PROBLEM AND PROSPECT OF SPOKEN ENGLISH IN THE TEACHING OF SCIENCE IN SECONDARY SCHOOLS AND THE ATTAINMENT OF QUALITATIVE EDUCATION IN NIGERIA

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Abstract

This paper attempted to examine the language situation in Nigerian secondary schools. It reviews the problems and prospect of spoken English in the teaching and learning of science. The existing yarning gully between the teacher and the student is discussed. Problems such as the use of high- sounding scientific registers and abstract dictions in the teaching of science are identified. The paper further explores how the teaching of science using the appropriate English language dictions can contribute to the attainment of qualitative science education in Nigeria. Recommendations on how to remedy the current existing situation and how to harness contributions so far made are proffered.

Language is said to be of the most important features that distinguish human beings from other living things. It is the bases of communication among human beings. It is the most important and effective key to human achievements.

Awoniyi (1982) in assessing the role of communicative use of language, asserts that "with out language there will be chaos and human existence and civilization as we know it today, will disappear". According to him, language is used to pass on ideas, feelings, knowledge and request from one person to another for the purpose of physical, political and socio-economic development.

On the other hand Gilman (1978) opined that language "is a system for communicating concepts, ideas, feelings and thought, to other members of the society. He identified language as an important ingredient in teaching and learning.

Vygotsky (1962) in Nwaiwu (1993) observed that language is an important variable in learning and in intellectual development of a child", while Brunner (1966) claims that "teaching is vastly facilitated by the medium of instruction that is used by the teacher.

The Federal Government stressed the importance of language in the National Policy on Education (FRN, 2004) which states that the mother tongue (L1) should be used as medium of instruction in the first three years of primary education. Therefore, in the last three years in primary school and first three years in junior secondary school 9JSS) the mother tongue (L1) and English language (L2) are used side by side as medium of instruction. This in effect does not only help in preserving the value of the learner's culture but also enhances his understanding of the lexis of both languages. Although, not backed by legislation, English language, in Nigeria today has been adopted as the official language of teaching and learning in schools.

On the other hand, science is a systematized body of knowledge and the process of acquiring knowledge. While science has helped to direct the study of language (for instance linguistics) language in indispensable in the life of science. In other words, both language and science are not only inter-twined but are also interdependent. The production, distribution and utilization of scientific knowledge are essential aspects of science which requires the use of language for adequate functioning.

Cooper (1973) identifies five basic aspects of language as the spoken word, the written word, symbolic representation, gestures/miming and action. The intention of this paper is to discuss as aspect of language which is the spoken language and how its appropriate use can contribute to qualitative education and national development.

Spoken English and Teaching of Science

Speaking is the ability to make use of a language in a meaningful form. It is the communicative or interactive act between or more people. It involves the transmission of knowledge, interest, activities, opinions and ideas in a meaningful form. Speaking is the productive skill in the oral mode. The spoken word is a very important aspect of language and it is very important in the teaching and learning, especially, of science. English language being a prerequisite to learning therefore, before effective learning can take place the words the words of instruction must be appropriately selected by the teacher and the words should be such that they are easily understood by the learner.

Okafor and Ogude (2004, page 49-50) lists some of the skills in English language that aids effective teaching and learning.

i. Pronounce distinctive sounds of a language clearly enough so that the learner can distinguished the words.

ii. Use stress, rhythmic and intonation patterns of the language clearly enough so that the learner understands what is said.

iii. Use the correct forms of words for example, changes in the tense, case or gender.

iv. Put words together in correct word order.

v. Use vocabulary appropriately.

vi. Use the registry or language variety that appropriate to the situation and relates to the conversion pattern.

vii. Make clear to the learner the main sentence constitution.

viii. Make the main idea distinct supporting idea or information. Link the discourage together so that the learner can follow what the teacher says.

What this implies is that spoken communication the teacher (speaker) must pay particular attention to clarity, simplicity, and must be concise and correct in expressing his thought and passing his message across.

Problem of Spoken English as it Affects the Teaching of Science

Higginbotham (1971) stated that "acquiring a language is in itself is an intellectual process of progressive complicity". In this regard the science teacher must of necessity focus his attention on the need for sequence and articulation in spoken English.

Language is an indispensable vehicle in the research and teaching of science hence English language classes are proper setting for study of the language of technological and scientific dictions and writing.

The proper functioning and utilization of scientific knowledge is highly dependent on the use of language. The science teacher thinks, speaks and records his thoughts and facts in words which constitute language. He uses language to report his findings in form of symbols. For example, H_2 (hydrogen) H_2O (water) or in form of nouns. For example, animals, plants, reproduction and digestion.

