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**DEVELOPING CREATIVITY AND PROBLEM -SOLVING SKILLS FOR  
QUALITATIVE AND ENTREPRENEURSHIP EDUCATION AMONG NCE  
CERTIFICATE HOLDERS**

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**ABSTRACT**

The need for Nigerian graduates at various levels to acquire the necessary usable entrepreneurial skills in order to be self- reliant has become an issue of serious concern to the entire nation: One of the objectives of lifelong education is ensuring acquisition of entrepreneurial skills, problem solving skills, communicative and life skills as 'well as ethical, moral and civic values needed for laying a solid foundation for lifelong learning. This paper advocates developing creativity and the problem solving skills for qualitative and entrepreneurship, education among NCE certificate holders. The review looks into the implementation of entrepreneurship education and viable opportunities for NCE certificate holders, concept of creativity and problem solving skills for entrepreneurship, -workable agenda for creativity and entrepreneurship and the implications for educational system in Nigeria. Recommendations were made for positive changes. The paper concludes on a hopeful note that problems which could impede the success of entrepreneurship Skills acquisition can be overcome through proper planning.

**INTRODUCTION**

It is well known fact that education is the key to national and societal transformation (FGN, 1981, Afe 2000, Adeyanju, 2006). The desire of most developing countries, including Nigeria is to have a self- reliant and resilient economy capable of generating of an internally self

- sustaining growth. That is why government tries to provide qualitative and entrepreneurship education for her citizens. However, entrepreneurs mean a different thing to different people. To economists, an entrepreneur is one who brings resources, labour materials and other assets into combinations that makes their value greater than ever before and also one who introduces changes innovations and a new order. To other an entrepreneur appears as a threat, an aggressive competitor. Entrepreneurship according to Anastasiadu, (2002) is the practice of starting new organizations or revitalizing mature organizations, particularly new business generally in response to identified opportunities.

Entrepreneurship is absolutely inevitable in positioning education for creativity. Creativity skill have been identified as one of the most distinct of human attributes and are basic skills (Yanger, 1991). It is indeed a special case of problem solving in which the originality of the solution is emphasized. The encyclopedia Britannica, (1983) defines, it has the ability to make or otherwise bring into existence something new, whether a new solution to a problem, a new method or device or a new artistic object or form. Entrepreneurship has been recognized as a key factor to economic growth. By implication, therefore without entrepreneurship there can be no economic growth.

Entrepreneurship education is presently neglected in Nigerian schools, yet this aspect of education is necessary for economic development Youth need to acquire skills in creativity and problem solving, as well as Entrepreneurship education, so that they can become self- reliant. Awotunde and Uzor, (2002) defined creativity as the ability to produce a novel idea or product which society values as a breakthrough in the effort to solve certain problems From the above definitions creativity can be seen to be a process and product. The process component of creativity involves skills which are also employed in science processes. These skills are the foundation for both scientific inquiry and development of intellectual skills (Nwosu, 1994, 2004). The process skills are the mental and physical abilities and procession of strategies used for conducting scientific inquiries which are observing, measuring, classifying, communicating,

predicting, questioning, controlling variables, formulating models, designing experiment, and interpreting data. Creativity is synonymous with productive thinking, critical thinking and problem solving and it can be developed through training. Meyers, (2006) opined that creativity is said to be the fundamental premise and the genesis of entrepreneurial activity, while creativity encourages the growth of entrepreneurship, He further said there is a strong link between creativity and entrepreneurship. Vangundy (1992), Wankert and Oreoviczs, (2006) opined that problem solving process is a complicated process that involves the ability to generalize, evaluate, design, make

decisions, hypothesize, learn new skills. Ability to solve problems is said to be dependent upon the individual's ability to utilize the knowledge required to solve the specific problems.

