



# **Technological Skills Required for Entrepreneurship Development of Students in Post-Basic Education in Emohua Local Government Area of Rivers State**

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## **ABSTRACT**

The study investigated Technological skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. Two purposes, research questions and hypotheses guided the study. This study adopted a survey research design. The study was carried out in senior secondary schools in Emohua Local Government Area, Rivers State. The targeted population of the study was all the senior secondary schools technology teachers in Emohua Local Government Area of Rivers State. This gave a total population of 225 respondents. Purposive sampling technique was used to select only senior secondary school technology teachers. This gave a total sample size of 225 respondents. Structured questionnaire instrument was used to collect data for this study titled ‘Technological skills required for entrepreneurship development of students in post-basic education Questionnaire (TSREDSPEQ)’. The instrument was face-validated by three experts, one from Department of Technical education, Ignatius Ajuru University of Education Rivers State and the other two experts are from the department of industrial technical education, University of Nigeria, Nsukka. Cronbach Alpha reliability coefficient formula was used to determine the reliability of the instrument which yielded a reliability coefficient of 0.83. The findings of the study revealed that Basic electricity skills and building construction skills are required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. The study however recommended that Practical skills in Basic electricity should be carried out consistently as it is required for self reliance among electrical Post-basic students in Rivers State Nigeria and Practical electrical skills should be taught in an equipped workshop using appropriate tools and equipment in the post-basic education system.

**Keywords:** Technological skills, entrepreneurship development and Post-basic Education

## **INTRODUCTION**

Post basic education and career development (PBECD) is the education children receive after a successful completion of ten years of basic education and passing the basic education certificate examination (BECE) and junior Arabic and Islamic studies certificate examination (JAISCE) (Federal Government of Nigeria, 2013). IT INCLUDES; senior secondary education, higher school and continuing education given in vocational enterprise institutions (VEIs) to either basic education graduates who are not proceeding to senior secondary schools, or senior secondary graduates that are not proceeding to tertiary level, as a means of preparing them for the world of work, wealth creation and entrepreneurship. The objectives of post basic education and career development are to;

1. Provide holders of the basic education certification and junior Arabic and Islamic studies certificate with opportunity for education of a higher level, irrespective of gender, social status, religious or ethnic background;
2. Offer diversified curriculum to cater for the differences in talents, disposition, opportunities and future roles;
3. Provide trained manpower in the applied sciences, technology and commerce at sub-professional grades

4. Provide entrepreneurial, technical and vocational job-specific skills for the self-reliance and for agricultural, industrial, commercial and economic development
5. Inspire students with a desire for self-improvement and achievement of excellence
6. Foster patriotism, national unity and security education with emphasis on the common ties in spite of our diversity and

Furthermore, the curriculum of the senior secondary education consists of the following fields of studies; science and mathematics, humanities, business studies and technology. Technology is further taught in various areas such as; technical drawing, general metal work, electronics, auto-mechanics, building construction, wood work, home management, food and nutrition and basic electricity.

The aim of basic electricity skills according to Chiorlu, Ogondu, and Obed (2016) is to provide the trainee with the knowledge and skill to enable him carry out complete electrical installations in a electrical and its associated equipment. In extension, the trainee on completion of the programme according to NBTE (2001) should be able to:

1. Understand electrical working diagrams.
2. Know different types of domestic surface wiring.
3. Know different types of domestic conduit wiring.
4. Understand the principles of protecting electrical devices and installation.
5. Understand sequence for inspecting and testing domestic installations.
6. Understand the terms used in illumination.
7. Know various types of lamps for illumination.

#### **Building construction skills**

The goal of building construction according to Puyate, and Obed, (2017) is to introduce the trainee in the building trades to the basic construction principles, materials and methods so that he may be able to appreciate the roles of the various trades in the building industry. Furthermore, NBTE (2001) states that on completion of building construction programme, the trainee should be able to:

1. carry out the basic workshop safety, site safety principles and be able to apply them.
2. Know the use of common hand tools and building trades
3. Understand the use of materials and basic processes in carpentry and joinery
- 4 carry out the basic principles of site preparation
5. carry out setting out principles and be able to apply them to set out simple rectangular buildings on site.
6. carry out basic principles of choice and construction of foundations
7. carry out the principles of ground and upper floor construction in timber and concrete
- 8 carry out the principle of constructing load bearing walls
9. Know materials and methods used in fixing openings
10. carry out the function and principles of construction of construction of roofs

