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Educational Policy and Technological Development in Africa: An X – Ray of Problems and Solutions in the Nigerian Perspective (Pp. 247-259)

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Abstract

Technological development is a basic artery through which nations strive to attain true independence. However, the level of technological development is dependent on the system, policy and philosophy of education that is dominant or prevalent in such a country. Any nation that lacks a sound system or policy of education cannot make a solid claim to development socially, politically, scientifically or technologically. A sound educational policy that is laid on a solid philosophical foundation is therefore, a necessary adjunct for technological growth. It is therefore the position of this paper that, many African countries like Nigeria, have invested enormously their national wealth, with a view to achieving technological development but without success. The reason for this abysmal failure is traceable to lack of basic foundation for technological development. This basic foundation is sound

Educational Policy and Philosophy. In this paper therefore, our effort is to identify and investigate the problems of Nigerian educational policy as they affect technological development in Nigeria. In doing this, we will analyze the various policies of education in Nigeria. This will be done with the aim to discovering factors in the policies that hinder or inhibit technological development.

Introduction

Our modern world is sharply divided along two socio- economic poles of “developed” and “developing countries”. The developed nations are so defined on the basis of their technological development and sophistication. It is also opined that the high level of technological development of these nations is laid on a sound educational policy and established on a philosophical foundation that is unique to them.

The developed nations like United States of America (USA) have a well-articulated educational policy that is watered and nourished by their pragmatic philosophy. Britain educational policy is influenced and implemented on the basis of empiricism which also defined their scientific outlook. Germany has their educational policy tailored with idealistic thread. So, it is the educational policies and philosophies that have shaped every facet of lives of these nations. On the other side of history or economic pole, are countries like Ghana, Liberia, Burkina Faso, and Nigeria amongst others that are just developing. As a developing country, we discover that Nigeria has wonderful ideas articulated in the form of policies but without a sound philosophical base that will shape, influence and evolve a world view, enhance the effective operation of these policies and provide a guide for their systematic implementation. This lack of philosophical base in the area of education and other aspects of life manifest itself in the failure of Nigeria to develop technologically, despite the enormous national wealth and resources directed towards achieving technological development.

Furthermore, the reason for this lack of advancement in the sphere of technology is basically due to the neglect of the educational sector by the country. There indeed exist no educational policy or philosophy in Nigeria that is technology – oriented or technological driven. Nigeria as a country needs to evolve a philosophy that will promote the culture of “do it your self” within the educational domain. The lack of such philosophical foundation in the educational system has greatly hindered the developmental drive of the country as far as technology is concerned.

This article therefore, will look at how Nigeria's educational policy affects her level of technological development. It will also attempt to identify the problems that have helped to slow down the technological paradise. This will be done with a definitive relationship already established between educational policy and technological development. In analyzing such relationship, the following questions should be taken into consideration:

- i. What are the problems of educational policies in Africa especially in Nigeria?
- ii. What are the problems that hinder the technological development in Africa, especially in Nigeria?
- iii. What is the relationship between education and technology?
- iv. Can a sound educational policy enhance technological development in Africa, especially in Nigeria?
- v. Is Nigeria's educational policy based on any philosophic foundation?
- vi. How can educational policy be used to attain technological development in Africa, especially in Nigeria?
- vii. Does Nigeria have a philosophy of education?

The problems that are inherent in educational policies in Africa: the Nigerian educational policy

The main challenge of the educational policies in some African countries is hinged on the fact that the policies are formulated without a philosophical base. For instance, the Nigerian National Policy on Education (NPE) is contained in a 49-page document known as National Policy on Education (NPE). A cursory look at this document reveals some fantastic ideas that attempt to show Government's way of achieving national objectives that can be attained using education as a tool. However, this policy was formulated without a philosophical take off point or base. This, therefore, becomes a fundamental defect of the document or policy. This is so because, even the formulators of the national policy on education; admit the importance of philosophy in the formulation of any policy on education. This belief is as contained in the first paragraph of page 7 which declares, "... no policy on education can be formulated without first identifying the overall philosophy...." (7).

Despite this admission, the formulators failed to identify the philosophy behind the policy framework but rather gave an outline of objectives thereby confusing philosophy and objectives of a policy. Accordingly, Nigeria, like similar African countries, has a national policy of education but without a philosophy that will inspire, direct and shape the implementation of the policy towards actualization of the goal and objectives.

