



## Strategies and Challenges of Educational Leaders in Managing Curriculum Integration for Sustainable Entrepreneurship Development in Nigerian Technical Colleges of Education

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### ABSTRACT

This study examines the strategies employed and challenges faced by educational leaders in managing curriculum integration for sustainable entrepreneurship development within Nigerian Technical Colleges of Education (TCoEs). Given Nigeria's drive for economic diversification and youth empowerment, Technical Colleges of Education (TCoEs) are crucial in equipping future technical teachers and skilled personnel with competencies for sustainable, job-creating ventures. The research investigates how leaders strategically plan, organize, and execute the embedding of entrepreneurial mindsets and sustainability principles across technical and vocational curricula. Key strategies explored include curriculum redesign, fostering interdisciplinary collaboration among departments, promoting innovative pedagogies (e.g., project-based learning, practical workshops), facilitating robust professional development for lecturers, and forging critical partnerships with industry and community stakeholders. Concurrently, the study identifies significant challenges hindering these efforts, such as chronic underfunding, limited lecturer expertise in sustainable entrepreneurship, resistance to new teaching methodologies, and the persistent gap between national education policies and practical implementation. By understanding these dynamics, the study aims to provide actionable recommendations for educational leaders and policymakers, thereby enhancing sustainable entrepreneurship education and contributing to national development

## INTRODUCTION

The integration of sustainable entrepreneurship into the curriculum of Nigerian technical colleges of education is a crucial task for educational leaders in the contemporary educational landscape. This effort aligns with global sustainable development goals and is vital for fostering economic resilience and addressing high rates of youth unemployment (Okeke, 2020; Adama & Moji, 2019). Technical Colleges of Education (TCoEs) are uniquely positioned to equip future generations with the vocational skills needed for a rapidly evolving job market and to encourage graduates to create viable, socially and environmentally conscious businesses (NCCE, 2012; Arilesere, Wahab & Adedeji, 2024). However, this important mandate is not without significant challenges.

Despite a national policy that promotes entrepreneurship education, persistent hurdles such as inadequate funding, inconsistent policy implementation, and a rigid curriculum have created a disconnect between policy and practice (Federal Republic of Nigeria, 2014; Federal Ministry of Education, 2019). This has led to a persistent skills gap and a severe graduate unemployment crisis (National Bureau of Statistics, 2019; Muiyiwa et al., 2024). Further obstacles, including resistance from educators who lack training and the limited collaboration with industry partners, hinder effective curriculum reform (Ojo & Ojo, 2020; Nwafor, 2021). To address these issues, educational leaders must employ strategic approaches to revamp curricula, train teachers, and forge robust partnerships.

This paper therefore examines the strategies educational leaders in Nigerian Technical Colleges of Education (TCoEs) use to integrate sustainable entrepreneurship into the curriculum and the challenges they encounter. It argues that effective, strategic leadership is the linchpin for successful curriculum reform and the cultivation of an entrepreneurial ecosystem within these institutions.

### **The Role of Educational Leadership in Curriculum Management**

Educational leadership is a dynamic process of influencing and guiding stakeholders toward achieving academic goals and improving the education system (Kapur, 2022). Its core functions include creating a shared vision and fostering a collaborative, positive learning environment (Jongyun, 2024). In another perspective Gurr (2020), defines educational leadership as having a central focus on improving student outcomes amid uncertainty, emphasizing a leader's ability to be a visionary and adapt to change. This perspective complements the view of Schott, Shen, et al. (2020), who define leadership by the principal's role in improving their managerial ability to effectively carry out duties. Effective leadership requires both visionary and practical skills. This combination of strategic vision and administrative skill is essential for enhancing school quality and managing curriculum.

However, Educational leaders are individuals who guide, control, monitors, and manage educational institutions from basic to tertiary levels. They are the Teachers, headmaster, principals, provost, head of departments, deans, vice chancellors among others. educational leaders are not merely administrators; they are visionaries, change agents, and instructional experts whose strategic actions directly impact teaching and learning. Curriculum

management is a core function of educational leaders, and their role is far-reaching. Bakokonyane (2022) views the principal as a pedagogical expert whose proficiency in curriculum, instruction, and assessment directly impacts student achievement. These leaders are also instrumental in facilitating curriculum change and implementation, acting as change agents who guide their staff through new initiatives (Gurr, 2020).

