International Journal of Sub-Saharan African Research (IJSSAR)
Vol. 4, Issue 2, pp. 542-556, June 2026, ISSN: 3043-4467 (Online), 3043-4459 (Print)
https://doi:10.5281/zenodo.21065408

Entrepreneurial Skills Required by Graduating Students of Electrical/Electronics Technology Education for Self-Reliance in South-East, Nigeria

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ABSTRACT

Background: Electrical/Electronic Technology Education is a programme offered in tertiary institutions, including universities, polytechnics, and colleges of education (Technical), to provide students with the knowledge and practical competencies required for the installation, operation, maintenance, and repair of electrical and electronics systems used in residential, commercial, and industrial settings. According to Oluka (2016), the programme equips undergraduates with the competencies needed to address employment challenges by preparing them to become competent teachers, skilled professionals in industry, or successful entrepreneurs. Consequently, it is imperative that graduating students acquire not only theoretical and practical competencies but also entrepreneurial skills that will enable them to become self-reliant in South-East Nigeria.
Objective: This study identified the entrepreneurial skills required by graduating students of Electrical/Electronics Technology Education for self-reliance in South-East Nigeria.
Method: The study adopted a descriptive survey research design.
Results: The findings revealed that communication, technical, and creativity skills are among the essential entrepreneurial skills required by graduating students of Electrical/Electronics Technology Education for self-reliance.
Conclusion: The study concludes that entrepreneurial skills are essential for graduating students, as they enhance employability and empower graduates to establish and sustain self-employment ventures.
Unique Contribution: The findings provide valuable insights for government, policymakers, curriculum planners, educational administrators, and other stakeholders in developing policies and programmes that promote entrepreneurial skills acquisition among Electrical/Electronics Technology Education students before graduation.
Key Recommendation: The study recommends that government and educational institutions should strengthen entrepreneurship education and provide adequate support for entrepreneurial skills acquisition to enable graduating students of Electrical/Electronics Technology Education to achieve self-reliance.
Keywords: Electrical/Electronic Technology Education, Entrepreneurial Skills, Graduating Students, Self-Reliance, Technology Education.

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INTRODUCTION

Education is a vital instrument for national development because it equips individuals with the knowledge, skills, values, and attitudes required to contribute meaningfully to society. It serves as a medium through which cultural heritage, occupational competencies, and societal values are transmitted from one generation to another. According to Akamobi and Akamobi (2014), education is fundamental to both economic and social development; consequently, expanding access to education has become a major priority in many developing countries. Functional education is expected to equip learners with the competencies necessary to participate effectively in the labour market and society. Moses et al. (2020) observed that technology and vocational education possesses the capacity to rescue nations from economic stagnation by developing a skilled and productive workforce. Similarly, Asotibe and Jummai (2016) noted that technology and vocational education emerged in Nigeria in response to the increasing demand for skilled manpower, rapid technological advancement, and rising unemployment. Given the persistent unemployment challenge in Nigeria, skills acquisition through technology and vocational education has become an essential strategy for promoting employment and sustainable development. The National Policy on Education (FGN, 2014) defines Technology and Vocational Education (TVE) as a comprehensive educational process designed to equip individuals with the knowledge, skills, attitudes, and values required to become productive members of society. The emphasis of TVE is on practical skills acquisition, with Electrical/Electronic Technology Education constituting one of its major areas of specialization.