Problems solving can also be seen as a product of creativity, both are therefore related. (Vanqundy, 1992). In the process of solving problems, ideas are generated, solutions found and evaluated so as to select the best ideas. Osborn, father of brainstorming suggested rules to guide the process of problem solving which includes use of quantity of ideas, and seeking combination of all ideas for improvement. The implication is rewarding. The more ideas generated, the greater the likelihood that a high - quality solution will result. Ability to defer judgment ensures that ideas generated can be evaluated. These processes help to encourage more conducive to creative ideas. Individuals involved in creative problem solving are encouraged to start with divergent search for data without necessary evaluation. However, convergent selection of important data follows after (Shallcross, 1996) added further a preliminary stage to include objective finding. This stage helps the individual identify a target area to solve, which includes the primary concerned the challenge or the opportunity. This process is best learnt by practicing it and receiving feedback on one's performance. It is a good strategy to be used in dealing with issues that affects entrepreneurship. This is because the use of will help the individual entrepreneur to processing ideas, data and find possible solutions to problems. Motivate and build confidence in the young entrepreneur, many also to ensure that one's knowledge is structured and patterns rather than single facts are recalled.

Entrepreneurship centres on innovation many introduction of something new, different and unique. An entrepreneur has a duty to reform or revolutionize the pattern of production by exploring an invention of an untried technological method or producing a new commodity or producing an old one in a new way. Furthermore, wealth creation and risk taking are all involved in entrepreneurship. Education has a lot to contribute in equipping individuals for entrepreneurship. In all levels of education (Onu, 2006) noted that "encouragement to form a company can be sustained by a teacher who can significantly influence individuals to regard entrepreneurship as a desirable and valuable career path. He opined that schools with exciting courses in entrepreneurship and innovation tend to develop entrepreneurs and can actually derive the entrepreneurial environment in an economic era. He further stressed that the more a number of entrepreneurship courses a person takes the more probability of starting a new venture.

### **Viable opportunity for NCE certificate holders**

NCE certificate is a field of study with abundant opportunities for self- development, provided the learners are well prepared and groomed in the field. However, how well the learners internalize these opportunities depends on the competence of their teachers and enabling environment. The NCE graduate has potentials of going into full scale self -employment or could decide to go for corporate employment if he/she so desires, such as self - employment opportunities in crop protection, or set up consultancy services on crop protection or waste disposal.

Science education equips the learners with aptitudes with which they can establish small scale refuse collection and disposal outfit for individual homes and offices for a fee or embark on research assistance or field assistance which can help them develop skills in data collection and analysis. Holder of NCE certificate have great potential to embark on fish and poultry breeding, or establishing schools, which though is highly rewarding financially, but capital intensive. He/she could embark upon it if the candidates could raise soft loans from banks cooperative societies or from philanthropists. Holders of NCE certificate have great potential to contribute to Economic Growth of individual and nations in terms of job creation, employment opportunities moreover as a specialist in the field of physical and health education can engage in coaching, or instructors, health personnel, professionals in health education i.e Dieticians, journalists, security agents, which leads to growth and development of economy of society in which they live. Holder of NCE certificate in secretarial or business education as a result of her professional training she or he can embark in open outfit for professional training in secretarial work or computer operator / programming which enable him to contribute to economic growth of his country.

### **Concept of creativity and problem solving skill for entrepreneurship**

The central problems of mankind are currently being linked to the manifestations of a fundamental lack of meaning in the lives of the vast majority of human beings. The resultant effect is their inability to discover, develop or engage their unique creative abilities in significant beneficial social and ecological actions. There is also the inability to recognize one's potentials, equally from institutions, economic, social and political arrangements and operating practices that artificially constraint people's capacities and potentials (Etuk, 2005). These patterns create an erroneous belief that makes people think that economic motivation rather than actualization of one's natural abilities to solve man's problem is the primary force in human life.

Maslows theory of hierarchy of needs has equally demonstrated the possibility of actualizing one's potentials, that is, realizing one's innate potentials or possibility, this states that however, can become a reality only after the basic human needs to live, socially and ecologically responsible lives have been met. Therefore, to achieve the much desired future positively,

institutional arrangements and cultural patterns that will allow humans to express themselves as intelligent and creative individuals who are capable of evolving goals that are worthy of their commitment, time efforts and energies, need to be put in place. In order to accomplish this, bureaucracy, which is the mortal enemy of the creative process must be driven underground.

