

Senior Secondary School Physics Teachers Assessment Of Entrepreneurial Skills Needed For Global Competitiveness

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Abstract: *Entrepreneurship skill education seeks to prepare people to be responsible, enterprising individuals who become entrepreneurial thinkers by immersing them in real life learning experiences thereby preparing them for global competitiveness. Physics education is a conveyor of science and technology on which the national economic transformation hinges. The study therefore employed a descriptive survey design to investigate secondary school teachers' perception of entrepreneurship skills needed for global competitiveness. Seventy nine (79) physics teachers from Umuahia North Local Government Area of Abia State were used for the study. Two research questions and one hypothesis tested at 0.05 significant level guided the study. The instrument used for data collection was the researcher's self developed modified likert scale questionnaire whose reliability coefficient was obtained as 0.86. Data collected was analyzed using mean for the research questions and Chi- square(χ^2) statistics for the hypothesis. The result obtained indicated that most teachers strongly believed that among others management, communication, ability to plan effectively, competitive and willingness to take risks are all entrepreneurship skills that are needed for global competitiveness. It was therefore recommended among other things that entrepreneurial education should include such skills and be taught to students to enable them apply them for global competitiveness.*

I. Introduction

Education for All is a global movement led by UNESCO aiming to meet the learning needs of all children, youths and adults by 2015, (World Conference on Education for All (WCEFA) (1990). Education has been described as the bedrock of every society and a tool for nation building. No wonder the development of any nation has been linked to the quality of its education system. The Millennium Development Goals (MDGs) are a global plan to reduce the main indicators of poverty by the year 2015. These goals are to eradicate extreme poverty and hunger, achieve universal primary education, promote gender equality and empowerment of women, reduce child mortality, improve maternal health, combat HIV/AIDS, tuberculosis, malaria, and other diseases, ensure environmental sustainability and develop a global partnership for development. All these could only be achieved through proper education of all citizens.

According to Okeke (2011), science and engineering are key to renewed economic growth, and to the meeting of the challenges of the 21st century, from sustainable energy to global security to lifelong health and wellbeing which is one of the objectives of the MDGs. Stressing further Okeke (2011) is of the view that for us to rise to these challenges we need to ensure that our education system is producing people with the right skills – and physics is an essential step in training for most science and engineering disciplines. Physics is one of the sciences that are highly needed for our nation's technological breakthrough. It is the heart of science and the hub of technological activities. Physics is a science that studies the most fundamental rules in the universe. It deals with matter, energy and their behaviour and structure. The study of physics enhances an understanding of the interplay of forces in nature and therefore forms veritable armour against superstition. The study of physics has been and will remain of tremendous importance to mankind because it is capable of explaining natural phenomena and everyday occurrences. According to Adeyemi (2003) and Oriaifo (2005), physics plays very important role in scientific and technological advancement that affect the lives of mankind. All these objectives could only be achieved if Physics is taught effectively at the secondary school level. One of the utmost important goals of physics education is the functionality and utilitarian way of preparing the individuals for life in the community and reforming the society for relevance, adequacy and competitiveness in the world (Egbo, 2011). No society can develop without technology of which physics education is the conveyor of science and technology on which entrepreneurship development, national economic transformation and global competitiveness hinge.

Competitiveness pertains to the ability and performance of an institution, a firm, sub-sector or country to sell and supply goods and services in a given market. According to The Global Competitiveness Report of the World Economic Forum (2012-2013) report, competitiveness is an important determinant for the well-being of states in an international trade environment. The report went further to explain that the concept of competitiveness has emerged as a new paradigm in economic development. Competitiveness captures the

awareness of both the limitations and challenges posed by global competition, at a time when effective government action is constrained by budgetary constraints and the private sector faces significant barriers to competing in domestic and international markets. The Global Competitiveness Report of the World Economic Forum (2012-2013) defines competitiveness as the set of institutions, policies, and factors that determine the level of productivity of a country. The maintenance of competitiveness for development, hinges mainly on well-functioning public and private institutions, appropriate infrastructure, a stable macroeconomic framework, and good health and primary education. As wages rise with advancing development, countries move into the efficiency-driven stage of development, when they must begin to develop more efficient production processes and increase product quality. At this point, competitiveness becomes increasingly driven by higher education and training, efficient goods markets, efficient labour markets, developed financial markets, the ability to harness the benefits of existing technologies, and its market size, both domestic and international. Finally, as countries move into the innovation-driven stage, they are only able to sustain higher wages and a higher standard of living if their businesses are able to compete by providing new or unique products. At this stage, companies must compete by producing new and different goods using the most sophisticated production processes, and through innovation. The implication is that entrepreneurial education and skills that will produce citizens, who will undertake innovations, finance and business acumen in an effort to transform innovations into economic goods is highly needed. Evidence suggests that developing entrepreneurial mindsets is a key ingredient of endogenous growth, and a must for sustainable local and regional development and social cohesion. The role of education in promoting entrepreneurial attitudes and behaviours is widely recognised today.

