

EVALUATING UNFAVORABLE ATTITUDES TO PRAGMATIC USE OF LANGUAGE IN MULTILINGUAL CONTEXTS IN THE LEARNING OF SCIENCE AND TECHNOLOGY

Christine C. Utoh–Ojemudia

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Abstract

When students from multilingual contexts in Nigeria gain admission into higher education to study courses they are linguistically ill-prepared to cope with, do you not foresee a national crisis? Such students are supposed to be bilingual having mastery over at least two languages namely: their mother tongue or first language and English, which is the second language in Nigeria. Bilingualism, which is the ability to speak two languages, is a great learning asset. What linguistic background knowledge has each student from a multilingual milieu brought into higher education to facilitate learning? Is it the functional competence of a diglot or a monoglot? How effectively can each communicate in the medium with which the professional courses are taught and evaluated? This study seeks to find out if students from multilingual ethnic environments intending to study science and technology are bilinguals or have efficient grasp of the language of their parents, in addition to English, to accompany their education. At point of entry all candidates had requisite qualifications. A simple composition and reading test in English was given to targets and a linguistic biodata questionnaire using purposive sampling, data was gathered. A total of 1185 completed questionnaires from candidates, who came for Post Unified Tertiary Matriculation screening organized by the Federal College of Animal Health and Production Technology, Vom, were analysed. The findings have far reaching implications that call for a paradigm shift.

INTRODUCTION

In order to achieve the goals of learning in tertiary education, both lecturers and students need to be communicatively

competent, to interact in a continuum. Effective communication relies on sound development of the interconnected skills of listening, speaking, reading and writing. This interdependence is manifest in the input-output constant process of communication. The English language has remained the most utilized mode of communication in all spheres of endeavour and knowledge development in Nigeria. Banjo (1996:50), attempts to trace the history of the English language to the evolution of commerce, religion and education. In the same vein, In her submission, Akindele (2015: 286) reiterates that

The English language has remained the most available language for easy communication in a pluralistic nation such as Nigeria. The need for greater emphasis on the teaching and learning of spoken English arises from certain fundamental changes that have gradually taken place in the interaction pattern amongst Nigerians over the years. The changes have led to the use of English in its spoken form by Nigerians, for both domestic and external purposes and in increasingly inter -personal discourse.

Language, be it the native tongue or any other including English, is the key to cognitive development. It is a colossal waste that indigenous languages are not passed on to their offsprings by parents who are bilingual and therefore, are in a position to enrich their children's language development for effective education (Utoh-Ojemudia and Dalyop,2008:78). Everyone in a sociolinguistic environment must show interest and make a concerted effort to acquire the competence of the language or languages available to accompany their development and maturation. It is expected, according to psycholinguistic theory that by the age of sixteen the ability to acquire a new language begins to wane. The language acquisition device (LAD) proposed by Noam Chomsky begins to atrophy to a point of fossilization when the individual will need

great motivation to learn a language. Any individual or collective negative attitude towards the acquisition of communicative competence in the first language or mother tongue, or the learning of English language skills, is unfavorable and will impede or jeopardize content area learning. A nagging question remains- is it possible for an individual to speak or write without first acquiring or learning the skills of listening and reading respectively?

Many people are miserable and shut out by their inability to read. They are thrown into the dungeon of illiteracy in a world dependent on constant communication for survival. How can one explain to an individual who learned to read but later became thrust out by the inability to exercise the skill continuously, that partial illiteracy can orchestrate suffering? Imagine how many people are frustrated and miserable in this part of the world because they cannot read. Many students prove incompetent and drop out because they cannot read. How much academic dream of success can someone indulge in if they have an aversion to reading? When scholars or lecturers no longer read, they relapse and become a problem to the system they are supposed to be nourishing. This if unabated has a rebarbative effect on the learner and the learning process. We need to seek ways of solving learning problems further aggravated by lecturers who do not read but depend on fossilized lecture notes dictated to generations of students.