There is a strong relationship between problem solving, creativity and entrepreneurship. Creativity is an action and a result of imagination and ingenuity, (Cherwitz, 2006). It is also the application of ability and curiosity to discover something new. In other words, it is one thing to have the ability, yet another to actually apply one's ability in an innovative way by introducing new things, new processes, methods, devices, products and services for a useful purpose, that the spirit of entrepreneurship is ignited. Entrepreneurship is not a mere pursuit of opportunity without regard to resources currently controlled; rather, it is the process of creating value through unique resources combinations to exploit opportunity by implementing innovation; skills and qualities, characteristically inherent in or acquired by the entrepreneur are seen as experiences that can be stimulated through a series of challenging activities and exposure.

Entrepreneurship has also been seen as the creating and building of something of value from practically nothing (Tommons, 1994). Simeon, 1998 views entrepreneurship as the pursuit of opportunity. It acts with passion for a purpose, lives proactively, leverages, resources, and creates value. Gartner (1990) also view entrepreneurship as the creation of new organizations.

He noted that entrepreneurial activities start with willingness, and eagerness creates new venture in order to present a concept. Creation of new ventures in all fields of human endeavour.

Entrepreneurial activities are not restricted to business alone. As a process of culture innovation, it revolves around all aspects of endeavours ranging from the creation of wealth to the development of an attitude that engages the world. It involves risk taking, developing in the individual the quest to see opportunities, discover and create knowledge, innovate, collaborate and solve problems in any number of social realms, including corporate, non - profit organizations, government and education etc.

Educationally, intellectual entrepreneurship would therefore mean the ability to educate scholars who are accountable and who utilize their intellectual prowess to add to disciplinary knowledge and as a lever for social good (Cherwitz 2006). The academics therefore are seen as innovators with a focus on multi-disciplinary collaboration, aimed at translating advancements into real solutions to society problems and needs. These notions transcend the traditional notions of schooling, which until now had been for school sake and for the acquisition of certificates that

could barely be defended. Schooling should form the basis for which inventiveness and the spirit of creativity are cultivated in the learner. It should be the bedrock upon which training in creativity is allowed to form the basis of the learners' capital knowledge for a better tomorrow. Furthermore, in unleashing constructive creativity in business, education and society bottlenecks that always impeded fundamental functioning will diminish and promote in the citizenry the spirit to create something new. The resultant effect then would be the growth of knowledge capital.

## **WORKABLE AGENDA FOR CREATIVITY AND ENTREPRENEURSHIP EDUCATION**

**It is important to develop creativity and problem solving skills in individuals and making it compulsory and authentic, it should be predicted on the following:**

- i. Restructuring the academic and professional training of entrepreneurship: Educators with emphasis on quality and technological advancement.
- ii. Designing an agenda for the future with includes skill analysis : This will mean ascertaining the level; of manpower development in all level of education.
- iii. Curriculum development: this simply means emphasizing on the skills acquisition, knowledge and attitude to the needs of the workers with work and life.
- iv. Follow – up survey: Schools / institutions should determine the level of job performance and the degree of job satisfaction and general level of career situation in labour market.
- v. Reappraising the teaching of entrepreneurship and problem solving skills: Content, process and attitude with emphasis on practical training and integration of related components

Designing a workable agenda for the future entrepreneurship education in Nigeria brings about the need to extrapolate as plausible from the pass and present trends into the future. It is expected that the future should be better than the past. Next is forecasting and planning followed by further planning and forecasting in a functional cycle. Since it has been established beyond reasonable doubt that entrepreneurship teaching needs to be reposition in Nigeria context for empowerment and technological development, the following need to be observed.

- a. Eliminating the current qualitative and quantitative inadequacies become the first hurdle on the agenda to be cleared.
- b. Encouraging better professional academic training for entrepreneurship and problem solving skills
- c. The entrepreneurship education that is fast gaining acceptability in the educational sector is a worthwhile area of focus in the education refocusing agenda. Its incorporation into the advancement upon completion of their studies. Other steps in the proposed agenda include re-orientation of teaching entrepreneurship and problem solving skills by inculcating elements of clear thinking and strong commitment to work in the students.

Training can be organized to ensure that the individuals' intellectual resources are put to better use. It requires that lecturers in institutions of higher learning put away their moribund lecture notes for a more dynamic promotion and utilization of information communication Technology (ICT), which has increased the inflow of most current information, creativity and invention.