Entrepreneurship is an employment strategy that can lead to economic self sufficiency for people with the potential to create and manage businesses in which they function as the employer or boss. Oviawe (2010) defined entrepreneurship as the ability to seek investment opportunities and establish an enterprise based on identified opportunities. According to Igbo (2006) an entrepreneur is an actor, innovator or a developer of technology. Entrepreneurship is the willingness and ability of an individual to seek out investment opportunities, establish and run an enterprise successfully (Oviawe, 2010). Reynolds (2007), defined entrepreneurship as the art or science of someone being able to undertake innovations, finance and business acumen in an effort to transform innovations into economic goods. In other words entrepreneurship can be said to be the process of exploiting the opportunities that exist in the environment in an attempt to create value. For an entrepreneur to be able to achieve these, he must acquire entrepreneurship skills.

Entrepreneurship skill is a carefully planned process that eventuates into the acquisition of entrepreneurial competencies. It is the acquisition of skills and ideas for the sake of creating employment for one's self and for others. These skill acquisitions include the development based on creativity. Personal empowerment and development is necessary for every individual and most importantly for the youths. One needs to have the specific job function or technical skills to pursue a particular vocation but along with the functional skill and knowledge. It is the personal empowerment of the individual that helps him succeed in the enterprise. This makes the need of entrepreneurship education where all these skills could be learnt through training very imperative. According to Osuala (2004), entrepreneurship skill education is the education where a set of every valuable skills needed by the entrepreneur is learnt to avoid trial and errors. Entrepreneurship skill education equips the learner with skills on decision making, acquisition of new ideas methods of raising and maintaining conversations and establishing business relationship. Through such education, qualitative ability that facilitates computation and record keeping are further learnt. Entrepreneurship skill education seek to prepare people particularly youths to be responsible, enterprising individuals who become entrepreneurial thinkers by immersing them in real life learning experiences where they can take risks, manage the results and learn from the outcome. Transversal competences like creativity, sense of initiative and entrepreneurship will help young people to develop their capacity to think creatively and to innovate, to develop pro-activity, flexibility and autonomy, the capacity to manage a project and to achieve results. There is growing evidence of the positive impact of entrepreneurship skill education. Young people going through these programmes will develop more entrepreneurial attitudes, get a job earlier after finishing their studies and start more companies, thereby creating more jobs. Entrepreneurship skill education has been referred to as a source of employment generation because of its ability to enhance the growth and development of a country. This is why Adejumu (2001) opined that entrepreneurship skill education has been found to be capable of making positive impacts on the economy of a nation and the quality of life of the people. Oluremi and Agboola (2011) in their study established that entrepreneurship skill education stimulates economic growth, generates employment and empowers the disadvantaged segment of the population which include women and the poor. Entrepreneurship programmes provide an excellent opportunity to connect education systems with the local economy, as they are based on project work and on the voluntary participation of real entrepreneurs. Students who develop contacts with the local business community are more likely to remain in their region or in their country after completing their studies, either as employees in a local firm or as founders of their own business. Hence the need for

physics teachers to be aware of these entrepreneurial skills needed for global competitiveness to be able to produce well informed citizens.

Purpose of the Study:

The study therefore investigated secondary school physics teachers' perception of entrepreneurial skills needed for global competitiveness.

Research Questions

The following research questions guided the study.

- 1 What are the mean scores of secondary school teachers' perception of entrepreneurial skills needed for global competitiveness?
- 2 What are the mean scores male and female of secondary school teachers' perception of entrepreneurial skills needed for global competitiveness?

Hypothesis

A null hypothesis tested at 0.05 level of significance guided the study.

Ho₁: There is no significant difference in the mean scores of male and female secondary school teachers' perception of entrepreneurial skills needed for global competitiveness.

II. Methodology

The study adopted a descriptive survey design. The study was carried out in Umuahia North Local Government Area of Umuahia Education Zone of Abia State. . Seventy nine (79) physics teachers from Umuahia North Local Government Area of Abia State were used for the study. Two research questions and one hypothesis tested at 0.05 level of significance guided the study. The instrument used for data collected was a modified likert scale questionnaire developed by the researcher. The questionnaire was made up of two sections A and B. Section A sought information of the demographic data of the participants while section B sought information on the participants perception of entrepreneurship skills needed for global competitiveness. Section B had four options of SA = Strongly Agree, A = Agree, D = Disagree and SD = Strongly Disagree. The instrument was validated by three (3) experts in science education and one (1) expert in measurement and evaluation of the Department of Science Education of Michael Okpara University of Agriculture, Umudike. The reliability of the instrument was determined as 0.86 using a test-retest method. Data collected was analyzed using mean for the research questions while the hypothesis was tested at 0.05 level of significance using Chi-square(x²) statistics.