However, entrepreneurship is a form of education commonly recognized by every society as a job provider for the jobless and drop out of individual from our institution in Nigeria. It is used as a strategy to solve social problems of unemployment, poverty, and unbalanced technological development. Entrepreneurship is the process of creating something new of value by devoting the necessary time and effort, assuming the accompanying financial psychic and personal satisfaction and independence (Hisrich and Peter, 2002). Ifeanacho and Ifeanacho (2014) cited Adegun and Akomolafe (2013) explained the concept of entrepreneurship development as a gradual growth of creative and economic and social venture. It involves setting up an individual to explore, opportunities successfully through making a profitable or suffering loss of invested capital. The fundamental “principle” of entrepreneurship as a field of study is that it deals with the organization of knowledge in a particular subject in such a way that it commands more of the hidden potential in the subject in the area of self-employment and job creation. It has to do with system of ideas and values that are now given attention recently as part of the tertiary institution curriculum (Mkpa, 2014).

#### **The Entrepreneurial and Entrepreneurship**

According to Caree and Thurik (2002) an entrepreneur is an enterprising individual who builds capital through risk and /or initiative. Entrepreneur in English dictionary is a term applied to a person who is willing to help, launch a new venture or enterprise and accept full responsibility for the outcome. Over the time, scholars have defined the term in different ways. Here are some of their definitions. An entrepreneur is a person who pays a certain price for a product to resell it at an uncertain price,

thereby making decisions about obtaining and using the resources while consequently admitting the risk of enterprise. An entrepreneur is an economic agent who unites all means of production- land of one, the labour of another and the capital of yet another and thus produces a product. By selling the product in the market he pays rent or land, wages to labour, interest on capital and what remains is his profit, he shifts economic resources out of an area of lower and into an area of higher productivity and greater yield. The later definition is most appropriate when viewed from the perspective of economic development.

Entrepreneurship is the practice of starting new organizations or revitalizing nature organizations, particularly new business generally in response to identified opportunities. An entrepreneur according to Butler (2012) is someone who creates a new organization by generating resources to take an idea to market by utilizing the entrepreneurial process. This involves an understanding of legal, fund raising and financial issues, marketing running the enterprise. Entrepreneurship is the act of identifying, initiating, organizing and bringing a vision to life, be it a new product, service, process, organizational strategy, promotional strategy or a niche market (Akinwumi, 2012).

### **Statement of the Problem**

The objectives of entrepreneurship and career development in post basic education according to Federal Ministry of Education (2013) are to offer diversified curriculum to cater for the differences in talents, disposition, opportunities and further roles; provide trained manpower in applied sciences and technology and commercial at sub-professional grade; provide entrepreneurial, technical and vocational job-specific skills for self-reliance and for agricultural, industrial, commercial and economic development.

Contrary to achieving the above goal, majority of students of post basic education have been completing the programme with little or no skills which is incapable of earning them a living or become self-reliance. This decline in acquisition of technological skills by students has been associated to a number of factors which includes; lack of entrepreneurship awareness, inadequacy of machine and human machinery, and lack of technological skills been taught by the teachers.

The foregoing therefore underscores the need to investigate Technological skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

### **Purpose of the Study**

The general purpose of the study is to investigate Technological skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. Specifically, the study sought to assess:

1. Basic electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.
2. Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

### **Research Questions**

Two research questions were formulated to guide the study:

1. What are the Basic electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.
2. What are the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

### **Hypotheses**

Two hypotheses were formulated to guide the study and were tested at 0.05% level of significance:

**HO<sub>1</sub>** There is no significant difference in the mean ratings of teachers on the electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

**HO<sub>2</sub>** There is no significant difference in the mean ratings of teachers on the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

### **METHODOLOGY**

This study adopted a survey research design. According to Gall, Gall and Borg (2007), a survey research is a method of data collection in which questionnaires or interview is utilized in collecting

data from a sample that has been selected to represent a population to which the findings of the data analysis can be generalized. The study was carried out in Emohua Local Government Area, Rivers State. The targeted population of the study was all the senior secondary schools technology teachers in Emohua Local Government Area of Rivers State. This gave a total population of 60 respondents. Purposive sampling technique was used to select only senior secondary school technology teachers. This gave a total sample size of 60 respondents.