Technological literacy in tertiary education is possible for students with language proficiency since English language is the medium by which professional courses are taught and evaluated. Succinctly put, if overall language proficiency is the passport to higher education, reading then becomes the visa to success in science and technology. Reading is a communication habit better formed early in life and nurtured by constant lifelong interactions. Like all habits, it is nourished by intrinsic motivation and constant practice. Like all good habits, it is in constant attack by the tripartite action adversary called indolence, procrastination and anorexia. Habits are hardly bound in space and time, but must

erupt. For reading to become an enduring good habit, lecturers and students must give it their best commitment. In or outside school, a flourishing reading aptitude should be maintained. The good reader is an effective communicator, particularly in formal writing in which all theoretical and some practical assessments of the learners are carried out in higher education.

Lecturing is traumatized when students as major stakeholders are demonstrating not only the inability to read with comprehension, but a bold apathy to imbibing the essential study skill. Needless to say, a student's poor performance can be traced to contextual pitfalls within and outside the individual. In the course of reading, I stumbled on a comment made over thirty years ago, concerning the language proficiency level of students in higher education, which is the concern of this paper. In it Jibril (1985:48) complained about;

The poor level of English language proficiency among educated Nigerians, including those who are presently students in higher education. The poor performance in English language of students in higher education is the result of poor teaching at the primary and secondary school levels. Errors found in the English of undergraduates generate a disbelief in the effectiveness of our educational system. The problem however, is not only about mechanical inaccuracy but also the students' failure to master the language needed for various social, professional, occupational and other communicative situations. (52)

The question is, 'Has there been much change in the status of the observed challenge?' Or could there be other clues to the inefficiency, which can be traceable to attitudes towards first language acquisition and second language learning which have been cultivated by students in multilingual environments? In this paper, we note with perplexity that all the targets that were studied had

requisite qualification (at least a credit pass in English Language and four other relevant credit passes) and are potential National and Higher National Diploma One students of the Federal College of Animal Health and Production Technology, Vom.

A critical assessment will simply take us to another nagging query which is,, should we simply blame examination misconduct, racketeering or the escalating population of corrupt sponsors of Ordinary level examination credit centers, and then hold our peace. As lecturers, much more is desired of us to positively tackle practical problems such as the students' unpreparedness for handling content area communicative demands. How is a lecturer supposed to effectively deliver to students whose entry-point certificates are commendable, (with required credits, including English Language), and yet cannot read, follow very simple instructions to write, or make any meaningful communicative input?

A GENERAL UNDERSTANDING OF SCIENCE AND TECHNOLOGY

In discussing the pragmatic use of language by students of science and technology, it becomes necessary to understand the nature of science and technology as a bases for understanding the challenges posed by employing a techno-scientific approach to language as against a humanistic approach. Science involves the systematic study of the structure and behaviour of the physical and natural world through observation and experiment, while technology deals with the utilization of science and scientific knowledge for practical productions or activities. Technology which is derived from the Greek word 'technologia' is an art or skill employed in creating and developing products and acquiring knowledge. Science and technology are so intricately interconnected that one can easily point out many direct as well as indirect connections between the two. For instance, it is a given that scientists use their knowledge to develop technology just as much as technology is used to develop Science. As noted by many scholars amongst whom is According to Harvey Brooks (1994: 1),

science contributes to technology in at least six ways, and these are- : The development of new knowledge which serves as a direct source of ideas for new technological possibilities; As a source of tools and techniques for more efficient engineering design and a knowledge base for evaluation of feasibility of designs; The provision of research instrumentation, laboratory techniques and analytical methods used in research that eventually find their way into design or industrial practices, often through intermediate disciplines; The practice of research as a source for development and assimilation of new human skills and capabilities eventually useful for technology; The creation of a knowledge base that becomes increasingly important in the assessment of technology in terms of its wider social and environmental impacts; and The provision of knowledge base that enables more efficient strategies of applied research, development, and refinement of new technologies.

In an Executive Summary of the Report of the North American Meeting held in Advance of the World Conference on Science in 1998, with the title "The Role of Science and Technology in Society and Governance: Toward a New Contract Between Science and Society" The connection between science and technology appears to have framed the discourse while the impact of technology on society informed the bulk of the discussion. According to the report:

The impact of technological interventions on individual people, communities and the environment must also be carefully considered. To do this, science needs to become more multidisciplinary and its practitioners should continue to promote cooperation and integration between the social and natural sciences. A holistic approach also demands that science draw on the contributions of the humanities (such as history and philosophy), local knowledge systems,

aboriginal wisdom, and the wide variety of cultural values. (1998: 2)