Electrical/Electronic Technology Education is offered in tertiary institutions such as universities, polytechnics, and colleges of education (Technical). The programme is designed to prepare graduates to undertake electrical installations, maintenance, repairs, and the installation of domestic and industrial electrical appliances. It encompasses broad areas of study, including electrical technology and electronics technology. According to Chukwuedo and Omofonmwan (2013), the programme provides training in trade areas such as the installation and maintenance of electrical and electronic systems in residential, commercial, and industrial environments. The programme places considerable emphasis on practical skills acquisition and workplace experience, both of which are indispensable for national development (Nwogu & Nwanonvo, 2011). Students acquire practical skills, knowledge, attitudes, and competencies in areas such as electronics maintenance, radio and television servicing, circuit theory and analysis, electrical installation, electrical machines, digital logic circuits, electronic communication, and semiconductor devices. These competencies prepare graduates for employment across diverse sectors of the economy. Oluka (2016) further explained that the courses offered in Electrical/Electronic Technology Education are structured to prepare undergraduates to meet the challenges of employment and unemployment by equipping them to become competent teachers, skilled industrial personnel, or successful entrepreneurs. Consequently, the quality of the programme depends largely on the extent to which students acquire the knowledge, practical competencies, and entrepreneurial skills taught in the classroom and reinforced through workplace experiences. Therefore, graduating students of Electrical/Electronics Technology Education must acquire adequate theoretical, practical, and entrepreneurial skills to become self-reliant upon graduation from universities, polytechnics, and colleges of education (Technical).

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Tertiary institutions play a significant role in providing quality education, promoting scholarship, fostering national unity, and developing self-reliant graduates. According to the Federal Government of Nigeria (FGN, 2014), tertiary education is intended to produce graduates who possess the competencies required for productive participation in society. Consequently, the curriculum of Electrical/Electronics Technology Education should be designed to equip students with practical, marketable, and entrepreneurial skills that enhance employability. Iwuoha et al. (2021) emphasized the growing importance of entrepreneurial competencies, including accounting and business management skills, for aspiring entrepreneurs. Successful entrepreneurship requires individuals to manage responsibilities effectively, think independently, establish professional networks, and fulfil commitments that enhance employability and self-reliance.

Self-reliance refers to the ability of individuals to utilize acquired knowledge, skills, attitudes, and sound judgment to solve problems independently, earn a sustainable livelihood, and contribute to societal development. Onoh (2013) argued that individuals equipped with relevant and marketable skills are more likely to secure employment or establish successful businesses, thereby contributing to national development. Similarly, the Federal Government of Nigeria (FGN, 2014) emphasized the need to equip graduates, particularly those in Electrical/Electronic Technology Education, with practical and entrepreneurial competencies capable of driving economic growth. The acquisition of entrepreneurial skills enables graduating students to identify opportunities, solve problems creatively, manage their time effectively, make informed decisions, establish business ventures, and become self-employed. Herrity (2023) identified both hard skills, such as technical and financial skills, and soft skills, including communication and leadership, as essential entrepreneurial competencies that contribute significantly to entrepreneurial success.

Entrepreneurial skills, according to Adeoti (2014), are the competencies required to establish, manage, and sustain successful business ventures. These skills enable individuals to initiate, finance, develop, and expand businesses successfully. They encompass technical competence, leadership ability, business management, financial management, innovation, and creative thinking. Ogbu (2016) argued that entrepreneurial skills extend beyond the psychomotor and technical competencies acquired through vocational training to include psychological, emotional, and managerial capabilities that foster a positive entrepreneurial mindset. These competencies include innovative thinking, product development, financial management, information and communication technology (ICT), and administrative skills. Thus, entrepreneurial skills comprise a broad range of competencies applicable across occupations and industries. From the foregoing, it is evident that graduating students of Electrical/Electronic Technology Education require essential entrepreneurial competencies to function effectively as entrepreneurs. These competencies include communication skills, technical skills, and creative skills.

Communication skills are indispensable for entrepreneurs in the electrical and electronics industry because they facilitate effective interaction with customers, suppliers, employees, and other stakeholders. They also enhance branding, marketing, negotiation, networking, and

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customer relations. Martin (2020) emphasized that effective communication improves workplace performance through active listening, clear verbal and written communication, and the ability to convey ideas effectively. Strong communication skills enable entrepreneurs to express themselves confidently, understand clients' needs, build lasting business relationships, and exchange ideas efficiently.

