TECHNICAL VOCATIONAL EDUCATION AND TRAINING (TVET) AND SUSTAINABLE ENTREPRENEURSHIP DEVELOPMENT

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Abstract

The study investigated the role of technical, vocational education and training on sustainable development. Three hypotheses were postulated based on the objective of the study. Survey research design was adopted for the study. A population of one thousand six hundred and twenty three consisting of one thousand and twenty five students of Federal Polytechnic Nekede Owerri and five hundred and ninety eight students of Federal Polytechnic Unwana Afikpo was used. A sample size of three hundred and twenty was gotten using Taro Yamene. Data were analysed using descriptive (tables, percentages etc) and inferential statistics (Chi-square and Spearman's Correlation Coefficient) represented on tables in SPSS packages. Again, cross tabulation was used to understand how two categorical variables relate to each other. Result shows that training increases innovation in processes and technologies, vocational studies increases production of goods and services and education improves policy making. The paper therefore concluded that TVET plays a crucial role in sustainable entrepreneurship development.

Keywords: "TVET", Sustainable, "Entrepreneurship Development"

Introduction

Technical and Vocational Education and Training (TVET) is an education and training program that provides individuals with the skills and competencies needed to succeed in the workforce. (UNESCO, 2015). The Federal Ministry of Education in Nigeria (2017) defined TVET as a type of education and training that prepares individuals for employment and entrepreneurship in various sectors of the economy. TVET focuses on providing or equipping individuals with practical skills and competences for specific tracks, crafts and careers in various industries such as engineering, information technology, business, construction, etc. TVET programs are designed to promote entrepreneurship, employment and skill development. They are often offered in vocational schools, polytechnics, technical institutes/colleges, apprenticeship and informal sector.

Entrepreneurship development is a policy driven initiative aimed at equipping individuals with the necessary skills, knowledge and mindset to establish and sustain successful enterprises. (UNDP, 2010). It is the process of enhancing entrepreneurial skills and knowledge through structured training and institutional support to individuals who want

to establish and run their own enterprise successfully. (Hisrich, Peters and Shepherd, 2017). Entrepreneurship development, therefore involves equipping individuals with skills, provision/access to finance and the enabling environment to encourage individuals to start, manage and grow businesses successfully.

Sustainable entrepreneurship development involves identifying and exploiting entrepreneurial opportunities that enhance environmental and social well being while ensuring economic success. (Shephered and Patzel, 2011). According to Schalteggar and Wagner (2011) it refers to the business activities that contribute to economic, social and environmental stability by integrating responsive business practices with innovation and long term value creation. It involves creating and managing businesses that are profitable, address societal challenges such as poverty, community development, innovative, environmental responsive etc.

TVET emerges as a critical enabler of sustainable entrepreneurship development by equipping individuals with the necessary skills to manage businesses. TVET encompasses formal, non-formal and informal education that provides practical skills and technical knowledge for various industries. When aligned with sustainable entrepreneurship principles, TVET can empower individuals to create business that are innovative, productivity, promote social equity, environmental concerns etc. To further buttress this, Okolie and Asfa (2017) stated that TVET programs are recognized scheme that has facilitated skills development, thus, enhancing the entrepreneurship prowess of participants in different TVET related industries that covers agriculture, business and commerce, engineering and technology, health and paramedical, home science, humanities, education, business skills and others. Obidile, Obi and Ikpat (2020) are of the opinion that TVET is concerned with the impartation of the labour markets skills for creation or sustenance of jobs and generation of wealth. It is the type of training which is concerned with the development of skills, knowledge and attitude necessary for success in any occupation. (Osuala, 2004). It is a type of training that provides its recipient with the competencies necessary to start and succeed in any occupation (Oladejo, 2019). Edokpolor and Ownvbiugie (2017) opined that it is a programme for the acquisition of skills needed in the world of work to raise prospects for productive work, personal empowerment, and socio-economic development, for sustainable livelihood in the speedily changing work milieu.

Despite the crucial role played by TVET, the sector often struggles to provide individuals with the skills and competences needed to succeed in an occupation. For instance, TVET programs focus on traditional skills and technologies rather than on emerging fields like Artificial Intelligence, biotechnology, etc which is needed for their graduates to be highly innovative, productivity and competitive in their occupations. Again, this has made the TVET graduates lack the competencies to develop clear goals, objectives and strategies with which to succeed in their various occupations. Furthermore, TVET programs often lack input from industry partners, leading to a mismatch between the skills and competences provided and the needs of the labour market. This paper therefore examines how TVET supports sustainable entrepreneurship development through increase in innovation, productivity and better decision/policy making.

