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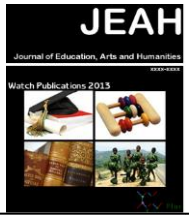

THE PROBLEM OF EPILEPTIC POWER SUPPLY ON THE EFFECT OF BASIC TECHNOLOGY IN NIGERIA

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Abstract

This study talks about the problem of epileptic power supply on the effect of basic technology in junior secondary schools. It also talks about some of the importance of basic technology, as a subject that introduces students at the Junior Secondary schools in Nigeria to the basic rudiment of technology. The National Policy on Education (2004) described it as the aspect of education which leads to acquisition of practical and applied skills as well as basic scientific knowledge. The issue of epileptic power supply in the Nigerian junior secondary schools has been a major concern, not just to the citizens, but also to the government and institutions which makes teaching and learning of basic technology very difficult in our society. The study concluded that it was observed that students do not perform well in the Junior Secondary School Certificate Examination (JSSCE) because of the epileptic power nature in the country. It was therefore recommended that the government should provide stable power supply as well as explore other sources of electricity in the country, so that it will in turn improve the teaching and learning of basic technology in our junior secondary schools.

INTRODUCTION

The growth of any nation is a measure of its level of science education. That was why Orukotan (2007) stated that science education has introduced a lot of changes in our world today and it will continue to do so in the future. Achievement in science education will go a long way in reducing illiteracy and poverty, which are impediments to national development, Nwachukwu (2008).

Akpan (2008) is of the opinion that science contributes to the quality of life in areas such as health, nutrition, agriculture, transportation, material and energy production, and industrial development. He further stated that it guarantees that the air we breathe, and the water we drink are life sustaining, and not vectors of disease and decay. He finally concluded that science and technology form the bedrock of sustainable development. It is in fact generally accepted that the adoption of a scientific frame of mind is a prerequisite for development. Science has therefore become a crucial factor for sustainable development worldwide. Again, in any country, issues of education are of considerable importance for economic prosperity. In fact, no economy can be more stable than the nation's education sector. That was why Adikwu (2008) opined that for any nation to experience economic growth, there must be a strong stimulation of science.

Basic technology for Junior Secondary Schools aims at introducing students to technology and stimulating their interest in the subject from the beginning of their secondary school education. It has been observed in many public schools in Nigeria that the results of basic technology every year in the Junior Secondary School Certificate Examination (JSSCE) is not encouraging in spite of the efforts made to achieve basic technology objectives (Elom and Okolie, 2014). A major cause of this bad performance is due to the epileptic nature of power supply experienced by secondary schools in Nigeria. Electricity supply has always been a major challenge and, indeed, a stumbling block to rapid economic development, and as well as an impediment to social transformation of Nigerian society (Alphonsus, 2016).

CONCEPT OF BASIC TECHNOLOGY

Technical and vocational education systems in Africa differ from country to country and are delivered at different levels in different types of institutions, including technical and vocational schools (both public and private), polytechnics, enterprises, and apprenticeship training centers. West Africa has a traditional apprenticeship which offers great opportunity for the

acquisition of employable skills in the informal sector. In general, students enter the vocational education track at the end of primary school which corresponds to 6 – 8 years of education as in countries like Burkina Faso and Kenya, or at the end of lower or junior secondary school, which corresponds to 9 – 12 years of what is called basic education in countries like Ghana, Nigeria, Mali and Swaziland (Adeoye and Olabiyi, 2011). At the inception of 6-3-3-4 system of education in Nigeria, technical and vocational education as offered as a subject at the end of primary school and was called "Introductory Technology" which is different from the current 9-3-4 system of education where it is called "Basic Technology" (Fakomogbon, et al, 2012). Basic technology is a foundation subject on which future technological development of students is built for those interested in vocational technical courses or engineering in higher institutions.

Basic technology is a subject that introduces students at the Junior Secondary schools in Nigeria to the basic rudiment of technology. The National Policy on Education (FRN, 2004) defined it as the aspect of education which leads to acquisition of practical and applied skills as well as basic scientific knowledge. It is also a subject that deals with the fundamentals of engineering and technology and its components include: Woodwork, Metalwork, Building Construction, Electrical/Electronics, Computer, Mechanics, Technical Drawing, and so on. Fakomogbon, et al, (2012) stated the following as the objectives of teaching Basic Technology as a core subject in Nigerian junior secondary school schools as follows:

i. To provide pre-vocational orientation for further training in technology.
ii. To provide basic technology literacy for everyday living.
iii. To stimulate creativity.

Basic technology being one of the skill oriented subjects bearing in mind the above objectives, enables the individual to acquire appropriate skills, abilities and competence to live in and contribute effectively to the development of his society (Onu and Ekeyi, 2013). It is very important to note that without the knowledge of basic technology, Nigeria as a nation might be left behind in the scientific and technological race. This then means that there is the need for adequate commitment in the teaching and training of basic technology in our junior secondary schools. The thoroughness in the teaching of basic technology will lead to the accomplishment of the objectives of vocational and technical education programs at the higher level of our educational system which is the major plight of Nigeria as a nation.