Technical skills refer to the specialized knowledge and practical abilities required to produce goods and deliver services efficiently. They enable entrepreneurs to apply professional expertise, operate equipment, utilize modern technologies, and manage production processes effectively. Technical competence is fundamental to entrepreneurial success because it enhances productivity, product quality, innovation, and competitiveness. Entrepreneurs who possess strong technical skills are better positioned to adapt to technological changes and maintain sustainable business operations.

Creative skills involve the ability to generate innovative ideas, identify opportunities, and develop effective solutions to business challenges. According to Ogbu (2016), creativity encompasses cognitive processes that enable individuals to solve problems through innovative thinking and strategic decision-making. Creative entrepreneurs are capable of developing new products, improving existing services, identifying emerging market opportunities, and responding effectively to changing customer needs. In addition to creativity, successful entrepreneurs require complementary competencies such as strategic thinking, teamwork, negotiation, conflict resolution, persuasion, and stress management to ensure business sustainability and growth.

In today's dynamic labour market, graduating students of Electrical/Electronic Technology Education require a combination of communication, technical, and creative entrepreneurial skills to become successful entrepreneurs and achieve self-reliance. Equipping students with these competencies will not only improve their employability but also promote self-employment, reduce unemployment, stimulate innovation, and contribute significantly to national economic development. Therefore, identifying the entrepreneurial skills required by graduating students of Electrical/Electronic Technology Education is essential for strengthening entrepreneurship education and enhancing graduate outcomes in South-East Nigeria.

STATEMENT OF THE PROBLEM

The primary expectation of graduates of Electrical/Electronics Technology Education is to acquire sufficient knowledge, practical competencies, and entrepreneurial skills that will enable them to secure paid employment or establish successful self-employment ventures after graduation. However, the persistent high rate of unemployment among graduates of the programme has become a major concern. Many graduates are unable to secure employment in their field of specialisation and consequently engage in low-income occupations such as commercial tricycle operation, point-of-sale (POS) services, and other menial jobs that do not reflect the competencies expected of their training.

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This situation raises concerns about whether graduating students possess the entrepreneurial skills necessary to create and sustain viable business ventures in the electrical and electronics industry. The researcher is therefore concerned that graduates may not be adequately equipped with the entrepreneurial competencies required to identify business opportunities, establish enterprises, and become self-reliant. It appears that many graduating students of Electrical/Electronic Technology Education lack the communication, technical, and creative skills needed to function effectively as entrepreneurs. It is against this background that this study sought to determine the entrepreneurial skills required by graduating students of Electrical/Electronic Technology Education for self-reliance in South-East Nigeria.

OBJECTIVES OF THE STUDY

The main objective of this study was to identify the entrepreneurial skills required by graduating students of Electrical/Electronic Technology Education for self-reliance in South-East Nigeria. Specifically, the study sought to:

1. identify the communication skills required by graduating students of Electrical/Electronic Technology Education for self-reliance;
2. determine the technical skills required by graduating students of Electrical/Electronic Technology Education for self-reliance; and
3. determine the creative skills required by graduating students of Electrical/Electronic Technology Education for self-reliance.

METHODS

The study adopted a descriptive survey research design. According to Abonyi et al. (2022), a descriptive survey design is appropriate for collecting data from respondents to describe existing conditions and elicit their opinions on specific issues. The study was conducted among managers and supervisors of registered private electrical/electronic establishments across the five states of South-East Nigeria. Data were collected using a structured questionnaire. The study population comprised all managers and supervisors in registered private electrical/electronics establishments located in Abia, Anambra, Ebonyi, Enugu, and Imo States. There were 229 registered establishments in Abia State, 321 in Anambra State, 92 in Ebonyi State, 351 in Enugu State, and 96 in Imo State, giving a total of 1,089 registered private electrical/electronic establishments.

A sample of 100 registered private electrical/electronic establishments was selected using a multistage sampling procedure. Data collected from the respondents were analysed using mean and standard deviation to answer the research questions, while the independent-samples *t*-test was used to test the null hypotheses at the 0.05 level of significance.