While articulating and projecting the general benefits of science and technology, the report also explores the influence of science on people's lives and attempts to create a balance between what science stands for and how it is applied in relation to how the society views the perceived impact of science and technology thus:

The influence of science on people's lives is growing. While recent benefits to humanity are unparalleled in the history of the human species, in some instances the impact has been harmful or the long-term effects give causes for serious concerns. A considerable measure of public mistrust of science and fear of technology exists today. In part, this stems from the belief by some individuals and communities that they will be the ones to suffer the indirect negative consequences of technical innovations. (1998: 2)

Science and technology are essential for the socio-economic survival of society however without a humanistic approach to advancements engineered by these two, society may find it almost impossible to grapple with scientific discoveries and technological inventions. Language is a very strong arm of the humanities that enables science and technology to communicate critical information about their activities and products to the society.

METHODOLOGY

Data sources

The study was carried out at the Federal College of Animal Health and Production Technology, National Veterinary Research Institute, Vom, situated in Plateau state, a microcosm of Nigeria with a very peculiar multilingual milieu.

Questionnaire

A list of questions on candidate's biodata was given to determine the following:

- i. If candidate comes from a multilingual environment.
- ii. If candidate can speak one or more languages in the said environment.
- iii. If candidate can use English effectively in communication in and outside the environment.

Test of Reading and Writing

The aim of the test was to determine:

- i. Each candidate's preparedness for communication in English, the medium through which lectures are accessed and performance evaluated in candidates' chosen professional courses;
- ii. If candidates could read simple instructions and apply the understanding effectively in carrying out relevant writing tasks such as writing a composition of five lines on a topic of interest;
- iii. If targets could provide answers to a few simple questions on a given interesting expository passage.

Different courses of study chosen by candidates who wanted a National Diploma include: Veterinary Laboratory Technology, Environmental Health Technology, Science Laboratory Technology, Animal Health and Production, Agricultural Technology, Computer Science and Fishery Technology. For Higher National Diploma proposed candidates chose to study any one of the following professional courses: Pest Management Control, Veterinary Laboratory Technology, Animal Health, Animal Production, Agricultural Extension Management.

Using purposive sampling, a simple reading and composition writing test was administered to the 1185 proposed candidates who came for Post Unified Tertiary Matriculation Examination (POSTUTME) Screening. 461 were candidates for Higher National Diploma (HND) in Animal Health, Agricultural Extension Management, Animal Production, Pest Management Control and Veterinary Laboratory Technology while, 724 contained data of intending National Diploma (ND) students of

Science Laboratory Technology, Environmental Health, Animal Health, Agricultural Technology, Computer Science, Fisheries and Veterinary Laboratory Technology. Out of this number, 516 ND and 302 HND candidates are illiterates in their parents' languages and ineffective in English Language, being adjudged, for their inability to express themselves in five lines of simple composition. 139 HND and 208 ND candidates have marginal competence in English and their parents' languages. 73 candidates possess listening competence only, in the language of their parents.

All candidates studied except twenty-nine, come from multilingual environments where the following languages are spoken: Adara, Afizere, Anaguta, Berom, Bibina, Bijim, Bayawa, Bogghom Buji, Challa, Doemak, Duguza, Fali, Fulani, Fulfulde, Gbagyi, Gwandara, Goemai, Gudi, Guranci, Guss, Gworok, Hausa, Igala, Igbo, Iguta, Idoma, Irigwe, Izere, Jarawa, Jukun, Jhar, Jaba, Kadara, Kaduna, Kataf, Kwagalak, Kwalla, Koeroem, Kuche, Kulere, Lemoro, Mada, Meryniang, Mushere, Mupun, Mwaghavhul, Ngas, Nimzo, Nungurama, Piapung, Pyam, Ron/Rom, Tangale, Tarok/Taroh, Tiv, Yoruba, Youm.

ARE THERE STUDENTS WHO DO NOT NEED THE ENGLISH LANGUAGE IN NIGERIA?

