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TECHNOLOGY AS A CORRELATE OF ENTREPRENEURSHIP FOR SCIENCE AND TECHNICAL EDUCATION STUDENTS' SELF-RELIANCE AND SUSTAINABLE NATIONAL DEVELOPMENT

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Abstract

This paper examines technology as a correlate of entrepreneurship for Science and Technical Education Students' Self-reliance and Sustainable National Development. The research was descriptive survey in design. The population consisted of four hundred students purposively drawn from three departments in both School of Sciences and School of Vocational and Technical Education of Alvan Ikoku University of Education, Owerri. The sample size was eighty (80) students selected by simple random sampling technique. The instrument used was a researcher-made questionnaire entitled: Technology, Entrepreneurship, Science and Technical Education Students' Assessment Questionnaires (TESTESAQ). The data collected were analyzed using mean, standard deviation and Pearson's product moment correlation. The result showed that technology has a positive correlation as an entrepreneurship skill for both students in science education and vocation and technical education with vocation and technical education students having a higher positive correlation coefficient than science education students in entrepreneurship skill acquisition. From the findings, the researchers concluded technological skills are necessary entrepreneurship skill for self-reliance for students in tertiary education and therefore recommended that more modern high technological facilities be made available to science education as well as vocation and technical education students to meet up with the 21st century entrepreneurial skills for self-reliance and sustainable national development.

Keywords: Technology, Entrepreneurship Education, Science, Technical Education, Self-reliance and Sustainable National Development.

1.0 Introduction

Entrepreneurship education is an education and training which enables students to develop and use their creativity to initiate responsibilities and risks. In our country Nigeria, it is one of the objectives of education to prepare the young ones to face future challenges and develop them to meet the nations need for effective man power, (FRN 2014). Unanma, (2012) asserts that entrepreneurship education is an important aspect of education that is

geared towards developing in the desired learners, the best ideas and managerial abilities necessary for personal and national self-reliance and sustainability. It was adopted in Nigeria in 2007/2008 to accelerate economic growth and development. These aims are yet to be achieved. The third phase of transformation in the educational system as identified by Allan and Richard in Kharbarch (2013) is " lifelong learning era" of the 21st century which is characterized by influx of technology. In line with this also, the federal government of Nigeria set up a presidential committee on the implementation of entrepreneurship education with members drawn from TEFTUND, UNESCO, NUC, NBTE, ILO, and HAMITILE CONSULT to ensure that fresh university graduates engage themselves, meaningfully, than waiting for jobs, thereby sustaining the economy of the nation. All these could be better achieved if technology is adequately utilized in entrepreneurship education or instructional process. Technology has the potential to accelerate, enrich and deepen skill to motivate and engage students to help relate school experiences to work practice (Iwu and Nzeako, 2012). Technological entrepreneurship education can then be viewed as the setting up of new entrepreneurship by individuals or corporations to exploit technology innovation (Shane, and Venkatararnan, 2001). They reasoned also, that it is the commercialization of emerging technological discoveries and innovation or a style or business leadership that involves identifying high potentials. In other words, technological entrepreneurship
education exploits business opportunities, thereby bringing about job creation and wealth generation. It also would accelerate individual's development and consequently nation's technological development too. Hence, the need for effective implementation in schools when the students are on training.

Previous findings show that individuals whose parents were either self-employed or business owners were more likely to become entrepreneurs than those from families without such entrepreneurial experience (Dunn and Holtz, 2000). Such family background is said to transport knowledge, skills, self-reliance and also positive attitudes towards entrepreneurship.

However, in nurturing potential entrepreneurs, effective utilization of technology plays a vital role during training. The tertiary education system presents one of the best and most viable sources to recruit new technological entrepreneurs. Hence there is urgent need to understand how to develop entrepreneurial skill among students on training. The knowledge and attitudes towards entrepreneurship do influence their inclination to start their own future business. In Nigeria, government approach to solving the problem of unemployment has been mindful of the potential role of entrepreneurship education. In spite of the increasing recognition of entrepreneurship education as source of self-employment initiatives, national development, and sustainability economic growth in a rapidly globalizing world, there has been no systematic attempt to look at it from the point of science and technical education student's perspectives.

