

Entrepreneurship Education for Science Teachers as a Means of Achieving National Transformation.

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ABSTRACT

This paper attempts to answer questions such as: How do science teachers perceive entrepreneurship education? Why is entrepreneurship education becoming more important? How can this theme be implemented and enhanced in the school context towards achieving National transformation in Nigeria? It is obvious that the question of how science teachers perceive the theme will definitely affect how they value it. A total of 40 science teachers (male and female) teaching in Junior and Senior secondary Schools in Jos, Bukuru and environs were interviewed. One-third of the teachers studied re-evaluated their views or modified the manner in which they had earlier defined entrepreneurship education. One can therefore infer that the ability to re-evaluate and change one's attitude is influenced by an increased knowledge. An inner ability to manage the changes taking place in our post modern society and the labor market is stressed in this paper.

Key words: Entrepreneurship, Education, and Science Teachers.

I. INTRODUCTION

According to the Webster dictionary, "Entrepreneur is one who organizes and directs a business undertaking, assuming the risk for the sake of the profit." This term is also used to describe "People who are innovators and are prepared to take risk in developing and introducing new ideas, products or services to the society."

The second definition, sometimes referred to as management science captures the field of science and technology in entrepreneurship. The essence of entrepreneurship must be an integral part of the culture and structure of science and technology institutions. Scientists and researchers must recognize entrepreneurship and target their educational experiences accordingly. It is widely accepted that the creative, cultural and innovative industries are central to the social and economic welfare of many nations including Nigeria. Variations in conceptions, perceptions and understanding of "entrepreneurship education" are important regarding how it is interpreted and put into practice in the classroom.

In 1989, the Organization of Economic Cooperation and Development (DECO) initiated discussions regarding introducing themes that emphasized entrepreneurship and enterprising learning and this discussion has continued for decades now (Mallieu 2006). Individuals today live in post modern society characterized by high rate of change and enormous flow of information. While previously established values are eroding, pluralism and ambiguousness as well as privatization and

individualization in individual lifestyles are increasing.

II. ENTREPRENEURSHIP FOR THE FUTURE

Why is the question of entrepreneurship in the education system becoming more important? The simple answer is that we are living in a society that is increasingly demanding entrepreneurial behaviors of all kinds. So how can science teachers and educational institutions in Nigeria successfully stimulate and motivate their students in such circumstances so that they are prepared for the future in an adequate and goal oriented manner? Which types of competences are necessary for our citizens of modern society? We suggest here that the answer to these questions lies in an education system that is organized to promote the development of a strong identity and incite the courage in individuals to act on their own values. We can borrow from the example of Finland who introduced entrepreneurship education into its curricular in 1994 which was a challenge to their teachers, but today have a large reserve work force, technical skills and a good condition for entrepreneurship (FNBE; 2004:3)

III. NIGERIAN NATIONAL TRANSFORMATION AGENDA

National transformation as far as Nigeria is concerned, IS a comprehensive framework aimed at putting Nigeria among the twenty largest economy in the world by the year 2020. To achieve this objective,

Nigeria would have to compete with developed nations like, U.S.A, Japan, China, U.K and Germany. In 2007, the IMF ranked Nigeria 41st in terms of developed/developing Nations in the world.

The IMF uses Criteria such as Gross Domestic Product (GDPL Gross National Product (GNP) and personal income tax in their assessment. Several key parameters that must be attained by Nigeria to achieve National transformation were listed by President Yar'Addua in 2009. They were tagged the seven point agenda and are as follows:

- A. Polity: by the year 2020, the country will be peaceful, harmonious and have stable democracy.
- B. Education: Modern and vibrant educational system with equal opportunity for all Nigerians to provide the country with competent and adequate man power.
- C. Health: A vibrant health sector that supports and sustains a life expectancy that is not less than seventy years and reduces to the barest minimum the burden of infectious diseases such as Malaria, HIV/AIDS etc.
- D. Agriculture: An Agricultural sector that is technologically enabled and ensures National food security with significant contribution to foreign exchange earnings.
- E. Manufacturing: A manufacturing sector that is vibrant and globally competitive and contributes significantly to GDP with a manufacturing value added of not less than 40%.
- F. Macro-economy: A sound, stable, and globally competitive economy with a GDP of not less than \$900billion and a per capital income of not less than \$4000 per annum.
- G. Infrastructure: Adequate infrastructure that support the full mobilization of all economic sectors.

