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Entrepreneurship Growth and Development in Southwest Nigeria through Innovation in Technical and Vocational Education

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Entrepreneurship Growth and Development in Southwest Nigeria through Innovation in Technical and Vocational Education

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Abstract- The concern of this study is to explore Technical and Vocational Education as a panacea for Entrepreneurship growth and development in Nigeria. A descriptive research of the survey type was adopted and three research questions were raised in the study which were tested at 0.05 alpha level of significance, the population was made up of all Technical College students in Southwest Nigeria. 480 students partook in the study, stratified random sampling was adopted to select the subjects used. A structured questionnaire and a checklist developed by the researcher were used for data collection. The instruments used were subjected to face and content validation by relevant experts, a reliability coefficient of 0.84 was obtained using test-retest method and therefore found to be reliable, a reliability coefficient of 0.80 was however obtained for the checklist. Descriptive statistical method of frequency counts and simple percentages were employed in the analysis of data generated for the study. Some of the findings of the study are: that there are adequate technical colleges in southwest Nigeria; much of the available equipment in these technical colleges are either obsolete or dysfunctional; there is also a shortage of qualified and experienced teachers and instructors. It was therefore recommended that there should be provision of modern and state of the art equipment, while dysfunctional ones should be refurbished; that there should be immediate recruitment of well trained experienced teachers and instructors with the most relevant qualification; IT experts should also be recruited to assist the instructors in training students in various subjects taken and programmes offered.

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I. Introduction

Entrepreneurship could be generally said to be the act of setting up a business. It is the act of innovating and introducing something new in the economy and also involves the wherewithal to bring about investment opportunities, establish a business and run it. The zeal and ability of an individual to develop, introduce and market a new product makes a successful Entrepreneurship. It is the quality of being an Entrepreneur. An Entrepreneur in the view of Chinbundu (2011) is someone who bears non-insurable risk, bringing together the factors of production and provides Continuing management. Kurya (2006) identified the following as the characteristics usually found in an entrepreneur: The entrepreneur takes the initiative of combining the resources of land, capital and labour in production of goods or services, the entrepreneur has the choice of making business policy decisions which set the course for a business enterprise.

Entrepreneurship growth and development is very necessary for a developing country like Nigeria to boost its National economic development. For Nigeria to achieve its goal of being one of the 20 leading economies in the world by 2020 there is an urgent need to propel the economy through engagement of the citizens in productive economic activities. Entrepreneurship growth and development is necessary for making remarkable contributions to national industrialization and economic growth of the developing countries by way of sustainable manpower production in accordance with the needs of the industries and the nation as a whole. Since GDP (Gross Domestic Product) is the total value of goods and services produced in a country over a period of time, Nigeria's GPD will be substantially increased if there are more people producing goods and providing services in a competitive entrepreneurship engagement. As a result of such competition, there will be a remarkable economic development which will in turn improve the living standards and quality of life of Nigerians by remarkably reducing their poverty level.

Technical and vocational education in Nigerian context could both be referred to under the global broad umbrella of technical education. The United Nations Educational Scientific and Cultural Organization, UNESCO (2001) defined technical education as a comprehensive term referring to those aspects of the educational process involving in addition to general education, the study of technologies and related sciences and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of the economic and social live.

In the view of Olaitan, Igbo, Ekong, Nwachukwu and Onyemachi (1999), technical and vocational education is the process of teaching individuals the systematic skills, knowledge and attitude involved in the production of specific products or services. It

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incorporates the total learning experiences offered to individuals to enable them make mature judgment and be in positions to create goods and services in the area of business education, industrial technical education, home economics education, agricultural education and fine and applied arts education.

Technical and vocational education is designed to meet the complex technological need of modern industry, knowledge, and related industrial information for qualifying persons for useful and gainful employment in trades and industrial pursuits. At the completion of technical education program in Nigerian technical colleges, it is expected that the products shall be able to set up their own businesses and become self-employed education teachers to develop entrepreneurial qualities in their students.