Going by the attitude of some lecturers and students, one wonders if the English language in some way has not contributed to their misery in the society or in the education process. Is English language being appreciated by its users in the classroom? Of what significance is English language teaching to science-based students? What is a language lecturer doing in an institution of Science and Technology or Agriculture? These are some common questions often posed by some sponsors, instructors and science students. "Why must science students be made to present (at least) an Ordinary level credit in English Language for admission? Why are students studying science-based courses not exempted from the Use of English class? Such indiscreet questions are attitudinal and

often underscore the utilitarian purpose of English. As Atoye(1994:10) submits:

One of the consequence of the use of English as the official language as well as the lingual franca in Nigeria is underscored by the fact that two Nigerians from the same language background (Mother tongue) nowadays use English in verbal communication. Regardless of the topic of discourse, they could switch from their mother tongue to English and vise-versa in the course of a single discussion

In most Nigerian schools, students often listen to lectures, speak and ask questions, read notices and textbooks, write notes, fill course forms and write assignments. They communicate with the academic community. All these are done in English language. A science student cannot study other courses without using English, which is the language of education and communication. English language is needed for the teaching and learning of other courses because it is retained in Nigeria as the medium of communication and education. Without a good knowledge of the English language, accessing resource materials available on E libraries, enjoying internet and other technological services will be very difficult. Upon graduation, efficient knowledge of the English language is considered an asset in the world of employment because it makes one employable. Language and content area lecturers in higher education rely on the English language. Ideally, the fundamental assessment for students is efficient communication in target situations especially as tests and examinations are constructed and administered in English language.

WHEN THE FOUNDATION IS FAULTY WHAT CAN THE LANGUAGE LECTURER DO?

In classes where students with homogeneous background knowledge and with common interests, (which can only be

theoretically envisaged in Nigerian higher institutions) are found, ; communicative language teaching, is still not an easy task. As noted by Dayal, Bhatt and Ray (2007:64), how individuals learn is a research subject mainly of neurobiology and cognitive psychology. It is a complex influence of circumstantial and cultural factors, so it is important to set up a learning environment inside and outside the class room. Some students have good learning and study habits while others need to acquire them. An understanding of the process of second language acquisition and strategies which support the learning of students whose first language is not English, is very important. Learning in the content area can be positively or negatively influenced by individual experiences, talents, prior learning, language acquisition, culture, family, and community values. Recognizing socio-linguistic and cultural diversities and knowing how to incorporate students' experiences and resources into instruction is advocated. Individuals can be encouraged to learn successfully through the medium of English when there exists interests and motivation on the part of both the learner and the lecturer.

Oral presentation and role-play are advocated in training students of the nature encountered in this experiment. This is a way of encouraging the real world of communication to be simulated through individual or, group activity. Non-verbal stimuli, including visual, gesture, mime, become very communicative. One of the strategies that could be used to simulate reality in teaching content area students is to provide opportunity for instance, to give short talk on prearranged topic. This is aimed at developing or measuring overall language proficiency. A sufficient sample of the student's speech is elicited to assess the spoken production. It improves the skill of public speaking. In role-play, situations are simulated for the student to play one of the roles in interaction, which can be comparable to target situation expectations.

CONCLUSION AND RECOMMENDATIONS

Many Students in higher Institutions of learning are the off-springs of parents who come from different language-speaking backgrounds. Changing rhythms require new dance steps. As parents, we may interfere, but we cannot really stop the process of change which makes it possible for the off-spring to marry from, or into other ethnic cultures. This becomes a challenge for both the teacher and learner. The study therefore recommends as follows:

1. A scrutiny of the language needs of the learner should be a focal point for teaching.
2. Basic components of the language taught in context of simple forms of authentic reading materials, writing, listening and speaking through role-play is advocated for building up relevant knowledge.
3. For impactful learning, lecturers should more than ever, be concerned with research and development in the language of instruction, which has become the quintessence of all experiences.
4. The onus lies on General Studies Departments to evolve purpose-driven strategies of developing rudimentary literacy skills in the ill-equipped learner for effective communication.
5. Another pronounced challenge in teaching English in tertiary education has been in the area of learning materials. These are either non-existent or in short supply. Setting up a well-stocked General Studies Departmental Resource Centre for English language teaching where books, journals, cassettes, video tapes, language laboratory devices and other teaching materials are made available for consultation is suggested for improved language learning.

Christine C. Utoh–Ojemudia *PhD*
School of General and Remedial Studies
Federal College of Animal Health and Production Technology, Vom
Plateau State, Nigeria

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