

# THE ROLE OF ENGLISH LANGUAGE IN THE ADVANCEMENT OF SCIENCE AND TECHNICAL EDUCATION IN NIGERIA FOR NATIONAL DEVELOPMENT

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## Abstract

*English Language is accorded a prominent status as a medium of academic instruction in the Nigerian education system for being the only language that enjoys mutual linguistic intelligibility in the country in the absence of an indigenous Lingua Franca. Over the years, and even in recent time, some scholars have tenaciously contended that the much anticipated scientific and technological development in Nigeria would continue to elude the country so long as the medium of instruction in science and technical education remains the English Language (cf. Nnolim, 2007; Olarenwaju, 2015 citing Nnabuenyi, 1998; Ike, 1998 echoing Bamgbose, 1983). This view probably accounts for the nonchalant attitude exhibited by science and technical students towards the study of English Language. This paper therefore, examined the role of English Language in the advancement of science and technical education in Nigeria for national development. It traced the history of English in Nigeria and discussed the problems of evolving a national language for the country. It further explored the place of the language in the heterogeneous and multilingual Nigeria as well as in the 21<sup>st</sup> century global world of science and technology. The paper concluded that the acquisition of scientific and technological knowledge would be impossible in the contemporary Nigeria without the English Language, and that the language constitutes no impediment to the scientific and technological advancement of the country. It was strongly*

*recommended, among others, that science and technical students should be fully exposed to English for Specific Purpose alongside English for General Purpose to enable them excel in their chosen fields of specialty as well as fit well into the contemporary global village.*

**Key words:** English Language, science and technical education, national development.

### **Introduction**

In the contemporary civilization, English Language is, to a large extent, a world language taking cognizance of the overwhelming number of its speakers across the globe that use it as mother tongue, second or official language. In Nigeria, the mastery and appropriate use of English Language is indisputably expedient because of the multifarious purposes it serves in the country. It is the language of the press, judiciary, parliament, administration, and religion. Apart from being the official language of the country, it is equally the language of music, arts and sports, journalism and broadcasting, language of the ivory tower as well as commerce and industry (cf. Ugwu, 2006). This is perhaps why it has been officially adopted as the medium of academic instruction in all educational institutions in the country. However, despite the indispensable roles of the language in the country as evidenced from the foregoing, it has been argued in several quarters that for Nigeria to advance scientifically and technologically, English should not be a medium of instruction in science and technical education in the country (cf. Nnolim, 2007 cited in Olarenwaju, 2015).

English Language is a language of science and technology, especially in the present world that has become a global village.

However, the underlying reason for the rise of English as a language of science remains a subject of debate. But its position as a language of science and technology began in the wake of the disruptive war of the half of the 20<sup>th</sup> century, with its political and economic implications ([www.researchtrend.com](http://www.researchtrend.com)). Up till today, English is the only language that enjoys the richest corpora of written literature in science and technology the world over.

The learning of English Language in Nigeria is inescapable irrespective of one's academic discipline as the country is yet to evolve an indigenous lingua franca. Besides, science and technical students require knowledge of English to excel in their chosen professions because English is used to create, express, interpret and transmit science and technology (cf. Nwaiwu, 2007; Ike, 2007; Ugwu, 2006, Aina, and Olanipekun, 2013). To this end, Proficiency in English Language is strongly related to student's academic performance in science and technical education in Nigeria.

There is no doubt that effective mastery and use of a language of instruction is essential for excellence in any kind of scholarship. This is because language has a connection with thinking. In other words, man thinks in the language he uses. Consequently, adequate knowledge of English is paramount in science and technical education in Nigeria. Effective and efficient competence and performance in the language would enable learners read with understanding, express scientific and technological thoughts clearly, think logically, and recognize and use common patterns of scientific and technological thoughts (cf. Awoyemi, Awofala, Nneji & Fatade, 2012). Incontrovertibly, it is only when these conditions are realized that science and technical knowledge would flourish in Nigeria, which would eventually translate into national development.

In consonance with the foregoing, the fundamental question raised in this study is: could the study of science and technical education be successfully carried out in any other language in Nigeria apart from the English Language, considering the multilingual nature of the country and the absence of a national language? Furthermore, is English Language as a medium of instruction in science and technical institutions responsible for the nation's backwardness in science and technology? This paper is therefore, aimed at examining these controversial issues with a view to ascertaining the true state of affairs in the subject matter, relying heavily on painstaking search and analysis of relevant literature.