The Nigerian national policy on education as stated by FRN (2009), states some of the goals of technical education as follows:

- Provide trained manpower in applied sciences, technology and business, particularly at craft advanced levels and technical levels;
- Provide the technical knowledge and vocational skills necessary for agricultural, industrial, commercial and economic development; and
- Give training and impact necessary skills to individuals who shall be self reliant economically.

Innovation can be described as new developments in a field of endeavour, which is expected to bring about development and advancement in such fields. Innovation has to do with changes leading to improvement in the quality and quantity of products as well as techniques of doing things, as it is dynamic and it creates new things out of existing ones. Innovation in technical and vocational education should therefore be encouraged in order to allow for the growth and development of the entrepreneurial aspect of our economy in Nigeria. Since technical and vocational education assist in furnishing skills required for boosting the growth of entrepreneurial skills thereby leading to enhanced entrepreneurship growth and development through an improved productivity which consequently produce advancement in industrial development of developing countries, one of which Nigeria is. Innovation in technical and vocational education should therefore be treated as a matter of necessity in Nigeria.

a) Definition of Acronyms

FSTC: Federal Science and Technical College

GTC: Government Technical College that offer courses in both technical and vocational education

ABTC: Abia Technical College in Abia State in South East Nigeria

FCT: Federal capital Territory of Nigeria in Abuja.

II. Methodology

This study was carried out with the use of descriptive research of the survey type. Three research questions were raised to guide the study at 0.05 alpha level of significance. The population of the study was made up of all technical college students in southwest Nigeria. 480 students partook in the study, stratified random sampling was adopted to select the subjects from the population. The instrument used for gathering data for the study was a researcher design structured questionnaire and a researcher designed checklist. The instruments used were subjected to face and content validation by two experts in the field of study and tests of reliability was also conducted. A reliability coefficient of 0.84 was obtained using test-retest method of 3 weeks interval. Analysis with Pearson product moment correlation statistic gave a correlation coefficient of 0.84 for the questionnaire, while a value of 0.80 was obtained for the checklis, this showed that the instruments are reliable. The instruments were distributed to target audience, the researcher assisted by some trained research assistants. The data collected was subjected to descriptive statistical methods of frequency counts and simple percentages.

Result of the analyses of data generated in the course of the study is presented in the tables that follow.

III. Results and Findings

a) Research Question 1

Are there enough Technical and Vocational Colleges in Southwest Nigeria for the provision of pre-tertiary education entrepreneurship skills?