Their responsibility includes creating a sense of urgency and providing professional development. Kilag and Sasan (2023) define educational leadership within the context of nurturing a Professional Learning Community (PLC), where collaboration among teachers is encouraged to discuss curriculum and solve instructional challenges. This collaborative approach is a form of transformational leadership, which Sari (2024) views as a method for improving teacher professional development. The researcher highlights how leaders can inspire innovation and empower staff to achieve a shared vision, thereby improving both teacher performance and curriculum delivery. Furthermore, leaders are responsible for strategic resource management, ensuring that the curriculum is supported by the necessary tools and professional development opportunities (Schott et al., 2020).

However, this strategic allocation of resources is critical for successful curriculum implementation. The collective influence of leaders on curriculum is also reflected in the broader context of community empowerment (Prince et al., 2021), and their advocacy is particularly vital in securing the policy support needed for new educational initiatives. Their role involves a complex interplay of strategic planning, resource allocation, and fostering a collaborative culture. They must also serve as advocates, lobbying for the necessary funding and policy support to make the integration a reality. This is particularly critical in Nigeria, where a lack of consistent policy implementation often undermines educational initiatives (Adeyemi et al., 2021).

### **Curriculum Integration for Entrepreneurship Education**

Entrepreneurship is a powerful driver of economic efficiency and value creation, a principle highlighted by Prince et al. (2021). In Nigeria, the National Board for Technical Education (NBTE) mandates the inclusion of entrepreneurship education to produce graduates who are job creators rather than job seekers. The most effective method for achieving this is curriculum integration, a pedagogical approach that embeds entrepreneurial principles, skills, and values into core technical subjects. This ensures a holistic and practical learning experience.

However, the implementation of this approach in Nigerian technical colleges has faced significant challenges. Owoyele and Tella (2020) identified a critical gap between policy and practice, pointing to inadequate funding and a shortage of practically experienced educators as key obstacles. The work of Ibrahim, et al. (2021) further contributed to this understanding by analyzing existing curricula and concluding that their predominantly theoretical nature is a major weakness. This theoretical bias, as noted by Nwafor (2021), has led to a superficial implementation of entrepreneurship education, preventing students from acquiring the practical skills needed to launch successful ventures.

To address these issues, researchers have proposed several strategies. Ogunyemi & Ojo (2020) advocates for embedding entrepreneurial principles directly into technical subjects like plumbing or electrical engineering, ensuring students learn to apply their technical skills to market opportunities and business management. For instance, a student in a plumbing class would not just learn how to fix pipes but also how to start a plumbing business, manage finances, and market their services. This approach moves beyond theoretical knowledge to practical application, which is crucial for building a viable entrepreneurial mindset. Furthermore, Adebayo and Adebisi (2023) emphasize the importance of a multi-stakeholder model for curriculum design, arguing that collaboration between college staff, industry experts, and students is essential to create a relevant and responsive curriculum. Complementing this, Adewale and Yusuf (2024) provided evidence that specific teaching methods are highly effective. Their research shows that project-based learning and case studies are more successful at fostering entrepreneurial competencies like critical thinking and risk-taking than traditional lecture-based instruction. The successful integration of these research-backed strategies is crucial for empowering students to become dynamic entrepreneurs in Nigeria's economy.

### **Sustainable Entrepreneurship and Technical Colleges of Education in Nigeria**

Sustainable entrepreneurship is a vital approach to business development in Nigeria, aiming to balance economic growth with social equity and environmental stewardship. It is about building businesses that are resilient and contribute positively to society and the planet, rather than just seeking profit (Olateju, Danmola, & Aminu, 2020; Eze & Orji, 2020). This is particularly vital in a country facing significant challenges like environmental degradation, high unemployment, and social inequality. Technical Colleges of Education (TCoEs) are uniquely positioned to address these issues by producing graduates who are not only skilled but also possess a sustainable entrepreneurial mindset. The Nigerian government, in its National Policy on Education, has long recognized the importance of technical and vocational education and training (TVET) in providing the technical knowledge and vocational skills necessary for economic development (FRN, 2013). However, a more intentional focus on sustainability is crucial. Technical Colleges of Education (TCoEs) can and should serve as incubating centers for job creators, not just job seekers, by equipping students with the skills to turn ideas into economically viable and sustainable ventures. This requires a fundamental shift in educational philosophy and content. The curriculum must integrate a range of topics to equip graduates with the necessary skills and mindset, including social entrepreneurship, which focuses on solving social problems through business; green technologies to address environmental issues like waste management and renewable energy (Umar, 2020); and ethical business practices to build trust and ensure long-term sustainability (Teniola, Muharam, & Ramily, 2025).

