

Integrating Entrepreneurship Education into TVET Curricula for Self-Reliance, Employability, and Sustainable Job Creation in Africa

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Abstract- The paper has explored the integration, impact, challenges and strategies of improving entrepreneurship education in Technical and Vocational Education and Training (TVET) institutions in North Central Nigeria. Tertiary education on entrepreneurship is now being considered as one of the most critical elements in improving the self-reliance of graduates and ensuring the creation of sustainable employment. An analysis of recent literature demonstrated the moderate incorporation of entrepreneurship courses in TVET programs in Africa and the ongoing issues associated with funding, instructor qualification, and low level of practical exposure. The research was of a descriptive survey design. The sample consisted of students and staff members of the polytechnics in North Central Nigeria and 50 questionnaires were distributed and 47 responses were received thus making a response rate of 94%. The data was analyzed based on the frequency counts, percentages and graphical analyses (stacked bar and pie charts) to report the findings in comparison with the study objectives. Findings revealed that entrepreneurship education is moderately incorporated in TVET programs with 53.2% of the respondents indicating moderate level of incorporation. A large percentage (55.3%) of them confirmed that entrepreneurship-oriented TVET has a positive effect on self-reliance and employment. Nevertheless, insufficient funding (31.9%), unqualified instructors (42.6%), and exposure to practice (14.9%) are some of the challenges that make effective implementation difficult. The strategies that were recommended by respondents were workshops, better funding, practical training, and supportive institutional policies to help improve the effectiveness of programs. To conclude, entrepreneurship education positively influences graduate employability and innovation but the effects of the latter are constrained by the structural and resource limitations. The research suggests the improvement of the curriculum, instructor training, more investments, hands-on experience, and policy initiatives to improve entrepreneurship performance within the Nigerian TVET facilities.

Keywords: Entrepreneurship Education, TVET, Self-Reliance, Employability, Curriculum Integration.

I. INTRODUCTION

Technical and Vocational Education and Training (TVET) has come out as a crucial instrument in solving unemployment and developing socio-economically in Africa. The demand to provide young people with sustainable jobs is high with the continent having one of the fastest-growing youth populations in the world, estimated to surpass over 830 million by 2050 (UNESCO, 2023). Although the traditional TVET has been more concerned with the creation of skilled labor to the industrial sector, there is an increased awareness that entrepreneurship education under TVET can be a transforming factor in enhancing self-reliance and employment generation.

Entrepreneurship education not only teaches technical and vocational skills to students but also makes them creative, innovative, problem-solving, and business management competent to create self-employment opportunities (ILO, 2022). In Africa, where conventional job markets are overpopulated and youth unemployment levels are still high, including entrepreneurship training into TVET programs is a channel to establish the alignment between skills training and labor market realities (African Union, 2022).

Recent research has demonstrated that TVET graduates who are trained in entrepreneurship have a higher chance to start their own businesses or to be involved in income generating activities than their counterparts who only obtain technical skills (Okolie et al., 2023). In addition, TVET focused on entrepreneurship can help to achieve inclusive

development through empowering women, rural people, and other disadvantaged groups with easy to use skills to engage in economic activities in meaningful ways (World Bank, 2023).

Nevertheless, the integration of the entrepreneurship education into TVET is not without the challenges, including the insufficient resources, the insufficient support of policies, and the insufficient number of qualified teachers (UNESCO-UNEVOC, 2022). It is important to tackle these barriers so that TVET can be repositioned as not just a source of employable skills, but also a source of sustainable entrepreneurship and employment in Africa.

II. PROBLEM STATEMENT

Although there is growing acknowledgment of TVET as an initiator of employability and inclusive development in Africa, its graduates remain highly unemployed because of the low absorptive rate of the formal labor market. Conventional TVET programs tend to focus on technical training and ignore entrepreneurship training, which restricts the capacity of graduates to generate self-employment. Unless more initiatives are taken to ensure greater integration of entrepreneurship in TVET programs, Africa will continue to keep youth unemployment, underemployment, and dependency instead of self-reliance and job creation sustainability (African Union, 2022; Okolie, Igwe & Elom, 2023).