Through basic technology, students are helped to explore the various areas of technology towards making intelligent career choice. Effective teaching and learning of basic technology demands a workshop in which the theory learnt in the classroom can be translated, demonstrated by both teachers and students.

IMPORTANCE OF BASIC TECHNOLOGY IN JUNIOR SECONDARY SCHOOL

The importance of basic technology in junior secondary schools cannot be over emphasized. Through basic technology, students are helped to explore the various areas of technology towards making intelligent career choices which will help the students in the skills and other engineering oriented courses at the tertiary level of education. The choice students make at the tertiary educational level is highly dependent on their earlier knowledge and skills acquired at the secondary school level.

Looking at the alarming rate of unemployment in the country, the need for the nation to embrace the teaching and learning of vocational and technical courses in our schools in order to turn our graduates who can be self-employed should be given priority as the technological development of any nation rest on the competence and capability of her manpower.

The study of basic technology has helped to reduce ignorance of technology; it gives the opportunity to students to use tools and machines that are used in the industrial process, it provides skills that help the learners to handle any piece of work given them. Also, students who have acquired basic technology knowledge and do not have means of continuing their education may be employed as craftsmen in industries. Uwameiya (2006) observed that through basic technology, students are assisted to explore the various areas of technology towards making intelligent career choice. Basic technology has three main objectives as stated by the Federal Republic of Nigeria (2004);

1. To provide pre-vocational orientation for further technology.
2. To provide basic technology literacy for every living
3. To stimulate creativity.

These objectives of basic technology as stated by the Federal Republic of Nigeria (2004) will only be achieved if basic technology is effectively taught and learnt in the junior secondary classes and this will improve technological manpower in the country. According to Fafunwa (2001) the major goal of technology education is to prepare the students for productive work like participatory citizens, giving them skills and knowledge, so that all the attitudes the students acquire will be related to the needs and problems of their immediate environment. At the junior secondary school level, students are expected to be exposed to fundamental skills needed to be relevant in the society. They are supposed to acquire skills in wood work, metal work, electrical and electronics and local crafts so that those who will leave the schools at the junior secondary school level will be fit in the world of work.

POWER SUPPLY IN NIGERIA

One of the effects of the Nigerian policy implementation

failures is that despite the abundance of natural gas and renewable energy resources in the country, Nigeria has become known for its epileptic power supply. Some communities do not have access to this basic social infrastructure; those that have it cannot rely on the very poor supply from the holding company of Nigeria. This contributed to adverse impacts on industrialization in the country. The production and provision of electric power from renewable energy sources is the new global focus with massive advocacy for increased investment in the Research and development of renewable energy technologies, Mark and Tonye (2009). In fact, it has been observed that the collapsing nature of industries are due to lack of accessible electricity, and due to lack of accessible electricity, and the overall result of this, is the loss of jobs in the industries and the impoverishment of many. According to Udah, (2010), he explained industrialization as deliberate and sustained application and combination of an appropriate technology, infrastructure, managerial experts, and other important resources. He went further to explain that industrialization has attracted considerable interest in development economics in recent times. And this makes it very important in any nation because of its critical role in economic development. Industrial production in any nation accelerates the pace of structural transformation and diversification of economies; enables a country to fully utilize its factor endowment and to depend less on foreign supply of finished goods or raw materials for its economic growth.

According to Ubi et al (2012), between the time electricity was introduced to Nigeria and the time Federal Government embarked on reform, three main periods are discernable. First, the period that predated the establishment of the Electricity Corporation of Nigeria (ECN) in 1950, which is characterized by isolated generation facilities with low rates of electrification. In this period, electricity supply in Nigeria was confined to a few urban areas and to mining centers. The second phase is the period between the establishment of the Electricity Corporation of Nigeria (ECN) in 1950 and the establishment of National Electric Power Authority (NEPA) in 1972. All the power stations, distribution stations and substations were specially interlinked by a transmission network, the national grid. The whole output of electricity generated nationwide was collected in a pool at the national control center, Osogbo. From there, the electricity generated was redistributed to all parts of the federation. In order to obtain smooth transmission of the electricity generated at the different power stations, NEPA put in place a total of 11,000 Kilometers of transmission lines nationwide. In the same vein, extensive distribution of transformers and other relevant facilities were installed to ensure an even distribution of electricity to all customers across the federation. Despite all these efforts, the situation of power supply in the country keeps worsening. This led the government to the current phase of reform which started with the formation of PHCN. The Electric Power Sector Reform Bill, signed into law on March 11, 2005, enabled private companies to participate in electricity generation, transmission, and distribution. The signing into law of the bill ushered the restructuring and the privatization of the electricity sector. The Act further provided for the establishment of the Nigeria Electricity Regulatory Commission (NERC) to monitor and regulate the power sector as it undergoes reform (Ohajianya et. al, 2014).