Despite the growing recognition of the importance of sustainable entrepreneurship, Technical Colleges of Education (TCoEs) in Nigeria face significant challenges, including a mismatch between training and labor market demands and a lack of funding and qualified teachers (Bakare & Ajao, 2022). To

overcome these challenges, several recommendations are essential: the curriculum must be continuously revised to reflect industry demands, teachers need regular training on sustainable entrepreneurial methodologies, and Technical Colleges of Education (TCoEs) should establish strong relationships with industry to provide students with practical, hands-on experience. By addressing these challenges, Technical Colleges of Education (TCoEs) can effectively fulfill their role as a catalyst for sustainable development in Nigeria (Ilesanmi, 2025). The ultimate goal is to move beyond the traditional profit-driven model to a more holistic one that addresses the triple bottom line of people, planet, and profit, aligning with Nigeria's national development goals and the global push for a more sustainable future.

### **The Mandate and Evolution of Technical Colleges of Education in Nigeria**

Technical Colleges of Education (TCoEs) in Nigeria were established with a dual mandate: to produce qualified teachers for technical and vocational subjects and to provide technical skills for the labor market. The National Board for Technical Education (NBTE) serves as the regulatory body, providing the curricular framework for these institutions. This mandate is a cornerstone of Nigeria's educational policy, aiming to produce a skilled workforce essential for industrial and economic development (FRN, 2013). However, the implementation of this mandate has faced significant challenges in a rapidly evolving global economy.

The traditional curriculum has often been criticized for being overly theoretical and slow to adapt to modern industry practices (Bakare & Ajao, 2022). This rigidity often fails to incorporate up-to-date technologies and the essential hands-on, practical skills needed for successful entrepreneurship. For instance, studies have shown a persistent mismatch between the skills acquired by Technical and Vocational Education and Training (TVET) graduates and the demands of the labor market, leading to high rates of graduate unemployment (Bakare & Ajao, 2022; Olateju et al., 2020). The curriculum's slow pace of reform is a major obstacle to preparing students for a future that requires not only technical proficiency but also a deep understanding of sustainability and innovation.

In response to these challenges, there is a growing consensus that TCoEs must undergo a fundamental reform to align with national development goals, particularly in fostering sustainable entrepreneurship. This is not merely an option but a necessary reform to address the high rate of graduate unemployment by equipping students with the skills to create their own ventures. The integration of sustainable entrepreneurship into the curriculum is a crucial step in this direction (Ilesanmi, 2025). This involves moving beyond a focus on technical skills alone to include concepts such as social entrepreneurship, green technologies, and ethical business practices. By doing so, Technical Colleges of Education (TCoEs) can fulfill their mandate more effectively, producing a new generation of graduates who are not only employable but are also capable of creating businesses that contribute positively to the economy, society, and environment (Eze & Orji, 2020).

## **Strategies Employed by Educational Leaders to Integrate Sustainable Entrepreneurship**

Educational leaders in Nigerian TCoEs are implementing a range of strategic approaches to successfully embed sustainable entrepreneurship into their institutional framework. These multifaceted strategies target different aspects of the institutional ecosystem, from curriculum design to external partnerships.

### **Curriculum Redesign and Restructuring**

A fundamental strategy is the redesign of existing curricula to directly embed entrepreneurial content within technical and vocational courses. Leaders are initiating reforms, often in collaboration with the National Board for Technical Education (NBTE) and departmental heads, to review and update course syllabi. This approach ensures that entrepreneurship is not an optional extra but an integral part of the learning process (Bakare & Ajao, 2022). For example, a course on "Introduction to Automotive Technology" might be revised to include a module on "Starting a Sustainable Automotive Repair Business" that covers not only technical skills but also ethical waste disposal and energy-efficient practices. Olateju et al. (2020) emphasize that a curriculum that integrates both technical and entrepreneurial skills is crucial for producing graduates who can create sustainable ventures that address market gaps.