### **Understanding Language, Education, and National Development**

A postulation that language, education and national development have intricate and inseparable relationship cannot be successfully debunked by any school of thought. This is obvious because in any human society, the absence of one would inevitably affect adversely the existence and development of the other (s). For example, language provides the only vehicle through which ideas, abilities, culture, value system, technical and vocational skills (education) are imparted into the learners, and it is only when the citizens of a given society have access to high quality and worthwhile education that national development becomes possible.

According to Dogara (2015), it is not possible to conceive a rational being or society without the existence of language, and its effective use is crucial for any form of national development. Language, as the *Western International Encyclopaedia* (2003) informs us, is etymologically derived from a Latin word,

'lingua,' meaning 'tongue'. It goes further to define language as a means by which human beings express themselves vocally and communicate with others. For Ike (2007), language is the expression and communication of emotions or ideas between human beings by means of speech, the sound spoken or heard being systematized and confirmed by usage among a given people over a period of time. It is a system of vocal or written symbols commonly accepted and understood by a given human society, and by which members of that society communicate. The foregoing views on language point to the fact that language is primarily used for communication of ideas, philosophy, values, skills and competences to effect a permanent change in the recipient for his own personal development and that of the society.

It is in the light of the above that language becomes expedient in the teaching and learning process. After all, transmission of knowledge cannot be possible without communication, and communication between human beings cannot be successfully carried out without language. To this end, the *New Encyclopaedia Britannica* (1998) defines education as the transmission of the values and accumulated knowledge of a society designed to guide a learner, moulding his behaviours in a way of adulthood, and guiding him towards his eventual roles in the society. Furthermore, education is a process of acquiring literacy and numeracy as well as skills and competences that enable one live effectively and efficiently in human society and contribute to its development. For education to be worthwhile, it is expected to provide learners with 'a wide range of technical skills, access to various types of accepted knowledge, critical thinking capacity, cultural as well as civil values and beliefs' (Ojodokun, 2007). The essence of education is to equip citizens of a society to enable them contribute to national development.

This must incorporate the aggregate of all the processes by which citizens develop positive attitude, abilities, vocational, technical and intellection skills for all round development. Undoubtedly, the development of any society is largely dependent on the accomplishment of the fundamental educational objectives of that society, and the overall goal of any educational system is to ensure national development in all its ramifications.

National development in its general sense, according to Ike (1998), could be conceptualized as a gradual growth of any country politically, economically, socially, culturally and educationally. The growth of the foregoing indices of development is, undeniably, achieved through the instrumentality of education. Their optimal development ranks a society as developed, whereas their slow- paced development categorizes a nation as either developing or underdeveloped, depending on the degree of the slowness. But national development goes beyond optimal development of physical infrastructure, science and technological development. It embraces an appreciable level of positive change in the citizenry in respect to ideals, values, and attitude which translate into peaceful coexistence, progress, unity etc, and eventually brings about real national development. These virtues, it must be noted, are inculcated into the citizens through education, conveyed with the help of language. The implication is that language is most crucial in the functioning of any society, and thus, instrumental to its national development (cf. Olarenwaju, 2015:56). A society would not only fail to develop but also cease to exist without language.

## **English Language in Nigeria: A Historical Overview**

It is perhaps significant to state that the English Language which has become almost a world language today was first the dialect of three Germanic tribes-- the Angles, Saxon and the Jute that conquered and dispossessed Britain during the fifth and sixth centuries. It is from the Great Britain, after their invasion and settlement, that the language spread rapidly to other lands where it is today used as mother tongue. These lands include America, Canada, Australia and Newzealand. The language subsequently gained entrance and acceptance in other 'new lands' where English-speaking Colonial Masters domiciled and exercised political authority, such as the continental Africa, Asia and the Islands of the central and southern pacific (cf. Anyachonkeya and Anyachonkeya, 2015: , Ike, 2007).