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RESULTS

Data collected were analysed and presented in the charts below.

Table 1: Communication Skills Required

S/N	Item Statement	Mean	SD	Dec.
1	Ability to convey oneself to others	2.91	1.22	R
2	Understand the needs of customers.	2.70	1.17	R
3	Ability to convince their client	2.69	1.27	R
4	Ability to comprehend others	2.46	1.29	NR
5	Communicate orally with group of various ideas.	2.40	0.98	NR
6	Skills in non-verbal communication	2.64	1.17	R
7	Conduct quality oral presentation.	2.61	0.97	R
8	Ability to listen attentively	2.95	1.03	R
9	Acknowledging differences of opinion.	2.62	0.92	R
10.	Being open minded.	2.93	1.14	R
11	Conveying to others a message without commanding.	2.72	0.95	R
12	Ability to accept feedback from others.	2.74	1.19	R
13	Communicate with others using electronic means.	2.74	1.15	R
14	Ability to interpret electrical wiring diagram	2.68	1.29	R
15	Skills in distributing business ideas	2.76	1.24	R
16	Skills in concise communication.	2.42	0.97	NR
17	Ability to listen with empathy.	2.52	1.29	R
18	Ability to render supportive services to the employer	2.57	0.98	R
19	Being sensitive to the needs of others empathetically.	2.42	0.99	NR
20	Being honest to the employer and customers	2.47	0.97	NR
21	Being trustworthy	2.60	1.23	R
22	Ability to control emotions and situations as the need arises	2.58	1.21	R
23	Conveying to others a message without commanding.	2.46	1.04	NR
	Grand Mean	**2.63**	**0.88**	**R**

R= Required, NR= Not Required D= Dec

Result in Table 1 showed that almost all the items are required as indicated by the respondents. The values of the standard derivations range from 0.92 to 1.29 showing that the means of the items are close to each other as the respondents opinions are close to each other. The result therefore implies that communication skills are among the entrepreneurial skill required by graduating students of electrical/electronics technology education for self-reliance.

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Table 2: Technical Skills Required

S/N	Item Statement	Mean	SD	Dec.
	Skills in assembling of electrical panels.	2.79	1.29	R
	Skills in designing electrical/electronics working diagrams.	2.62	1.56	R
	Skills in conducting test on electrical/electronics appliances.	2.98	1.14	R
	Skills to identify faults in electrical/electronics equipment.	2.75	1.18	R
	Skills to rectify faults in electrical/electronic appliances.	2.63	0.96	R
	Skills to draw plans for domestic and industrial electrical installations.	2.41	0.99	NR
	Skills to interpret electrical/electronics working diagrams	2.43	0.89	NR
	Skills to interpret electrical/ electronics circuits symbols.	2.76	1.21	R
	Skills to test for continuity in electrical/electronics installations.	2.63	0.86	R
	Skills to test for earthling connections.	2.75	1.17	R
	Skills in repairing of electrical machines.	2.55	0.85	R
	Skills installing electrical security gadgets	2.81	1.18	R
	Ability to repair and install complex electrical/electronics equipment.	2.76	0.88	R
	Skills to measure electrical/electronics equipment.	2.81	1.24	R
	Skill to protect electrical/electronics appliances.	2.51	1.00	R
	Skills to service electrical/electronics components.	2.84	1.23	R
	Skills in using electrical/electronics test equipment effectively	2.58	0.98	R
	Skills in operating electrical/electronics safety equipment	2.74	1.14	R
	Ability to design electrical/electronic system layout.	2.77	1.22	R
	Skills handling electrical/electronics tools	2.47	1.02	NR
	Grand Mean	**2.68**	**0.81**	**R**

R= Required, NR= Not Required D= Dec

Result in Table 2 showed that almost all the items attracted required from the respondents. The overall mean of 2.68 is more than 2.50, the index used to judge the required skills. The values of the standard derivations range from 0.85 to 1.59 showing that the means of the items are close to each other as the respondents opinions are close to each other. The result therefore implies that Technical skills are required by graduating students of electrical/electronic technology education for self-reliance.

