

Entrepreneurial Skills Required By National Diploma Building Technology Graduates in the Construction Industry

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Abstract

The purpose of this study is to determine the entrepreneurial skills required by National Diploma (ND) Building Technology Graduates in the construction industry. Two research questions and hypotheses guided the study. The study used descriptive survey research design. It was carried out in Niger State using registered construction industries situated within the state. Population for the study was 123 respondents made up of 63 Site supervisors and 60 ND Building Technology Graduates. There was no sampling due to relatively small size of the population. The instrument used for data collection was a 33 item structured questionnaire and was validated by 3 experts. Data collected was analyzed using weighted mean and standard deviation while the hypotheses were tested using t-test statistics. It was found out that all the 33 questionnaire items identified as the entrepreneurial skills required by National Diploma Building Technology Graduates to work in the construction industry as well as the factors that impede their success were genuine. It was also found out from the hypotheses tested that there is no significant difference in the mean rating of Site supervisors and ND Building Technology Graduates. The study recommended that polytechnic management should recruit teacher with specialty in the entrepreneurship skills for effective teaching of the course in ND building technology classes and entrepreneurship skills week should be organized for students to have clear understanding on the entrepreneurial skills required of them to function in the construction industry.

Introduction

The importance of entrepreneurial skills for self-reliance in any Vocational and Technical Education Programme cannot be over emphasized. Higher National Diploma in Building Technology Programme is one of the Vocational and Technical Education Programme offering in our nation Polytechnics institutions which is designed to produce competent Technologist capable of running construction firm without any hindrance in the business. Business of any kind can only be succeeded when the initiator or entrepreneur is having the skills required for it. The term entrepreneurship is derived from the term entrepreneur. According to encyclopedia Americana (1989), entrepreneur is a business man who assumes the risk to bringing together the factors of production and receives his reward in form of profit from market value of his products. Nwaokolo (2003) defined entrepreneurship as "making a living by working for yourself". Entrepreneurship, therefore, involves the ability to set up a business as different from being employed. It is clear that while technical education is geared towards the acquisition of technical skills, entrepreneurship education deals with the skills of business ownership and management. Entrepreneurship is the willingness and ability of an individual to seek for investment opportunities, to establish and to run an enterprise successfully (Suleiman 2006). Kotler (1976) defined entrepreneurship as the ownership and management of a private business and the bedrock of small scale business oriented towards the production of goods and services to satisfy the needs and wants of customers. Onuaha (1991) observed that entrepreneurship enhances economic development, creates jobs, transform traditional industries, and stimulates investment and increase per capital income and output. Davis in 1983 as cited in Igbo (2005) sees entrepreneurship as the creation and running of one's own business. Timmos in 1987 also cited in Igbo (2005) sees it as the creation, building and distribution of something of value from practically nothing to individuals, group, organizations and society he summed up by stating that

it involves planning and organizing small business ventures through the mobilization of people and resources to meet people's needs.

No wonder, Olaitan (1996) asserted that technical vocational education have important roles to play in the economic development of Nigerian, since it lays emphasis on the development of skill to prepared one for the world of work. Oyediyi (1976) pointed out that no independent value attached to education is considered valid if, it conflicts with the value of education as an investment to development. Okoh (2002) observed that technical vocational education is that part of the total experience of the individual whereby he learns successfully how to carry on a gainful occupation, technical education is therefore, an organized method of instruction that offers knowledge of the fundamental principle guiding the practice essential for skill development among the learners. The concept of technical education can be said to be a single and inseparable concept used to describe the education for the acquisition of socially acceptable skills, individual can only survive through efficient work, and hence vocational education renders fullest, services through social and useful efficient work. Denga (1990) defined technical vocational education as any form of education, formal or informal which specifically equip an individual with some practical skills to perform in his/her chosen occupation, such as basket weaving, building, metal work, electrical electronic, skills in computer among others. Similarly, Olawepo (1992) defined technical education as a type of education or training designed for preparing the individual learner to earn a living i.e. to be self-reliant. Technical vocational education as an aspect of education which leads to the acquisition of practical skills as well as basic scientific knowledge

Since the beginning of the 1980s, interest in entrepreneurship has been growing around the world (Klofsten 2000). The main factor contributing to this interest was the suffering of industrialized countries from economic recession, high unemployment rates and fluctuation in international trade cycles which most of these countries have not experience before. This situation has tended to increase the attention to the potential role of entrepreneurs (Garavan and O'Conneide 1994) as one of possible solution to the problems face by the most of the countries. Many development agencies, such as educational and training institutions around the world are facing this challenge of how to create an enterprise culture and many of them already provide valuable and much needed assistance such as advice and financial aspects. Today entrepreneurship has become a commonly taught subject in universities. Many recent studies have recognized that entrepreneurial attitudes are not sufficiently addressed by training and educational establishment in Nigeria, (Ijeoma 1995; Ojo and Ohonba 2009). The reason is that the education curricula offered in selected subjects is too theoretical and not adequately in line to labour market requirements (Toby 1995).