THE EFFECT OF EPILEPTIC POWER SUPPLY ON BASIC TECHNOLOGY.

It is not an overstatement to say that electricity supply contributed largely in making the world what it is today. The importance of electricity to the masses, industries, institutions cannot be overemphasized. The use of electric irons, televisions, radios, washing machines, refrigerators, video players, cookers, computers, fans, air-conditioners and other electrical appliances are all made possible through electricity supply. In other words, any nation without electricity supply is like a vehicle without fuel, she will remain stagnant in every ramification of the economy. The issue of epileptic power supply in Nigeria has been a major concern, not just to the citizens, but also to the government, institutions and various industries in the country. In order to address the issue of electrical power crisis and improving the reliability of the electrical power system in Nigeria, the federal government have, at one time or the order, had to merge Electricity Corporation of Nigeria (ECN) and Niger Delta Authority (NDA) to National Electric Power Authority (NEPA) in 1972; change NEPA's nomenclature to Power Holding Company of Nigeria (PHCN) in 2005, focusing mainly on restructuring; privatize and splitting PHCH into eighteen companies in 2012. However, records obtained so far have shown that all of these have had little or no positive impact on the availability of electricity, which is of utmost concern to consumers (Fabiyi et al, 2016, Awosope C. A 2014 and Ojiezel A. W 2012).

Early in the year 2016, power generation reportedly dropped from 5000 megawatts to below 1600 megawatts (Fabiyi et al, 2016). This worsened the state of electrical power supply and generated lots of wave and outcry among electricity consumers. Epileptic power supply in Nigeria has been a major barrier to the growth of our economy. The effects of power outage on businesses can be catastrophic. Satisfaction derived from the use of basic social amenities such as quality health care, adequate water supply, telecommunication services, etc. Becomes limited or even impossible due to long term electrical power outage. Huge revenue loss is recorded in business outfits, there has been business disruptions, laying-off of workers by affected industries and institutions, loss of important records and data, waste of perishable foods due to lack of preservation, are some of the effects of epiletic electrical power crisis.

Oluwole et al, (2012), in their research pinpointed low water levels, unavailability of gas to power the turbines and inadequate plant maintenance as the major causes of discrepancies between electricity demand and actual power generation. Ponnle A.A. (2005), stated that the long hours of blackout always experienced in some areas due to the sharing of load by electricity distribution companies. He added that electricity distribution companies always resort to load sharing due to the small amount of power being generated in the country. Ohajianya et al, 2014 identified incompetence of staff of the energy companies, inconsistent energy policies of the federal government and inefficient power generation, transmission, distribution and consumption as the major factors responsible for erratic power supply in Nigeria. Awosope C.A (2014), listed lack of modern equipment, policy that support the local production of machines and spare parts, low morale among workers and embargo on employment as some of the effects of insufficient funding on power availability.

Secondary school institutions are not left out in the effect of epileptic power supply in Nigeria as most secondary schools in the country do not get stable power supply during school hours. This has impeded the teaching and learning process that is power dependent. Basic technology being taught in junior secondary school is one of those subjects seriously affected by epileptic power supply as most of the machines needed to carry out demonstration in the laboratory. Basic technology as a skill oriented subject, whose major aim is to expose the learners to the rudiments of technology, it is very necessary that it should be taught with equipment. This will enable the recipients to gain awareness, appreciation and orientation into technology that will enable them develop further or choose a trade (Uwaifo and Edigin, 2011). In a situation whereby epileptic power supply is prevalent, teaching and learning of Basic technology is adversely affected as the equipment needs power to function.

CONCLUSION

In conclusion, basic technology for Junior Secondary Schools aims at introducing students to technology and stimulating their interest in the subject from the beginning of their secondary school education. It has been observed in many public schools in Nigeria that the results of basic technology every year in the Junior Secondary School Certificate Examination (JSSCE) is not encouraging in spite of the efforts made to achieve basic technology objectives (Elom and Okolie, 2014). A major cause of this bad performance is due to the epileptic nature of power supply experienced by secondary schools in Nigeria. Electricity supply has always been a major challenge and, indeed, a stumbling block to rapid economic development, and as well as an impediment to social transformation of the Nigerian society (Alphonsus, 2016). If nothing is done to checkmate this issue of epileptic power supply in Nigeria, students in junior secondary schools in Nigeria will not get the adequate knowledge required to be fully equipped with basic technology skills. This will result in poor performance in examinations and will lack competence in the world of work.

RECOMMENDATION

It is highly recommended that the Nigerian government improves the rate of power supply in the country and also encourage the use of alternate power supply such as solar energy, geothermal energy, nuclear energy and wind energy. This will in turn improve the teaching and learning of basic technology in junior secondary schools in the country. In other words to save us from this unnecessary national embarrassment and to bring the vision 2020 in to a reality, that is, to be among the top twenty industrialized country by the year 2020, the problem of dwindling electrical power supply must be tackled head-on. There is a need for a robust method to be adopted to identify the root causes of poor electricity in our various junior secondary schools.

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