III. Result

The result in respect of mean scores and x² values of teachers' perception of entrepreneurship skills needed for global competitiveness.

Table 1:
Mean Scores of Teachers' Perception of Entrepreneurship Skills Needed for Global Competitiveness

S/N	ITEM	SA	A	D	SD	MEAN(X)
1.	Management Skills	50	20	6	3	3.48
2.	Communication Skills	62	15	2	-	3.76
3.	Ability to plan, coordinate and Organize effectively	55	19	3	2	3.61
4.	Financial Literacy	60	14	5	-	3.70
5.	Ability to research effectively	50	22	5	2	3.52
6.	Adaptability	49	23	7	-	3.53
7.	Innovation and Creative thinking	61	15	2	1	3.72
8.	Ability to take responsibility and make decision	54	20	5	-	3.62
9.	Competitive Skills	52	20	6	1	3.56
10.	Willingness to take risks	62	14	3	-	3.75

Result in table I clearly showed that all the listed skills had mean scores between 3.48 and 3.76 which is greater than 2.5 which is the mean score value of the four point scale used. The table also showed that the teachers agreed that the ten skills listed are entrepreneurial skills needed for global competitiveness.

Table 2
Chi-square (X^2) Values of Male and Female Teachers Perception of Entrepreneurship Skills Needed for Global Competitiveness.

SEX		SA	A	D	SD	TOTAL
MALE	57	431 (398)	109 (134)	24 (32)	6 (7)	570
FEMALE	22	124 (157)	77 (53)	20 (12)	3 (3)	224
TOTAL	79	555	186	44	9	794

$X^2_{cal} = 33.97$; $X^2_{tab} = 7.815$; $df = 3$

Table 2 above showed that the calculated x^2 value (33.97) is greater than the x^2 critical / table value of 7.815. This implies that the null hypothesis is rejected and the alternate hypothesis accepted. This means that there is a significant difference in the mean scores of male and female teachers' perception of entrepreneurship skills needed for global competitiveness.

IV. Discussion

From table1, the mean scores of all listed items are greater than 2.5 which is the mean score value of the four point scale used. The implication of this is that all the teachers both males and females agreed that the listed skills are entrepreneurship skills that are needed for global competitiveness. This result is in line with the fact that relevant entrepreneurial skills acquired by students will make them wealthy through vocational occupation and as well as make them become self-employed (Williams, 2003). This also means that such skills according to Etuk, (2000) will develop in students a positive attitude to citizenship and the desire to be useful to the nation by contributing to the creation of a limited Nigeria by being self-reliant and self-employed.

This is also in line with the type of education needed in Nigeria which advocated the training of educated individuals who can function effectively in the society for the betterment of self and the society (Ocho, 2005). This required special attention as the system will be deliberately set to concern itself with the development of sound human capital required for national development (Ocho, 2005). Etuk (2000) opined that Nigerian youth needs to realize the fact that he needs to develop potentials and to contribute his talent to the common good of all. This therefore calls for an all round education that will enable labour market and as well enhance global competitiveness.

This result also agrees with the fact that positive thinking, learning to be assertive and affirmative as well as being balanced in thinking at all times, being active, ability to manage stress and work under pressure are entrepreneurship skills that are must for youths empowerment. This is also in agreement with the of Williams (2003), that through such training the youth can develop leadership skill as well as builds a positive image which will enhance his self esteem thereby enabling him develop self discipline, manage his time very well, become self motivated for him to succeed in any business.

V. Conclusion

For global competitiveness to be achieved in Nigeria, a call for the training of educated youths who can function effectively in our society is necessitated. The importance of entrepreneurship skill education for youth empowerment and wealth creation cannot be over emphasized. It is the most needed education for the production of manpower need in the labour market, for technological development and emancipation and enhancement of global competitiveness. Entrepreneurship skill education helps in career choice, job creation and self empowers the youths by exposing them to a lot of programmes where they can make choice in life and take responsibilities of the outcome of the decisions they have made.

This therefore calls for adequate preparation of physics teachers who play the critical role in entrepreneurial education and development for national economic transformation and subsequent global competitiveness.

VI. Recommendation

For Nigeria to produce trained educated men and women who can function effectively in the society and bridge the gap between the labour market requirement thereby enhancing global competitiveness, the following recommendations are made;

- 1 Entrepreneurship skills and creativity should be taught to children at early age.
- 2 School curriculum should be organized in such a way as there should be curriculum integration of education, entrepreneurship skills education and community development.
- 3 Primary, Secondary and Tertiary institutions should include courses on entrepreneurship skill education where students are to be exposed to a variety of courses on technical and vocational education.

4. Government should empower youths who want to establish small and medium scale business through financial assistance.
5. Guidance and counselling units should be introduced in all schools so as to enable counsellors advice students properly on career choices and their importance.
6. Government should ensure that schools provide sector on specific skills needed for the development of human capitals, use professionals and entrepreneurs as instructors and mentors.

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