2.0 Statement of the Problem

The effort of Federal government in the introduction of entrepreneurship education into the curriculum of institutions of higher learning is laudable. It is designed specially to identify the link between science, vocational and technical education, small businesses and entrepreneurship and also to help in the development of the spirit of creativity, logical thinking, self-reliance, independence and freedom for making one's own decision for national development. Technological skills can be a very good tool towards achieving this. However, the implementation of this programme seems not to be encouraging. There is therefore the need to explore the extent at which this tool has been used and also to find out whether there could be anything positive relationship between the use of technology as an entrepreneurship skill and students self-reliance. Thus, this study examines technology as a correlate of entrepreneurship for science and technical education students' self- reliance and sustainable national development.

3.0 Purpose of the Study

The broad purpose of this study was to examine technology as a correlate of entrepreneurship for science and technical education students' self- reliance and sustainable national development. Specifically, this study is set to:

- Identify the correlation between technology and entrepreneurship education for science and technical education students' self-reliance.
- Find out how adequately the technology has been utilized in entrepreneurship education amongst science and technical education students.

4.0 Research Questions

The following research questions guided the study.

- Does any correlation exist between technology and entrepreneurship education?
- How adequately has technology been utilized in entrepreneurship education amongst science and technical education students?

5.0 Hypotheses

- **Ho:** There is no significant correlation between technology and entrepreneurship skill development of science and technical education students.
- **HI:** There is significant correlation between technology and entrepreneurship skill development of science and technical education students.

6.0 Significance of the Study

The result of the study will be beneficial to teachers as it would enable them to see the need for the acquisition of necessary skills for technologically entrepreneurship education so as to impart same on the learners. It will benefit students who would then understand how best to learn meta-cognitively, the capacity of creating their own knowledge (a 21st century strategy).

To the government at large, this study will be of a great benefit as the dire need to adequately fund or support effective implementation of entrepreneurship education will be exposed. Finally, management of higher institutions will gain also, making them to realize the need for regular power supply and provision of high technology man-power in all departments

for practical on acquisition of entrepreneurship skills especially at the introductory level in year one (Yr 1) General Studies (GS) courses.

7.0 Methodology

The research adopted a survey design. The researchers used descriptive survey to identify the closeness between technology and effective entrepreneurship skill development (education) in science and technical education students. The study was carried out in Alvan Ikoku University of Education, Owerri using three departments in the Schools of Sciences and Vocational and Technical Education.

The population consisted four hundred (400) students purposively selected due to their willingness to work with the researchers from three departments namely: Education/Biology, Education/Physics and Technical Education. The sample size was eighty (80) students selected by simple random sampling technique. The instrument for data collection was researcher-made questionnaire entitled: Technology, Entrepreneurship, Science and Technical Education Students' Questionnaire (TESTESQ). The instrument had two sections. Section A was for personal data and section B for items sought to find out the correlation between technology and entrepreneurship education in different sub-headings.

A 4 point modified rating scale was used. They are:

- Strongly Agreed (SA) with a rating of 4
- Agreed (A) with a rating of 3
- Disagreed (D) with a rating of 2
- Strongly Disagreed (SD), with a rating of 1

The instrument was validated by experts and found not to be at variance with the purpose of the study. The reliability was determined using test-retest method and was found reliable. Therefore, eighty (80) copies of the questionnaire were administered by the researchers face to face with the respondents and all the copies were completed and returned immediately. The data collected was analyzed using mean, standard deviation and Pearson's product Moment Correlation.

8.0 Results

- Table 1, shows the result of the descriptive statistics obtained from section B to answer the research question 1: Is there a correlation between technology and entrepreneurship education? It also goes to test the hypotheses: **Ho:** There is no significant correlation between technology and entrepreneurship skill development of science and technical education students.
- **HI:** There is significant correlation between technology and entrepreneurship skill development of science and technical education students.