Research Objectives

1. To examine the extent to which entrepreneurship education is integrated into TVET curricula in Africa.
2. To assess the impact of entrepreneurship-oriented TVET on graduates' self-reliance and sustainable job creation.
3. To identify the challenges hindering effective implementation of entrepreneurship education in TVET institutions.
4. To propose strategies for strengthening TVET entrepreneurship education for inclusive growth and employability.

Research Questions

1. To what extent is entrepreneurship education integrated into the curricula of TVET institutions in Africa?
2. How does entrepreneurship-oriented TVET influence graduates' self-reliance and capacity to create sustainable jobs?
3. What challenges limit the effective implementation of entrepreneurship education in TVET institutions?
4. What strategies can be adopted to enhance the role of entrepreneurship education in TVET for inclusive growth and employability?

III. LITERATURE REVIEW

Technical and Vocational Education and Training (TVET)

TVET is defined as education programs and courses that provide learners with practical, technical and occupational skills which are required to work, be self-employed or advance in their schooling. TVET is considered to be a tool of employability and economic growth in the African environment (UNESCO, 2023).

Entrepreneurship Education

Entrepreneurship education entails the instruction of knowledge, skills, attitudes, and competencies that can help learners to discover opportunities, establish and operate new ventures or innovative undertakings. In TVET, it focuses on entrepreneurialism, entrepreneurship, and entrepreneurial management (ILO, 2022).

Self-Reliance

Self-reliance is the ability of a person to make money and support a life without relying only on the formal job and outside support. Self-reliance is achieved in the context of TVET by way of entrepreneurial skills development.

Sustainable Job Creation

Sustainable job creation is the creation of jobs which are economically viable, socially inclusive, and

environmentally responsible in the long run. Entrepreneurship-based TVET programs seek to enable learners to generate such employment opportunities via business ventures or other creative projects.

Inclusive Growth

Inclusive growth is a type of economic growth process that distributes the benefits to the various layers of the society such as the youth, women and marginalized members of the society and this makes the process an effort to minimize the inequality and promotes social mobility. TVET also leads to inclusive development because it allows different groups of people to be exposed to skills and jobs.

Empirical Studies

The following table gives a summary of recent empirical studies on the effect of entrepreneurship education of Technical and Vocational Education and Training (TVET) institutions in Africa. It also points out the methodology, sample size, major findings, and contribution of each study to the literature, in addition to stating research gaps. All these studies highlight the positive correlation between training in entrepreneurship and confidence, intentions of graduates to start businesses and self reliance. Nevertheless, they also indicate some persistent gaps, such as the lack of longitudinal monitoring of real business performance, the lack of focus on curriculum-market fit and the absence of quantitative data regarding sustainable employment. The synthesis offers a platform to the further research that is focused on enhancing entrepreneurship-oriented TVET programs and their assessment of the long-term socio-economic effects.

Table: Empirical Studies on TVET Entrepreneurship Education in Africa

Author(s) & Year	Country	Methodology & Sample Size	Key Findings	Contribution to Literature / Literature Gap
Okolie, Igwe & Elom (2023)	Nigeria	Survey; polytechnic students	400 Positive correlation between entrepreneurship skills and reliance; gap: limited longitudinal intention to start businesses; tracking of actual business start-improves confidence and planning ups post-graduation	Supports the role of TVET in self-
Mushi & Mwakalobo (2021)	Tanzania	Mixed-methods; 250 graduates	Entrepreneurship training increases likelihood of starting micro-enterprises; mentorship & resources amplify impact	Highlights importance of support structures; gap: insufficient focus on sustainable job creation metrics
Adesina & Adebayo (2020)	Nigeria	Quasi-experimental; 200 students	Post-training improvement in entrepreneurial mindset; higher willingness to venture into small businesses	Confirms skills acquisition effect; gap: curriculum relevance to market needs not deeply analyzed
Maphalala & Masinga (2019)	South Africa	Qualitative; focus groups with graduates	Students recognize local business opportunities; challenges include lack of capital & curriculum misalignment	Shows TVET's potential in addressing youth unemployment; gap: quantitative evidence on income generation missing
Oni & Ige (2018)	Nigeria & Ghana	Cross-sectional survey; graduates	300 TVET-trained entrepreneurs created jobs for themselves and others; ability to diversify income	Establishes link between skills and employment; gap: regional comparison limited, long-term impact underexplored