A structured questionnaire instrument was used to collect data for this study titled ‘Technological skills required for entrepreneurship development of students in post-basic education Questionnaire (TSREDSPEQ)’. The instrument was face-validated by three experts from Department of Technical education, Ignatius Ajuru University of Education Rivers State. The experts’ comment and suggestions were utilized to structure the new questionnaire instrument used for the study.

Cronbach Alpha reliability coefficient formula was used to determine the reliability of the instrument which yielded a reliability coefficient of 0.83. This indicated that the instrument was reliable according to Mohsen, Tavakol and Reg Dennick (2011). Data collected from the respondents was analyzed on four point scale using mean and standard deviation to answer the two research questions. t-test statistics was used to test the null hypotheses at 0.05 probability level of significance. Decision was taken as follows: if the calculated value is greater or equal to the table value, the null hypothesis was rejected. On the other hand if the calculated value is less than the table value, the null hypothesis was accepted.

## RESULTS

**Research 1:** *What are the Basic electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State?*

**Table 1:** Mean ratings and standard Deviation of male and female Secondary school Technology teachers on Basic electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.

S/N	ITEMS	Male Teachers			Female Teachers		
		X	SD	RMK	X	SD	RMK
<b>Ability to:</b>							
1.	Interpret electrical working drawing of a factory	3.47	0.73	A	3.01	0.83	A
2.	Carry out: Simple surface wiring for industrial Installation	3.69	0.55	SA	3.11	1.01	A
3.	Carry out Conduit wiring for industrial installation	3.27	1.49	A	3.42	0.61	A
4.	Show how to install MICCC Cable	3.32	1.01	A	3.87	0.92	SA
5.	Apply the safety measures as provided for by the prevailing statutory regulations when carrying out	2.89	1.09	A	3.06	1.13	A
6.	Identify, select and maintain tools and equipment used for ducts and trunking systems	3.63	1.01	SA	2.62	1.41	A
7.	Identify types of bus-bar trunking and recognise the necessity for accurate marking-out when cutting holes.	3.43	0.76	A	3.24	1.10	A
8.	Explain how to bend, Set, Shape, File and fabricate accessories used in connection with ducts and trunkings using the appropriate tools and equipment.	3.60	0.57	SA	3.92	1.11	SA
9.	Explain how to join lengths of ducts and trunkings using rivets, screws or adhesives.	3.89	1.01	SA	3.01	0.88	A
10.	Apply the necessary safety measures as provided for by the. prevailing statutory regulations	3.79	0.85	SA	3.34	0.93	A
<b>Ground Mean</b>		<b>3.19</b>	<b>0.89</b>	<b>SA</b>	<b>3.21</b>	<b>1.02</b>	<b>SA</b>

Data in table 1 revealed that the respondents had a ground mean of 3.19, 3.21 and standard deviation of 0.89, 1.02. Further-more, the items mean ranges between 2.89-3.89, and 2.62-3.92 with standard deviation of 0.55-1.49 and 0.61-1.41. The homogeneity of the standard deviation showed that the respondents were no too far in their ratings. Therefore the respondents agreed that Basic electricity

skills are required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.

**Research 2:** *What are the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State?*

**Table 2: Mean ratings and standard Deviation of male and female Senior Secondary school Technology teachers on Building Construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.**

