurial University Paradigm. *Sustainability*, *17*(10), 4628. https://doi.org/10.3390/su17104628

Kanu, Y. (2003) Curriculum as cultural practice: Postcolonial imagination. *Journal of the Canadian Association for Curriculum Studies*, *1*(1), 67-81. https://doi.org/10.25071/1916-4467.16851

Law, S. (2010). *Education policy and the quest for economic competitiveness in Singapore*. Institute of Southeast Asian Studies.

Lee, K. R. (2014). University–industry R&D collaboration in Korea's national innovation system. *Science, Technology & Society, 19*(1), 1–25. https://doi.org/10.1177/0971721813514262

Maclean, R., & Pavlova, M. (2011). *Vocationalization of secondary and higher education: Pathways to the world of work*. Springer.

Maclean, R., Jagannathan, S., & Sarvi, J. (2013). *Education and skills for inclusive growth, green jobs, and the greening of economies in Asia*. Springer.

National Board for Technical Education. (2025). Compendium 2024/2025. NBTE. https://web.nbte.gov.ng/sites/default/files/2025-08/NBTE%2024_25%20Compendium%20v.2-compressed.pdf

National Universities Commission (NUC). (2020). *Promote African Graduate Employability- Perm Sec*. https://www.nuc.edu.ng/promote-african-graduate-employability-perm-sec/

National Bureau of Statistics (NBS). (2024). *Labor Force Statistics: Unemployment and Underemployment Report (Q1 2024).* National Bureau of Statistics. https://nigerianstat.gov.ng/elibrary/read/1241365

Obanya, P. (2004). *Educating for the knowledge economy*. Mosuro Publishers.

Organisation for Economic Co-operation and Development (OECD). (2019). *VET in Australia: Strengthening the connection between education and work*. OECD Publishing.

Organisation for Economic Co-operation and Development (OECD). (2022). *Education at a glance 2022: OECD indicators*. OECD Publishing.

Organisation for Economic Cooperation and Development (OECD). (2025). *Skills Outlook 2025: Building the Skills of the 21st Century for All,* OECD Publishing, https://doi.org/10.1787/26163cd3-en

Odukoya, J. A., Bowale, E. I., & Okunlola, S. A. (2018). Formulation and implementation of educational policies in Nigeria. *African Educational Research Journal*, *6*(1), 1–4. https://doi.org/10.30918/AERJ.61.17.059

Okolie, U., Nwajiuba, C., Eneje, B., Binuomote, M., Ehiobuche, C. & Hack-Poley, D. (2021). A critical perspective on industry involvement in higher education learning: Enhancing graduates' knowledge and skills for job creation in Nigeria, *Industry and Higher Education*, *35*(1), 61–72. https://doi.org/10.1177/0950422220919655

Olajide, A. (2023). *Qualitative inquiry and education research*. Spectrum Press.

Oviawe, J. (2018). Revamping technical and vocational education and training in Nigeria for youth empowerment and sustainable development. *Journal of Education and Learning*, *7*(1), 220–234.

Pitan, O. S. (2017). Graduate employees' generic skills and training needs. *Higher Education, Skills and Work - Based Learning*, *7*(3), 290–303. https://doi.org/10.1108/HESWBL-04-2017-0026

Schwab, K. (2016). *The Fourth Industrial Revolution*. World Economic Forum.

Sen, A. (1985). *Commodities and capabilities*. North-Holland.

Shreeve, R., Gibb, J., & Ribeiro, K. (2013). Collaboration between higher education and industry: Global perspectives. *Journal of Work-Integrated Learning*, *14*(2), 89–102.

Smith, E., & Brennan-Kemmis, R. (2013). Towards a model apprenticeship framework: A comparative analysis of national apprenticeship systems. *International Labour Organization and World Bank*.

Tertiary Education Trust Fund (TETFund). (2022). *Annual report 2021.* TETFund. https://tetfund.gov.ng/site/public/publications

Unterhalter, E., G Ladwig, J. G., & Jeffrey, C. (2014). Aspirations, education and social justice: Applying Sen and Bourdieu. *British Journal of Sociology of Education*, *35*(1), 133–145. https://doi.org/10.1080/01425692.2013.856669

UNESCO (2022) TVET Country Profile, Nigeria, *UNESCO-UNEVOC International Centre for Technical and Vocational Education and Training*. https://unesdoc.unesco.org/ark:/48223/pf0000373253

UNESCO. (2023). *Transforming technical and vocational education and training for a sustainable future*. UNESCO.

UNESCO. (2024). *Global education monitoring report 2024: Leadership in Education,* UNESCO Publishing. https://www.unesco.org/gem-report/en/publication/leadership

UNESCO. (2025). *Global education monitoring report 2025: SDG4 Scorecard progress report on national benchmark,* UNESCO Publishing. https://www.unesco.org/gem-report/en/publication/2025-sdg-4-scorecard-progress-report-national-benchmarks

White, M., & Green, A. (2020). *Social structures and educational change*. Routledge.

World Bank. (2015). Nigeria: Skills for competitiveness and employability. https://documents1.worldbank.org/curated/en/886411468187756597/pdf/96420-WP-P148686-PUBLIC-Nigeria-Skills-report-January-5-Final-Draft-report.pdf
World Bank. (2021). *Expanding Legal Migration Pathways from Nigeria to Europe: From Brain Drain to Brain Gain*. World Bank. https://doi.org/10.1596/35996
World Bank. (2025). *Building Momentum for Inclusive Growth*, *Nigeria Development Update*, World Bank Group. https://doi.org/10.1596/43315

Bios

TEMILOLUWA JOSHUA, M.A, University of Sussex. His major research interests include the Political Economy of Education, TVET, Skill Acquisition and Refugee Education. Email: jetinotemmy18@gmail.com

OLALEKAN ADEYINKA, (corresponding author) University of Lagos. His major research interests include Science Education, Technology Education, and Education analytics. Email: lawrence.adeyinka.10@gmail.com

Acknowledgment Section

The authors gratefully acknowledge the support of Intellectual Oasis Fellowship (IOF), a non-profit organization committed to advancing access to data-driven, policy relevant and evidence-based education research in West Africa. The Fellowship provided the digital infrastructure and research environment necessary to complete this study.

The authors used Grammarly to edit this manuscript. No other AI tool was used in the drafting, editing, or refining of this manuscript. All content was generated, reviewed, and refined solely by the authors.