



Moral Education: Soul of Productive Technological Education for National Development

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ABSTRACT

Nigeria and almost all African countries are almost totally dependent on the products of the technologies of Asian, European and American continents for meaningful existence in today's modern world. Almost all the tools, machineries and gadgets for livelihood are imported and this has the adverse consequence of impoverishment of the Nigerian economy, together with its ripple effects in the areas of political, social and all round life of Nigerians, redounding to underdevelopment. For there to be development, there must be local technology, but local technology is dependent on local technological education. Through natural observation, the library research methodology, and the tools of critical deduction and induction, this paper argues that true technological education is not possible in the absence of authentic moral discipline emanating from genuine moral education. But moral education must be contradistinguished from religious education. Recommendations include: belief in ourselves-that we can do anything as much as other human species and this hinges on disciplined moral education that encourages hard work, honesty, love of knowledge; love of our own products even if they may still need improvements; government sponsorship of research; local corporations' patriotic buying up of local technological innovations and funding them to full beneficial development; eschewance of tribalism and other discriminatory measures in promoting local innovations resulting from local technological education and efforts, etc.

Keywords: *Education, Moral Education, Technological Education, Productivity, Development, National Development.*

INTRODUCTION

For any society to achieve development, it must utilize the resources in its domain (human and material) in such a way that they are made to cater for the different needs in that society; this is what is known as technology. Technology entails the use of skills and knowledge in the manipulation of the various materials in the environment in order to solve societal problems and achieve a good living standard for the inhabitants. And while education is a society's contrivance for the transfer of a society's way of life to its new members, technological education is that aspect of education that lays emphasis on transmitting of the contents of technology on the learners. Without this special type of knowledge, it is impossible to achieve development and be relevant as a nation in the world of today. This paper, however, argues that for technological education to work and be productive there is need for moral education as a substratum. This is because the contents of morality are crucial for disposing the technologist for imbibing and utilizing the contents of technology in order to effect national development. It is not as if there are no technically/technologically talented individuals in Nigeria- in fact there are many of them- yet Nigeria is still technologically backward. It is envisaged that moral education will make it possible for technological education to function properly for meaningful national development to take place, as shall be demonstrated in this paper.

DEFINITION OF TERMS

To achieve greater clarity in our discourse and to better situate our mental enterprise for the required attainment of result, it is crucial to define the following concepts: education, moral education, technological education, productivity, development, and national development.

Education

Education, etymologically, comes from the Latin word *educare* which means "to guide" or "to bring up" or "to rear" or "to direct". It also can be derived from another Latin word *educere* which means "to draw out" or "to raise up" or "to lead out". It is in this context that Adeyemi and Adeyinka [1] hold that education is the gradual and skillful process whereby the latent potentialities of dedication and comprehension are extracted from the individual as against indoctrination. There must be criticality in acceding to the contents of education, especially for people who have reached formal reasoning, and this is what distinguishes education from indoctrination. Thus Kanu and Ndubisi [2] hold education "requires critical distance from tradition, exposure to alternatives, informed and reflective deliberation about how to think and live" (p. 5).

Moral Education

"Moral" comes from the Latin "*mos*", which means "custom" or "practice", implying a characteristically and more or less established mode of behaviour relative to human act. And then, for Azuakor [3], "moral education is teaching children and members of society, in the process of socialization, to imbibe the virtues, values and moral habits necessary

to be able to live a good life and become productive, functional and integrated members of society” (p. 218). In the same vein, Okafor [4] holds that moral education implies helping individuals acquire moral habits or virtues that will equip them individually to live a good life and become productive, contributing members of society. A person who has acquired the said virtues, values and habits invariably begins to behave in a predictably acceptable way. A moral being from the foregoing, is therefore, a plus for the attainment of national development.

Technological Education

A synonym for the expression “technological education” is “technology education”. The former (adjectival form) is education that has the characteristics of, or borders on technology, while the latter (noun form) is education on technology. So when we talk of technological education in this paper, we are essentially talking about technology education. For Wikipedia [5],

Technology education is the study of technology, in which students ‘learn about the processes and knowledge related to technology’. As a field of study, it covers the human ability to shape and change the physical world to meet needs, by manipulating materials and tools with techniques.

