

Pedagogical Inclusion of Native Dialect in Basic Science Classroom to Enhance Positive Attitude and Better Performance among Primary School Pupils

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Abstract: To develop a positive attitude towards science regardless of individual differences is among the key purposes of science education. In teaching/learning process, language plays a significant role. Interaction between the teacher and pupils is facilitated through the medium, 'language' hence language is the key to understanding subjects. The study investigated the use of native dialect to supplement the 'lingua franca' in the teaching and learning of basic science in public primary schools. The study also examined the relationship of the use of native dialect in teaching to the attitude of school pupils towards science learning. Descriptive in design, the study's population comprises of all primary school pupils in Ido-osi local government area of Ekiti State. The sample was made up of 200 school pupils selected through simple random sampling. Instrument was an attitude rating scale titled 'Native dialect and pupils' Attitude towards Science learning'(NDPASL) Validity of instrument was ensured by experts in languages and science education and reliability was ascertained using test-retest method of which a value of 0.82 was obtained through Pearson product moment correlation The findings revealed a significant effect of the use of native dialect in expressing terms on the attitude of primary school pupils towards science learning and a significant gender difference in pupils' attitude towards science when taught using native language to supplement the lingua franca during science lessons. It was then recommended among others that, teachers should be posted to work in places where they can understand and use native language in expression. Also that primary pupils should be allowed to vocally express themselves in native dialect to maintain an interactive science class which considers individual inadequacies in pupils.

Keywords: Native dialect, teaching, learning, basic science, pupils, attitude

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I. INTRODUCTION

The importance of science and technology in the society can never be over emphasized. Science education is a field of study concerned with producing a scientifically liberate society. The aim of science learning is to maximize benefits derivable from science to improve technology. Despite this, it is of note that, over the years, basic school students in Nigeria exhibit wrong attitude towards science learning (Ogundipe, 2004). Students generally do not seem to like to study science. Research on students' attitude towards science consistently points to an increasing negative attitude towards science as they grow older.

Right from this point, the pertinent question to ask is, why are students exhibiting negative attitude towards science? Hubbard (2008) says the misunderstood word is the greatest barrier to study and it is more accident prone in the field of Science and Technology. The misunderstood word can impair effective comprehension and communication thereby generating wrong interpretation of data. A misunderstood word can lead to confusion of the intended meaning. This can lead to fight, frustration and failure. Irrationality can set in as a result of misconception of true meaning of terms, codes, signs and figures. Akinwamide and Obateru (2017) affirmed that 'at the root of every unproductive ventures in the growing industrial economies of the multilingual nations is the mis-understood word which paves way for communication gaps among the man power elements.

Science education is believed by Olu-Ajayi (2005) to lay the foundations for future work in science related fields by acquainting the students with certain basic knowledge, skills and attitude towards science and technology. One of the purposes of science education is to develop a positive attitude towards science regardless of individual differences (Esme 2015). To enable the students derive maximum benefits from science lessons, teachers must employ the use of appropriate teaching aids and instructional language that can enhance

assimilation among pupils. Unavailability of teaching aids in some schools can inhibit effective teaching and learning (Olu-Ajayi 2016). Inability of pupils to understand, pronounce and thus give correct spellings and examples of scientific words and names can make some pupil lose interest and be inactive in class. The teaching of science is encouraged to be interactive, participatory and knowledge impacting, to woo more students to studying science which will bring growth and development to the society. The cry of poor attitude towards science learning among students is an issue that needs redress.

Language is said to be one the most important features that distinguish human beings from other living things. It is the basis of communication among humans, as teaching and learning depend effectively on the language of communication. In teaching process, language plays a special role. Interaction between the teacher and pupils is facilitated through the medium, language. Hence language is the key to understanding subjects. While there are many factors involved in delivering quality basic education, language is clearly the key to communication and understanding in the classroom.