Due to massive ND Building Technology Graduates produce year after year, it is essential for graduates to exhibit the culture of entrepreneurial skills that after his or her graduation from polytechnic institution could take a chance to open a building construction firm for self-reliance.

Statement of the Problem

Polytechnics institutions have being producing ND Building Technology Graduates several years ago, the desires and aspirations of the government and general public have remained a mirage. This is with reference to unemployment reduction, job and wealth creation, poverty reduction and self-reliance motive of the government. Furthermore, entrepreneurship education has been included in the national curricular for technical education and yet the situation has not changed. It is an obvious problem and imminent danger to the society. Okeke (2008) observed that even the ones that have received entrepreneurship education in our technical institutions are among the arm of the unemployed technical graduates that does not succeed in their occupation. This condition is made worse by the present global economic crises. The economics of Nigeria is

experiencing untold hardship that has resulted to shrinking industrial output, low level commercial activities, loss of employment opportunities for millions of Nigerians. According to Dawodu (2008), one of the avenues to realizing the noble aspirations is the improvement of Vocational and Technical Education curricula to include entrepreneurship skills.

As for technical discipline students interested in creating and succeeding in their own job, they often seem to be left in dark due to lack of entrepreneurial skills although in many cases they are originators of product ideas. There is a growing concern that technical students lack entrepreneurial skills to work particularly in construction firm business. Then what is the entrepreneurial skills required of them to work in the construction industry?

Methodology

Two research questions were developed to guide the study, while two hypotheses were formulated and tested at $P < 0.05$ level of significance. The study adopted survey research design. Survey research design in the opinion of Olaitan and Nwoke (1997) is that in which the same information is gathered from an unbiased representative group of interest or whole. It is a very valuable tool for assessing opinions and trends from representatives group of population being investigated. The study was carried out in Federal Capital Territory, Abuja and Niger State. The population for the study is 123 made up of 63 Site supervisors and 60 ND Building Technology Graduates. The instrument used for data collection was 33 structured questionnaires. The structured questionnaire has 4 point response scale of highly required, averagely required, not required with a corresponding value of 4, 3, 2, and 1. The instrument was face validated by three experts, one from the Department of Industrial and Technology Education, and two from Building Technology Department all in Federal University of Technology. Their suggestions were used to improve the final copies of the questionnaire. One hundred and twenty-three copies of the instrument were administered on the respondents. The entire 123 copies administered were retrieved and analyzed. Mean and standard deviation were used to answer the research questions while t-test statistics was used to test the hypotheses at $P < 0.05$ level of significance and at 65 degree of freedom. The values attached to the response option of the questionnaire were; Highly Required (HR)=4, Averagely Required (AR)=3, Slightly Required (SR)=2, Not Required (NR)=1 for research question one and Strongly Agreed (SA)=4, Agreed (A)=3, Strongly Disagreed (SD)=2, Disagreed (D)=1 for research question two respectively.

The arithmetic mean for the values was computed as $4 + 3 + 2 + 1 = 10/4 = 2.50$. Therefore, any item with weighted mean of 2.50 was regarded as required and any item with weighted mean less than 2.50 was regarded as not required. For testing the hypotheses, 2.00 was critical value of 65 degree of freedom; any item that has its t-cal equal to or less than t-critical was considered accepted and any item that its t-cal value is above the t-critical was considered rejected.

Result

The results from the study were obtained from the research questions answered and hypotheses tested through data collection and analyzed.

