

## RE-ENGINEERING CURRICULUM AND INSTRUCTIONAL TECHNOLOGY

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### **Abstract**

The write-up was set to examine the topic: "Re-engineering Curriculum and Instructional Technology" as means of re-engineering education for employment and self productivity in Nigeria. From review of literature, it was discovered that the population of Nigeria was high and rate of turning-out of graduates from colleges of Education, Polytechnics, Universities and other institutions was high. This has made many youths jobless, since only 12% of the graduates from these institutions are employed. Re-engineering the curriculum so that entrepreneurs can be produced who will not swell the labour market was recommended. Facilitators were recommended to be provided with incentives. Monitoring groups were recommended to be created so that desired outcomes are achieved.

Curriculum is the sum total of the school's efforts to influence learning whether in the classroom, on the playground or out of school. In fact, curriculum can be described as "the environment in motion". It includes the totality of experiences that a pupil receives through the manifold activities that go on in the school, in the classroom, library, laboratory, workshop, playground and in the numerous informal contacts between teachers and pupils. The curriculum takes into cognizance the subjects or courses and their contents taught by a school or college. The instruction gives a clue as to how an activity is carried out. It may be written or not written. It is a formal teaching given in a particular skill or subject.

Technology involves new way of doing thing that are based on modern knowledge about science and computers. Re-engineering involves changing the structure of an activity and organization so that it performs better. The re-engineering of curriculum and instructional technology in education will involve re-organizing the curriculum in such a way as to make products from schools to be self-reliant and will not join the labour market as "unemployed" when they are through in school. The aim of this paper is to see how the restructuring of the school curriculum can lead to production of graduates from primary school up to university levels who will acquire entrepreneurship education that can lead them to becoming self-reliant when they are out of school. With the prevailing mass unemployment and its attendant social tension in the country, Nigerians are, more than ever, seeking ways of mitigating the spiraling effect.

### **Some Problems in the Nigerian Education System.**

Nigeria is the most populous country in Africa. Every year thousands of graduates come out from tertiary institutions and, according to Ezekwesilli [2011], less than 12% gain employment. Numbers swell up, every year. This has made the rate of youth unemployment to reach an alarming proportion. Vocationalization could not solve it even among those with technical skills. How can the education system in the country address this problem of unemployment of Nigerian youth? Can the restructuring of the curriculum in the present education system in Nigeria solve unemployment problem in the country? Can the re-engineering of education for employment bring about increased productivity in Nigeria? Will the training of entrepreneurs lead to drastic reduction in unemployment rate in the country and increase its productivity? These are the worries of the writer that motivated her into critically examining re-engineering curriculum and instructional technology with regards to Nigerian Education system.

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## **Curriculum**

It is universally accepted that school curriculum should be so designed and implemented as it fulfills the needs of a changing society. It must take note of new concerns in the wake of revolution in Information Technology (IT) and other developments in the world, [Aggarwal, 2008a]. He went further to relate how India used curriculum as a device to translate national goals into educational experiences. Aggarwal, [2008a] related how the National Council of Educational Research and Training prepared a model curriculum to achieve these goals. The framework for schools was prepared in 2000, and accordingly, it brought about new school text books. Seminars, workshops and discussions were held at multi-levels throughout the country. The revised curriculum was based on the following concerns: education for a cohesive society, equality among sexes, education for learners with special needs, education for learners from disadvantaged groups, education for the gifted and talented, education for strengthening national identity and preserving cultural heritage, integrating indigenous knowledge with country's contribution to mankind, responding to the impact of globalization, meeting the challenges of Information and Communication Technology [ICT], linking education with life skills and education for value development. Others include Universalization of Elementary Education [UEE], alternative and open learning, integrating diverse curriculum concerns; relating education to world of work, reducing the curriculum load and interface between cognition, emotion and action.

Nwakile, Sango and Anaza [2009] quoting Walton's [1976] definition of curriculum as "that content and those processes designed to bring about learning that is of educational value" commented that curriculum is considered to include both what is to be taught and by what means it is to be taught. To bring the above mentioned concerns into the school system i.e., to train students / pupils to develop entrepreneurial skills the teacher or trainer has to change his / her methodology of teaching as well. Curriculum can then be defined as "all the experiences children have under the guidance of teachers". Curriculum includes all the experiences which are offered to learners under the auspices or direction of the school.

Obayomi and Oloruntimilehin [2010] pointed out the need for learning to be guided. To re-engineer curriculum in this 21st century, the teacher needs to be re-engineered towards changing his / her methodology to guide students / pupils towards objectives that reflect acquisition of entrepreneurial skills. Aggarwal [2008 b] summarized that curriculum was considered as a tool in the hands of the artist [the teacher] to mould his material [the pupils] in accordance with his idea in his studio [the school]. He sees curriculum as an aid in the process of adjusting the child to the environment in which he will have to organize his activities later, and programmes should be made on the needs of the society and the interests of the pupils.

## **Instructional Technology**

According to the Rector and visitors of the University of Virginia [2012], Instructional Technology [IT] programme prepares students to be leaders in any environment involving learning, museum education, adult training and development in business and industry, profit / non-profit training, higher education and life-long learning. The programme recognizes IT is increasingly important in helping professionals re-train, re-tool, and re-skill as careers change multitude of times over a lifetime. It therefore strives to prepare students to not only address the issue of today but also the issues of tomorrow.