Table 1 : Federal and State Government Technical Colleges in Nigeria

S/N	State	Technical colleges in Nigeria		
		Federal	State	Total
1.	Abia	-	ABTC, Aba, AGTC, Ohafia	2
2.	Adamawa	FSTC, Michika	GTC,yola, GTC, Mubi, GTC, Numan	4
3.	Akwa-Ibom	FSTC, Uyo	GTC, Ikot Akata, UTC, Eket, GTCAbak, Ikot idem	5
4.	Anambra	FSTC, Ahoada	GTC, Onitsha, GTC,Nsukka	3
5.	Bauchi		GTC,Gumau, GTC Gadau	1
6.	Bayelsa	FSTC Tungbo	GTC Ekowe,	2
7.	Benue	FSTC, Otukpo	GTC, Makurdi	2
8.	Borno	FSTC, Lassa	GTC, Damboa, GTC, Bama	3
9.	Cross-Rivers	-	GTC, Ogoja, St.PTC,Ugep, CTC,Ikot Effanga Mkpa, BTC,Bendi	5
10.	Delta	-	GTC, Issele Uku, GTC, Ugheli, GTC, Uzoro, Agbor,Sapele,Kwale	6
11.	Ebonyi	FTC, Okposi	GTC, Abakaliki, GTC, Afikpo	3
12.	Edo	FSTC, Uromi	-	1
13.	Ekiti	FSTC, Usi	GTC Ado-Ekiti, GTC Ikole, GTC Ijero-Ekiti,GTC Otun-Ekiti	5
14.	Enugu	-	GTC Enugu	1
15.	Gombe	-	GTC, Kumo	1
16.	Imo	-	ATC, Ahiazi, OTC,Orlu, OTC,Okohia-Mbano, GTC, Owerri	4
17.	Jigawa	-	-	-
18.	Kaduna	FSTC Kafanchan	GTC, Malali, GTC, Soba, GTC, Kajuru, Zaria, Makarfi	6
19.	Kano	-	GTC, Kano, GTC, Wudil, GTC, Bagauda, GTC, Ungogo	4
20.	Katsina	-	GTC, Mai-Adua, Charanchi, Ingawa, Funtua, Mashi	5
21.	Kebbi	FSTC, Zuru	GTC, Zuru, GTC, Burza	3
22.	Kogi		GTC, Mopa, Oboroke, Ankpa, Odu, Idah	5
23.	Kwara	-	GTC, Esie-Iludun, GTC, Ilorin, Patigi, Erin-Ile, AOTC, Amodu	5
24.	Lagos	FSTC, Yaba	GTC, Ado-Soba, Ikorodu, Ikotun, Mushin, IMDC, Ekpe	6
25.	Nssarawa	-	GTC, Asakio	1
26.	Niger	FSTC, Kuta	GTC, Minna, Iyagi, New-Bussa, Kontagora, Suleja, Okitipupa	7
27.	Ogun	FSTC, Ijebu-Mushin	GTC, Abeokuta, Ijebu-Ode, Igbesa, Ajegunle,Ijebu-Igbo, Ilra-Remo, Ayetoto	8
28.	Ondo	FSTC, Akoko	GTC, Owo, GTC, Iwaro Oka	3
29.	Osun	FSTC Ilesha	GTC,Ile-Ife, GTC, Osogbo, GTC, Ilesha	4
30.	Oyo	-	GTC, Oyo, Ogbomosho,Igbo-Ora, Saki, Ibadan, PCEC, Ibadan	6
31.	Plateau	-	GTC, Bukuru	1
32.	Rivers	FSTC, Ahoada	GTC, Port-Harcourt, GTC, Ahoada, GTC, Tombia	4
33.	Sokoto		GTC, Farfaru, GTC, Runjin Sambo, Binji	3
34.	Taraba	FSTC Jalingo	GTC, Gembu, GTC, Bali, GTC, Takun	4
35.	Yobe	-	GTC, Geidam	1
36.	Zamfarawa	-	GTC, Kaura-Namoda	1
37.	FCT	FSTC, Orozo	FCT GTC, Utako	2

Table 1 presents a general view and spread across the states, of all the technical colleges in Nigeria where courses in technical and vocational education are being offered to students leading to certification at the end of the programme.

Table 2 : Spread of Government Technical Colleges across Zones in Nigeria

S/NO	Zone	Technical Colleges in Nigeria		
		Federal	State	Total
1.	Northwest	2	23	25
2.	North central	3	32	35
3.	Northeast	2	12	14
4.	Southwest	5	37	42
5.	Southsouth	4	30	34
6.	Southeast	2	15	17
7.	FCT	1	1	2
	Total	19	150	169

Table 2 illustrates the spread of these technical colleges across the seven geopolitical zones of the country. It can be observed from Table 2, that the southwest zone of Nigeria has 42 government technical and vocational colleges, out of the 169 total number of technical and Vocational colleges in Nigeria. The southwest zone of Nigeria therefore, does not only have enough Technical and Vocational colleges for the provision of pre – tertiary education, it is also obviously the zone with the highest number of government Technical colleges in Nigeria when compared with other zones as indicated.

b) Research Question 2

Are there enough qualified teachers and instructors for the training of students in selected programmes available in Technical Colleges in Southwest Nigeria?