Nigeria was one of the colonies of the Great Britain, and so, English arrived in the country (which was then made up of independent ethnic groups) with the Colonial Masters. English Language is unarguably the most enduring legacy of the Nigeria and British contact, a colonial property that has continued to unify the country. According to Azikiwe (2007), English was introduced in Nigeria in 1842 by the first batch of the European missionaries who arrived in Badagary, Lagos for the purpose of evangelism. As time went on, the language became a potent instrument for trade, education and political administration. It gained wide acceptance after the amalgamation of the southern and Northern protectorates that produced the political entity which is today known and called Nigeria.

Furthermore, the heterogeneous and multilingual nature of the country following the forceful amalgamation, as well as the pride of place accorded the language during the colonial era, necessitated its wider acceptance, mastery and usage across the

country. It was regarded as a status symbol, a passport for educational advancement, career progression as well as a mark of an educated man in the society. These stark realities made the little opposition the language experienced in some quarters very insignificant. For instance, Ugwu (2006) reported that six Northern Emirs in a meeting with Sir Bernard Boudilon, the then Governor General, in 1940, after opposing the introduction of English in the Northern Nigeria, confessed that knowledge of English is 'progress' despite their love for Arabic and its importance. Today, English has become part and parcel of Nigeria that it is no longer fashionable to construe it as a language of conquest and political domination.

### **The Place of English Language in Multilingual Nigeria**

Nigeria is indeed a multilingual nation. Multilingualism occurs in a society where many languages exist and are spoken by the citizens. In Nigeria, as in many other countries of the world, especially Africa, multiplicity of distinct languages exist as a result of forceful and unsolicited amalgamation of diverse ethnic groups to form the country. This unhealthy situation has given rise to numerous languages that exist alongside the nation's official language. Presently, Nigeria has over 500 languages spoken in all parts of the country. Anyachonkeya and Anyachonkeya (2015:195) quoting FRCN News Talk of Sunday, April 18, 2004, puts the figure precisely at 516 distinct languages.

But the fundamental issue as noted by Eyisi (2006) is that none of these languages can conveniently be accepted as a national language as an attempt to raise one to that status would become unsuccessful due to ethnic bickering and suspicion. Consequently, Nigeria continues to face linguistic problems with its attendant consequences. However, the country has



continued to exist even in the absence of an indigenous lingua franca. Why is it possible? This has been made possible only by the presence of the English Language, even when all the other options or recommendations such as any one of the major indigenous languages-- Hausa, Igbo or Yoruba, Pidgin, Swahili and WASOBIA have all failed (cf. Olarenwaju, 2015 citing Essien,2009). This perhaps led Olarenwaju to assert that lack of a single national language in Nigeria has conferred English the 'monopolistic status of both official language and lingual franca of the country.'

The place of English Language in Nigeria is that of official language because it is used nationwide in official businesses of government in the judiciary, politics, diplomacy, education and so on. To further buttress this assertion, it would be pertinent to see some policy statements in Nigeria regarding the place of English language in the country so as to fully decipher its indispensability. To this end, the constitution of the Federal Republic of Nigeria (1999, section 55) states that:

The business of the National Assembly shall be conducted in English and in Hausa, Igbo and Yoruba where adequate arrangements have been made therefore.

In the state assembly, it states that: The business of the Houses of Assembly shall be conducted in English, but the House may in addition to English conduct the business of the House in one or more other languages spoken in the state as the House may by resolution approve. (See section 97).

It is worthy of note that till this day, that 'adequate arrangement' has not been made in the National Assembly to use any of the three 'approved' languages of the country to conduct the

businesses of the House. In the same vein, no state Assembly uses indigenous language of the state to conduct legislative affairs till date!

In the nation's education system, English Language is accorded a pride of place. Its teaching and learning is elevated as a status symbol and elitist. Even the three selected indigenous languages in the country - Igbo, Hausa and Yoruba - are not given the attention they rightly deserve in respect to teaching and learning. For instance, the *National Policy on Education* (2004) states that:

In selecting the Nigerian languages, the students should study the language of their own area in addition to any of the three main Nigerian languages, Igbo, Hausa and Yoruba, subject to availability of teachers.

Notice the underlined phrase. Its implication is that the teaching and learning of those useful languages could be abandoned if there are no teachers to teach them. Little wonder most Nigerian students are illiterates in their own mother tongue. More worrisome is the fact that they are both incompetent in their own native languages as well as in the all important English language.