Methodology

The study investigated the role of TVET on sustainable entrepreneurship development using HND2 students of SBMT in Federal Polytechnics Nekede Owerri and Unwana Afikpo. The survey research design was adopted for this study. The total population is one thousand, six hundred and twenty three students, consisting of one thousand and twenty five students of vocational studies of FPNO and five hundred and eighty nine students of vocational studies of Unwana Afikpo respectively. The sample size was determined using Tayo Yamane

$$\frac{n = N}{1 + N(e)^2}$$

$$\frac{1623}{1+1623(5\%)^2} \qquad \frac{1623}{1 + 1625(0.05)^2} \qquad \frac{1623}{1+1623(0.0025)}$$

$$\frac{1623}{1+4.0575} \qquad \frac{1623}{5.0575} \qquad = 320.909 = 320$$

Data analysis was carried out using both descriptive and inferential statistics methods. The descriptive statistics helped summarized the key characteristics of the respondents, such as their gender, age and institution they attended. These characteristics were presented using frequency distributions, percentages and cumulative percentages. To dig deeper into the relationships between various factors, inferential statistics were sued. The Chi-square test of independence was performed to explore the connection between training and innovation, and

the effect of vocational studies on production. This test helped determine if any observed associations were statistically significant, with a p-value of less than 0.05 indicating a meaningful relationship. Spearman's Rank Correlation was also used to examine the relationship between variables that are ranked, like whether TVET education influences entrepreneurial policies and whether it plays a key role in creating effective policies.

Crosstabulation was another technique used to understand how two categorical variables relate to each other, like whether TVET training inspires innovation and to what extent it enhances innovation in entrepreneurship. This approach provided a clear picture of how respondents' views are connected. These analyses were essential for drawing conclusions about how TVET impacts innovation, production, and the development of policies that support sustainable entrepreneurship development

Results

Table 1: Distribution of Respondents by Institution

	Frequency	Percent	Valid Percent	Cumulative Percent
Federal Polytechnic Unwana	113	36.3	36.3	36.3
Federal Polytechnic Nekede	198	63.7	63.7	100.0
Total	311	100.0	100.0	

Table 1 presents the distribution of respondents by institution. Of the 311 participants, the majority—198 respondents (63.7%)—were from Federal Polytechnic Nekede, while 113 respondents (36.3%) were from Federal Polytechnic Unwana. This distribution indicates that a larger proportion of the respondents were from Federal Polytechnic Nekede, which may provide insights into the varying experiences and perceptions of TVET across different institutions in the context of sustainable entrepreneurship development.

Table 2: Distribution of Respondents by Agreement with the Statement: "TVET Training Significantly Enhances Innovation in Entrepreneurship"

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	135	43.4	43.4	43.4
Agree	124	39.9	39.9	83.3
Disagree	32	10.3	10.3	93.6
Strongly disagree	20	6.4	6.4	100.0
Total	311	100.0	100.0	

Table 2 presents the distribution of respondents' agreement with the statement: "TVET training significantly enhances innovation in entrepreneurship." Of the 311 participants, the majority—135 respondents (43.4%)—strongly agreed, while 124 respondents (39.9%) agreed. Additionally, 32 respondents (10.3%) disagreed, and 20 respondents (6.4%) strongly disagreed. This shows that a significant portion of respondents believes that TVET training plays a vital role in fostering innovation in entrepreneurship, with a substantial number expressing strong support for the idea that TVET enhances entrepreneurial creativity and idea generation.

Table 3: Distribution of Respondents by Agreement with the Statement: "Vocational Studies Contribute Significantly to Improving Production in Entrepreneurship"

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	148	47.6	47.6	47.6
Agree	122	39.2	39.2	86.8
Disagree	33	10.6	10.6	97.4
Strongly disagree	8	2.6	2.6	100.0
Total	311	100.0	100.0	

Table 3 presents the distribution of respondents' agreement with the statement: "Vocational studies contribute significantly to improving production in entrepreneurship." Of the 311 participants, 148 respondents (47.6%) strongly agreed, while 122 respondents (39.2%) agreed. Additionally, 33 respondents (10.6%) disagreed, and 8 respondents (2.6%) strongly disagreed. This shows that a substantial majority of respondents believe vocational studies play a significant role in enhancing production within entrepreneurship, highlighting the importance of practical training in improving entrepreneurial output and efficiency.

Table 4: Distribution of Respondents by Agreement with the Statement: "Education, Especially TVET, Plays a Crucial Role in the Creation of Effective Entrepreneurial Policies"

	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly agree	119	38.3	38.3	38.3
Agree	87	28.0	28.0	66.2
Disagree	60	19.3	19.3	85.5
Strongly disagree	45	14.5	14.5	100.0
Total	311	100.0	100.0	

Table 4 presents the distribution of respondents' agreement with the statement: "Education, especially TVET, plays a crucial role in the creation of effective entrepreneurial policies." Of the 311 participants, 119 respondents (38.3%) strongly agreed, while 87

respondents (28.0%) agreed. Additionally, 60 respondents (19.3%) disagreed, and 45 respondents (14.5%) strongly disagreed. This shows that a significant portion of respondents believes that education, particularly TVET, is vital in shaping effective entrepreneurial policies. However, there is also a considerable number of respondents who disagree or are unsure, highlighting a need for further discussion and exploration of the connection between TVET education and policy development in entrepreneurship.