Table 3 : Number and Percentages of Qualified and Unqualified Teachers and Instructors in Technical Colleges

S/No	Selected Programmes Available in Technical Colleges in Southwest Nigeria	Number and Percentages of Qualified Teachers And Instructors	Numbers and Percentages of Unqualified Teachers and Instructors	Total Numbers of Teachers and Instructors Available
1.	Block Making, Brick Laying and Concreting	65(59.63%)	44 (40.37%)	109
2.	Catering Craft Practice	101 (45.29%)	122 (54.71%)	223
3.	Electrical Installations	15 (83.33%)	3 (16.67%)	18
4.	Fabrication and Welding	09 (56.25%)	7 (43.75%)	16
5.	Furniture Craft	41(29.08%)	100 (70.92%)	141
6.	Motor Vehicle Mechanic	06 (40%)	9 (60%)	15
7.	Plumbing and Pipe Fitting	23 (28.05%)	59 (71.95%)	82
8.	Radio and Television Repairs	21 (48.84%)	22 (51.16%)	43
9.	Refrigeration and Air Conditioning	35 (31.53%)	76 (68.46%)	111
Total	316	442	758	

Table 3 indicates the number and percentage distribution of teachers and instructors in technical colleges in southwest Nigeria. Only 65% of teachers and instructors of brick making bricklaying and concreting are qualified to teach the course, 54.71% of staff employed to teach catering craft practice are unqualified. Even though 83.33% of those teaching electrical installations were qualified to teach the course, there is acute shortage of teachers and instructors in that field as there were only 18 instructors available there for the whole of southwest Nigeria. Fabrication and Welding had 56.25% of their teachers as qualified, while 70.92% of teachers meant to teach furniture craft were unqualified. Most Instructors in the motor vehicle mechanic section were unqualified-60%, Plumbing and pipefitting had 51.16% of unqualified staff members, while there were 51.16% unqualified teachers and instructors for radio and television repairs. There were only 35% of qualified instructors in the refrigeration and air conditioning section of technical colleges in southwest Nigeria. Thus research question one was answered by stating that: there are not enough qualified teachers and instructors for the training of students in selected programmes available in Technical Colleges in Southwest Nigeria.

c) *Research Question 3*

Are the resources and equipment required for training students in each of the selected programmes available and functional?

Table 4 : Number and Percentages of Equipment Available for Selected Programmes in Technical Colleges

	List of Selected Programmes Available	List of Available Resources and Required Equipment	Number and Percentages of Functional Equipment	Number and Percentages of Dysfunctional Equipment	Numbers and percentages of obsolete Resources and Equipment	Total Number of Equipment Available
1.	Block Making, Brick Laying and Concreting	• Mould • Hand-Trowel • Shovel • Spade	921 822 812 640 Sum=3195 (34.68%)	893 415 256 16 Sum=1580 (17.15%)	3786 23 436 191 Sum=4436 (48.14 %%)	5600 1260 1504 847 sum=9211
2.	Catering Craft Practice	• Ovens • Moulds • Scale • Measuring Cups • Leavening agents	249 1810 130 386 1126 Sum=3701 (25.46%)	193 181 192 00 00 Sum=566 (3.89%)	260 8667 382 706 254 Sum=10269 (70.65%)	702 10658 704 1092 1380 Sum= 14536
3.	Electrical Installations	• Multimetre • Electrical Soldering Iron • Electrical Bench Vice • Blow Lamps • Screw Drivers • Electrical Tool Box • Motorized Drilling Machine • Pliers	291 415 351 290 3197 39 2876 792 Sum=8251 (58.49%)	726 320 760 101 761 29 1728 11 Sum=4436 (31.45%)	102 207 166 299 62 181 358 41 Sum=1416 (10.06%)	1119 942 1277 690 4020 249 4962 844 Sum = 14103
4.	Fabrication and Welding	• Tool kits • Safety wears • Welding Machine • Soldering Machine /Equipment • Cylinders • Measuring apparatus and tubes	61 1169 99 188 779 51 Sum=2347 (73.99%)	09 09 03 161 23 101 Sum=306 (9.65%)	56 23 19 29 121 271 Sum=519 (16.32%)	126 1201 121 378 923 423 Sum =3172
5.	Furniture Craft	• Planes • Chisel • Saw • Hammer	97 365 569 411 Sum=1442 (47.48%)	07 26 176 174 Sum=383 (12.61%)	25 720 190 277 Sum=1212 (39.91%)	129 1111 935 862 Sum=3037