It is therefore an incontestable fact that English language has come to stay in Nigeria. Its acceptance is perhaps predicated on the fact that it enjoys mutual intelligibility across the country. This is more pronounced in the country's education system where students and teachers from various ethnic groups come under one roof, say in a tertiary institution, for the purpose of teaching and learning. In such a scenario, no other language in the country would be able serve as a medium of instruction, communication and social interaction except the English

Language. As a matter of fact, learning would be impossible in our science and technical institutions in the absence of the English language! Fortunately for us, English is today a world language used prominently to create, express, interpret and transmit technology (Nwaiwu, 2010). Besides, according to Anyachonkeya and Anyachonkeya (2015:224), English is the language of international scholarship and scientific research, and has more than half of the world's scientific and technological journals written in it. Ike (2007) corroborates this assertion and avers that 'English is the language of telecommunication, Engineering, space science and computing technology', whereas Ugwu (2006) equally concurs as he lends his own voice thus:

English is the language of science and technology because over eighty percent of information stored in the world computers is in the English language.

English is therefore, the world's lingual franca. In fact, English in Nigeria has become the language of everything: the constitution, parliament, press, administration, judiciary, education, arts, religion, music and sports. (195)

A more critical look at the roles of English in the contemporary world civilization will definitely bring to the fore its indispensability and the obvious need for its enviable status in Nigeria. Today, English has consequently become indeed a language of 'everything' both in Nigeria and the world over. But for us in Nigeria, the language is very vital for our corporate existence as a nation and for our individual survival, as clearly evidenced in the nation's educational system. Eyisi (2006:90) summarized it thus:

English is the inevitable passport for educational advancement in Nigeria as the university door closes against any individual who has not obtained a credit pass in its examination. Virtually all activities in the school system are done in the language. It is a means of instruction; textbooks are written in it, and it is an essential means of evaluation. Western education is therefore, equated with one's knowledge of English.

It has been incontrovertibly well established in this discourse that Nigeria as a multilingual country per excellence cannot do without the English language since it is the major language of wider communication and a learning tool in the country. Besides, it is the access or window for technological development in the world, be it economic, social, political or technological. Therefore, for the country to escape 'developmental backwardness', and become relevant in the continuously changing world of science and technology, it must inevitably ensure that her citizens have the facility in the language through teaching and learning. A pertinent question to ask at this juncture is: should the teaching and learning of English be accorded serious priority in Nigeria's science and technical education sub-sector? To address this issue, let us examine the role of English language in science and technical education in the country-- the crux of this discourse.

### **The Role of English Language in the Advancement of Science and Technical Education in Nigeria**

It is indisputable that English language is the medium of academic instruction in Nigerian schools in the absence of an indigenous lingual franca. In our academic institutions, all courses, be it science, technical, vocational, literary, social science and so on, are taught in the English language particularly as a result of the linguistic plurality in the country.

But should this indispensable language, as argued by some scholars, not be used as a medium of instruction in science and technical institutions in Nigeria? It is perhaps necessary to state that science and technical institutions are statutorily mandated to train technical and scientifically skilled middle and high level manpower to sustain the economy towards national development. Universities of science and technology and polytechnics are at the forefront in rendering this all important service to the nation.

At the inception of modern education in Nigeria, six universities first offered courses in science and technical education in the areas of Mechanical, Civil, Electrical, Agricultural and Chemical engineering. Subsequently, the technical colleges in Lagos, Ibadan and Kaduna were upgraded to become polytechnics, and with their broadened curricular, were allowed to award Higher National Certificate and Higher National Diploma (cf. Fafunwa, 1974:196). The efforts of these institutions were complemented with the services of other post-secondary technical colleges that served as 'breeding ground' for science and technical education consciousness in Nigeria. The medium of instruction in those institutions, it must be noted, was the English language as it is today, and Nigeria produced highly scientific and technical manpower that sustained the budding economy. The recipients of the early science and technical education in the country excelled in their chosen fields, both at home and in the Diaspora.

