

DETERMINANT OF ENTREPRENEURIAL POTENTIALS AMONG VOCATIONAL TECHNICAL TEACHER EDUCATION STUDENTS IN NORTH EASTERN STATES, NIGERIA

P. S. Yaduma¹, Dabo B. Hammad²

¹Department of Technology Education, Abubakar Tafawa Balewa University Bauchi,

²Building Technology Programme, College of Education Azare, Bauchi State, NIGERIA.

¹pyaduma@yahoo.com, ²dbhammad@gmail.com

ABSTRACT

The purpose of the study was to find out the determinants of entrepreneurial potentials among vocational technical teacher education students in North eastern states of Nigeria. The population of the study was 766 while the sample was 497. A non dichotomous structured questionnaire was subjected to validation. The internal consistency reliability yielded 0.89 using the alpha method. The methods of analysis used include mean, standard deviation and analysis of variance. The respondents differ significantly on the characteristics that determine entrepreneurial potentials. Thus a post-hoc test was conducted using Turkey Honestly Significant Difference which revealed that the difference was from students' weaknesses in identifying the personality potentials that induce entrepreneurial traits. One of the major findings was that ability to work extra hours was considered as an undesirable trait for potential entrepreneur.

Keywords: Determinant, Entrepreneurial, Vocational, Technical Teachers.

INTRODUCTION

Entrepreneurship education has started developing steadily but unevenly in most countries around the world and this has impact on economic and human behaviour. According to Fayolle and Lyon (2004) entrepreneurship combined with training influence both current behaviour and future intentions of vocational technical teacher education (VTTE) students. In other words, there are great differences between students who have taken entrepreneurship courses and those who have not. Carolyn (2000) viewed entrepreneurship education in terms of the skills that can be taught and characteristics that can be engendered in students which can help them to develop new and innovative plans. Individuals are widely recognized as the primary agents of entrepreneurial activity. Since the origin of any innovation, start-up or entrepreneurial decision is traceable to a single person; one approach to fostering entrepreneurship in higher vocational technical education programme is to strengthen the entrepreneurial traits in the individuals (McClelland 1961 & Casson, 2003). McClelland further emphasized the importance of the motivational aspect of the entrepreneur and showed that entrepreneurial behaviour is driven by the need for personal achievement leading to a clear productivity for becoming an entrepreneur. A potential entrepreneur is one who, taking into account his judgment, would accept to bear the uncertainty of production and trade whose expected profit would be payment for this specific activity. Individuals are not different in their attitude towards risk, but in their competence, intelligence, creative capacities and valuable traits that are corresponding to a wide range of skills such as talents in an entrepreneurial project (Jovanovic, 1994).

Conversely, Dejardin (2000) asserted that what characterizes an entrepreneur is not a particular ability to bear the consequences of unforeseeable events but undertaking economic

activities and innovating required skills that make the entrepreneur a person of exception and one whose one of his motives continues to be profit seeking. Nel and Badenhorst (2003) observed that personality traits such as initiative and independent spirit make individuals to find alternative ways of earning a living for themselves. These qualities are appropriate for vocational technical education students who are expected to be self employed after graduation.

When people acquire skills especially in the ability to take decision, make commitment, take risk, motivate, solve financial problems, understand family situations, be self confident, radiate energy and drive, generate task orientation, leadership and personal responsibilities that are very important in the life of a potential entrepreneur they would be able to establish enterprises and manage them well (Lynch, 2000 & Johnson, 2003). Individuals who manifest these qualities can assess whether a person can be a successful entrepreneur. It can be inferred that when vocational technical teacher education students are fully equipped to exploit their personality traits then there will be assurance that they will be self employed after graduation.

This is because they would have become competent enough to visualize and recognize employment opportunity. These traits are the qualities a teacher should encourage in higher vocational technical education students for them to be able to start up an enterprise after graduation. In this study, vocational technical teacher education students are students who offer VTTE programme in tertiary institution in Nigeria. Such students are expected to either take teaching as a profession or work in the industry. Therefore an attempt was made to determine what constitute entrepreneurial potentials among VTTE students. The question the study sought to answer is: what are the characteristics of potential entrepreneur that could stimulate VTTE students into job creation?

HYPOTHESIS OF THE STUDY

The following null hypothesis was tested at 0.05 level of statistical significance:

H₀1: There is no significant difference in the mean responses of entrepreneurs, vocational technical teachers and students on the characteristics that determine entrepreneurial potential.

METHODOLOGY

The research design for this study was a survey and the geographical area in which this study was carried out is the North Eastern states of Nigeria comprising of Borno, Gombe, Taraba and Yobe. The population for the study was 766 which consisted of 156 vocational technical teachers, 68 industrial entrepreneurs and 542 final year students in federal and state owned colleges of education in North Eastern states, Nigeria where vocational technical education programme is offered. The sample for the study was 497. Five colleges of education were used for the study. One institution from each state was used. However, two institutions were selected from Borno state which has two colleges of education offering VTTE programme.

