Full Length Research

Influence of teachers on Nigerian students' behaviour in Basic Science and Technology

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ABSTRACT: Teachers are trained and certificated professionals who give direction and advice to learners. Teachers' behaviour, academic achievement and acquired skills have direct bearing on students' personality. Teachers are the main factors in educational development of a nation. It is in this view that this study is geared at investigating the influence of teachers on Nigerian students' behaviour in Basic Science and Technology for comprehending previous research studies and exploring new variables plaguing the subject. The study made use of survey research design while the population comprised 50 Basic Science teachers and 450 public and private Upper Basic School Students in the selected Local Government Area in Ogbomoso Educational Zone of Oyo State. A self-developed questionnaire on influence of teachers on students' behaviour in Basic Science and Technology was developed for data collection. The instrument was validated; Cronbach Alpha Reliability Coefficient produced value of 0.86. One research question and one null hypothesis guided the study. The results were analyzed using descriptive statistics (frequency count and simple percentage) and inferential statistics (t-test) to test the hypothesis at 0.05 level of significance. The result showed that teachers' qualification has greater influence on students' behaviour towards Basic Science and Technology while disposition to duty, methodology, coverage of scheme of work, attending workshops and seminars on subject matter also have significant effects on behaviour of Nigerian students towards Basic Science and Technology. Based on these findings, recommendations were made.

Keywords: Basic Science and Technology, behaviour, influence, students, teacher.

INTRODUCTION

Education is one of the imperative aspects that not only inculcate the essential skills, abilities and knowledge among the individuals, but also lead to overall growth and progress of the individuals, community and nation as a whole. An educated person is not only able to accomplish his desired goals and objectives, but is also able to render an efficient contribution towards the well-being of the community. The inculcation of academic knowledge, skills, abilities and proficiency among the individuals is enhanced through learning and academic performance. Teachers are the hub of the educational system. Teachers are the most important factor in students' learning next to students themselves (Knapper and Wright, 2001). As such, the application of pedagogical knowledge into classroom-

oriented plan of actions constitute most essential fabric upon which the success of the school, its administration and the entire education system rest upon (Okolocha and Onyeneke, 2013).

The impact of the teachers in the performance of the students is germane. The teachers are the facilitators who are to impact into the students the concepts expected to be learnt. The teacher is the major manpower saddled with the responsibility of impacting the concepts considered fundamental to technology through the teaching of these basic concepts from the secondary school. Teachers are the most influential agent in the teaching and learning process in the classroom; both teaching and learning depend on the teacher. Any inadequacy in the teacher's

classroom practices is likely to influence the achievement and attitude of the learner since students are produced after them (Olakulehin, 2007). No dynamic of teaching is possible without a dynamic teacher. So, an effective teacher is known through his/her effective and qualitative teaching. In all education systems, the performance of teachers is one of the handful of factors determining school effectiveness and learning outcomes.

Education can bring about desirable transformation of one's culture of learning, mindset, and orientation values. This can only happen in learners when the teacher possesses a good mastery of the subject matter, has a map to follow in terms of well-prepared lesson, grabs the students' attention through effective class control mechanism, recognizes student attention span, plans activity for the students by allowing them participate actively in the teaching and learning process. To this end, Ademola (2007) stated that an educational system with low quality teachers will produce students with poor inspiration and aspiration. Such students, Ademola opined, will not grasp enough of the subject matter and cannot learn with ambition. Similarly, Babalola (2009) posited that experience in Nigeria has revealed that students' behaviour towards Basic Science and Technology in secondary schools largely depends on the competence and dedication of the teacher who has a significant role to play in the reshaping of the creative potentials and abilities of students. From the above, it becomes imperative that Basic Science and Technology teachers should be able to cope with the ever-changing knowledge of technology and ensure that students acquire requisite knowledge, skills and values. It should be appreciated that the influence of the teacher on students' personal, social and productive lives is usually the product of the professional training which they received.