This definition evidently covers the preoccupations of technological education as well as gives the meaning of technology to mean the use of tools and materials, and their systematic manipulation to solve the needs of man.

Productivity

The Webster’s Dictionary [6] defines productivity as “the quality or state of being productive” (p. 938) where “productive” means ability to produce, especially, in abundance. Efficiency comes into the picture. It is in this context that we look into Lawal’s definition. For Lawal [7], “Productivity is the ratio of output to inputs in production; it is a measure of the efficiency of production” (p. 87). The lesser the inputs, in order to achieve the required (good) results, the greater the productivity, and vice versa. And the greater the productivity the more advanced the technology that generated it; and ipso facto, the more developed the society which is the repository of such a technology.

Development

According to Azuakor [8], “Development is organized and structured growth and progression. It could be negative or positive” (p. 286). Negative development for example, is the further increase in size or growth of a malignant tumor in the brain of a cancer patient. But in this paper, development is only to be seen from the perspective of positive development. The indices of development in a society will include: existence of technology and strategies that cause availability and sufficiency of food, gainful employment, literacy and valuable skills among the populace, enough social amenities, freedom and equality, and ability at the group level to be in charge of a society’s internal and external relationships. Discussing Walter Rodney’s position on development, Okeke [9] states: “At the level of the individual, it implies increased skills and capacity, greater freedom, creativity, self-reliance, responsibility and material well-being. At the level of social groups, development implies increasing capacity to regulate both internal and external relationships” (p. 89). The increased skills and knowledge capacity of individuals in a society leads to self-reliance, and a society full of self-reliant individuals functionally turns into a self-reliant society; a self-reliant society can control its internal and external relationships without undue interference from foreign nations.

National Development

National development is, for Lawal [7] “an exploitation and utilization of both human and material resources to improve the lots of a nation. It involves the improvement of the social welfare of the people of that nation” (p. 85). Human and material resources come into play in the effort to cause development in Nigeria through technological education. National development can also be seen from the perspective of either being a process or a product; a process in the sense of being actively involved in the procedures and interventions to establish the “ingredients” or parameters of development within a given state, and as product in the sense of a given state being able to showcase the indicators of development – abundant food, employment, healthcare, social amenities, technologies for the production of these named pointers, peace and freedom, etc – within its domains.

METHODOLOGY

Qualitative research is employed in this paper with the use of primary and secondary materials. The primary sources come mainly in the form of direct observation by the researcher of the events in the Nigerian nation while the secondary sources are from documented information in books, journals and the internet. The tool for this research is inductive and deductive reasoning leading to hermeneutics, explanations, analysis and criticality in the ensuing conclusions.

MORAL EDUCATION, BASIS FOR EDUCATION IN GENERAL

Education must be geared towards the further development of society. And the Federal Republic of Nigeria has observed through her National Policy on Education [10] that education is an instrument par excellence for actualizing national development. But for this to happen, education must have moral content. Thus, for Obiano [11], “moral education is the basis of general education. It inculcates the teaching of moral values in children and young people” (p.

11). Such moral values as honesty, truthfulness, discipline and hard work are instilled through moral education. The lack of real moral education in the educational system of Nigeria has brought about unquantifiable decay in the Nigerian educational system; examination malpractices are rife, plagiarism, forgery and the likes are in abundance and this has affected education in general and technological education and output in particular. According to Emenusiobi [12], “The Director General of National Orientation Agency (NOA), Mr. Mike Omeri, told Nigerians that their nation is ranked number one in the world’s examination malpractice index” (p. 105). This is very pathetic to say the least. This is attributable to lack of proper and sound moral education and this affects national productivity and growth as the products of the schools are generally ill equipped. And in fact, for Emenusiobi, “academic dishonesty is a very dangerous type of corruption because it happens when people are at such a young age, at the stage when they learn how to think, try to find out what they believe in and develop into the people that they will eventually become” (p. 108). In order to produce human beings who think rightly, and have a balanced personality that will lead to national development, moral education at all levels and types of education must be paid serious attention to. Emenusiobi also cites A.B. Basozi as propounding that academic corruption is the worst sort of corruption; deadly in the short term as well as in the long term.