The proportionate sampling technique was used to select 50% from the number of final year vocational technical teacher education students in each of the colleges identified to make up 273 students. All of the 156 vocational technical teachers and all the 68 industrial entrepreneurs were used for the study. A 31 item structured questionnaire with a five point rating scale was constructed for the study which requested the respondents to indicate what constitute entrepreneurial potentials. The instrument was subjected to face and content validity by eight experts. Two entrepreneurs from Bauchi state with national and international outlook also carried out the validation of the instrument. The Cronbach alpha was used to estimate the reliability coefficient because the responses in the instrument were not

dichotomous but have multiple response modes. The data for the computation of the reliability coefficient was obtained after a pilot test that was conducted on the questionnaire. The coefficient alpha analysis yielded reliability of internal consistency of 0.89. The questionnaire was used to collect data which was administered to the respondents by the researcher with the help of hired research assistants. To ensure a high rate of return of the questionnaire by the respondents, the assistants were used for call back. However, out of 156 questionnaire that were administered to teachers, 151 (97%) were retrieved as properly completed while a 100% rate was returned for entrepreneurs and students.

The method of data analysis includes the computation of means and standard deviation which was used to answer research question and analysis of variance (ANOVA) was used to test the hypothesis. The analysis was carried out on the statistical package for social science (SPSS) version 15. For this study, any item with a mean response of 2.5 and above was accepted as desirable trait while responses below 2.5 were considered as undesirable.

RESULTS AND DISCUSSION

The presentation of the results of the analysis of the data collected follows the order of the research question and hypothesis.

Research Question 1: What are the characteristics that determine potential entrepreneur?

Table 1. Mean Responses of Entrepreneurs, Vocational Technical Teachers and VTTE students on the Characteristics that Determine Potential Entrepreneur (Part-I)

S/No.	Characteristics that indicate Entrepreneurial Potentials: Ability to,	\bar{X}_E	\bar{X}_T	\bar{X}_S	\bar{X}_{Grand}	S	Remark
1.	Recognize business opportunities	4.38	4.44	4.53	4.45	0.65	Desirable
2.	Be able to initiate ideas	4.34	4.38	4.39	4.37	0.74	Desirable
3.	Demand for efficiency and quality	4.38	4.32	4.16	4.29	0.76	Desirable
4.	Set appropriate goals for enterprise	4.38	4.35	4.31	4.35	0.77	Desirable
5.	Be persistent in pursuing set objectives	4.18	4.29	4.04	4.17	0.86	Desirable
6.	Be persuasive and networking	4.04	4.16	4.05	4.08	0.84	Desirable
7.	Take reasonable risks	3.84	3.95	3.62	3.80	1.03	Desirable
8.	Take charge in any business venture	3.94	3.92	3.97	3.94	0.98	Desirable
9.	Get along well with others	4.31	4.19	4.11	4.20	0.82	Desirable
10.	Take decisions promptly	4.12	4.11	4.14	4.12	0.92	Desirable
11.	Accept responsibility for one's actions	3.94	4.17	3.84	3.98	0.97	Desirable
12.	Cultivate competitive spirit	4.12	4.25	3.88	4.08	0.96	Desirable
13.	Accept full responsibility for success or failure	4.26	4.23	4.04	4.18	0.87	Desirable
14.	Demonstrate self confidence	4.22	4.42	4.29	4.31	0.75	Desirable
15.	Be able to deal with negative trends or loses	4.22	4.19	3.96	4.12	0.82	Desirable
16.	Adapt to changing situations	4.32	4.26	4.06	4.21	0.84	Desirable

Table 1. Mean Responses of Entrepreneurs, Vocational Technical Teachers and VTTE students on the Characteristics that Determine Potential Entrepreneur (Part-II)

