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ENTERPRENEURIALSHIP SKILLS NEEDED BY MATHEMATICS EDUCATION GRADUATES FOR SELF RELIANCE AND CURBING UNEMPLOYMENT IN ENUGU STATE.

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Abstract
This study set out to identify Enterpreneurialship Skills Needed by Agricultural Science Education Graduates for Grasscutter Farming and Job Creation in Enugu State. The design adopted in this study was descriptive survey design. Three research questions and three hypotheses guided the study. Area of the study was Enugu State, made up of 17 Local Government Areas. Population for the study consisted all the (3160) registered members of association of agricultural science education graduates Enugu State branch as at the time of the study. Simple random sampling technique was used to draw 158 agricultural science education graduates from the population. This sample was exactly 20% of the population. A 34 item structured questionnaire titled "Questionnaire on Enterpreneurialship Skills Needed by Agricultural Science Education Graduates for Grasscutter farming and job creation in Enugu State (QESAGJE) was used for data collection. The instrument was validated by three research experts. Using the Cronbach's Alpha method, the instrument yielded a reliability coefficient of .81. The researchers administered the instrument directly, hand to hand to all the respondents and collected back, the completed instrument same way. Mean statistics was used to answer the research question while z-test statistics was used to test the hypotheses. Major findings of the study revealed that agricultural science education graduate needed capital/fund sourcing skills and business management skills to a great extent. It was therefore recommended among other things that agricultural science education curriculum be restructured to include impartation of innovative Enterpreneurialship skills in the learners.

Keywords: Entrepreneurship, Mathematics Education, Self-reliance, Graduates, Enugu State.

Introduction

Evidently, education fosters the worth and development of the individual, for each individual's sake and for the general development of the society. However, it is only functional education that can avail her recipients such valuable and veritable life-long asset. Education does this through the values, knowledge, attitudes, competences and skills imparted in the recipients. Mathematics can avail her learners

such competences and skills through critical and logical reasoning involve in mathematical operations. Mathematics does not only work with numbers, it uses the properties and attributes of numbers to describe relations and other physical phenomena that give the learner a fuller understanding of his environment. Mathematics can provide solutions to many life problems including unemployment. It is therefore worrisome that for several decades many Nigerian youths, including mathematics education graduates increased the unemployment market for absence of relevant Entrepreneurships competences and skills that will make them self reliant.

According to Davidson (2014) Entrepreneurship can be defined as the process of designing, launching and running a new business, which typically begins as a small business, such as a startup company, offering a product, process or service for sale or hire. Davidson called the people who do so 'entrepreneurs'. Agboti (2014) also defined Enterpreneurialship as the capacity and willingness to develop, organize, and manage a business venture along with any of its risks in order to make a profit. Traditionally, an **entrepreneur** has been defined as a person who starts, organizes and manages any enterprise, especially a business, usually with considerable initiative and risk, (Brent, 2015). Rather than working as an employee, an entrepreneur runs a small business and assumes all the risks and rewards of a given business venture, idea, or service offered for sale. The entrepreneur is commonly seen as a business leader, initiator and innovator of new ideas and business processes. Entrepreneurs tend to be good at perceiving new business opportunities and they often exhibit positive biases in their perceptions (i.e., a bias towards finding new possibilities and seeing unmet market needs). To be successful, the entrepreneur needs setting skills.

Agboti (2014) listed basic entrepreneurial skills to include, fund or capital sourcing, marketing and business management skills. Stone (2014) posited that many young graduates lack necessary skills for rising capitals for their enterprise. Thus, they end up frustrated as no business venture can survive without proper funding. Cress (2015) also added that an entrepreneur must have basic competences to manage a business efficiently. These competences or skills include effective human and material resources management. Also very vital is ability to develop good business plan and goals. Morgan (2016) averred that an entrepreneur must have fundamental marketing skills. These skills will help him sell his products and make gains.