Moral education helps to nurture a true human person with the requisite character and qualities to pursue and achieve time-tested ideals necessary for human endeavours (as in research and technology), maturity and fulfillment. The lack of it is anti-developmental in vagaries of social, economic, political and technological spheres. It is in this context that Azuakor [8] writes, “It is a truism that lack of moral values leads to corruption and decay, indiscipline and injustice, insincerity and inefficiency” (p. 287). Corruption, decay and inefficiency -the results of lack of moral education- are elements that militate against development. Again, Azuakor notes “Hard work is a prerequisite for development. Once the youths are made to imbibe this, inventions will ensue” (p. 298).

PRODUCTIVE TECHNOLOGICAL EDUCATION AS INDISPENSABLE FOR NATIONAL DEVELOPMENT

It is almost a tautology to talk of “productive technological” education. This is because technology is based on technical education which in itself is practical inclined. An adjunct of technical education is vocational education, but we won’t go into details here. For Uwaifo [13] technical education entails training of technically oriented individuals who are to be the initiators, enhancers and implementers of the technological development of a country. And for Okoye and Arimonu [14] technical education is the solid base for electrical and electronic technology, building technology, mechanical/automobile technology, woodwork technology, etc, implying that technology already encapsulates practical skills which are productive in nature. But we emphasize “productive technology” in this paper because it is possible to possess all the productive skills without being motivated and or even being committed to engage in production- the reason why we may have so many professors of civil engineering in Nigeria, for example, but cannot build, say water bridges by local technology. This paper posits that technical education in Nigeria must be enhanced and be given the motivation for production so that Nigeria can move forward. Anything short of this will never see development happening authentically in Nigeria. To actualize this, technical education must be properly funded, the facilities must be adequately provided, and Nigerians must change their value system by starting to love made in Nigeria products so that local producers can be encouraged. There must be serious effort made to retain skilled Nigerians and prevent brain drain. Political apathy on the part of politicians must stop and Nigerians, but especially technologists must develop the love for work/research and see it as a virtue- this is where morality comes in.

For Robinson [15], technological education has the philosophy of equipping the learner with enough technical skills and knowledge to be able to be self-reliant in such a society as Nigeria where there is mammoth unemployment, or to be fit to be employed in the industries. Robinson further holds that it trains for different classes of manpower which are indispensable for the development of a nation. It goes beyond the mere acquisition of practical skills to include the application of practical skills in the utilization of scientific knowledge. Citing Chukwuyekwe [16], Robinson states that technological education is for capacity building in a productive economy, which implies that in its training, remuneration, deployment and retention programmes, it enhances productivity, alleviates poverty and creates wealth in a country that is economy-minded. This thus simply leads to development. For Robinson, “Technology education is generally designed to bring about industrial development which in turn is a key player in economic development” (p. 7). Robinson further argues that technological education, in Nigeria has been criticized for not being able to produce graduates that have the practical competences to solve societal problems. And the major reasons for this he holds include inadequate and poor training equipments and facilities in the institutions of technological education, as it is obvious that no Nigerian institutions have been able to provide model machines and equipments similar to those used in the industries and this has the negative effect of producing graduates who are ill equipped for the industrial and work world after graduation.

According to Robinson [15] “To be technologically developed and subsequently become self-reliant, a nation must utilize technology education as a foundation” (p. 8). Also for Lawal [7], “the primary purpose of technology education is useful employment for adults and young who are preparing to enter occupations in agriculture, business, home-making, industrial and technical fields” (p. 87). Availability of meaningful employment is one of the indices of development. Being equipped with skills and competences for solving society’s needs, which technological education provides, are crucial for the development of any nation such as Nigeria.

