

IDENTIFICATION OF PERCEIVED DIFFICULT TOPICS IN BASIC SCIENCE AND TECHNOLOGY BY PRIMARY SCHOOL PUPILS IN SAPELE TOW

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Abstract

The study examined the identification of perceived difficult topics in Basic Science and Technology by primary school pupils in Sapele town. One hundred (100) pupils were selected from five (5) primary schools. Twenty (20) pupils each from the five primary schools while twenty (20) Basic Science and Technology teachers. Four (4) each from the five schools were used. The research design used for these study is descriptive. While the research instrument used for the study was questionnaire. The result shows that topics that pupils perceived as difficult are about 37.5% while other topics are either easy or very easy to understand by the pupils are 30% and 32.5%. Also, the years of experience of teachers shows that 75% here have been teaching basic science & technology up to 5years while 25% have up to 5years experience more so, the result shows that 65% of teachers were not acquainted with all the topics during their first 5years of experience while 35% were acquainted, analysis of area of specialization shows that 60% of teachers do not have a degree in integrated science while 40% have a degree. Also, analysis of teaching methods shows that all primary schools in Sapele town lack laboratories for scientific experimentation. Some of the causes of the difficult topics experienced by the primary pupils in Basic Science and Technology are:- most of the teacher's degree are outside science; most of the teachers are not familiar with all the topics during their years of experiences; lack of infrastructural materials for practical activities. Consequently, the following recommendations among others were made. Qualified teachers should be employed to teach Basic Science and Technology; Basic Science and Technology teachers should be paid their salaries as at when due; training of in-service teachers by the government in terms of workshop and services.

Keywords:- *Perceived, Difficult, Basic Science and Technology*

Introduction:

Primary school education is the foundation level of all educational system, that is the reason why the National Policy on Education, puts it more succinctly when it stated that “the rest of the educational system is built upon it, the primary level is the key to success or failure of the whole system,” (FRN, 2013). Therefore, this also makes it necessary for science to be taught in the primary school. It also occupies a prime position in the national education structure because the educational foundation of a child has so many things to do with his/her adult life. The concept of science is generally viewed by most people as difficult in

nature. Hence, there was a need for a solid foundation to be laid at the primary level of a sound basis for scientific and reflection thinking in the mind of pupil. Basic science which was formally integrated science contains basic elements of biology, physics and chemistry which should be taught in primarily as unified view of nature as a whole to primary school (Anani,1997) NCCE 2012, pages 98).

Unfortunately primary school pupil nowadays has been relegated to the backdrop due to numerous difficult topics in basic science and technology. And, this can be a result of loss of interest that may be influenced by factor such as the strategies which teacher uses to teach science, teachers attitude towards science and qualifications; pupils study habits. (Babalola and David, 2011). The role of the teacher is to impart knowledge to the pupils, but some of them (teachers) have problem of finding some topics difficult to teach in Basic Science and Technology thereby making some of the topics difficult to understand (Desai, 1994). Also most pupils view science topics as difficult too. Oritse, Yaweh and Akume (2006) posited that learner's perception is often affected by a given number of factors such as interest, motivation, attention, self-concept as well as thinking and creativity this is why Agogo (2003) stated that what may appear difficult to somebody may be easy to another person because the topics of easiness and difficulty as perceived by somebody are dynamic.

Statement of the Problem:

The primary school pupils are supposed to be taught Basic Science and Technology by the primary teacher. But, these teachers who are supposed to teach the basic scientific knowledge find it difficult. This was amplified by the alarming low number of qualified basic science teachers in basic subject irrespective of the crucial role of science (Ateera, 1996). Oriafo (1999), stated that most science teachers lack basic foundation knowledge of basic science teachers are not specialized to teach Basic Science and Technology to the primary pupils. Why most of them have the misconception that Basic Science and Technology is difficult due to the integrated subject nature to make whole. Moreso, Basic Science has been described as that science which has not been disintegrated. Also there is some problem in the curriculum implementation (Olaewaju, 1987). This makes achievement to be very low and unimpressive (Okebukola & Jegede, 1999). This might hinder the philosophy behind the introduction of the basic science in the core curriculum at Junior Secondary School or at Primary school levels. The concern of this study therefore, seeks to examine the identification of perceived difficult topics in Basic Science and Technology by primary schools pupils in Sapele town.