Many developing countries are characterized by individual as well as societal multilingualism, yet continue to allow a single foreign language to dominate the education sector. Instruction through a language that learners do not speak has been called “submersion” (Skutnabb-Kangas 2000) because it is analogous to holding learners under water without teaching them how to swim. Compounded by difficulties such as low levels of teacher education, poorly designed, inappropriate curricula and lack of adequate school facilities, submersion makes both learning and teaching extremely difficult, particularly when the language of instruction is also foreign to the teacher. Bilingual as opposed to monolingual mode of teaching offers significant pedagogical advantages which have been reported consistently in the academic literature (Baker 2001; Cummins 2000; CAL 2001): Student learning can be accurately assessed in bilingual classrooms: When students can express themselves, teachers can diagnose what has been learned, what remains to be taught and which students need further assistance. In submersion schooling cognitive learning and language learning are confounded, making it difficult for teachers to determine whether students have difficulty understanding the concept itself, the language of instruction, or the language of the test. The affective domain, involving confidence, self-esteem and identity, is strengthened

by use of native dialect, increasing motivation and initiative as well as creativity. Bilingual classrooms allow children to be themselves and develop their personalities as well as their intellects, unlike submersion classrooms where they are forced to sit silently or repeat mechanically, leading to frustration and ultimately repetition and failure. It is necessary that science teachers must develop a language skill of expression as all the aspects of scientific enterprise; production, distribution and utilization of scientific knowledge involve the use of language. Science has specialized concept which learners has to master for easy comprehension of content. In order to teach adequately specialized vocabulary peculiar to a given concept, teachers has to enforce it's mastery on learners. Sometimes teachers may employ the use of native dialect, cultural ethics, local examples and improvisation of scientific equipment to ensure understanding and learning in the students. Though not every scientific word can be expressed in native dialect, but combination of lingua franca with native dialect could be use in explaining the meaning of some science concepts for better understanding of learners.

Attitude is a driving force to acceptance or rejection of anything in life. Attitude is a preconceived notion of a particular thing. It has influence on the performance or behavior of individuals. Oh and Yager (2004) stated that while students' negative attitudes toward science are related to a traditional approach in science instruction, their positive feelings are associated with constructivist science classrooms. The authors thus suggested that the learning instruction should be constructed in such a way as to allow students to attain scientific knowledge and gain a more positive attitude towards science. Students' meaningful understanding of scientific concepts is among the goals of science education.

The Oxford dictionary defined attitude as a ‘disposition or state of mind’ towards something. Researchers in the field of education have carried out several studies which focused on means of finding solution to the problem of poor attitudes towards science learning students, Some of these are curriculum issues, teaching methods, study habit and so on. But no convincing evidence on the use of native dialect to supplement the lingua franca in teaching basic science. Therefore, the purpose of this study is to investigate the use of native dialect in teaching/learning and attitude of primary school basic science pupils towards science learning.

Problem of the study

It has been observed that teachers go extra mile to achieve the aims and objectives of their lessons in some basic science classes due to inability of learners to understand some concept words in the content of lessons. This might be responsible for pupils perception of basic science as cumbersome which may result to poor attitude towards science learning. Thus resulting to a reduced number of scientists in the society.

Purpose of the study

Propose to investigate the usage of native dialect in complimenting lingua franca in the teaching and learning of basic science in primary schools. The study also examine the relationship of the use of native language in teaching to the attitude of primary school pupils towards science learning. The study aimed at measuring the differential effect of native dialect in teaching on school location and student's gender.

Hypotheses

Three hypotheses are formulated to guide the study, these are;

Ho1: There will be no significant effect of the use of native dialect in expressing terms on the attitude of primary school pupils towards science learning.

Ho2: There will be no significant difference of the use of native dialect in science teaching on attitude towards science learning among primary school pupils in rural and urban areas.

Ho3: There is no significant gender difference of the use of native dialect in science teaching on pupil's attitude towards science learning.

Methodology

The study was descriptive in method. The population was made up of all public primary school pupils in Ido-Osi local government area of Ekiti State. The sample size was 200 pupils selected through stratified random sampling technique. The primary schools were grouped into rural and urban. Then equal number of male and female pupils were selected from each group to make the sample for the study. The instrument administered to the sample of the study consists of a questionnaire titled 'Native dialect and pupils' Attitude towards Science learning'(NDPASL). It was made up of sections (A) and (B). Section (A) was for Bio-data, while section (B) was a four Likert type scale seeking information on the use of native dialect and corresponding attitude towards science learning. The validity of the instrument was ensured by experts in languages and science education and it's reliability was ascertained using test-retest method of which a value of 0.82 was obtained through Pearson product moment correlation which was considered high enough to be reliable.