Research Question I

1. What are the entrepreneurial skills required by ND Building Technology Graduate to work in the construction industry?

Hypothesis 1

1. There is no significant difference in the mean ratings of the responses of the clients and contractors on the entrepreneurial skills required by ND Building Technology Graduate to work in the construction industry

The data for answering research question 1 and for testing hypothesis 1 are presented in table

Table 1
Mean responses of Site supervisors and ND-Graduates on entrepreneurial skills required by ND-Graduates to work in the construction industry

S/N	ITEMS	X	SD	t-cal	t-tab	REMARK	
						RQI	H ₀
1	Active and close relations with the customer.	3.75	0.54	0.61	2	Rqrd	NS
2	Maintain high quality of the service.	3.83	0.07	0.57	2	Rqrd	NS
3	Possess a high level and a complete range of technical knowledge and skills.	3.62	0.99	1.89	2	Rqrd	NS
4	Posses the ability to win the confidence of customer, and make them feel happy about the services offers.	3.23	0.34	0.34	2	Rqrd	NS
5	Always be alert, and enthusiastic in the interaction with customers.	3.00	0.49	0.44	2	Rqrd	NS
6	Business mathematics skills.	3.38	0.32	0.5	2	Rqrd	NS
7	Reading skills.	2.43	0.29	0.29	2	Rqrd	NS
8	Ability to develop good rapport with customer and giving them discount.	3.31	0.37	0.23	2	Rqrd	NS
9	Business opportunities.	3.15	0.87	0.1	2	Rqrd	NS
10	Details budget for projecting and controlling expenditure.	3.00	0.23	0.56	2	Rqrd	NS
11	Marketing to the right target market.	3.32	0.65	0.22	2	Rqrd	NS
12	Technical leadership skills.	3.08	0.54	0.29	2	Rqrd	NS
13	Ability to listen to customers	3.69	0.88	0.97	2	Rqrd	NS
14	Appreciate customers.	3.31	0.1	0.38	2	Rqrd	NS
15	Avoid exorbitant prices to motivate customers.	3.31	0.53	0.69	2	Rqrd	NS
16	Customer services skills.	3.00	0.37	0.32	2	Rqrd	NS
17	Ability to carefully control expenditures to minimize costs.	3.31	0.65	0.67	2	Rqrd	NS
18	Possess maintenance skills.	3.54	0.71	0.45	2	Rqrd	NS
19	Financial management skills.	3.77	0.78	0.59	2	Rqrd	NS
20	Writing skills	2.34	0.54	0.19	2	Rqrd	NS

Note: X = Mean H₀ = Null Hypothesis SD = Standard Deviation Rqrd = Required RQI
 = Research Question Item NS = Not Significance
 Data in table 1 above revealed that the 20 entrepreneurial skills required items had their means ranged from 3.00 to 3.83. This indicated that their mean were all above the cut – off point of 2.50.

These mean values indicated that all the 20 items were required by ND Building Technology Graduate to work in the construction industry. The hypothesis tested in table 1 revealed further that the 20 entrepreneurial skills required items had their calculated t – values ranged from 0.10 to 0.97 which were less than t – table value of 2.00 at 0.05 level of significance and 121 degree of freedom. This indicated that there is no significant difference in the mean ratings of the responses of the two groups of respondents on the 20 entrepreneurial skills required by ND Building Technology Graduates to work in the construction industry. With this result, the null hypothesis of significant different was upheld for the 20 entrepreneurial skills required items.

Research question 2

1. What are the factors that are likely to impede entrepreneurial opportunities for ND Building Technology Graduates to work in the construction industry?

Hypothesis 2

- 2 There is no significant difference in the mean ratings of the responses of the clients and contractors on the factors that are likely to impede entrepreneurial opportunities for ND Building Technology Graduates to work in the construction industry

The data for answering research question 1 and for testing hypothesis 1 are presented in table 2

Table 2
Mean Responses of Site Supervisors and ND-Graduates on Factors that are likely to Impede Entrepreneurial Opportunities for ND-Graduates to work in the construction industry

S/N	ITEMS	X	SD	t-cal	t-tab	REMARK	RQI	H ₀
1	Lack of managerial skills for the industrial resources	3.85	0.61	0.29	2	Agreed		NS
2	lack of general knowledge on the benefit drive from being an entrepreneur	3.23	1.08	0.58	2	Agreed		NS
3	lack of acquisition of practical skills	3.46	0.19	-0.4	2	Agreed		NS
4	Under budgeting of the tools and materials needed for the industrial activities	3.23	0.41	0.54	2	Agreed		NS
5	Lack of training and retraining of teaching staff for proper transfer of entrepreneurship skills in the polytechnic they graduated	2.89	0.67	0.27	2	Agreed		NS
6	Lack of proper planning needed for entrepreneurship	3.31	0.49	0.94	2	Agreed		NS
7	Misplacement of priorities in relation to Entrepreneurship	3.12	0.09	0.79	2	Agreed		NS
8	Lack of experience necessary for entrepreneurship	3.15	0.16	0.66	2	Agreed		NS
9	Lack of novelty and creativity	3.31	0.23	0.45	2	Agreed		NS
10	Entrepreneurship teachers are not fully competent	3.45	0.44	0.9	2	Agreed		NS
11	Lack of understanding of the clients need	3.65	0.2	0.58	2	Agreed		NS
12	Lack of students interest in studying the course	3.21	0.43	0.78	2	Agreed		NS
13	Entrepreneurship is not linked to specific training subject or profession	3.09	0.45	0.89	2	Agreed		NS