Research Questions

1. What Basic Science and Technology topic do pupils perceive as difficult?
2. What are the causes of the difficult topic experienced by primary pupils in Basic Science and Technology?

Methodology

The research design adopted in this study was descriptive design because the researcher is interested to find out which topic in Basic Science and Technology are perceived to be

difficult by the primary school pupils in Sapele Town and the causes of the difficult topic experienced by primary pupils in Basic Science and Technology. The population for this study consisted of 12,565 pupils of all the primary schools in Sapele town while the target population is 1,650. The sample size for this study consisted of 100 (hundred pupils) from 5 selected schools. The research instrument used for the study was the questionnaire. The first division is structured to give background information about each pupil and teachers used for the study. While the second division contained the 20 questions/items on four points scale which are Very Easy-VE, Easy-E; Difficult-D; and Very Difficult-VD. The questionnaires were given to both teachers and pupils. 100 questionnaires comprise of 20 questions given to 100 pupils while 20 questionnaires comprising 9 questions were given to 20 teachers.

Presentation of Results

Research Question 1: what basic science and technology topic do pupils perceive as difficult?

Table 1: Pupils Response to difficult topics:

S/N	TOPIC	VE	E	D	VD	X	REMARK
1.	Change in Nature	6	0	33	61	3.5	V.D
2.	Change in Weather	10	5	25	60	3.4	V.D
3.	Change in Animals	6	22	36	36	3.2	D
4.	The feeding system in animals	45	25	20	10	2.0	E
5.	Soil	45	25	18	10	2.0	E
6.	Water	45	18	17	14	1.8	V.E
7.	Food	20	35	22	18	2.4	E
8.	Adequate/Balance Diet	60	20	17	3	1.6	V.E
9.	Measurement, Time, Length, Mass	3	27	23	47	3.4	D
10.	Plants	60	22	0	18	1.8	V.E
11.	Making Water fit for Drinking	40	20	14	20	2.1	E
12.	Animals	25	45	18	0	1.7	V.E
13.	Characteristics of Living Things	37	33	18	10	2.0	E
14.	Forms of Technology	0	10	15	75	3.7	D
15.	Forms of Energy	9	21	25	25	3.1	D
16.	Light Energy	12	18	20	50	3.5	D
17.	Sound	35	35	18	12	2.1	E
18.	Making Flute & other Instruments	50	25	20	5	1.8	V.E
19.	Force	8	12	32	48	3.2	D
20.	Production of Known Colours	65	15	3	17	1.7	V.E
21.	Naturally Occurring Drugs	20	40	12	15	2.3	E
22.	Frictional Force	4	10	31	55	3.4	D
23.	Magnetism	11	5	39	55	3.6	D
24.	Mode of Drug Use	50	28	20	0	1.7	V.E

25.	Effect of Drug Abuse	54	16	25	5	1.8	V.E
26.	Simple Machine: Lever, Pulley, Incline	10	5	25	60	3.4	D
27.	Our Earth and Sky	12	18	20	50	3.5	D
28.	The Earth Movement	12	18	20	50	3.5	D
29.	Changes Around Us	10	60	15	18	2.3	E
30.	Changes Caused by Humans	5	55	25	35	2.5	E
31.	Waste and Waste Disposal	20	30	18	30	2.6	E
32.	Environmental Quality	37	45	10	2	1.8	V.E
33.	Growing Better Crops	38	22	20	8	1.8	V.E
34.	Improving Crop Yield	38	12	25	20	2.4	E
35.	The Human Body System	32	48	8	12	1.1	V.E
36.	Responsible Parenthood	34	0	26	35	2.7	E
37.	Air Pressure	9	21	25	25	3.1	D
38.	Minerals	30	45	30	48	1.7	V.E
39.	Mineral Resources	55	25	10	5	1.6	V.E
40.	Light	6	22	36	36	3.2	D