Factors that hinder technological development

There have been several efforts made to bring about technological development in Nigeria through the process or channel of education without much success. Here, we will attempt to identify some of these problems that have stalled Nigeria's technological progress through the educative process. We will seek to answer the questions; what are the problems with the Nigerian educational system? Is the Nigerian educational system capable of bringing about or aiding technological development?

Uduigwomen (1997) admits that, it is only technological advancement that can aid Nigeria to conquer hunger, poverty, and disease and wriggle itself out of the third world status. Accordingly, he advocates that the government must utilize the available resources, to promote and develop science and technology through education. This reveals that there are some fundamental problems with the educational policy, which do not favour and promote science and technology. There are several problems associated with the Nigerian educational policy.

These include:

- i. Poor Implementation: Most policies in Nigeria suffer at the implementation stage. This is because the people given the responsibility are usually not competent.
- ii. Lack of adequate finance: Educational policy in Nigeria usually suffers from financial anemia. The allocation of funds to the educational sector by government is grossly inadequate.
- iii. Inadequate trained Manpower: Most educational policies in Nigeria suffer or die a natural death due to lack of trained manpower that is motivated professionally.
- iv. Lack of database or Statistics: Most educational policies in Nigeria are formulated with no recourse to statistics and this often times poses a serious problem to implementation.

- v. Sterility of the Policies: Some of these policies such as curriculum content of science education in Nigeria have been severely criticized as lacking in content as to equip the learners in decision making and problem solving.
- vi. Foreign and imported nature of Educational Policies: Most of the educational policies in Nigeria are imported and so cannot effectively respond to the shift in our cultural needs. In addition, some of these policies are “historically imprisoned and too myopic in conception to provide an understanding of either our culture or the scientific and technological culture” (Umoren, 1996).
- vii. Lack of appropriate science oriented Policy: The educational policy in Nigeria is devoid of scientific orientation. That is, it is deficient in deep practical approach to scientific studies and the utilization of knowledge derivable from such education.
- ix. Lack of teaching Aids: There are no provisions made for teaching aids in the educational policy of the country. For instance, the universal basic education (UBE) lacks the infrastructures needed to be really functional.
- x. Poor conceptualization of Policies: Some of the policies are poorly conceptualized and so implementation becomes a problem.
- xi. Attitudinal Problems: Nigerian’s attitude towards Nigeria and what could lead to the development of the country is rather poor. As a country we see that Nigeria lacks a sound educational Philosophy that will promote scientific and technological advancement. This is because vocational education is yet to have a firm root in the country. Equally, the scope of vocational education is very limited.

Again, there is the problem of poor educational planning and administration. This is because the nation’s political leaders have over politicized the issue of education. Again, scientific and technological education in Nigeria, according to Etim (1999), is stereo-type and not revolutionary. He sees the history of scientific discoveries as presented to the students as a mode of memorizing. The students, he alludes, are not properly trained to understand and apply their knowledge for the purpose of innovation and positive rational problem solving. He sees the Nigerian scientist and technologist as a product of bad educational system. This system produces students and teachers that

have lost contact with science and merely engage in routine recitation of scientific facts, he concluded.

The educational policy is based on a metaphysics that is spiritual and not scientific. However, Nigeria as a country can overcome this problem through systematic, realistic and practical approaches to science and technology, which according to Isiche (2000), is the bedrock to development.

He declares:

To be truly civilized, cultured nations is to be truly scientific and technologically advanced to the level that will raise the dignity of humans close to their true destiny happy humans. Although, all forms of poverty (intellectual, spiritual and material) dehumanize, nothing can compared to the dehumanization of abject poverty. The lots of third world nations must therefore seek redemption through education and technological development.

In the same vein, Nigeria, according to Ekanem, (2005) "...can escape from the problem of underdevelopment and Poverty through education that is designed to arouse curiosity, inventiveness, doing – with – the hands, and practical consciousness that will seek to provide solution to the concrete socio-cultural needs of the nation".

Need for a sound educational policy to enhance technological development in Africa.

There is an urgent need to restructure the technical, vocational schools, as well as the Polytechnics, Colleges of Education and the Universities. This is to enable them play their catalytic functions in the development of science and technology that must necessarily have social values. Africa, especially Nigeria educational systems must seek, according to Umoren (1996), to produce citizens that:

- i. Utilize scientific concept, process, skills and values in taking decisions, as they are interactions between the people and the environment.
- ii. Comprehend that, to generate scientific knowledge is dependent on inquiry process and on conceptual theories.
- iii. Differentiate scientific facts from personal opinion.