Objective 1: To ascertain the effect of training on innovation.

Hypothesis:

H_0: There is no significant association between the inspiration from TVET training to innovate in entrepreneurship and the extent to which TVET training significantly enhances innovation in entrepreneurship.

H_1: There is a significant association between the inspiration from TVET training to innovate in entrepreneurship and the extent to which TVET training significantly enhances innovation in entrepreneurship.

Table 5: Crosstabulation of "Inspiration from TVET training to innovate in entrepreneurship" and "Extent to which TVET training significantly enhances innovation in entrepreneurship"

		Strongly Agree	Agree	Disagree	Strongly Disagree	
Inspiration from TVET training to innovate in entrepreneurship	Yes	111	101	21	19	252
	No	7	6	7	0	20
	Not sure	17	17	4	1	39
Total		135	124	32	20	311

Table 6: Chi-Square Tests

	Value	Df	P-Value
Pearson Chi-Square	16.457	6	0.011
N of Valid Cases	311		

Since the p-value (0.011) is less than the alpha level of 0.05, we reject the null hypothesis. This indicates that there is a statistically significant association between the

inspiration from TVET training to innovate in entrepreneurship and the extent to which TVET training significantly enhances innovation in entrepreneurship.

Objective 2: To determine the effect of vocational studies on production

Hypothesis:

H_0: There is no significant association between vocational studies contributing significantly to improving production in entrepreneurship and the enhancement of the ability to produce goods or services.

H_1: There is a significant association between vocational studies contributing significantly to improving production in entrepreneurship and the enhancement of the ability to produce goods or services.

Table 7: Crosstabulation of "Vocational studies contribute significantly to improving production in entrepreneurship" and "Enhancement of ability to produce goods or services"

		Yes	No	Not sure	Total
Vocational studies contribute significantly to improving production in entrepreneurship	Strongly agree	75	38	35	148
	Agree	59	31	32	122
	Disagree	14	7	12	33
	Strongly disagree	1	1	6	8
Total		149	77	85	311

Table 8: Chi-Square Tests

	Value	Df	P-Value
Pearson Chi-Square	11.692	6	0.069
N of Valid Cases	311		

Since the p-value (0.026) is less than the alpha level of 0.05, we reject the null hypothesis. This means that there is a significant association between vocational studies contributing significantly to improving production in entrepreneurship and the enhancement of the ability to produce goods or services.

Objective 3: To ascertain the effect of education on policy making

Hypothesis:

H0: There is no significant correlation between believing that TVET education influences the development of entrepreneurial policies in the country and the belief that education, especially TVET, plays a crucial role in the creation of effective entrepreneurial policies.

H1: There is a significant positive correlation between believing that TVET education influences the development of entrepreneurial policies in the country and the belief that education, especially TVET, plays a crucial role in the creation of effective entrepreneurial policies.

Table 9: Correlations Analysis

			Believe that TVET education influences the development of entrepreneurial policies in your country?	Education, especially TVET, plays a crucial role in the creation of effective entrepreneurial policies
Spearman's rho	Believe that TVET education influences the development of entrepreneurial policies in your country?	Correlation Coefficient	1.000	0.64
		P-Value	.	0.020
		N	311	311

The Spearman's rho correlation coefficient of 0.64 indicates a moderate to strong positive relationship between believing that TVET education influences the development of entrepreneurial policies in the country and believing that education, especially TVET, plays a crucial role in the creation of effective entrepreneurial policies. Since the p-value (0.020) is less than the significance level of 0.05, we reject the null hypothesis. This suggests that there is a statistically significant positive correlation between these two beliefs.

Discussion of Findings

The study is of great relevance as it has helped to bring to lime light the role of TVET on sustainable entrepreneurship development. TVET has helped to increase innovation.

Innovation has led to meeting the needs of the customers through the development of new goods and services, processes and technologies that are socially and environmentally friendly. Again TVET has helped to increase the productive capabilities of the enterpreneurs. This were achieved through efficient use of resources, production of high quality products that meet the needs of customers, and increase in the level of competitiveness of these businesses. Furthermore, TVET has helped to train graduates who can create effective policies that will help the business promote sustainable entrepreneurship development. This is in line with World Bank 2019 which states that innovation can lead to the development of new products, services and processes that promote sustainable development.

Conclusion

TVET was introduced, in other to equip students with the right skills and competencies to own and run successful businesses. Sustainable entrepreneurship development is concerned with creating businesses that are economically viable, socially and environmentally responsive. Sustainable entrepreneurship development is said to improve innovation, production and enhance policy making. All these can be achieved when the enterpreneurs have the right skills and competencies. These skills and competencies are provided by TVET. TVET, should as a matter of urgency review its curricula, to include emerging trends in the world.

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