Table 1 shows that topics that pupils perceived as difficult are as follows; Change in nature: changes in animals; Changes in weather: measurement, time, length and mass; light energy; forms of energy; forms of technology; force; magnetism; fractional force; Simple Machines; Lever, Pulley, Machine; our Earth and Sky. The Earth Movement; Air Pressure and Light are topics that are difficult to pupils which is 37.5% while other topics are either easy 30% or very easy 32.5% to understand by the pupils.

Research Question 2: What are the causes of the difficult topics experienced by the primary pupils in Basic Science and Technology?

Table 2: Causes of the difficult topics experienced by the primary pupils in Basic Science and Technology

S/N	YEARS OF EXPERIENCE	YES	%	NO	%
1.	Have you been teaching Basic Science and Technology up to five (5) years	5	25	15	75
2.	Were you acquainted with all the topics during your first 5 years of experience as a Basic Science and Technology teacher?	7	35	13	65
3.	Did you find some topics difficult to teach during your first 5 years of experience as Basic Science and Technology teacher?	17	85	3	15
4.	Do you have a degree in Integrated Science? (If no, answer ii & iii below)	8	40	12	60
5.	Is your degree in any of the sciences apart from integrated science?	12	60	8	40

6.	Is your degree totally outside sciences?	12	60	8	40
	TEACHING METHOD				
7.	Do you have laboratories in your school	-	-	20	100
8.	Does method used by teachers affect pupils learning performances?	16	80	4	20
9.	Is there adequate teaching materials to aid activity method at teaching in your school.	-	-	20	100

Table 2 shows that, years of experience of teachers shows that 75% have not been teaching Basic Science and Technology up to 5 years, while 25% have up to 5 years' experience. The result also shows that 65% of the teachers were not acquainted with all the topics during their first 5 years of experience while 35% were acquainted. Which led to 85% of the teachers finding some topics difficult to teach except for only 15% of them. This simply means that since most teachers lack experience, it is a reason for pupils to have difficulty in the identified topics. The analysis of area of specialization shows that 60% of teachers do not have a degree in Integrated Science while 40% have a degree. The computation of result also shows that most of the teachers have a degree outside science which can be another reason for perceived difficulty topic by pupils in Basic Science and Technology.

Finally, analysis of teaching method shows that all primary schools in Sapele town lack laboratories for scientific experimentation which lead to the teachers for not using needed teaching methods. More so, 80% of teachers agreed that method used by teachers affect pupils learning. The result also shows that there are no adequate teaching materials available to enhance activity method of teaching as 100% of teachers testified to this fact. Conclusively, method used by teachers is a major cause of some topics being perceived by pupils as difficult.

Therefore, it implies that since most teachers lack experience, this can be a reason why pupils have difficulty in some topics. Also teaching methods used by the teacher can be difficult to pupil. It is however, important for the basic science and technology teachers to be professionally qualified to teach the subject so as to positively affect the pupils. Felipe (2000) in Ada (2010) said that the qualification of a teacher is paramount importance to the teaching and learning of difficult concept in science. This is why Mallam (2004) opined that the teachers are said to be all knowledgeable and expected to transfer and are expected to transfer useful knowledge and skills to the learner during teaching.