- iv. Locate the relationship between facts and theory.
- v. Know the limit and the usefulness of science and technology in promoting human welfare.
- vi. Comprehend the interrelationship between science, technology and economic development.
- vii. Realize the human origin of science and know that the scientific knowledge is not permanent but tentative which is bound to change as evidence emerges.
- viii. Possess adequate knowledge and experience so as to appreciate the scientific work of others.
- ix. Possess a richer and an exciting view of the world because of science education.
- x. Adopt values that can be applied and be excited about science as a source of intellectual stimulation and the form of its enquiry.
- xi. Seek to have and expand his scientific knowledge through out life.

However, for this to be achieved, the image and status of technical education must be thoroughly laundered so as to change the negative image of this vital aspect of the educational system. Another issue is the problem of consistent inconsistency in policy and implementation that is largely attributed to political instability in the country. Ekanem (1994) in his work, "*The Logic of Technological Development in Nigeria*" captures it more succinctly when he writes:

The political instability in the country is another factor militating against Nigeria's technological growth. The constant change of government in the country's political arena invariably leads to consistence inconsistency in terms of policies and implementation. A particular government will appear today, and articulate sound and enhancing policies, but before that government starts the implementation, ...it is overthrown... this means that such a policy will be thrown into the waste paper basket or left in the file cabinet to rot....

The implication of this is that, any effort made to implement such policies will be haphazardly done because the implementers were not the formulators.

It is often better for a person who originates an idea to practicalise such idea for others to learn and follow it as established by its originator. This is hardly the case with some African countries especially the Nigerian educational policies. This situation gets worsened by what is known in Nigerian parlance as “Pull him down (PHD) syndrome”. This scenario usually leads to well thought out and articulated policies being abandoned, discontinued, discredited and substituted because there is a hidden motive to legitimize the ouster of the previous government or office. The policy somersaults had been counterproductive and have great negative effect on the actualization of set objectives of the educational policies.

The Problem of Technological Development in Nigeria

Technological development is a major index in the determination of a country's independent status in the contemporary world. This is so because, technological activities play a pivotal role in diplomatic engineering. Its activities equally exert great pressure and influence on traditional culture. This becomes imperative, because technological changes are capable of altering the various mode or methods of analysis as established by traditional institutions. These changes also have immense impact on societal values. Nigeria as a developing country falls under this influence of technological stride. The root of this is traceable to colonialism, which is the starting point of modern technological development in Nigeria. Therefore, in our discourse of the problem of technological development in Nigeria, we are compelled to follow its historical path.

Already, we have established the fact that, modern technology based on scientific knowledge or interpretation, started in Nigeria during the period of colonialism. As such, its problem as it relates to Nigeria, has the starting point from these. Colonialism as we all know, was a “philosophy” of imperialism that aimed to promote and expand capitalism. It was a policy of slavery and exploitation. Rather, science based on social justification for its development was to provide us with adequate knowledge that will disengage us from the chain of superstition and ignorance. Technology, which is a derivation of science, was meant to aid man to have control over the material world and domesticate his environment. With this knowledge and control, man was to derive maximum comfort in terms of his needs and living condition. However, in Nigeria, these noble objectives of science and technology are yet to be achieved. This is because the colonial masters did not lay a solid foundation for the development of science and technology.

Technological development in the country from the colonial days has been seen as being very insignificant. Ekanem (2005) explains it thus:

...Its development was then primarily the concern of commercial and voluntary organization like United African Company (UAC) and Missionary societies. The colonial masters were not interested in the development of traditional technologies as found in the country. Instead, the concentrated on Evangelism which borders on spiritual and moral development...

Furthermore, Ekanem maintains that, there was dearth of technical education during the colonial era. The few technical schools established were based on the demands by the colonial system for technicians and the public service. The only five technical institutions established between 1901 and 1938 were operated as Departmental in-service-training centers. The major exploitative agencies of colonial rule were the Railway Training institutes, (1901), the Survey School, Lagos, (1935), the Post and Telegraph Training Center (1931), the Veterinary School at Vom (1935), the School of Forestry in Zaira (1938), (55-56). All these centers were of great exploitative value to the colonialists who developed same for their advantage.