## **Re-engineering**

Virtually all educational institutions, programmes, and courses will benefit from some degree of re-engineering in preparation for the future. This applies both to degree-oriented programmes and continuing education lifelong learning opportunities [Sprawls, 2012]. He went on to further say that the objective of re-engineering is to enhance both the effectiveness and the efficiency of various educational activities. The effectiveness of both the learning and teaching components of an educational activity is demonstrated by the ability of the learner to perform the tasks required in the practice of their profession, trade, or other endeavours and as specified in

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the established learning objectives and outcomes ("Sprawls, 2012]. Increased effectiveness is achieved by providing enriched learning experiences that bring the students into closer involvement with the physical universe and society. Institutional-based learning and teaching activities are expensive, both to the individual learner and society, and they consume considerable time for classroom activities, study and experimentation, travel, and related logistical functions. The objective of enhanced efficiency is to achieve desired learning outcomes with reduced financial cost and personnel time.

#### **Entrepreneurial Spirit**

An entrepreneur is someone who starts a new business or arranges business deals in order to make money, often in a way that involves financial risks. With the prevailing mass unemployment and its attendant social tension in the country, Nigerians are more than ever, seeking ways of mitigating the spiraling effect [Alexsamade, 2011]. Alexsamade [2011] said: "going by statistics, close to 70 per cent of Nigerians live below the poverty line, i.e., spend less than one U.S dollar [\$1.00] per day..." Training of children in schools by facilitators can gear them towards becoming entrepreneurs. Selvan [2009] referring to the work of John Dewey speaks of: "education as the reconstruction or reorganization of experience which adds to the meaning of experience and which increases ability to direct the course of subsequent experiences". The modern teacher considers each child as akin to plant and helps the child grow according to its abilities and aptitudes.

As we move forward into the 21st century, contributions of entrepreneurs like Bill Gates who is into software production and others have boosted the America economy. Educators have created a wide variety of programmes and activities to provide students with the experiences that nurture the spirit of entrepreneurship everywhere. This is applicable to the Nigerian situation.

#### **Methods to be Used to Bring about Increased Productivity, Reduce Unemployment and Changes in Current Educational System**

The curriculum can be re-structured in such a way that individuals or groups of individuals, institutions or agencies can develop competencies in people. Competencies are intended to lead to self-employment, economic self-sufficiency and **employment** generation. Entrepreneurial programmes [ESDP] can be designed to cater and stimulate new ventures and provide motivational force [Nafukho, 2012]. Technical Training Institutes are to be established to prepare candidates for mid-level employment - mainly technicians.

Before the commencement of the programme, the following issues are to be considered: age of the young people, their interest and abilities, time they have to devote to entrepreneurial/vocational activities, available fiscal and human resources, expertise of staff and what kind of training and support they need, effect programme participation may have on youth supports and benefits; availability of existing entrepreneurial programmes in the area; support of programme from organization's leadership; disabilities of candidates and intended outcomes of the programme. Others include accommodation, financial resources.

Technology, culture and diversity are virtually inseparable. Multicultural Education Advanced Instructional Design encourages students to explore rich diverse background. Curriculum in Instructional Technology should provide students with exposure to wide range of emerging technologies and ensure basic competencies. A re-engineered educational activity [a course] uses cotemporary technology, appropriately developed learning materials, media, references and resources that can be used for individual study or as a tool for learning facilitators [teachers]. This will be a modification from more classical activity. The re-engineering involves systematic process of analysis, design and implementation, this forms the framework.

### **Conclusion**

Innovation and inventions of entrepreneurs are key building blocks in a nation that is to be self-sufficient and compete effectively with their business ideas. This will allow economy of a country to make one enter business, work and satisfy consumers to a level that they are rewarded in profits which can be re-invested in business. Entrepreneurs are not "born," rather they "become" through the experiences of their lives [The consortium]. The re-engineering of the curriculum when closely monitored can bring about desired changes by reducing dependence on government work and increasing productivity. Entrepreneurship education offers a solution. It prepares people, particularly youths to be responsible and enterprising. Entrepreneurship is an employment strategy that can lead to economic self-sufficiency. With it, youths can become self-employed and employers of labour rather than job seekers. Re-engineering the curriculum can bring about this change.

### **Recommendation**

Recommendations are made based on the above mentioned points, which if carried out will make the nation's economy to be boosted.

1. The setting up of Business Advisory Service to provide expert advice to potential entrepreneurs with technical skills is recommended. School drop outs, illiterate artisans, rural poor are to be supported for agriculture, animal husbandry, health, hygiene and functional literacy.
2. Professional skills are different from business skills. Technical skills are expected to be buoyed by entrepreneurial skills to be able to succeed in any business.
3. Family background or financial status is irrelevant in harnessing potentials. Personal vision and commitment are what are needed. There should be an enabling environment for this.
4. A re-engineered curriculum should define scope, general content and structure of the proposed activity [course]. Educational needs to be met by proposed activity is to be determined. Learning objectives and outcomes are to be properly defined.
5. Identify and make available additional references and resources to support learning activities, and acquire materials and media required. Get facilities with sufficient infrastructure to support learning activities.
6. Provide incentives for facilitators [teachers] so that they can have chances to develop themselves, develop and use technology to enhance their teaching.

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