II. RESULTS AND DISCUSSIONS

Ho1: There will be no significant effect of the use of native dialect in expressing terms on the attitude of primary school pupils towards science learning

Table 1: Pearson moment correlation analysis on use of native dialect and students' attitude to science learning

Variable	N	Mean	SD	Df	r-calc	r-tab	Remarks
native dialect in teaching	200	50.00	46.768	199	0.633	0.195	Significant
attitude toward science learning	200	82.75	12.487				

The results above reveals that the r-significant calculated 0.633 is greater than Pearson product-moment correlation coefficient table of critical value 0.195 so we reject the hypothesis at 0.05% level of significance. Therefore, there will be significant effect of the use of native dialect in expressing terms on the attitude of primary school pupils towards science learning.

Ho2: There will be no significant difference of the use of native dialect in science teaching on attitude towards science learning of students in rural and urban areas

Table 2: t- test analysis of use of native dialect in rural and urban areas and students' attitude towards science learning

Variable	N	Mean	SD	Df	t-calc	t-tab	Remarks
native dialect in rural and urban areas	200	50.00	48.500	199	2.916	1.968	Significant
attitude toward science learning	200	82.75	12.487				

The results above reveals that the t-significant calculated 2.961 is greater than t-significant tabulated 1.968 so we reject hypothesis at 0.05% level of significance. Therefore, there will be significant difference in the use of native dialect in science teaching in rural and urban areas on students' attitude towards science learning.

Ho3: There is no significant gender difference of the use of native dialect in science teaching on pupil's attitude towards science learning.

Table 3: t- test analysis of gender difference of the use of native dialect in science teaching and students' attitude towards science learning

Variable	N	Mean	SD	Df	t-calc	t-tab	Remarks
Gender difference	200	31.00	32.350	199	2.710	1.968	Significant
Students' attitude	200	82.75	12.487				

The results above reveals that the t-significant calculated 2.710 is greater than t-significant tabulated 1.968 so we reject the hypothesis at 0.05% level of significance. Therefore, there is a significant gender difference in students' attitude towards science learning with the use of native language in teaching.

III. DISCUSSION

The use of native dialect in supplementing the Lingua franca made pupils to participate better in the classroom and demonstrate a greater self-confidence and higher motivation which develop a positive attitude towards science learning in them. This is in line with the general out-cry of researchers like Hubbard (2008) and Akinwamide (2016) that progress and development among the nations could be traced to the menace of the mis-understood word. The native dialect allows children to express their full range of knowledge and experience and demonstrate thei

competence, which pedagogical approaches like those of Piaget and Vygotsky would support as productive for learning (Richardson 2001). The study also discovered a significant difference in the use of native dialect in science teaching in rural and urban areas on students' attitude towards science learning and a significant gender difference in students' attitude towards science learning with the use of native dialect in teaching. Many pupils, especially in rural areas who have phobia for expressing themselves in lingua franca and are unable to communicate well will be more confident in a bilingual science classroom. The findings revealed a significant effect of the use of native dialect in explaining difficult science terms on the attitude of primary school pupils towards science learning. This agrees with Carol (2005) who in her study submitted that native dialect bilingual education not only increasing access to skills but also raises the quality of basic education by facilitating classroom interaction and integration of prior knowledge and experiences with new learning.

IV. CONCLUSION

The study in conclusion revealed a significant effect of the use of native dialect in science teaching on the attitude of primary school pupils towards science learning, a significant difference in students' attitude towards science learning when native dialect is used for science instruction between rural and urban schools and a significant gender difference in students' attitude towards science when taught supplementary the basic science instruction language with native dialect. It is thus concluded from the study that native dialect use in basic science teaching is has a positive effect on pupils attitude towards science learning.

.Recommendation

Based on the noutcome of this research, the following recommendations are made.

- Teachers should be posted to work in places where they can assist sthdents with the local dialects.
- The language of instruction in basic science classroom should, accomodate where and when necessary the native dialect for easier understanding.
- Primary school pupils should be allowed to orally express themselves in native dialect to maintain an interactive science class which considers individual differences in learners.
- Textbook authors should look for ways of ameliorating the constraints of the mis-understood codes and terms among science students.
- Science and Language teachers should facilitate the act of collaborative work through identification and simplification of science terms for classroom interactions
- More time should be given to codes, symbols and terms interpretations in the field of Science and Technology.

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