From this analysis, it is an becomes clear that, the major problem of technological development in Nigeria is colonialism, which did not lay a foundation for such development. There was no commitment to the development of science and technology in the country. Apart from this, after independence, the Nigerian government did nothing to lay a foundation for science and technology. The choice was to, first, depend on the western world for essential input for the physical development of the country. We can see this evidence in the type of education Awolowo and Dr. Azikiwe amongst others received. This situation led to the massive importation of virtually everything into the country. The country became entangled, and a new form of colonialism suddenly emerged. This brought about the concept of neo-colonialism in Africa like in Nigeria. With this mental slavery, the country found itself, right from inception; it became very difficult for Nigeria to develop along technological line. Consequently, the country lays prostrate to European capitalism in the name of technological transfer. This implies the transfer of technology from industrialized nations as an option for technological development in Nigeria.

The basic problem associated with the notion of technological transfer is that, Nigeria has not acquired the culture of technology as prevalent in the country (ies) where these technologies are imported. The fundamental questions are therefore these:

1. *Of what relevance is the philosophy behind the transfer of technology to Nigeria when we consider the economic, social, cultural and political implications?*
2. *Can technology be transferred or imported to Nigeria?*
3. *From where are the technologies to be imported from? What inform this choice?*
4. *What is the cultural relationship between Nigeria and the exporting country (ies) of this technology?*
5. *What happens to Nigeria's indigenous technologies as a result of this importation?*

These questions are endless. The point is that, technology is culture specific hence; the idea of transfer of technology stands on a faulty logic. This choice is glaringly an escapist notion and devoid of inherent technological development. This is more so when technology must be socially relevant so as to satisfy the people's needs. So, we see here that Nigeria lacks the scientific and social climatic conditions necessary for technological development. There exists no political will to achieve technological advancement. Again, the intellectual disposition of the leaders is not broad enough to comprehend the complex nature of technology and its development.

Consequently, the educational policy of the country is not designed towards practical orientation of the people. The philosophy of: "do it your self" is seriously lacking in the African and indeed Nigerian character. Hence, it is the lack of these social and cultural conditions that pose serious problem to the technological development of Nigeria. This is more so, when we realize that, these are necessary adjunct for technological progress. It is a fact that the socio-cultural requirement of a society determines the type of technology that it tries to build. This can be seen in the unique nature of the technology of Japan, America, Israel, Russia, Taiwan, and Germany etc. these countries design and develop their technologies according to their cultural experience and needs. It is therefore imperative that for Africa, in this case Nigeria to

achieve technological growth, this socio – cultural requirement must be satisfied or put in place. This is because; no argument can be advanced for the fact that, Nigerians are not capable of creating their own technology. The basic requirement and what Nigerians urgently need are the right attitude, approach and orientation, which the educational sector would have provided if it were based on the right kind of policies and philosophy.

Conclusion

In our analysis, we have identified the problems that have plaque Nigeria's drive towards technological development and the educational policy of the nation. What the nation needs therefore is to look inward and lay a solid philosophical foundation upon which the educational policies of the nation will be operated and implemented. Indeed, there is the need for a homegrown philosophy of education for Nigeria. This philosophy should be able to inspire the right and appropriate attitude of Nigerians towards creativity and inventiveness.

Ekanem (2005) shares these views, when he advocates for essencism as a philosophy of education in a work titled "A Philosophy of Education for Technological Development in Nigeria". He argues that;

Having discovered these problems associated with foreign philosophies, it becomes expedient that we develop a philosophy that is, homegrown and peculiar to our needs and cultural pattern. A philosophy that will seek to satisfy our socio-cultural patterns. A philosophy that will seek to satisfy our socio-cultural demands and not super – imposed foreign ideas. Nigeria needs a philosophy that the citizens will appreciate and understand its internal logic and dynamism, which could be effectively monitored and controlled towards the direction of our desires. This will help Nigerians to have a single socio-cultural value, which all citizens will pursue to achieve a national goal...

The philosophy Ekanem calls essencism, and it is a holistic philosophy that "...seeks to highlight the essence of man on planet earth" (218). So, when our educational policies are based on philosophical premises that inspire inventiveness, creativity, inquisitiveness, speculation, critical and analytic mind, then, the educative process will generate a culture of excellence. This culture will lead to excellent pattern of life that will influence, re-orientate, redirect and provoke national consciousness of inward generation and

scientific activities that will include the practical application of knowledge derivable thereof. This will bring about a unique technology that will have Nigerianness in its entire ramification. Only when this is achieved, that Nigeria can truly be said to be independent. This is because the educative process will become a potent tool to generate ideas that will transform our society and nation since it is ideas that rule the world.

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