### **Fostering Interdisciplinary Collaboration**

Educational leaders are promoting interdisciplinary collaboration among departments to break down traditional silos and encourage a holistic learning experience. This strategy recognizes that modern entrepreneurship requires a diverse skill set (Eze & Orji, 2020). For instance, a student studying welding may need business management skills, which could be taught in collaboration with the business department. Leaders can facilitate this by creating joint projects, seminars, and workshops that involve lecturers and students from different departments. An entrepreneurship week, for example, could feature teams of students from different departments – such as a building technology student, a business student, and an electrical technology student – working together to develop and present a business plan for a green building project.

### **Promoting Innovative Pedagogies**

To move beyond traditional, lecture-based teaching, leaders are encouraging the adoption of innovative pedagogies. Project-based learning (PBL) is a key strategy where students work on real-world projects that require them to apply both their technical and entrepreneurial skills. Leaders support this by providing resources for workshops and practical sessions. They also advocate for mentorship programs where students are paired with experienced entrepreneurs from the community (Bakare & Ajao, 2022). Studies have found that hands-on, experiential learning is far more effective for developing entrepreneurial skills than purely theoretical instruction (Ojo & Ojo, 2020). This approach makes learning more practical and relevant, preparing students for the real-world challenges of starting and running a business.

### **Professional Development for Lecturers**

The success of any curriculum reform hinges on the capability of the lecturers to implement it. Educational leaders are therefore prioritizing robust professional development programs designed to train lecturers in new teaching methodologies and to equip them with a deep knowledge of sustainable entrepreneurship principles (Bakare & Ajao, 2022). Workshops on topics such as business model canvas, design thinking, and social entrepreneurship are crucial for building the capacity of the teaching staff. Eze and Orji (2020) argue that the capacity of educators to teach innovation and sustainability is a key factor in a country's ability to drive sustainable development through entrepreneurship. By investing in their faculty, leaders ensure that the knowledge passed on to students is current and relevant.

### **Forging Partnerships with Stakeholders**

Leaders are actively forging partnerships with industry and community stakeholders. These collaborations provide students with opportunities for internships, mentorship, and practical experience. For instance, a partnership with a local manufacturing company can offer students insights into real-world business operations and the chance to work on projects. These partnerships also serve as a vital source of feedback, helping Technical Colleges of Education (TCoEs) to keep their curricula relevant and aligned with industry needs. Ilesanmi (2025) highlights that such collaborations are crucial for advancing eco-entrepreneurship, as they bridge the gap between academic knowledge and practical application, providing students with the networks and real-world exposure needed to succeed.

### **Challenges Faced by Educational Leaders in Integrating Sustainable Entrepreneurship**

Educational leaders in Nigerian Technical Colleges of Education (TCoEs) encounter significant challenges in their efforts to integrate sustainable entrepreneurship into the curriculum, which directly undermines the strategies they employ. These obstacles are often systemic and require comprehensive solutions.

### **Policy-to-Practice Gap and Underfunding**

A primary challenge related to curriculum redesign is the gap between policy and practical implementation. While national educational policies may promote entrepreneurship, bureaucratic hurdles and rigid institutional structures make it difficult for leaders to translate these mandates into actionable curriculum plans (Bakare & Ajao, 2022). This disconnect often leads to frustration and a slow pace of reform, making it difficult to update curricula to include modern sustainable practices and technologies. A closely related issue is the chronic underfunding of TCoEs, which limits the resources available for curriculum development and the acquisition of modern equipment needed for a practical, project-based curriculum (Akpan, 2021). Akpan (2021) notes, many workshops and laboratories are poorly equipped, making it difficult to teach technical skills, let alone entrepreneurial application of those skills. This financial constraint limits the ability of leaders to implement new programs, conduct extensive professional development, or acquire necessary teaching aids.

### **Resistance to Collaboration**

Regarding the strategy of fostering interdisciplinary collaboration, leaders face significant obstacles due to departmental silos and a lack of a cohesive institutional culture. Many academic departments operate independently with little incentive to collaborate. This makes it difficult to create the joint projects and interdisciplinary modules needed to integrate business and sustainability concepts into technical fields. The absence of a shared vision for sustainable entrepreneurship across the institution can lead to fragmented efforts and a lack of synergy among departments.