S/No.	Characteristics that indicate Entrepreneurial Potentials: Ability to,	\bar{X}_E	\bar{X}_T	\bar{X}_S	\bar{X}_{Grand}	S	Remark
17.	Be innovative (do things in new ways)	4.46	4.36	4.23	4.35	0.76	Desirable
18.	Judge the abilities and skills of others	4.18	4.19	3.95	4.11	0.90	Desirable
19.	Save profit for expansion	4.31	4.26	4.45	4.34	0.82	Desirable
20.	Take independent actions	3.91	3.91	4.03	3.95	0.98	Desirable
21.	Demonstrate the drive to achieve	3.99	4.21	4.17	4.12	0.87	Desirable
22.	Motivate others to achieve	4.25	4.28	4.27	4.27	0.87	Desirable
23.	Demonstrate will power and self discipline	4.29	4.19	4.13	4.20	0.84	Desirable
24.	Demonstrate resourcefulness in business	4.22	4.32	4.07	4.20	0.81	Desirable
25.	Maintain high level of integrity	4.41	4.43	4.25	4.36	0.81	Desirable
26.	Be able to work under pressure	4.21	4.21	3.90	4.11	0.97	Desirable
27.	Become future oriented	4.24	4.31	4.20	4.25	0.81	Desirable
28.	Be hard working	4.50	4.46	4.31	4.42	0.76	Desirable
29.	Accept and face challenges	4.40	4.42	4.18	4.33	0.80	Desirable
30.	Work extra hours always	2.01	2.22	2.36	2.20	0.88	Undesirable
31.	Demonstrate imaginative and creative ideas	4.37	4.19	4.19	4.25	0.86	Desirable

Table 1 shows that item 30 with the lowest grand mean of 2.20 was below the decision point of 2.50. Thus, the ability to work extra hours always was considered by the respondents as an undesirable character which is not a determinant of entrepreneurial potentials. However, the remaining 30 items were rated as desirable.

Hypothesis 1: There is no significant difference in the mean responses of entrepreneurs, vocational teachers and students on the characteristics that determine potential entrepreneur (p<0.05 level).

Table 2. Analysis of Variance Result comparing Responses of Entrepreneurs, Vocational Technical Teachers and Students on the Characteristics that Determine Potential Entrepreneur

Source of Variance	Sum of Squares	Degree of Freedom	Mean Square	F	Remark
PPAT Between groups	1.83	2	0.92		
Within groups	93.01	489	0.19	4.82	S
Total	94.84	491			

PPAT = Personality Potential Ability Traits

Level of significance = 0.05

S = Significant

df₁ = 2

df₂ = 489

F critical = 2.99

The calculated F ratio in table 2 shows a value of 4.82 while the critical value of F is 2.99. Thus the calculated F is greater than the F critical. The null hypothesis is hereby rejected. This further indicates the differences in the mean responses of the respondents are significant and not as a result of chance. Although the mean responses of the three groups differ significantly, ANOVA does not indicate where these differences occur. Therefore a post hoc test was conducted using the Turkey Honestly Significant Difference (THSD) test. The Turkey test is appropriate where comparisons among means are to be made. SPSS Version 15 provides Post Hoc Test as part of the ANOVA. See appendix F and H for ANOVA and Post Hoc Test.

The data used for the Turkey Honestly significant difference was obtained from the print out of the computer results of the ANOVA test. The following are the group identities:

Group 1 – Teachers, Group 2 – Entrepreneurs, Group 3 – Students

Multiple Comparisons

	<i>Paring Groups</i>	<i>Mean Diff</i>	<i>Std Error</i>	<i>Sig</i>
Group 1 & 2	Teachers and Entrepreneurs	0.02	0.06	0.94
Group 1 & 3	Teachers and Students	0.13	0.44	0.01*
Group 2 & 1	Entrepreneurs and Teachers	-0.02	0.06	0.94
Group 2 & 3	Entrepreneurs and Students	0.11	0.05	0.16
Group 3 & 1	Students and Teachers	-0.13	0.04	0.11
Group 3 & 2	Students and Entrepreneurs	-0.11	0.05	0.16

*The mean difference is significant at 0.05 levels.

The result above indicates that pair group (1 & 3, Teachers and students) recorded significant difference. The remaining pair groups did not record any significant difference. However, the group means responsible for the difference in pair group 1 & 3 is group 3, which are students. When Teachers & Entrepreneurs and students & Entrepreneurs were paired, there was no significant difference in mean but when Teachers and Students were paired, there was a great significant difference. Perhaps the difference might have occurred due to the inability of the students to identify properly the psychological traits that could manifest in entrepreneurial potential. Teachers and Entrepreneurs are already conversant with most of the personality potentials identified as a result of their experiences.

Findings of the Study

The following are the major findings of the study:

1. Thirty characteristics that determine entrepreneurial potentials were considered as desirable which are:
 - a. Be able to initiate ideas
 - b. Demand for efficiency and quality
 - c. Set appropriate goals for enterprise
 - d. Be persistent in pursuing set objectives
 - e. Be persuasive and networking

- f. Take charge in any business venture
 - g. Accept responsibility for one's actions
 - h. Accept full responsibility for success or failure
 - i. Be able to deal with negative trends or loss
 - j. Be innovative (do things in new ways)
 - k. Judge the abilities and skills of others
 - l. Demonstrate will power and self discipline
 - m. Demonstrate resourcefulness in business
 - n. Maintain high level of integrity
 - o. Demonstrate imaginative and creative ideas
 - p. Take reasonable risk
 - q. Get along well with others
 - r. Take decisions promptly
 - s. Cultivate competitive spirit
 - t. Demonstrate self confidence
 - u. Adapt the changing situations
 - v. Save profit for expansion
 - w. Accept and face challenges
 - x. Be hard working
 - y. Become future oriented
 - z. Be able to work under pressure
 - aa. Motivate others to achieve
 - bb. Demonstrate the drive to achieve
 - cc. Take independent actions
 - dd. Recognize business opportunity
2. Ability to work extra hours was considered as an undesirable trait.
 3. Entrepreneurs, Vocational Technical Teachers and Students differ significantly on the characteristics that determine entrepreneurial potentials.