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Table 3 Creative Skills Required

S/N	Item Statement	Mean	SD	Dec.
	Skills in idea generation	3.81	0.53	R
	Skills in understanding electrical/electronics problems	3.34	0.62	R
	Ability to search for new opportunities.	3.27	0.74	R
	Skills in refining electrical/electronics problems for immediate solution	3.14	0.55	R
	Skills in electrical/electronics resource optimal exploitation	3.35	0.60	R
	Skills in developing fast solutions to electrical/electronic problems.	3.32	0.65	R
	Skills in developing high-IQ teamwork	3.50	0.70	R
	Skills in recognizing new design in electrical/electronics	3.26	0.74	R
	Skills in developing new ideas in electrical/electronics systems	3.42	0.77	R
	Skills in designing of new electrical/electronics appliances	3.01	0.71	R
	Ability to plan new approaches to electrical/electronics problems	3.42	0.77	R
	Ability to research on new electrical/electronics information	3.39	0.84	R
	Ability to put new ideas into practice in electrical/electronics	3.52	0.78	R
	Ability to research on new electrical/electronics concepts	3.08	0.67	R
	Ability to analyze electrical/electronics information using systems approach.	3.64	0.70	R
	Ability to remodel electrical/electronics systems for better business profits	3.31	0.84	R
	Skills in high-intellectual improvisation in electrical business	3.19	0.71	R
	Innovative skills in electrical/electronics high-tech businesses	3.45	0.72	R
	Ability to alter ideas into more profitable electrical/electronics businesses.	3.12	0.77	R
	Ability to propose new concepts in electrical/electronics	3.27	0.87	R
	Ability to brainstorm on electrical/electronics problems	3.27	0.91	R
	Ability to improve on existing concept in electrical/electronics field	3.38	0.81	R
	Inventive skills in electrical/electronics business competiveness	3.34	0.80	R
	Grand Mean	**3.34**	**0.46**	R

R= Required, NR= Not Required D= Dec

Result in Table 3 showed that all the items attracted required by the respondents. The values of the standard derivations range from 0.53 to 0.91 showing that the means of the items are close to each other as the respondents opinions are close to each other. The overall mean of 3.34 is more than 2.50, the index used to judge the required skills. The result implies that creative skills are among the entrepreneurial skills required by graduating students of electrical/electronics technology education for self-reliance.

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Table 4 t-test Analysis of the Mean Responses of Managers and Supervisors on Communication Skills Required

S/N	Variables	Managers (N = 85)	Supervisor (N = 97)		
		Mean ±SD	Mean ±SD	t value	p value
1	Ability to convey oneself to others	2.98±1.15	2.86±1.28	0.664	0.508
2	Understand the needs of customers.	2.60±1.31	2.79±1.03	1.115	0.226
3	Ability to convince their client	2.74±1.32	2.64±1.32	0.538	0.591
4	Ability to comprehend others	2.64±1.31	2.29±1.27	1.759	0.080
5	Communicate orally with group of various ideas.	2.54±0.91	2.28±1.03	1.817	0.071
6	Skills in non-verbal communication	2.69±1.18	2.59±1.17	0.552	0.581
7	Conduct quality oral presentation.	2.81±0.88	2.43±1.02	2.664*	0.008
8	Ability to listen attentively	2.80±1.06	3.08±0.99	1.792	0.075
9	Acknowledging differences of opinion.	2.53±0.89	2.69±0.94	1.182	0.239
10.	Being open minded.	2.88±1.26	2.97±1.04	0.510	0.611
11	Conveying to others a message without commanding.	2.69±0.90	2.74±1.00	0.339	0.735
12	Ability to accept feedback from others.	2.65±1.20	2.81±1.18	0.948	0.344
13	Communicate with others using electronic means.	2.81±1.16	2.67±1.13	0.832	0.407
14	Ability to interpret electrical wiring diagram	2.76±1.28	2.61±1.29	0.818	0.415
15	Skills in distributing business ideas	2.88±1.19	2.66±1.27	1.208	0.228
16	Skills in concise communication.	2.36±0.86	2.47±1.06	0.759	0.449
17	Ability to listen with empathy.	2.53±1.31	2.51±1.28	0.126	0.900
18	Ability to render supportive services to the employer	2.69±1.01	2.46±0.95	1.584	0.115
19	Being sensitive to the needs of others empathetically.	2.54±1.05	2.31±0.92	1.588	0.114
20	Being honest to the employer and customers	2.68±0.89	2.29±1.01	2.773*	0.006
21	Being trustworthy	2.67±1.22	2.55±1.25	0.677	0.500
22	Ability to control emotions and situations as the need arises	2.69±1.18	2.47±1.24	1.222	0.223
23	Conveying to others a message without commanding.	2.35±0.99	2.55±1.07	1.256	0.211
	Overall	**2.68±0.90**	**2.60±0.86**	**0.600**	**0.549**