### **Pedagogical Resistance**

The adoption of innovative pedagogies like project-based learning is often hindered by resistance to new teaching methods among lecturers and administrators (Ojo & Ojo, 2020). Many educators are accustomed to traditional, lecture-based teaching and may be reluctant to adopt new, more dynamic approaches. They may perceive these methods as more demanding, challenging to assess, or outside their area of expertise. This resistance is a significant barrier to creating the hands-on learning environment necessary for developing entrepreneurial skills. Educational leaders must work to overcome this resistance through strong communication, incentives, and continuous support (Ogunyemi & Ojo, 2020).

### **Limited Lecturer Expertise**

The strategy of professional development for lecturers is undermined by a lack of funding and limited lecturer expertise in sustainable entrepreneurship. While leaders recognize the need to train their staff, many institutions lack the financial resources to provide comprehensive workshops and seminars on topics like green technologies and business model innovation (Bakare & Ajao, 2022). This leaves many lecturers with a strong technical background but a limited understanding of how to effectively teach sustainable entrepreneurial concepts. Teniola, Muharam, and Ramily (2025) note that the lack of educator capacity is a major factor in the slow adoption of entrepreneurial education in Nigeria.

### **Disconnect Between Academia and Industry**

Finally, the strategy of forging partnerships with stakeholders is often challenged by a lack of trust and a disconnect between academia and industry. Businesses may be hesitant to partner with educational institutions due to a perception that Technical Colleges of Education (TCoEs) graduates lack relevant skills (Olateju et al., 2020). Additionally, there is often a lack of institutional structures or clear frameworks to facilitate and manage these collaborations effectively. This makes it difficult for leaders to secure the internships, mentorship opportunities, and industry feedback that are essential for making the curriculum relevant and practical.

## **RECOMMENDATIONS**

To effectively address the challenges and build on the strategies employed by educational leaders in Nigerian Technical Colleges of Education (TCoEs), a series of detailed and targeted recommendations are essential. These recommendations aim to create a more supportive and robust ecosystem for sustainable entrepreneurship education by directly tackling the identified challenges.

1. **Increased and Targeted Funding:** To combat chronic underfunding, the government and private sector must provide increased and targeted financial support. This funding should be specifically earmarked for modernizing laboratories and workshops to align with current industry standards and for creating a special fund to support student-led sustainable entrepreneurship projects.
2. **Mandatory and Continuous Professional Development:** The National Board for Technical Education (NBTE) should mandate professional development in sustainable entrepreneurship for all Technical Colleges of Education (TCoEs) lecturers. These training programs should be continuous, integrated into lecturers' career progression, and focus on both the theory of sustainable entrepreneurship and innovative teaching methods. Incentives, such as recognition or grants, should be provided to lecturers who successfully integrate sustainable entrepreneurship into their courses to help overcome resistance to change.
3. **Flexible Policy Framework:** Educational leaders must create a clear and flexible framework. This framework should provide actionable guidelines for curriculum integration while allowing TCoEs the autonomy to adapt policies to their specific local contexts.
4. **Strengthened Academia-Industry Partnerships:** Partnerships should be built on a foundation of mutual benefit, with Technical Colleges of Education (TCoEs) offering research services or access to talent in exchange for industry internships, mentorship, and guest lecturers. Technical Colleges of Education (TCoEs) should also establish business incubation hubs with support from these partners to provide students with the resources and networks needed to launch their sustainable ventures.

## CONCLUSION

The integration of sustainable entrepreneurship into the curricula of Nigerian Technical Colleges of Education is not merely an educational trend but a critical imperative for national development. This analysis has shown that the success of this integration hinges on effective educational leadership, which must navigate significant challenges, including inadequate funding, a lack of educator capacity, and a disconnect between policy and practice. The strategies of curriculum redesign, fostering interdisciplinary collaboration, promoting innovative pedagogies, and forging robust partnerships are crucial for embedding a culture of sustainable entrepreneurship. By implementing the recommendations for targeted funding, professional development, and stronger partnerships, leaders can build a more supportive and responsive educational ecosystem. Ultimately, this will empower TCoEs to fulfill their mandate more effectively, producing a new generation of graduates who are not only employable but are also capable of creating sustainable ventures that contribute positively to the economy, society, and environment. The future of Nigeria's development hinges on this transformative shift.

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