Nigeria has the potential to advance in science and technology despite the quest for a national language that has continued to elude her. English language is so crucial in science and technical education in Nigeria because, according to Anyachonkeya and Anyachonkeya (2015:225), English remains the most dominant

language that enjoys rich corpora of written literature where important pronouncements are made in science and technology. Furthermore, English language is essential in science and technical schools in that the knowledge of language is a sine qua non in the system, for the learners need it for the following reasons, as outlined by Ugwu (2006:197) and slightly modified by the authors:

- ❖ Understanding of lectures,
- ❖ Understanding of textbooks and mimeographs,
- ❖ Writing of assignments, tests, quizzes and examinations,
- ❖ Preparing feasibility studies, organizational plans, marketing plans and so on,
- ❖ Understanding of instructions,
- ❖ Explanation of instruction,
- ❖ Writing of technical report,
- ❖ Writing of papers (academic and scientific),
- ❖ Communication in the classroom and within the school environs.

Furthermore, science and technical students require the knowledge of English to be able to:

- ❖ Understand mathematical and engineering calculation, figures, charts, plans and graphs,
- ❖ Understand scientific and technical journals in their respective professions,
- ❖ Understand resources in the online platform-- the internet whose language is predominantly English,
- ❖ Write their own findings and publish same for the academic community globally.

It is on this premise that this paper vehemently disagrees with the scholars whose position is that English language is not necessary in science and technical education in Nigeria. They attribute the nation's backwardness in science and technology to

the continued use of the English language as a medium of instruction in science and technical institutions in Nigeria. For instance, in the words of Ike (1998) echoing Bamgbose (1983), 'Unless we make it possible for our children to learn basic disciplines relevant to modern technology in their mother tongue, the seed of transfer of technology will fall on the barren ground and fail to germinate.' In the same vein, Olarenwaju (2015) quoted Nnabuenyi (1998) as having asserted that our 'technological revolution will continue to elude us so long as we fail to indigenize our technological language.' The author equally cited Nnolim (2007) as having said that 'to make the scientific progress really understandable entails importing science literacy in the indigenous language understood by a vast majority of the people.' This school of thought was perhaps pioneered by Professor BabsFafunwa who had earlier posited that learning would take place more effectively when learners are taught in their mother tongue.

The position of this paper, however, is that English language is not an impediment to science and technological progress of Nigeria, but rather an important tool for its learning and/ or transfer, considering the linguistic diversity of the country on one hand and the relevance of the language in the 21<sup>st</sup> century civilization, on the other hand. Those who advocate that English be jettisoned in our science and technical institutions may not have taken into cognizance the fact that Nigeria has no lingual franca at present, and would not evolve one so easily due to her language situation, fear of ethnic domination and other forms of political influence.

The only possible remedy is to develop any of the main indigenous language to serve as a national language. But that too seems impossible at present. This study, on this note,

identifies glaring obstacles towards inventing and adopting a national language for Nigeria, to serve as a suitable replacement for English in our science and technical institutions. These socio-linguistic problems include:

- ❖ The problem of selection (from the three main languages or from over 500 indigenous languages in the country),
- ❖ The problem of nation-wide acceptance of the selected language,
- ❖ The cost of standardizing the selected language,
- ❖ The problem of evolving appropriate words to replace scientific and technological terms for effective understanding and communication in the classroom,
- ❖ Cost and possibility of training teachers across the country to teach the new language,
- ❖ likely inability of students to cope with sudden change of language of instruction as well as the new terminologies,
- ❖ Problem of likely unavailability of adequate textbooks, journals and other research materials that embody the new language.

From the foregoing, it is conspicuous the English language is relevant in Nigeria as a medium of academic instruction even in science and technical institutions. It will certainly do us a lot of good to heed to Ike's (1998:81) advice that 'until we are reasonably sure we can do without the English language, we should not rashly abandon it.' Pending the time a national language is developed in Nigeria, English should continue be the medium for the acquisition of scientific and technological knowledge to ensure that the envisaged national development of the country would not irredeemably elude us!



## **Conclusion**

Language usage is a natural attribute of man exclusively reserved for him with which he communicates in his speech community. An aspect of this communication profoundly manifests in imparting knowledge to learners in institutions of learning. In Nigeria, English language has continued to become relevant as a medium of instruction in the teaching and learning process in our schools. It has been well established in this discourse that the use of English in science and technical institutions is indeed indispensable due to the heterogeneous and multilingual nature of Nigeria as well as the absence of an indigenous lingual franca in the country till this day. This paper therefore concludes that Nigeria should not jettison the use of English in science and technical institutions simply on nationalistic grounds without making adequate arrangements to ensure that such a departure does not prove counterproductive. We insist that English has come to stay in Nigeria and that Nigerians can, according to Achebe (1991) quoted in Eyisi (2006), 'believe in the value of the language to the survival of the Nigerian nation without feeling like deserters.' After all, English is not only a language of science and technology but also, to a large extent, a world language, and therefore, poses no threat to the development of science and technical education in Nigeria.