* Significant at $p < 0.05$

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Result in Table 4 show that the overall mean response of managers and supervisions were 2.68 and 2.60 respectively, the t-cal is 0.60, while the overall p-value is 0.54. It therefore means that the p-value of 0.54 is greater than the 0.05 level of significance, this implies that, the hypothesis which states that there is no significant difference between the mean response of managers and supervisions on communication skill required by graduating students of electrical/electronics technology education for self-reliance is accepted.

Table 5 t-test Analysis of the Mean Responses of Managers and Supervisors on Technical Skills Required

S/N	Variables	Managers (N = 85) Mean ±SD	Supervisor (N = 97) Mean ±SD	t value	p value
	Skills in assembling of electrical panels.	2.72±1.31	2.84±1.27	0.551	0.583
	Skills in designing electrical/ electronics working diagrams.	2.71±1.24	2.56±1.27	0.797	0.426
	Skills in conducting test on electrical/electronics appliances.	3.01±1.23	2.95±1.05	0.374	0.709
	Skills to identify faults in electrical/electronics equipment.	2.87±1.19	2.64±1.17	1.322	0.188
	Skills to rectify faults in electrical/electronics appliances.	2.59±0.95	2.67±0.97	0.570	0.569
	Skills to draw plans for domestic and industrial electrical installations.	2.48±0.96	2.34±1.02	0.965	0.336
	Skills to interpret electrical/electronics working diagrams	2.48±0.88	2.38±0.89	0.764	0.446
	Skills to interpret electrical/ electronics circuits symbols.	2.95±1.08	2.60±1.30	1.984	0.049
	Skills to test for continuity in electrical/electronics installations.	2.73±0.85	2.55±0.85	1.445	0.150
	Skills to test for earthing connections.	2.85±1.12	2.66±1.21	1.081	0.281
	Skills in repairing of electrical machines.	2.51±0.95	2.59±0.76	0.727	0.468
	Skills installing electrical security gadgets	2.72±1.13	2.89±1.22	0.967	0.335
	Ability to repair and install complex electrical/electronics equipment.	2.73±0.89	2.78±0.87	0.414	0.679
	Skills to measure electrical/electronics equipment.	2.91±1.21	2.72±1.26	1.004	0.317
	Skill to protect electrical/electronic appliances.	2.71±0.95	2.34±1.02	2.493	0.014
	Skills to service electrical /electronics components.	2.92±1.22	2.76±1.25	0.844	0.400
	Skills in using electrical/electronics test equipment effectively	2.56±0.93	2.59±1.03	0.157	0.876
	Skills in operating electrical/electronics safety equipment	2.78±1.19	2.71±1.09	0.384	0.701
	Ability to design electrical/electronics system layout.	2.76±1.25	2.77±1.19	0.047	0.963
	Skills handling electrical/electronics tools	2.68±0.97	2.28±1.03	2.720	0.007
	Overall	**2.73±0.84**	**2.63±0.79**	**0.852**	**0.395**