Table 1: Correlation between technology and entrepreneurship education from the questions in part 2

		ET	BET	ENT	ADV	GET	SCET	BME	RESA
ET	Pearson Correlation	1	.578"	.552"	.571"	.247	.419*	.395"	.4i>
	Sig. (2-tailed)		.000	.001	- .000	.152	.012	.019	.Olb
	N	35	35	35	35	35	35	35	.-•
BET	Pearson Correlation	.578**	1	.321	.607**	.360*	.597**	.348*	
	Sig. (2-tailed)	.000		.060	.000	.034	.000	.041	.101
	N	35	35	35	35	35	35	35	
ENT	Pearson Correlation	.552**	.321	1	.438"	.307	.414*	.374*	.505"
	Sig. (2-tailed)	.001	.060		.008	.073	.013	.027	~_
	N	35	35	35	35	35	35	35	35
4PV	Pearson Correlation	.571"	.607"	.438**	1	.450**	.701"	.512**	
	Sig. (2-tailed)	.000	.000	.008		.007	.000	.002	
	N	35	35	35	35	35	35	35	_-f
GET	Pearson Correlation	.247	.360*	.307	.450**	1	.395*	.424*	.
	Sig. (2-tailed)	.152	.034	.073	.007		.019	.011	.056
	N	35	35	35	35	35	35	35	35
SCET	Pearson Correlation	.419*	.597"	.414*	.701**	.395*	1	.528"	.491"
	Sig. (2-tailed)	.012	.000	.013	.000	.019		.001	.1.;•
	N	35	35	35	35	35	35	35	35
BME	Pearson Correlation	.395"	.348*	.374*	.512**	.424*	.528**	1	.435"
	Sig. (2-tailed)	.019	.041	.027	.002	.011	.001		*n**_-
	N	35	35	35	35	35	35	35	35
RESA	Pearson Correlation	.406"	.277	.505"	.694**	.326	.491**	.435"	1
	Sig. (2-tailed)	.016	.107	.002	.000	.056	.003	.009	
	N	35	35	35	35	35	35	35	35

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed)

8.1 **Hypotheses:**

Ho: There is no significant correlation between technology and entrepreneurship development and science and technical education students.

Hi: There is significant correlation between technology and entrepreneurship development and science and technological education students.

From the analysis, it was found that there is a significant correlation at 0.01 and 0.05 between the science students and technical education students. This implies that technology correlates with entrepreneurial development for science and technical education student for self-reliance and sustainable national development. By this, the alternative hypothesis is accepted while the null is rejected.

2. How adequate have technology been utilized in entrepreneurship education among science and technical education students.

Table 2

	Mean	Std. Deviation	N
ET	14.3429	5.67213	35
BET	18.7143	3.60205	35
ENT	27.0571	6.92371	•35
ADV	15.2286	3.71868	35
GET	14.7429	4.86490	35
SCET	15.2286	4.24323	35
BME	12.7143	2.98596	35
RESA	21.1143	3.30571	35

NB:

ET: Educational technology

BET: Benefits of educational technology

ENT: Entrepreneurship

ADV: Advantages of using educational technology tools.

GET: Challenges of using educational technology

SCET: Solutions to the challenges of utilization of Education tools

BME: Best method for entrepreneurship skill acquisition instruction.

RESA: Reasons for entrepreneurship education.

Below are the questions:

- What are the educational technology used in learning entrepreneurship?
- What are the benefits of using educational technology tools in entrepreneurship education?
- What do you learn in entrepreneurship education?
- What are the advantages of acquisition of entrepreneurship skills education.The challenges of using technology tools in entrepreneurship education include:
- What the solutions to the challenges of adequate utilization of technological tools in entrepreneurship instructional process?
- What are the best method used in

entrepreneurship skills acquisition?

• What are the reasons for entrepreneurship skill acquisition?

Summary of the Findings

From the research question one(l), it was found that technology and entrepreneurship education do correlate to a high extent for science and technical education student's self-reliance and is needed for sustainable national development.

From research question two (2), students of science and technical education do benefit adequately from entrepreneurial skills from the knowledge of technological skills acquisition.

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