IV. Entrepreneurship Education For Science Teachers As A Means Of Achieving National Development

Entrepreneurship education for science teachers is clearly a critical element in Nigeria's quest for achieving the National developmental agenda. At this point it is important to note that, developed and emerging economies in the world attained their enviable position due to the importance they attached to science and entrepreneurship education. The science teacher in Nigeria lives in a modern society that is full of growing cultural diversity, increasing globalization, and rapid and complex technological developments. Modern society needs

individuals who are autonomous and self-efficient, individuals who possess a firm morality and identity. In actual Job vacancy advertisements, one sees this need being emphasized when the individual being sought should be willing to take initiative, flexible, responsible and enterprising. These characteristics can be related to entrepreneurship education (Erkkila 2000). One problem that appeared in this research pertains to the handling of entrepreneurship education in the school curricular; which most cases is inadequate or not in place. At the same rate as modern society and its need change, new concepts that are not sufficiently explained enter the world of schools and the teachers as well, who therefore do not always possess the capacity needed to realize them. This can result in negative attitudes and resistance to change. It is in this respect that teacher education and teaching institutions providing continuing education in Nigeria play a central role. In our research, we aim to provide specific descriptions of the entrepreneurship education of individuals who have a classical behavioral science or educational background aimed at stimulating individual development for Nation building. Erkkila (2000) maintains that, "the greatest benefit of entrepreneurship education is to allow it serve National economic development".

V. MATERIALS AND METHOD

The materials used in the collection of data in this research work, were science teachers teaching in secondary schools. The method used in collecting data was the personal interview method. A total of Forty (40) science teachers teaching in junior and senior secondary schools in Jos, Bukuru and environs were interviewed for the study. The selection was such that those interviewed consisted of male and female science teachers. The students taught by the teachers participating in the study were in the age group of 12-20 years. The period of research was during the third term of the 2009/2010 academic year (May-July 2010). We started by capturing the teachers' perception of entrepreneurship in order to see how entrepreneurship IS interpreted in the school culture and thereby attempt to create a change in attitude in the teacher education and further education concerning entrepreneurship educational goal for National development.

VI. RESULTS AND ANALYSIS

The results are summarized in table one (1) below.

Table 1

Teachers' conception of entrepreneurship education	Percentage of teachers with such perception
<ul style="list-style-type: none"> • Primarily perceived as a personality and social skills developing activity that should permeate school work, work that aims to further development of strong identities and promote self- efficiency based on pupils own value. 	30%
<ul style="list-style-type: none"> • Perceived as a technical or cooperative activity 	60%
<ul style="list-style-type: none"> • Have no idea of entrepreneurship education 	10%

VII. RESULT ANALYSIS

The teachers' conception of entrepreneurship education can be grouped into immanent, technical and/or cooperative activity. In the immanent, entrepreneurship is understood as permeating and integrated in the learning environment. However in the technical, entrepreneurship is perceived as a separate course or project which is graded and evaluated and carried out during a certain period of time, here the economic dimension of entrepreneurship dominates. When entrepreneurship education is understood as cooperative activity, emphasis is on the cooperation between schools and society/business for the purpose of preparing students for working in life; the emphasis in this situation is in developing vocationally oriented qualifications (Miller, 1993). As seen from the table quite a number of the science teachers were completely ignorant of entrepreneurship education.

The teachers were also asked to explain how they believe students can be spurred towards enterprising initiatives. When describing the prerequisites on an enterprising mindset, that is to say that which should comprise the result of entrepreneurship education, the teachers pointed out activity- based methods (typical of science teachers). Most of the teachers in the study emphasized the importance of activity as a method of fastening characteristics and manners of thinking that encourages learners to act, play and solve problems by themselves. Through authenticity, activity is connected to everyday life and perceived as substantial and relevant. Similar to Erkkila's (2000) and Kjeil and Jarle (2010) results, the results from our study show that science teachers who possess a broader and deeper understanding of the phenomenon focus more on individual and social entrepreneurship competence, while those who possess limited

knowledge focus on economic and business related activities

VIII. CONCLUSION

Schools have a concrete task, which is to raise good citizens with auspicious (propitious) attitudes and initiatives emanating from a National curriculum; and it is ultimately teachers who realize the curriculum of which science teachers are an integral part. However if the science teachers' understanding of educational goals concerning school and entrepreneurship education do not correspond, teachers' attitude may remain negative and likewise their interest in implementing the cross-cultural theme in educational work. One interesting fact is that barely onethird of the teachers studied re-evaluated their views during the course of the interview or modified the manner in which they defined entrepreneurship education. This means that instead of stressing the external dimensions, they stressed the internal dimensions. This also entails that previously negative attitude in several instances became positive. The inference that one can draw from this, is that the ability to re-evaluate and change one's attitude is influenced by an increased knowledge and that, in the case of entrepreneurship, one becomes more conscious of the possibilities and meanings that entrepreneurship education expresses.

IX. RECOMMENDATIONS

1. Entrepreneurship education should be emphasized among science teachers in the forms of demands for economic growth.
2. Conducive environment for entrepreneurship education should be provided.
3. Value for entrepreneurship education should be stressed.

4. Teachers' own reflection on the concept should be considered.
5. Creating economic awareness among young people of **all** ages
6. Continuing education for teachers on the concept is important.
7. Introducing young people to the concept of new venture development via simulation exercise in schools.
8. A broader study on the research could give a bigger picture of views on entrepreneurship among science teachers in each state and the Nation in general.

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