*** Significant at p < 0.05**

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Result in Table 5 show that three items had their p-value, less than 0.05 level of significance, but the overall mean responses of managers and supervisors were 2.73 and 2. 63 respectively, the t-cal is 0.85, while the overall p-value is 0. 39. Therefore since the overall p-value of 0.39 is greater than the 0.05 level of significance, this implies that, the hypothesis which states that there is no significant difference between the mean response of managers and supervisions on technical skill required by graduating students of electrical /electronics technology education for self-reliance is accepted.

Table 6 t-test Analysis of the Mean Responses of Managers and Supervisors on Creative Skills Required

S/N	Variables	Managers (N = 85) Mean ±SD	Supervisor (N = 97) Mean ±SD	t value	p value
	Skills in idea generation	3.93±0.26	3.71±0.68	2.799*	0.006
	Skills in understanding electrical /electronics problems	3.42±0.56	3.26±0.67	1.798	0.074
	Ability to search for new opportunities.	3.28±0.70	3.26±0.78	0.223	0.824
	Skills in refining electrical/ electronics problems for immediate solution	3.22±0.42	3.07±0.63	1.873	0.063
	Skills in electrical/electronics resource optimal exploitation	3.34±0.47	3.36±0.69	0.219	0.827
	Skills in developing fast solutions to electrical/electronic problems.	3.24±0.57	3.39±0.70	1.638	0.103
	Skills in developing high-IQ Teamwork	3.55±0.63	3.45±0.76	0.951	0.343
	Skills in recognizing new design in electrical/electronics	3.29±0.70	3.24±0.77	0.517	0.606
	Skills in developing new ideas in electrical/electronics systems	3.49±0.50	3.36±0.95	1.160	0.247
	Skills in designing of new electrical/electronics appliances	3.12±0.49	2.92±0.85	1.903	0.059
	Ability to plan new approaches to electrical/electronics problems	3.56±0.49	3.29±0.93	2.435*	0.016
	Ability to research on new electrical/electronics information	3.53±0.63	3.27±0.97	2.118*	0.036
	Ability to put new ideas into practice in electrical/electronics	3.54±0.63	3.49±0.90	0.396	0.692
	Ability to research on new electrical/electronics concepts	3.13±0.51	3.03±0.78	0.991	0.323
	Ability to analyze electrical/electronics information using systems approach.	3.65±0.48	3.63±0.86	0.075	0.940
	Ability to remodel electrical/electronics systems for better business profits	3.34±0.81	3.28±0.87	0.500	0.617

International Journal of Sub-Saharan African Research (IJSSAR)
Vol. 4, Issue 2, pp. 542-556, June 2026, ISSN: 3043-4467 (Online), 3043-4459 (Print)
https://doi:10.5281/zenodo.21065408

Skills in high-intellectual improvisation in electrical business	3.20±0.48	3.19±0.86	0.137	0.891
Innovative skills in electrical/electronics high-tech businesses	3.56±0.50	3.35±0.85	2.028*	0.044
Ability to alter ideas into more profitable electrical/electronics businesses.	3.21±0.56	3.03±0.92	1.578	0.116
Ability to propose new concepts in electrical/electronics	3.35±0.77	3.21±0.95	1.139	0.256
Ability to brainstorm on electrical/electronics problems	3.48±0.68	3.09±1.03	2.959*	0.004
Ability to improve on existing concept in electrical/electronics Field	3.53±0.57	3.24±0.95	2.464*	0.015
Inventive skills in electrical/electronics business competiveness	3.41±0.62	3.27±0.93	1.207	0.229
Overall	**3.41±0.19**	**3.28±0.60**	**1.917**	**0.057**

*** Significant at p < 0.05**

Result in Table 6 show that six items out of 23 items had p-value less than 0.05 level. Significance. The overall means responses of managers and supervisors are 3.41 and 3.28, t-cal is 1.911 and p-value is 0.057. Since the value of p-value of 0.057 is greater than 0.05 level of significance, this implies that, the hypothesis which states that there is no significant difference between the mean response of managers and supervisions on creative skill required by graduating students of electrical /electronics technology education for self-reliance is accepted.