## **Recommendations**

This study, from the foregoing conclusion, makes the following recommendations:

- ❖ Attention should be paid to the teaching of English for Specific Purpose alongside English for General purpose in Nigerian universities of technology and polytechnics.
- ❖ Efforts should be intensified towards making science and technical students truly literate in English language to enable them fit well into the present global village.
- ❖ Science and technical students should be discouraged from using Pidgin English as a medium of communication in their schools.
- ❖ Until Nigeria selects and standardizes one of the indigenous languages and elevates it to the status of national language, the study of English in science and technical institutions should not be relegated to the background.
- ❖ Government should, as a matter of urgency, employ a good number of English language teachers to handle various aspects of the language, and also ensure that only qualified ones are recruited.

## References

- Aina, J. K., Alexander, G. O., & Olanipekun, S. S. (2013). Student's performance in English language relationship with academic performance in science and technical education. *American journal of educational review*. 1 (9), retrieved from <http://www.pubs.com/education/1/9/2> on 21/06/2016.
- Anyachonkeya, N. and Anyachonkeya, C. P. (2015). *The way it is: English language and communication*. Owerri, Nigeria: LIU House of Excellence Ventures.
- Awoyemi, A. A, Awofala, O. A, Nneji, L. M., & Fatade, A. O. (2012). The relationship between language and science, technology and mathematics in Nigerian schools *International journal of Mathematical trends and technology*. 3 (3), retrieved from <http://www.ijmtjournal.org/volum-3/ijmtt-v-313> on 21/06/2016.
- Azikiwe, U. (2007). *Language teaching and learning*. Onitsha, Nigeria: Africana-first publishers limited.
- Dogara, M. E. (2015). Nigerian languages and national development: problems and prospect. *NATECEP journal of English and Communication Studies*. 11, 72-75.
- English as an international language of science. Accessed from <http://www.researchtrend.com/Issues-july2008/English-as-international-language> on 21/06/2016.
- Eyisi, J. (2006). The English language in multilingual Nigeria. *Journal of Business Technology*. 1 (1), 77-89.
- Fafunwa, B.A. (1974). *A history of education in Nigeria*. London, Britain: George Allen and Unwin.
- Federal Republic of Nigeria (2004). *National policy on education*. Lagos, Nigeria: NERDC Press.
- Federal Republic of Nigeria (1999). *The constitution*. Lagos, Nigeria: Federal Government press.
- Ike, N.J. (2007). *Applied Linguistics*. Abuja, Nigeria: Wilbest educational publishers.
- Ike, N.J. (1998). *Language and national development: the Nigeria experience*. Abuja, Nigeria: Wilbest educational publishers.
- New Encyclopaedia Britannica* (1998). Language. Chicago, U.S.A: Encyclopaedia Britannica incorporated. 7, 146
- Nnolim, C. E. (2007). The Nigerian national language policy and the future of Nigerian literature. A key note address presented at the

24<sup>th</sup> annual conference of the English Studies Association, Uyo, Nigeria.1-8.

Nwaiwu, C. O. (2010). Teaching the General English courses with focus on relevance. A paper

Presented at the School of General Studies and Engineering conference at the Akanu

Ibiam Federal Polytechnic, Unwana, from 17<sup>th</sup> to 19<sup>th</sup> May, 2010.

Ojedokun, A. A. (2007). *Information literary for tertiary education students in Africa*. Ibadan,

Nigeria: Third world information services limited.

Olarenwaju, A. T. (2015). Re-inventing the multiplicity of languages in Nigeria for national development. *NATACEP journal of English and Communication Studies*, 11, 56-62.

Ugwu, E. (2006). Is English relevant in Nigerian polytechnics? An appraisal of English language courses in our polytechnics. *Journal of business technology*. 1 (1), 193-197.

*Western International Encyclopaedia* (2003). Language. Florida, U.S.A: Typhoon international corporation. 644.