Implications of developing creativity and problem solving skills for the education system

- ❖ The above situation calls for the need to revise the Nigerian National Curriculum for schools to rise to international standards within education. The new curriculum should reflect global perspectives to education as ideas and resources are made available to schools.
- ❖ Schools in Nigeria must reflect quality, coherence and effectiveness. Students should be empowered with techniques that will enable them to measure, assess and have a change in attitudes and behaviours.
- ❖ Students must be allowed to participate in programmes geared towards training, and the skill acquisition information exchanges, planning, monitoring, evaluation and professional development, and haven change their orientation concerning innovations.

Creativity and National Advancement and Entrepreneurship Skill

Creativity should dispose one to make and recognize valuable innovations, (Etuk, 2005) required divergent production or nothing which involves the ability to synthesize and recombine material to form new solution to problem (Onu, 2006). Creative approach to finding solution to some societal problem as seen in these areas is worthy of note.

- i. The fast growing demand for computer knowledge, means that computer education should be taught at all levels of education as an entrepreneurial skill.
- ii. School should accept the challenge of modern society to develop the total capacity of each child so that in adulthood he or she will be equipped with the entrepreneurship skills and knowledge to contribute effectively to the development of self and society.
- iii. Emphasis should be laid on the production of quality materials, as entrepreneurship education should be taught by specialist in the field to promote quality development and skill.

To achieve the broad aim of education, creative thinking and application of entrepreneurship knowledge stands out as innovative development with challenges in the world today; the resourcefulness, initiative and innovative skill of the individual can be a great Asset-Based on our discussion the following recommendations are made:

## **Conclusion**

Creativity is inherent in all humans and therefore has a universal distribution. It has also been established that creativity can be likened to a driving force that drives human behaviour to shape their lives. It is necessary that individuals be given opportunities for the actualization of creative potentials or talents in them for meaningful existence, growth and development in all facets of human endeavours. These creative talents must be nurtured. In using creativity, new and useful things are developed, human lives and existence improved and contribution is made to the world of knowledge. Since creativity is developed through the process of solving problems, then children must be trained to learn to generate ideas, defer judgment, seek to combine all ideas generated, and evaluate their ideas. Furthermore, bureaucratic bottlenecks must be totally eliminated if human beings will engage their unique abilities and see themselves as participating and contributing members in their community. The education system must deliberately set out to raise students who will build new knowledge, be innovators and collaborate with others to advance real solutions to society's problems and needs, through creative problem solving and entrepreneurship.



## Recommendations

- ❖ Skills and abilities that can enable students assume responsibilities for expansion of their own learning can be acquired through the learning periods if the learners are exposed to activities that will challenge them mentally and provide them with numerous opportunities to think their way out of such problems,
- ❖ Problem solving and training opportunities should be made available to update the skill and knowledge of the teachers, and in service should be mandatory, in service training should include the core curriculum and entrepreneurship education.
- ❖ Process approach: teachers can afford learners such challenging opportunities. Teachers should consider making this their goal for teaching by employing Activities methods, guided discovery and guided inquiry methods among others, which will challenge the curiosity of the learners in the learning process.
- ❖ A conducive learning environment should be created in all schools for effective teaching and public enlightenment should be mounted to educate parents and children regarding the positive attitude towards entrepreneurship and problem solving skills,
- ❖ Training in entrepreneurship education, should use pupil centered methods, specific to entrepreneurship education, enhance the communal planning and learning process and give guidance in the use of various entrepreneurial work methods in teaching.
- ❖ Training in entrepreneurship education and problem solving skill should be supported by public authorities with proper planning and supervision of the programme.
- ❖ Reflection in the interrelation of research, curricula and pedagogy should be intensified while knowledge of working life and business, industry should be enhanced among the education personnel.
- ❖ Self-motivated continuing professional education relating to entrepreneurship education should be targeted by national, regional and local development projects.
- ❖ The core curriculum of entrepreneurship and problem solving should be included in initial teacher training.
- ❖ Curriculum reforms should also focus on promoting teachers' professional development.

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