DISCUSSION

Communication skills required

Result in Table 1 revealed that communication skills are required by graduating students of electrical/electronics technology education for self-reliance. The result revealed that managers and supervisors were more satisfied with ability to listen attentively followed by being open minded, ability to convince their client, and skills in distributing business ideas. The study is in line with Ogumbe (2014), who stated that an entrepreneur should be able to communicate effectively, positively persuade and discuss with customers and stakeholders in the business environment to enhance good business delivery. The results of t-test analysis in Table 4 showed that there is no significant difference between the mean response of managers and supervisors on communication skills required.

Technical Skills Required

Result in Table 2 revealed that technical skills are required by graduating students of electrical/electronics technology education for self-reliance. The managers and supervisors were more satisfied with skills in conducting test followed by skills to service components, skills to measure equipment, and skills in installing electrical security gadgets, while they were least

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satisfied with skills to draw plans for domestic and industrial electrical installations. The study is in line with Ogbu (2016) who noted that there is need for every graduating student to develop specific technical entrepreneurship related skills to enable them start up and progress in a particular entrepreneurship ventures. The results of t-test analysis in Table 5 showed that there is no significant difference between the mean response of managers and supervisors on technical skills required.

Creative Skills Required

Result in Table 3 revealed that creative skills are required by graduating students of electrical/electronics technology education for self-reliance. It is the successful application of ideas and processes to solve current problems and create new opportunities. The findings of this study were similar to Ogbu (2016) who found some skills needed by the graduates to become entrepreneur to include creative and innovative skills, development of specific skills and classical administrative skills. The results of t-test analysis in Table 6 showed that there is no significant difference between the mean response of managers and supervisors on creative skills required.

CONCLUSION

The major issue which the findings of this study seems to have treated was identifying the entrepreneurial skills required by graduating students of electrical/electronics technology education who will be practically oriented, possessing employable skills that will enable them get employment or become self-reliance and help in economic development of South-East region of Nigeria. There were needs for the students to acquire communication skills as to express themselves to others. Technical skills will help the graduates to start up and progress in a particular entrepreneurship ventures. Creative skills will play major role in the successful application of ideas and processes in solving current problems and create new opportunities.

RECOMMENDATIONS

Based on the findings of the study, it is recommended that

1. Government should ensure that more experts in entrepreneurship studies are employed to empower students and link them through job centres to ensure that students on graduation match employment demand.
2. Entrepreneurship education should be integrated into the curriculum of electrical/electronics technology education programme by curriculum planners so as to impart to the students these identified entrepreneurial skills.
3. Government and administrators of tertiary institutions where elect/elect technology education are offered should organize seminars and workshops for the teachers on entrepreneurial skills required by the students and also sensitize the students on the need of acquiring these entrepreneurial skills.

Ethical Clearance
Ethical consent was sought and obtained from the participants used in this study. They were made to know that the exercise was for academic purposes and their participation was voluntary.

Acknowledgement
The researcher acknowledges all those who assisted with data collection and Prof. Kenneth Adibe Nwafor for his scholarly advice and direction throughout the study.

Sources of fund
The study was not funded

Conflict of interest
The author declare that the research was conducted in the absence of any commercial or financial relationship that could be construed as potential conflict of interest.

Author's contribution
The researcher conceived and conducted the study including the design, data clloation, analysis and interpretation.

Citation
Okoro, B.O (2026). Entrepreneurial Skills Required by Graduating Students of Electrical/ Electronics Technology Education for Self Reliance in South East Nigeria. *International Journal of Sub-Saharan African Research*, 4(2), 542-556

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