Dunga (2015) asserted that many young entrepreneurs fail as a result of wrong decision making. Dunga opined that choice of the right business goes a very long way in determining the success of the enterprise. Dunga further advised young graduates to venture into businesses that are profitable even when such businesses are neglected by people. By so doing, they will contribute to curbing unemployment. Unemployment is one of the most fundamental problems bedeviling the youths in our society today. Stone (2014) described unemployment as a wild fire that knows no bound in its destructive inferno. The measure of harm unemployment has unleashed in this part of the world is so alarming.

Wallick (2016) perceived the idea of unemployed people as those who do not have job, but have actively looked for work in the past four weeks, and are currently available for work. According to Wallick those who have not looked or searched for work within the past four weeks are no longer counted among the unemployed. Brent (2015) considered unemployment as a situation of actively looking for employment but not currently employed. Unemployment therefore occurs when a person who is actively searching for employment is unable to find work. It is a situation where some people who falls within the ages of the working population and is capable and willing to work, is unable or deprived of obtaining a work to do. An unemployed individual may be faced with emotional, cognitive, and other psychological disruptions or malfunctioning. These anomalies may disorganize and adversely affects his psyche. It therefore follows that unemployment is not good for any society, especially as it threatens the future generations of mankind. Youths, including mathematics education graduates should, consequently, be encouraged to attain self reliance. Self reliance, however, can be only attained by youths who have necessary entrepreneurial skills and competences. This study is therefore very timely as it addressed the entrepreneurship skills needed by mathematics education graduates for self reliance and curbing unemployment in Enugu state.

Purpose of the Study

The purpose of this study was to identify Enterpreneurialship Skills Needed by mathematics Education Graduates for self reliance and curbing unemployment in Enugu State. In specific terms the study sought to determine the extent to which mathematics education graduates need;

I. Fund Sourcing Skills
II. Business Management Skills and
III. Marketing Skills

For self reliance and curbing unemployment in Enugu State.

Research Questions

The following research questions guided the study;

1. To what extent does mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State?
2. To what extent does mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State?
3. To what extent does mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State?

Hypotheses

The following hypotheses were tested at .05 level of significance;

1. The extent to which male and female mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.
2. The extent to which male and female mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.
3. The extent to which male and female mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.

Methodology

The design adopted in this study was descriptive survey design. This design was preferred because it enabled the researchers to collect original data from the population or a representative of the population and use the result of data analyses to describe the situation as it was found. Area of the study was Enugu State, made up of 17 local government areas namely Awgu, Aninri, Oji River, Udi, Ezeagu, Nsukka, Uzouwani, Igbo Eze North, Igbo Eze south, Igbo Etiti, Udenu, Isi Uzo, Enugu East, Enugu South, Enugu North, Nkanu West, and Nkanu East.

Population for the study consisted of all the registered members of Mathematical Association of Nigeria, Enugu State Chapter. Purposive, stratified and simple random sampling techniques were used to draw 158 mathematics education graduates from the population. This sample was made up of 67 male and 91 female mathematics education graduates. A structured questionnaire titled "Questionnaire on Entrepreneurial Skills Needed by mathematics Education Graduates for self reliance and curbing unemployment in Enugu State (QESMEGSU) was used for data collection. The questionnaire was made up of 34 items scored on a four-point scale. The instrument had two sections, A and B. Section A addressed the Bio data of the respondents, that is, gender of respondents while section B focused on the three research questions that guided the study.

Section B was divided into three parts. Part I had 9 items which addressed research question one. Part II had 15 items which focused on research question two. Part III addressed research question three with 10 items. The instrument was validated by three research experts, two experts in mathematics education

and one in measurement and evaluation education. These experts made useful corrections and inputs and consequently certified it to have both face and content validity. Validated copies of the instrument were administered to 30 mathematics education graduates in Ebonyi State, in a trial test. Their Responses were used to establish the internal consistency of the instrument. Hence, using the Cronbach's Alpha method, the instrument yielded a reliability coefficient of .73. This value shows that the instrument was reliable.

The researchers administered the instrument directly, hand to hand to all the respondents and collected back, the completed instrument same way. Mean statistic was used to answer the research questions while z-test statistic was used to test the hypotheses.