Note: \bar{X} = Mean H_0 = Null Hypothesis SD = Standard Deviation RQI = Research Question Item NS = Not Significance

Data in table 2 above revealed that the 13 factors that are likely to impede entrepreneurial opportunities items had their means ranged from 2.89 to 3.85. This indicated that their mean were all above the cut-off point of 2.50. These mean values indicated that all the 13 items were factors that are likely to impede entrepreneurial opportunities for ND Building Technology Graduates to work in the construction industry. The hypothesis tested in table 2 revealed further that the 13 entrepreneurial skills required items had their calculated t-values ranged from 0.27 to 0.94 which were less than t-table value of 2.00 at 0.05 level of significance and 121 degree of freedom. This indicated that there is no significant difference in the mean ratings of the responses of the two groups of respondents on the 13 factors that are likely to impede entrepreneurial opportunities by ND Building Technology Graduates. With this result, the null hypothesis of significant different was upheld for the 13 factors that are likely to impede entrepreneurial opportunities to work in the construction industry by ND Building Technology Graduates.

Discussion of Findings

The result of study reveals that the clients and contractors agreed that all the twenty (20) items on the entrepreneurial skills required by ND Building Technology Graduate to work in the construction industry. The result is in conformity with Kiggundy (2002), once affirmed that entrepreneurial competency refers to the sum of the entrepreneurs requisite attributes for successful and sustainable entrepreneurship these attributes includes values, beliefs, skills, knowledge, ability, personality, wisdom, expertise (social, technical and managerial) mindset and behavioral tendencies. This result is in agreement with Kotler (1976) that entrepreneur is a owner and manager of a private business and a bedrock of small scale business oriented towards the production of goods and services to satisfy the needs and wants of customers. Also supporting is Igbo (2005) said that sustainable entrepreneurship is the creation, building and distribution of something of value from practically nothing to individuals, group, organizations and society he summed up by stating that it involves careful planning and organizing small business ventures through the mobilization of people and resources to meet people's needs. National Policy on Education (2004) stated that one of the aims of technical education is to give training and impart the necessary skills to individuals, who shall be self-reliant economically; Technical colleges should be able to provide the students with adequate skills required for self-reliance.

The result of study reveals that the clients and contractors agreed that all the thirteen (13) items on the factors that are likely to impede entrepreneurial opportunities for ND Building Technology Graduates to work in the construction industry revealed that all items were are required. The result agreed with Karen (2008) that entrepreneurship can only be achieved when the owner is having skills and available resources to join a business. He further affirmed that business owner that lack novelty, creativity and experience necessary for entrepreneurship is likely to fail in the business. Dennis (2006) poised that budget and effective financial planning in entrepreneurship is of paramount importance. He further said that knowledge in business mathematics and management must be adequately organized to ensure maximum achievement of the person or persons own the venture.

Conclusion

ND Building Technology Graduates can only succeed in the construction industry if they possess the desirable entrepreneurial skills and abilities required. Though this factor is not an end in itself but a means to an end as other variables like government policies, lack of managerial skills, experience teacher and others are factors impede against entrepreneurship of ND Building Technology Graduates to work in the construction industry.

Recommendation

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

- i.) Polytechnic management should recruit teacher with specialty in the entrepreneurship skills for effective teaching of the course in ND building technology students classes
- ii.) Entrepreneurship skills week should be organized for students by polytechnic management in other to have clear understanding on the entrepreneurial skills required by the students to function in the construction industry
- iii.) The polytechnic institutions should collaborate with foreign renowned entrepreneurial education research institutions.
- iv.) Government should adequate fund polytechnic institutions to effectively teach the entrepreneurship skills.
- v.) Business industries, financial institution should collaborate with polytechnic institution in organizing entrepreneurial seminar/workshop for both staff and students.

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