Conceptual Framework

The conceptual map shows how Technical and Vocational Education and Training (TVET) entrepreneurship education is connected with its intended results in promoting self-reliance and sustainable employment in Africa. It shows the interaction between the primary elements, including the acquisition of the skills, curriculum design, mentorship, access to resources, and practical training, to improve the entrepreneurial mindset and capabilities of graduates. In its turn, these affect the setting of micro- and small enterprises, income diversification, and long-term self-employment. Moderating factors as well, such as, policy support, market opportunities, and socio-economic context, are also identified in the diagram and can enhance or limit the effectiveness of entrepreneurship education. On the whole, the conceptual framework highlights the channel between the specific TVET interventions to better graduate self-reliance and through sustainable economic involvement.



Figure 1: Conceptual Framework

IV. METHODOLOGY

Research Design

The qualitative descriptive design will be used because it seeks to investigate the integration, impact,

challenges and strategies of entrepreneurship education in TVET programs in poly-techniques.

Population and Sampling

Population: Administrators, lecturers and graduates of sampled polytechnics within North-Central Nigeria.

- Sampling: Graduates who attended entrepreneurship-oriented programs in snowball sampling, administrators and lecturers using purposive sampling.
- Sample Size: There will be about 40-50 respondents in order to have sufficient representation.

Data Collection Methods

- Objective 1: Semi-structured interviews and analysis of the curricula to study the integration of entrepreneurship.
- Objective 2: Discussions and interviews with the graduates in the focus group to determine the outcome of self-reliance and job creation.
- Objective 3: Administrators, lecturers, and graduates will be interviewed to find issues with implementation.
- Objective 4: Interview key informants with policymakers and industry partners to suggest how to improve.

Data Analysis

Thematic content analysis would be used to determine patterns in terms of curriculum integration, graduate outcomes, implementation challenges and improvement strategies.

V. DISCUSSION OF RESULTS

Response Rate

The chart of the response rate indicates that 94 percent of the questionnaires sent back were returned to the researcher (47 out of 50). This is a very high response rate meaning that the participants were interested and ready to give information about entrepreneurship education in TVET programs. Educational research enhances the reliability and generalizability of research findings by having high response rates (Creswell and Creswell, 2023; Saunders et al., 2022).

The large response rate minimizes possible non-response bias and makes the results representative of the population of students and staff in polytechniques in North Central Nigeria.

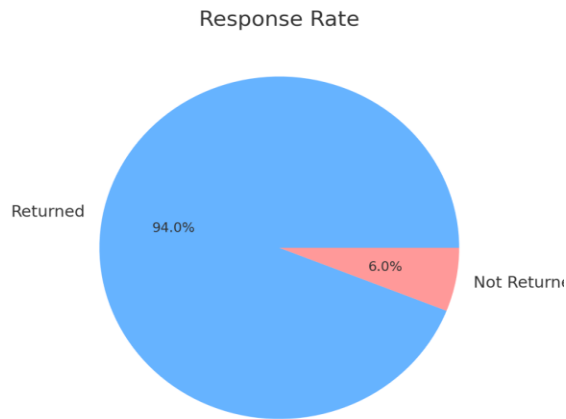


Figure 2: Response Rate

Demographic Characteristics

The stacked bar chart illustrates how respondents are distributed in the major demographics; gender, age, education qualification, department, and work experience. Gender: 59.6% of the respondents were male and 40.4% were female, and these represent the gender distribution in technical programs in Nigeria (Okolie et al., 2023). Age: The greatest proportion (46.8) falls within the range of 26-35 years indicating that the population involved in TVET is largely made up of young adults. In view of educational qualification, majority of the respondents are HND (42.6%), then the B.Sc. and ND holders. This is consistent with the characteristics of poly techniques students and employees who frequently take part in TVET entrepreneurship programmes (Igwe & Elom, 2023). The respondents of the department in question were rather equitably divided in Business Administration (53.2) and Procurement (46.8). When looking at work experience, 61% of respondents reported work experience between 3-10 years, which means that they have been exposed to a practical setting that can affect their views towards entrepreneurship education. In most cases, demographic features are essential to understand

because they might impact how entrepreneurship education integration is perceived, and how effective it is (Adejumo et al., 2024).