DISCUSSION OF FINDINGS

The findings of this study with regards to the characteristics that determine potential entrepreneur indicate that 30 personality potentials that VTTE students are expected to manifest were rated as very desirable. This finding conforms to the assertion of Carre and Thurik (2002) who confirmed that entrepreneurship is essentially a behavioural characteristic of a person. Entrepreneurs and potential entrepreneurs like VTTE students may exhibit it only during a certain phase of their career or with reference to certain activities. However, entrepreneurs, vocational technical teachers and students themselves scored work extra hours as an undesirable trait. Perhaps this is to be expected since some practicing entrepreneurs who worked extra hours developed early symptoms of stressors due to hassle (Obi & Obi, 2007). The Obi's were merely reechoing the experience of techno entrepreneurs by lending credence to this result.

The significant difference in the mean responses of the respondents on the characteristics that determine potential entrepreneur as shown in the findings of hypothesis number 1 is

consistent with Kolo (2004) who said that individual differences accounts for personality traits such as confidence, intelligence and loyalty. These traits are the qualities a teacher should stimulate in individual students for each to be able to start up an enterprise after graduation. The statistical difference might have been due to students' inexperience as reflected in THDS test.

CONCLUSION

VTTE students have a wide range of potentials to be explored. It will require a careful and diligent teacher to stimulate students to bring out these potentials. The 30 determinants of entrepreneurial potentials identified in this study are by no means exhaustive. In order to generate additional determinants, this study should be replicated.

The ability to work extra hours was considered unacceptable in this study. However, this finding does not portray the inability to work hard by entrepreneurs and potential entrepreneurs. Based on the findings in this paper it is recommended that, Vocational Technical Teachers should encourage and stimulate students to exude the characteristic that makes a person potential entrepreneur. Potential entrepreneur should be discouraged to work extra hours which may lead to unwanted stressors.

REFERENCES

- Carree, M. & Thurik, A. R. (2002) - The Impact of Entrepreneurship on Economic growth. In A. Zoltan & D. B. Audretsch (2003). *International Handbook of Entrepreneurship Research*. (pp. 33). Boston & Dordrecht: Kluwer academic publishers.
- Casson, M. (2003) - *The Entrepreneur: An Economic Theory* (2nd Ed.), (pp. 59). Cheltenham: Edward Elgar Publishing.
- Dejadin, M. (2000) - *Entrepreneurship and Economic Growth: An Obvious Conjunction? An Introductory Survey to Specific Topics*. Belgium, Crew, Faculty of Economic and Social Sciences, University of Namur. 103pp.
- Johnson, R. (2003) – *Technical Education and Vocational Training Strategies in Asia*. India, Software Industry. 46pp.
- Kolo, M. (2004) - *Programme Delivery in Brief*. Kaduna, National Directorate for Employment. 14pp.
- McClelland, D. (1961) - *The Achieving Society*. Princeton, N. J. Van Nostrand. 91pp.
- Obi, I. & Obi, E. (2007) - *Stress Management*. Awka: Sunrise Publications. 36PP.
- Jovanovic, B. (1994) - Firm Formation with Heterogeneous Management and Labour Skills. *Small Business Economics*, 6(3), 185 – 193.
- Lynch, R. L. (2000) - High School Career and Technical Education for the First Decade of the 21st Century University Georgia. *Journal of Vocational Education Research*. 25(2), 98-105.
- Carolyn, B. (2000) - Entrepreneurial Education Teaching Guide. *Kaufman Center for Entrepreneurial Clearing House on Entrepreneurship Education [CELCEE] Kansas City Digest*. Retrieved on December, 2002, No. 00 – 7, from <http://www.celcee.edu>.
- Fayolle, A. & Lyon, M. E. (2004) - Value Creation in Changing Student State of Mind Behaviour: New Research Approaches to Measure the Effect of Entrepreneurship Education. Retrieved on May 03, 2005, from www.epi-entrepreneurship.com
- Nel, J. D. & Badenhorst, W. J. A. (2003) - Small Business Book and Entrepreneurship. Retrieved on December 03, 2004, from <http://www.thinkinglike.com>