Results

Research Question 1

1. To what extent does mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State?

Table 1: Mean rating and grand mean of respondents on Research Question One

S/N	To what extent do mathematics education graduates need the following Fund Sourcing Skills;	VGE	GE	LE	VLE	Mean	Interpretation
1	Saving	43	53	4	58	2.51	GE
2	Sellable business proposal writing	55	50	0	53	2.68	GE
3	Exploration of loan opportunities	35	44	31	48	2.42	LE
4	Exploitation of available loan offers	100	42	16	0	3.53	VGE
5	Involvement in partnership	28	37	36	60	2.25	LE
6	Membership of cooperative societies	53	54	7	44	2.73	GE
7	Networking with financial experts	29	38	20	71	2.16	LE
8	Minimization of luxuries	23	33	21	81	1.99	LE
9	Prudency in spending	53	54	6	45	2.73	GE
	GRAND MEANS					**2.56**	GE

From table one, the grand mean is 2.56 this means that mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State to a great extent.

Research Question Two

1. To what extent does mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State?

Table 2: Mean rating and grand mean of respondents on Research Question two

S/N	To what extent do mathematics education graduates need the following business management Skills;	VGE	GE	LE	VLE	Mean	Interpretation
10	Feasibility study before business establishment	128	30	0	0	3.81	VGE
11	Setting of business goals	122	36	0	0	3.77	VGE

12	Development of business plans (strategic planning)	100	38	20	0	3.51	VGE
13	sales forecasting	100	40	18	0	3.52	VGE
14	Utilization of investment opportunities	50	56	0	52	2.66	GE
15	Hard work	35	44	27	52	2.39	LE
16	Self discipline	45	50	4	59	2.51	GE
17	Resiliency	50	53	0	55	2.62	GE
18	Team work	30	39	30	59	2.25	LE
19	Motivation of workers	52	53	8	45	2.71	GE
20	Effective supervision/monitoring of business activities	37	46	21	54	2.42	LE
21	Effective communication	36	45	24	53	2.41	LE
22	Industrial harmony/good conflict management	58	64	0	36	2.91	GE
23	Staff training/ retraining	31	40	30	57	2.28	LE
24	Self appraisal/stock taking	39	48	17	54	2.46	LE
	GRAND MEAN					**2.82**	**GE**

The grand mean in table two is 2.82 this means that mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State to a great extent.

Research Question Three

1. To what extent does mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State?

Table 3: Mean rating and grand mean of respondents on Research Question three

S/N	To what extent do mathematics education graduates need the following marketing Skills;	**VGE**	**GE**	**LE**	**VLE**	**Mean**	**Interpretation**
25	Politeness	43	53	8	54	2.54	GE
26	Persuasive	10	20	43	85	1.72	LE
27	Friendly	29	38	28	63	2.21	LE
28	Advertisement	38	47	18	55	2.43	LE
29	Attractive packaging	40	51	10	57	2.47	LE
30	Quality control	50	58	0	50	2.68	GE
31	Periodic promotions	5	10	16	127	1.32	VLE
32	Monitoring of prices of alternative goods	20	30	221	87	1.89	LE
33	Maintenance of steady stock	34	43	30	51	2.38	LE
34	Offer of discount when necessary	40	49	13	56	2.46	LE
	GRAND MEAN					**2.21**	**LE**

From table three, the grand mean is 2.21 this means that mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State to a low extent.

Hypotheses 1:

The extent to which male and female mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.

Table 4: z-test analysis of hypothesis 1

Gender	N	Mean	DF	z-cal	z-critical	Interpretation
Male	67	2.67	156	0.91	1.96	No significant difference
Female	91	2.91				

From table 4, z-calculated of 0.91 was less than z-critical value of 1.96, showing that the extent to which male and female mathematics education graduates need Fund Sourcing Skills for self reliance and curbing unemployment in Enugu State do not differ significantly. Hence, hypothesis 1 is not rejected as stated.

Hypotheses 2:

The extent to which male and female mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.