6.	Motor Vehicle Mechanic	• Toolbox • Screw Drivers • Wheel and Plug Spanners • Greasing Pump • Gas Welding Kit • Motorized Air Pump	120 381 1580 170 38 42 Sum=2331 (72.91%)	70 09 213 22 07 50 Sum=371 (11.60%)	21 30 425 00 00 19 Sum=495 (15.48%)	211 420 2218 192 45 111 Sum=3197
7	Plumbing and Pipe Fitting	• Pair of Pliers • Diggers • Shovels • Hand- trowels • Saw • Gum • Tape Rules • Threading Machine	288 113 199 385 450 503 645 40 Sum=2623 (26.22%)	672 266 38 29 810 1442 940 91 Sum=4288 (42.71%)	320 38 365 633 370 999 392 22 Sum=3139 (31.26%)	1280 417 602 1047 1630 2944 1977 153 Sum= 10040
8.	Radio and Television Repairs	• Tools for repairs and Maintenance • Models of Circuit Diagram	36 91 Sum =127 (25.4%)	34 86 Sum=120 (24%)	240 13 Sum=253 (50.6%)	310 190 Sum= 500
9.	Refrigeration and Air Conditioning	• Set of Trouble shooting electronic equipment	26 Sum=26 (12.94%)	171 Sum=171 (85.07%)	04 Sum=04 (1.99%)	201 Sum=201

In Table 4, the number and percentage of functional, dysfunctional and obsolete equipment available for the dissemination of knowledge by teachers and instructors to students acquiring skills in various programmes listed is given. It can be observed that only 34.68% of equipment available for brick making bricklaying and concreting

Is functional, there were 17.15% of dysfunctional equipment, while 48.14% of the equipment were obsolete already. Catering craft practice had only 25.46% of functional equipment, 3.89% were dysfunctional, with 70.65% obsolete. Electrical installations equipment available and functional with a percentage value of 58.49% 12.61% were dysfunctional, with 10.06% obsolete equipment. For fabrication and Welding, 73.99% of available equipment were functioning, only 9.65 were dysfunctioning and 16.32% were obsolete. 47.48% of available equipment for furniture craft was functioning, 12.61% dysfunctioning and there were 39.91% obsolete ones.

As for the motor vehicle mechanic section, most of the equipment available were functioning well with 11.6% dysfunctional ones and 15.48% of those that are obsolete. Plumbing and pipefitting had 26.22% of functional equipment, 42.71 of dysfunctional ones and 31.26% of obsoletes. In the radio and television unit, only 25.4% of the available equipment were functioning. 24% were dysfunctioning and there were just 1.99% ones that are obsolete. Refrigeration and air conditioning section has as low as 12.94% of available equipment, 85.07% dysfunctioning, while 1.99% were already obsolete.

A general overview of these analyses indicates that, in Technical Colleges in Southwest Nigeria, there were more dysfunctional and obsolete equipment in all than the functional ones. Thus research question three was answered thus: the resources and equipment required for training students in each of the selected programmes even though available, were not satisfactorily functional, as the quantity of functional ones is quite low.