Some of the causes of the difficult topic experienced by the primary pupils in basic science and technology are as follows:

- ❖ *Most of the teacher's degrees are outside science.*
- ❖ *Most of the teachers are not familiar with the entire topic during their years of experience.*
- ❖ *Most of the teachers have not been teaching basic science and technology up to five years.*
- ❖ *Most of the teachers agreed that methods used by them affect pupil learning.*
- ❖ *Lack of infrastructural material for practical activities.*
- ❖ *Textbooks are not available, when available are old and outdated.*

- ❖ *The teachers do not understand the topic well, so they jump them.*
- ❖ *Too many pupils in the class leading to over crowdedness.*

Conclusion:

The paper examined the identification of perceived difficult topics in Basic Science and Technology by primary school pupil in Sapele town. There has been unsatisfactory level of Basic Science and Technology teaching and learning in many Nigerian primary schools. This may be because pupils find some topic in Basic Science and Technology difficult to understand. This has therefore affected their performance in the subject. Results have shown the possible causes and topics believing that lack of infrastructural material for practical activities, textbook, over crowdedness and others are the major causes of difficult topic experienced by the primary pupils.

Recommendations:

1. Qualified teachers should be employed to teach Basic Science and Technology that is expected to combine teaching experience with their qualification to effect learning.
2. Curriculum planner should allocate sufficient time/ period for the teaching of Basic Science and Technology.
3. Basic Science and Technology teachers should be motivated by giving them incentive.
4. Government should pay Basic Science and Technology teachers and other primary school teachers as at when due.
5. Specialized teachers should teach Basic Science and Technology.
6. Training of in-service teachers by the government that is seminars and workshops.
7. Recruiting of Basic Science teachers by the government in order to facilitate the effective teaching and learning of Basic Science and Technology in primary schools.

References

- Abdullah, A (1992). *Science and Technology in Nigeria*. Ilorin: Atoto press.
- Ada, N. A. (2010). *Curriculum and instruction. An Introduction to General Methods and Principles of Teaching*. Makurdi, Nigeria Trace (Nig) ltd.
- Agogo P.O. (2003). A practical guide to the teaching of difficult concepts in Nigeria Secondary School. *Knowledge Review a Multi Disciplinary J.* 6(3) 32-34.
- Agogo, P.O and Ondo M.O. (2014). Identification of Students Perceived Difficult Concept in Senior Secondary School Chemistry in Oju Local Government Area of Benue State, Nigeria in NCCE 2012 pg. 98.
- Anani, P.C. (1997). An Investigation of the Level of Knowledge of Basic Science Possessed by Unit. *Extracts. Journal of science teachers association of Nig.* 210-211.
- Ateera, (1996). Some problems identified in implementing the core curriculum for Basic Sciences p. 31-33. *Journal for the Sciences Teachers Association of Nigeria.*
- Babalola, J.O and David, S. (2011) Science Teachers and Students Perceived Difficult Topics in the Integrated Science Curriculum of Lower Secondary Schools in Barbados. *World Journal Education.*

- Beher, M and Polot, P. (2007). The Science Topics Perceived Difficult by Pupils of Primary 6-8 Classes. Diagnosing the Problems and Remedy Solutions. *Educational Sciences: Theory and Practice*, 7(3). 113-1130
- Desia B.C (1994) Problems of Teaching Basic Science in Secondary School. Pp 5.3-5.4.
- Egbeniyokor, H. (2016). Identification of Difficult Topics in Basic Sciences & Technology by Primary Schools Pupils. A case study of Mosogar community.
- Federal republic of Nigeria (2013). *National Policy on Education*. Lagos; NERDC press
- Mallam J.A (2014) Types of Learners and Implication for Teaching. In Oyetunde, Y.A. and Andzay C.A. (eds): *The Practice of Teaching: Perspective and Strategies*. Jos. Leaps' Publishers.
- Okebukola & Jegede (1999). A Guide to Nigeria Certificate of Education. *Journal Association of Teachers in NCE*, pp10 (2)
- Oriafo, P.C. (1999): Teaching from problems: The Science Teachers Association of Nigeria, 65(4) 28-32.