One of the problems identified in the spoken English of the average science teacher is the inability to properly harness and utilize available synonyms in order to bridge his diction

and reduce lesson to the level of the students. This becomes imperative when one considers the educational gap between the teacher and the students.

Also, in some cases the level of the scientific registers and abstract vocabulary employed may force the students into intellectual strategies which are contrary to the intention of the teacher. In a junior secondary class where the students were asked to write the name of an apparatus used in the science laboratory, for instance, the "retort stand" because of the unfamiliarity of the words many students may end up writing "resort stand", "report stand". This is because of the abstract and unfamiliar nature of the word concept, thus they resort to decoding system to arrive at the various spellings. This notion has a negative effect on the students in the future if not corrected immediately.

Scientific terminologies especially borrowed words and coinages tend to create fear in the minds of students and have the potential of scaring students from studying science, especially, where the words seems too advanced for them to comprehend. For instance, periplaneta – Americana (Cockroach) Musca domestica (housefly) mangtera – India (mango). The result is that students find it very difficult to correctly record and report what they were taught or their findings because of the nature of the high sounding words utilized by the teacher in teaching.

As a result of the discovery of the gulf that exist between the science teacher and his students, the text books and the student, Cooper (1973) carried out a research on student speech and participation in science classroom. The recordings made of classroom interaction between a teacher and students revealed that science teachers talk more than their students. Also that the type of questions usually asked by the science teachers are in most cases factual, demanding recall as opposed to reasoning and judgment. The result is the existing linguistic chasm between the science teacher and his students.

Another problem that was identified in the spoken English language of science teachers is the improper sequencing and lack of proper anticipation in scientific arguments. Thus, to many students the structure of arguments is not only often obscure but unfamiliar and confusing. It was also noticed that one of the contributory factors is the level of the teacher and his inability to abridge science registers.

Prospects of Spoken English

Higginbotham (1971) asserts that "the teacher must of necessity engaged in spiral programmes with emphasis on the need for sequence and articulation in the construction of speaking listening and writing". The "Train the Teacher" programme adopted by most Colleges of Education is an avenue for upgrading the spoken English of teachers. It is a programme geared towards the promotion of understanding and application of principles and practical procedures that are relevant in the development of the four language skills.

Currently, advocates who are of the opinion that English language as a course in Colleges of Education should be made a double major and that every student teacher should combine his major course with English language are gaining momentum. They argue that if a student teacher must teach his major course in English, there is need to combine every major course, especially in science with English language. Thus, the assumption is that if adopted, this in no small measure will improve the functionality of the language in terms of inter-relationship with other subjects, methods and enrichment activities.

Recently, as a result of new developments in computer, the internet and English language, curriculum designers are giving strong consideration to the idea of stream lining and fusing English language with other

courses, in the curriculum especially the sciences. This will not only improve the spoken English of the science teacher, but will no doubts further facilitate and enhance the teaching and comprehension of concepts in science classes.

Spoken English and National Development

According to Awoniyi (1982) 'we use languages to pass on ideas, feelings knowledge and requests from one person to another for the purpose of physical, political and social economic development'.

Intellectual development in relation to language refers to maturation in systematic development of innate mental or cognitive abilities largely as a result of learning, training and or exposure to appropriate linguistic and cultural experience at various stages of life. Thus the intellectual development of a nation can be assessed in terms of both quality and the quantitative expansion of knowledge or the expansion of the frontiers of learning at various possible stages of national development.

Conclusion

Kelly's (1956) assertion that language is the only means through which academic and intellectual development can be achieved will be considered a truism, only if science teachers should learn to demystify science through simple and concise spoken English in teaching science.

Recommendations

1. Science is activity oriented and as such should involve full participation and interaction amongst students. Therefore science classes should be student-centred. The teacher should give the students the opportunity to express themselves and participate fully in class activities while he guides and supervises them.
2. Science teachers should avoid high-sounding scientific dictions and abstract registers while teaching; rather they should abridge their spoken English and make intensive use of synonyms in explaining concepts. This certainly will enhance comprehension.
3. When necessary the teacher should attempt to illustrate or make analogy of concepts in the student's mother tongue (L1) and as a follow-up the scientific equivalent of such concepts should be presented to be students. This will not only make for easy comprehension but is likely to persuade students to change their contrary opinions about some difficult concepts in scientific registers.
4. Science should be made, simple by science teachers through their spoken language. Symbols, coinages and borrowed words should be made simple through association and explanation in concise English.
5. The existing gap between the science teacher and the students, the text book and the students, should be bridged by the science teacher stooping to the level of the students in terms of language. This is bound to improve students comprehension of scientific concepts.

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