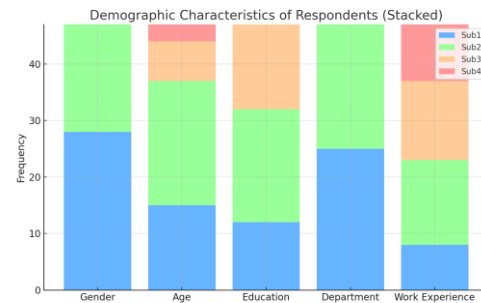


Figure 3: Demographic Information

Objective 1: Institution of Entrepreneurship Education.

The horizontal bar chart of the integration of entrepreneurship education reveals that the majority of the respondents (53.2%) think that the integration is medium, and only 21.3% believe that the integration is highly integrated. Only a small percentage (6.4 per cent) had no integration. This observation shows that entrepreneurship education is present in TVET curricula but has not been completely integrated within the programs. Other African literature has also documented the same, in which entrepreneurship modules are frequently incorporated into the curriculum, but these modules are not comprehensive enough, practically applicable, or integrated with assessment (Amadi et al., 2023; Oduro et al., 2022). Therefore, there should be a curriculum reform to improve the quality and content of entrepreneurship in the TVET institutions.

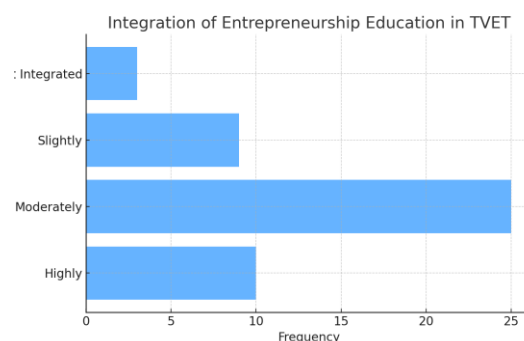


Figure 4: Integration of Entrepreneurship Education

Objective 2: Influence on Self-Employment and Finding of Work.

The chart shows that 55.3 percent of the respondents believe that the entrepreneurship-oriented TVET has high or very high impact on the self-reliance and job creation of the graduates. Nevertheless, 12.8 percent are still low-impact. This implies that with proper implementation of entrepreneurship education it improves the employability and ability of graduates to establish sustainable ventures. This is supported by previous research, which points to the fact that the training of entrepreneurs in TVET has a positive impact on the self-employment intentions and business start-up rates of graduates (Eze et al., 2023; Oladipo and Bello, 2024). The entrepreneurship modules should be reinforced to enhance further self-reliance and sustainable employment of the TVET graduates.

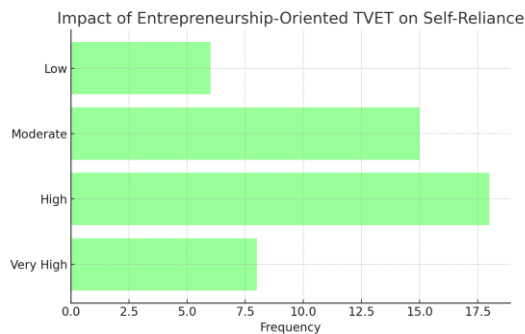


Figure 5: Impact of Entrepreneurship on Self Reliance

Objective 3: Obstacles to successful Implementation.

The vertical bar chart singles out some of the major challenges of Lack of qualified instructors (42.6%), Funding and resource constraints (31.9%), Limited practical exposure (14.9%), and Poor institutional policy support (10.6%). Such obstacles are aligned with larger body of knowledge on African TVET systems, which lacks effective human resources, infrastructure, and institutional support to facilitate the efficacy of entrepreneurship education (Adebayo and Onwuka, 2022; Okorie et al., 2023). It is imperative to deal with instructor competency and funding gaps to enhance entrepreneurship education outcome.