MORAL EDUCATION AS SOUL OF PRODUCTIVE TECHNOLOGICAL EDUCATION

Productive technological education, which is crucial for national development is not possible if those who are being educated or have been already educated do not have basic moral principles, rules and regulations that moral education inculcates; a non-hardworking person, a person without the discipline of self control, justice, and truthfulness, for example, cannot withstand the rigours of productive technological and scientific research. The person does not necessarily need to be a Church-goer (though the church can also impart moral education, but which must be contradistinguished from Religious education per se), but the person must be moral. According to Obioma [17], the developed economies of the West, and the emerging economies of Asia-Pacific countries like China, India, Malaysia, Singapore, South Korea and that of the South American country of Brazil show a high correlation between national development and the rule of law, equity, justice, strive for high ethical standards of conducting public and private driven business, and transparency (all of which result from moral formation/education). Will the Nigerian researcher use the money allotted for research to truly engage in the business of proper research or will they usually embezzle the money and end up producing sub-standard research works/findings? Will the agencies utilized by the government for funding research actually dispense the whole money meant for the research or will the corruption in the polity militate against proper funding of technological education and research? Citing Dike [18], Obioma [17], notes: “corruption drives and shapes social values in Nigeria” (p. 19). But we must observe here that technological education and engagement must be tailored towards chiefly resolving social demands, but this cannot happen if the researchers themselves are bereft of moral character, because a basic content of moral education is imparting of a sense of responsibility. The technological scientist without a sense of responsibility to the society will never know, not to talk of solve the problems of the society, as to effect development.

It is in the light of the above that the Federal Republic of Nigeria in her National Policy on Education [10], section 1, sub-section 7(6) holds that education in Nigeria must inculcate the right values and attitudes necessary for the survival of the Nigerian society in general and of the individual in particular; and in section 8 (c & d) indicates that at all levels of education there must be orientation towards inculcating moral and spiritual principles that are inevitable for interpersonal and human relationships and for shared responsibility for society’s common good. It is here that moral education must do the job of inculcating in the student of technology and eventual technological researcher these said right values and attitudes that are a sine qua non for their productive technological operations without which the development of society is impossible- they would otherwise be like a body without a soul, which is consequently dead. For technological education and any education for that matter to be reformed and thus produce national development, it must be given a soul so as to be alive to generate the needed development. No wonder then Muoghalu [19] notes, “What can be reformed in education in a country without moral value? The reform will be implemented by morally depraved leaders” (p. 41). In that case, then, it will not work. Contextually we ask, what can be reformed in technical/technological education without moral education first? Muoghalu also recommends that moral education, as a course, must be an integral part of General Studies in all tertiary institutions in Nigeria and also form part of National Youth Service Corp (NYSC) orientation exercise, as well as be enshrined in the training programmes of all professionals. All professionals of course include all scientists and technologists or technicians. Muoghalu believes that the maladies of underdevelopment that Nigeria suffers are perpetrated by the professional categories, so if Nigeria must develop, then they (especially, scientists and technologists) must receive moral education and rearmament. And to quote Muoghalu [19]:

Only moral Nigerians can build an equitable and egalitarian society. Without it, hundreds of first class mathematicians, economists, scientists, engineers, doctors, etc will not lift Nigeria from abysmal descent, because Nigerians today are produced in an ocean of moral decadence. (p. 46).

And for Udoe [20], “What propels development is the human person with right mind set, right conscience, right disposition, right vision, right conviction and resoluteness. These virtues could be learnt, inculcated, developed and imbibed through moral education” (p. 89). Therefore, no scientist or researcher or technologist could ever produce a scientific or technological innovation if they lacked right mind set, right conscience and very importantly the resilience that goes with resoluteness, an indispensable ingredient that yields scientific discovery.

DISCUSSION

Education is a sine qua non for national development. But moral education is important for this development engineering education.

For Obiano [11], “Today with the world on our palms, lifestyle or technological innovation is easily spread everywhere without regard to norms” (p. 11). Obiano continues that this way modern culture has come to negate ethics and moral values as leaders of families, in their quest for wealth and material things have abandoned ethical considerations in order to embrace what she calls “the nuisance value of modernity”. Children are now taught success without labour. But we know there cannot be technology without labour.