IV. Discussion of Findings

From the data gathered in response to research question 1, one would see that the southwest zone of Nigeria do not only have enough technical and vocational colleges for the provision of pre – tertiary technical and vocational education, it is also obviously the zone with the highest number of government Technical colleges in Nigeria.

When compared with other zones. This is in line with the assertion of NBTE (2011) That Nigeria has got adequate number of Technical colleges, but would just need to work hard on ensuring quality assurance of such existing institutions. This view had been earlier supported by Onyesom and Ashibogwu, 2013.

From the results obtained after analyzing research question 2, one could see that that there were more unqualified teachers and instructors in Nigerian government technical colleges, southwest particularly, than there are qualified ones. Majority of the teachers and instructors in the technical colleges sampled do not possess the necessary prerequisite qualification and experiences needed to disseminate knowledge to students in the various sections of the technical colleges where they work. It is worth mentioning here that despite contemporary advancement in Information and Communication Technology (ICT), most teachers and instructors in technical colleges in southwest Nigeria still instruct their students with outdated methods of teaching without employing necessary ICT enhanced learning resources. In line with this finding, Osuala (2004) had earlier revealed that there is shortage of qualified vocational technical teachers in our schools. Oguejiofor and Ezeabasili (2014) had also raised alarm that there is acute shortage of vocational and technical education teachers in Nigeria. Uwaifo (2005) had also lamented earlier that our institutions are inadequately staffed with well qualified instructors and teachers due to poor remuneration of vocational teachers. Okeke and Eze (2010), reported that sufficient fund has not been channeled to vocational education which is a major problem plaguing the system, another one of which is shortage of qualified teachers.

Moreover, it was found that, in Technical Colleges in Southwest Nigeria, there were more dysfunctional and obsolete equipment in all than the functional ones. This finding conforms to the position of Oduma (2007) who posited that what is seen and referred to as vocational education laboratories in various institutions today is an eye-sore. Similarly, Olaitan in Okorieocha & Duru (2014) noted that the low level of effectiveness of technical and vocational education in Nigeria are due to lack of coordination of the programmes, inadequate facilities for learning, programmes are not quite job-oriented, teachers are poorly remunerated or motivated. This resulted to the situation where most of the graduates of vocational and technical institutions in the country lack the desired technical skills for employment in industries and other organizations, including the skill to teach in our technical colleges even. Isyaku (2003) noted that vocational education in Nigeria has been bedeviled by inadequate supply of facilities and equipment necessary for acquiring skills and competencies for self-employment.

V. Conclusion

Based on the findings of this study, it was concluded that:

- There are enough Technical and Vocational Colleges in Southwest Nigeria for the provision of pre- tertiary education entrepreneurship skills in technical and vocational education. In addition, the southwest zone was found to be the zone with the highest number of government Technical colleges in Nigeria when compared with other zones;
- There were more unqualified teachers and instructors in Nigerian government technical colleges, southwest particularly, than there are qualified ones;
- There are more dysfunctional and obsolete equipment in Technical Colleges in Southwest Nigeria in all than the functional ones.

VI. Recommendations

Based on the findings of this study, the following recommendations were made:

- Government at all levels in Nigeria should provide adequate allocation and funding for the sustenance and maintenance of technical and vocational colleges since they already exist, and their continuing existence is highly instrumental to the growth and development of the entrepreneurial aspect of our economy which is in turn necessary for the nation's industrial development;
- Well trained, qualified and experienced vocational and technical education teachers and instructors with contemporary ICT know-how should be recruited to teach in the various programmes and courses available in Nigerian technical colleges.
- Such teachers and instructors should be adequately remunerated in order to sustain their attention and enhance their productivity during their stay in the system;
- Nigerian government should see to the provision of state of the art equipment and resources for ease of knowledge dissemination by teachers and instructors to students acquiring skills in various programmes available in Nigerian technical colleges. The already existing dysfunctional resources and equipment should also be refurbished, except for the obsolete ones which should be completely replaced.

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