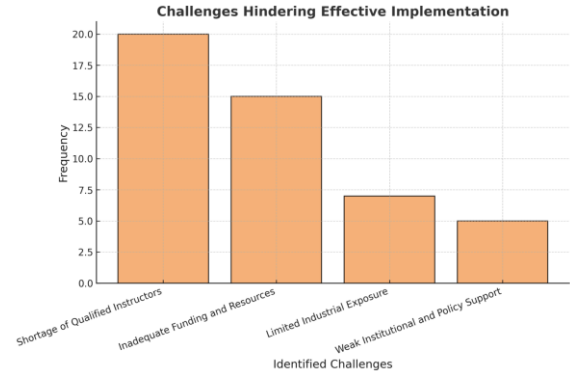


Figure 6: Identified Challenges

Objective 4: Suggested Strategies

According to the horizontal bar chart of the proposed strategies, it can be stated that the respondents prefer: Organizing entrepreneurship workshops (38.3%), improving funding and resources (25.5%), enhancing practical training and internships (21.3) and Developing supportive institutional policies (14.9%). These are some of the strategies in line with international best practices, hand-on training, sufficient funding, and conducive policies are necessary to develop entrepreneurial skills on the students of TVET (UNESCO-UNEVOC, 2023; Okojie and Osakwe, 2024). Mentorship programs and practical exposure have been proven to play a critical role in enhancing business start up rates and the sustainability of ventures of the graduates. These strategies can help fill the gap between theory and practice and improve the overall success of entrepreneurship training in TVET.

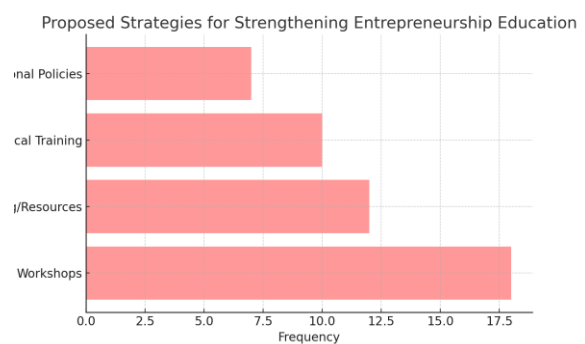


Figure 7: Strategies for Strengthening Entrepreneurship Education

CONCLUSION

It investigated the strategies of integrating, impact and challenges and improvement of entrepreneurship education in TVET. Results show that the entrepreneurship education is moderately embedded in the programmes of North Central Nigerian polytechnics. It has a generally positive impact on the self-reliance of graduates and their long-term employment, and most of the respondents noted that it brought them great benefits. Nevertheless, the small number of qualified instructors, insufficient funding, ineffective exposure to practice, and a poor institutional back-up are few of the challenges that impede full realization of the entrepreneurship education. This was also complemented by practical strategies that were mentioned by the respondents, which include workshops, provision of resources, increased practical training, and supportive policies, to bolster the results of entrepreneurship. Generally, the research shows that although there is a positive improvement, there is a need to engage in systematic interventions to fully utilize entrepreneurship education as an instrument of graduate employability and sustainable development.

RECOMMENDATIONS

According to the results, it is possible to suggest the following recommendations:

Curriculum Enhancement: To achieve full integration, theory and practice in entrepreneurship curriculum should be updated and reinforced by TVET institutions in such a way that practical application is more relevant to the real business situations.

Instructor capacity Building: It should be provided with regular training and professional development sessions to improve the skills and competencies of the instructors who will be working with the entrepreneurship education programs.

More Finance and Resources: Institutions must ensure that they have sufficient finance and facilities to facilitate entrepreneurship education in terms of properly equipped laboratories, workshops and learning materials.

Policy Support and Institutional Framework: Governments and institutional management ought to establish enabling policies and strategic patterns that place entrepreneurship education at the forefront of the TVET learning institutions such as the incentive of entrepreneurship-oriented programs.

Frequent Workshops and Seminars: Conducting competitions, entrepreneurship workshops and seminars can attract interest and participation among students encouraging entrepreneurship mindset and skills acquisition.

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