Value reorientation is crucial for the attainment of productive technological development; but this too is a product of moral education. We must learn to love ourselves for what we are -black Africans made in the image of God like any other human being irrespective of race. With this mindset tribalism and nepotism in Nigeria will suffer a devastating blow while love of ourselves will lead to love of others and make us accept what we are capable of achieving as much as we love what others can achieve. By this frame of mind, the importation of what we are naturally able to produce will clearly be seen as nonsensically redundant; as the ridiculousness of importation of common pencil, ruler, toothpick, combs etc will become copiously evident, thereby generating an introspection and creative energisation for productive technology that even transcends the apparently possible.

Without moral education, the students of technological education are corrupt, cheat to pass and can never really learn; they emerge as half-baked. Without moral education, the students and teachers of technological education will never tell the truth in the process of research, the materials and funds for research are embezzled and nothing is achieved as has been happening in Nigeria. Without the virtue of hard work and endurance which are learned through moral education (*a ruo na-anwu, erie na ndo*- when you work under the sun, you eat under the shade. Or again, *aka aja-aja na-eweta onu mmanu mmanu*- soiled hands lead to oily mouth), no innovation in technology can be made and societal problems will remain unsolved and so development is never achieved (the italicized sentences in the above parenthesis which have been translated are of the Igbo Language). It is in the context of this line of thought that Wabanhu [21] notes, "The moral import of moral education and its contribution for national building in Africa is undeniable" (p. 28). It is indeed not only for Africa that the import of moral education for national development is true; it is rather globally writ large.

Indiscipline which generates corruption of all sorts can never allow for technological development. But indiscipline is rife in Nigeria. For Emele and Ezeoke [22], "Indiscipline is probably the greatest problem facing the Nigerian state today" (p. 181). It has led to embezzlement of funds needed for research and productivity and thus negated technological development; it has led to non-commitment to work and study, especially as many must cut corners to succeed. This is why we have the phenomenon of the churning out of unemployable graduates from tertiary and technological institutions. For Obasi and Erundu [23], "Many Nigerian men and women, youth and elders do not do the right thing at the right time, unless they are forced by law enforcement agents" (p. 109). This has evidently given Nigeria a bad name in the committee of nations. How could law enforcement agents be able to cover all Nigerians in order to make them do what they ought to do; are the law enforcement agents even free from the trend? This shows that development stride is far from Nigeria unless Nigeria will immediately embrace moral formation and stick to the rules. That is when it will really have the soul to be alive and thus pursue technological development.

CONCLUSION

It is very important for the Nigerian society to start paying serious attention to the field of technology by placing premium on investments in it. This will make technological education to be easily available and make development of the land faster. However, no matter the investments that may be made, if the Nigerian person is not first humanized, the investments in technology will not yield much fruits and so Nigerian development will still remain elusive, and we will continue to remain a laughing stock in the comity of nations as a country so highly blessed and yet so poor. This humanization of the Nigerian person in order to actualize national development is the sphere where moral education has a very special role to play. This humanization, this paper dare states is like the "ensoulment" of Nigeria- the giving of a soul for technological progress for Nigeria. For just as a body without a soul cannot be alive, so will technological education that leads ultimately to national development not be possible without first acquiring a soul which is moral education. This moral education arms the actors in technology education with the prerequisites for making time-tested commitments to research and technological discoveries as to provide the necessary technology for the development that Nigeria is desperately in need of.

RECOMMENDATIONS

- a) Huge investment has to be made by government in the area of building technical (and vocational) schools which furnish materials for technology and hence technological education.
- b) Moral education should be introduced as a compulsory course in all the levels of education in Nigeria so as to equip students with the virtues/values/habits that promote assiduous research and work needed in technological education and discovery.
- c) Any significant technological invention by Nigerians must be funded, no matter the tribe of the inventor, as tribalism, which is immoral, is a major bane to Nigeria's development, so as to encourage others and create development.
- d) Technological education should never end in class, so our technologists must be allowed or be assisted to practice their craft.
- e) Demonstrable knowledge should be more highly rewarded than mere theoretical knowledge.
- f) Nigerians must have a value reorientation and love and patronize local products so as to encourage local technology and technology education.

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