S/N	Items Ability to:	Male Teachers			Female Teachers		
		X <sub>1</sub>	SD <sub>1</sub>	RMK	X <sub>2</sub>	SD <sub>2</sub>	RMK
1.	State the properties of aggregates in relation to their use in concrete production	3.38	.87	A	3.27	.69	SA
2.	determine the properties and application of different types of cement	3.52	.86	SA	3.66	.73	SA
3.	Understand the use and application of stones in construction	3.12	.99	A	3.21	.79	A
4.	Relate the properties of concrete to its application as a construction material	3.10	.72	A	3.48	.75	A
5.	Understand the use and application of earth soil and latrite in construction	2.97	.96	A	2.73	1.04	A
6.	Understand the principles and methods of proportioning, mixing and testing concrete and be able to carry out the operations	3.03	.75	A	3.26	.94	A
7.	Know the principles and methods of handling, placing and curing concrete	3.07	.93	A	2.65	.87	A
8.	Understand the principles and methods of constructing joints in concrete structures	3.12	.94	A	3.45	.93	A
9.	Understand the use of form-work in construction and the principles of construction	3.33	.81	A	2.79	1.08	A
10.	Understand the basic principles and methods of reinforcing simple concrete structures.	3.28	.90	A	3.25	.99	A
<b>Ground Mean</b>		<b>3.25</b>	<b>.94</b>	<b>A</b>	<b>3.44</b>	<b>.96</b>	<b>A</b>

Data in table 2, revealed that the items had a grand mean of 3.25 and 3.44 and standard deviation of 0.94 and 0.96. Further-more, the items mean range between 2.77-3.92, and 2.73-3.66 with standard deviation of 0.72-0.99 and 0.73-1.08. The homogeneity of the standard deviation showed that the respondents were no too far in their ratings. Therefore the respondents agreed that Building construction skills are required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.

**Hypotheses**

**HO<sub>1</sub>** There is no significant difference in the mean ratings of teachers on the electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

**Table 3: The t-test analysis of difference in the mean ratings of male and female technology teachers on the electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.**

Respondents	N	X	SD	P-value	DF	t-Cal	t-Crit	RMK
Male Teachers	40	3.81	0.85	0.05	58	0.83	1.96	No Sig
Female Teachers	20	3.32	0.96					

Result in table 3 revealed that t-cal (0.83) is less than t-crit (1.96) which indicates that the hypothesis stated is accepted. Therefore there is no significant difference in the mean ratings of teachers on the electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.

**HO<sub>2</sub>** There is no significant difference in the mean ratings of teachers on the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State.

**Table 4: The t-test analysis of difference in the mean ratings of male and female technology teachers on the Building Construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.**

Respondents	N	X	SD	Df	t-cal	t-tab	Decision
Male Teachers	40	3.045	0.82	58	1.03	1.96	No Significance
Female Teachers	20	3.54	0.79				

Result in table 4 revealed that t-cal (1.03) is less than t-crit (1.96) which indicates that the hypothesis stated is accepted. Therefore there is no significant difference in the mean ratings of teachers on the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria.

### DISCUSSION OF FINDINGS

The findings of the study revealed that Basic electricity skills are required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. More-also there is no significant difference in the mean ratings of teachers on the electricity skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria. The findings is in line with Chiorlu, Ogundu and Obed (2016) who explained that Competencies of students' optimum performance in Basic electricity skills and electric motor skills in post basic education are designed to lead the beneficiaries' to self-employment, economic self-sufficiency, and employment generation through short or long-term training and the venue for acquiring practical skills by students is the workshop.

The findings of the study revealed that Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. Further-more-also, there is no significant difference in the mean ratings of teachers on the Building construction skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State. These findings are also in line with Okoye and Okwelle (2013) who postulated that practical or theoretical application of one's potential in bricklaying, block making and concreting requires some measure of mastery. If this mastery is specifically directed, such individual is said to be a professional in his area of mastery. It implies that only those who could comparably demonstrate professional mastery in a given field should be hired to do some professional works irrespective of one's creed or clan.

### CONCLUSION

The study focused on Technological skills required for entrepreneurship development of students in post-basic education in Emohua Local Government Area of Rivers State Nigeria. Post-basic education and career development can be explained as synonymous form of training that seeks to develop one's knowledge, skills, mind, attitude and character towards self-reliant. These areas are specially prepared to promote skills required for the world of work in different areas of life endeavour. Skill in technology provides the, knowledge and attitude that lead to production of individual who are resourceful and productive.

### RECOMMENDATION

1. Practical skills in Basic electricity should be carried out consistently as it is required for self reliance among electrical Post-basic students in Rivers State Nigeria. Practical electrical skills should be taught in an equipped workshop using appropriate tools and equipment in the post-basic education system.
2. Government should provide adequate infrastructural facilities like workshop and machines. Electricity supply should be given priority to solve the problems of epileptic power supply in

Nigeria.

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