Table 5: z-test analysis of hypothesis 2

Gender	N	Mean	DF	z-cal	z-critical	Interpretation
Male	67	2.54	156	0.44	1.96	No significant difference
Female	91	2.60				

From table 5, z-calculated of 0.44 was less than z-critical value of 1.96, showing that the extent to which male and female mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State do not differ significantly. Hence, hypothesis II is not rejected as stated.

Hypotheses 3:

The extent to which male and female mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State do not differ significantly.

Table 6: z-test analysis of hypothesis 3

Gender	N	Mean	DF	z-cal	z-critical	Interpretation
Male	67	1.73	156	2.01	1.96	There is Significant difference
Female	91	2.58				

From table 6, z-calculated of 2.01 was greater than z-critical value of 1.96, showing that the extent to which male and female mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State differs significantly. Hence, hypothesis III is rejected as stated.

Summary of Findings

From the results presented above, major findings of this study can be summarized thus;

1. To a great extent, mathematics education graduates need Fund Sourcing Skills forself reliance and curbing unemployment in Enugu State.
2. To a great extent, mathematics education graduates need Business Management Skills for self reliance and curbing unemployment in Enugu State.
3. To a low extent, mathematics education graduates need Marketing Skills for self reliance and curbing unemployment in Enugu State.
4. Male and female mathematics education graduate differed significantly only on the extent to which they need marketing skills for self reliance and curbing unemployment in Enugu State.

Discussion

Research question one sought to determine the extent to which mathematics education graduates need fund sourcing skills. The result in table one showed that mathematics education graduates need fund sourcing skills to a great extent. The finding agrees with those of Agboti (2014) and Davidson (2014). Also the result of test of hypothesis one indicated that both male and female mathematics education graduates need this skill equally. The need for fund sourcing skills cannot be overemphasized. This is because there is hardly any meaningful venture any person can carry out successfully without proper funding.

The extent to which mathematics education graduates need business management skills for self reliance and curbing unemployment was addressed by research question two. The results indicated that the graduates need these skills to a great extent. Similarly, test of hypothesis two showed that both male and female graduates need this skill equally. These findings agree with the findings of Dunga (2015) and Cress (2015)

Unarguably, an entrepreneur needs fundamental business management skills such as articulating a business plan, stating business goals and maximization of every investment opportunities. In the same vein, a successful small scale business operator who will grow to the extent of creating jobs for others must have skills to manage human resources efficiently and effectively. Hence, effective conflict resolution or industrial harmony is needed. Self discipline, resilience, hard work and creativity must be the watch words of such entrepreneur.

Research question three sought to find out the extent to which mathematics education graduates need marketing skills for self reliance and curbing unemployment. The result indicated that the graduates need these skills only to a low extent. Although this finding is in agreement with that of Stone (2014), it however contradicts the findings of Brent (2015) and Dugan (2015). Stone (2014) reported that small scale businesses deal with household items used to meet every day common needs. Hence, the entrepreneur needs little or no marketing skills to sell his products.

Contrarily, Brent (2015) and Dunga (2015) in their separate studies averred that the self reliant entrepreneur needs good marketing skills to maximize the opportunities of expanding his business and as well employing others. This may also explain why there was significant difference on the extent to which mathematics education graduates felt they needed marketing skills. Irrespective of the findings of this study on this issue, it is expedient to state that an entrepreneur does not lose anything by acquiring marketing skills. Hence, it is more beneficial for mathematics education graduates to have marketing skills than not to have them.

Conclusion

Consequent upon the findings made in this study, it can be concluded that mathematics Education Graduates need Fund Sourcing, Business Management and Marketing Skills for self reliance and curbing unemployment in Enugu State. However, it seemed that the graduates needed fund sourcing and business management skills most.

Recommendations

The following recommendations are therefore made;

1. Mathematics Education Curriculum should be improved upon to include impartation or inculcation of innovative Enterpreneurialship skills in the learners.
2. Government and cooperate organizations should avail young mathematics Education graduate loan facilities to enable them involve in small scale businesses thereby creating job for themselves and other unemployed youths.

3. Capacity building workshops should be organized by government and well meaning individuals for Mathematics Education graduates on the need to venture into self reliance rather than staying idle seeking for white collar job which rarely comes.

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