This probably explains why Federal Republic of Nigeria (2014) stated in her National Policy on Education that since no education system may rise above the quality of its teachers', teacher education shall continue to be given major emphasis in all educational planning and development. Thus, teachers have to be well prepared for their job through pre- and in-service training. It is not too long, United Nation Children's Fund (UNICEF) recorded 10 Million Nigerian children, who are expected in school that are out of the school. This sound training, should at the end, help the teachers in the implementation of the curriculum as they engage in effective teaching, for pleasant and meaningful understanding of students in order to achieve set objectives in the classroom. In order to promote the effectiveness of Basic Science and Technology teachers, it is important to produce high quality teachers. In an attempt to produce high quality students, Drafts (2008) underlined the basic systems theory of organizations which consist of five components: inputs, transformation process, outputs, feedbacks and the environment. These interrelated parts are to achieve a common goal. These teachers should maintain approved lesson period, utilize visual aids, voice, eye contacts and body movement as ways of stimulating the students, summarize lesson and evaluate lesson using all sort of techniques. Basic Science and Technology teachers in-training should be made to realize that the quality of classroom interactions with students has a vital role to play in their effectiveness as teachers. Oyekan (2000) stated that teachers also rely on classroom interactions with the students to gauge the effectiveness, level and pace of their instruction. Okolocha and Onyeneke (2013) posited that the success of Nigeria's educational system especially at the secondary school level depends upon a number of factors: the government, the society, students, the teachers, and the quality of teaching, devotion and effectiveness of the teachers. Also, Okebukola (2002) in his lecture delivered on science education in Nigeria: putting the shoe on the right foot, emphasized on the misplaced goals in Science Education in Nigeria, heaping the blame at the door step of the government, teachers and students.

Basic Science and Technology teachers' effectiveness can be viewed in the ability of the teacher to employ appropriate techniques and strategies to impart on the learners' knowledge, skills and competencies required to bring about desired positive learning outcomes. Teacher effectiveness is a teacher's ability to produce desired results measured in terms of how well the teacher is able to maximize learning in the students.

Statement of the problem

This study investigated how teachers could influence Nigerian students' behaviour in Basic Science and Technology at Upper Basic School level. Furthermore, whether some identified factors could establish comprehension and support for previous research studies and discover new manipulative variable of teachers teaching the subject.

Research question

What are the manipulative factors of Basic Science and Technology teachers on Nigerian students' behaviour at Upper Basic School level in Oyo State of Nigeria?

Hypothesis

HO_2: There is no significant difference in manipulative factors of Basic Science and Technology teachers on Nigerian students' behaviour towards Basic Science and Technology in public and private Upper Basic School level in Oyo State of Nigeria.

METHODOLOGY

Research design

This study adopted a survey research design to provide information about the neutrality of occurrence or characters. To this extent therefore, the researcher reported the situation as they had occurred without the manipulation of any variable using a questionnaire.

Population

The target population for the study consists of Basic Science and Technology teachers in public and private Upper Basic School level in Oyo State, Nigeria.

The sample and sampling technique

The sample involved four hundred and fifty (450) Upper Basic level (JSS II) students in both public and private junior secondary schools, fifty (50) Basic Science and Technology teachers in selected public and private junior secondary schools and Local Education Officers in Ogbomoso Educational Zone of Oyo State of Nigeria.

This study adopted a multi-stage sampling technique. The first stage based on the existing grouping of the five local government areas in Ogbomoso Educational Zone of Oyo state. Three Local Government Areas (Ogbomoso North, Ogbomoso South and Oriire Local Government Areas) were purposely selected. Five public secondary schools out of fifteen and five private secondary schools out of thirty-eight public secondary schools were purposively selected in Ogbomoso North Local Government Area. In Ogbomoso South Local Government Area, five public secondary schools out of sixteen and five out of twenty-three private secondary schools were purposively selected. Likewise, in Oriire Local Government Area, five out of eighteen public secondary schools and five out of seven private secondary schools were purposively selected making a total of fifteen public secondary schools and fifteen private secondary schools in Ogbomoso Educational Zone. In the third stage, fifteen students were randomly selected from each of the selected public and private schools making a total number of four hundred and fifty students. That is, two hundred and twenty five (225) students from public junior secondary schools and two hundred and twenty five (225) private junior secondary schools were randomly selected.

Instrument for data collection

A self-developed and validated questionnaire research instrument for this study comprises twenty (20) items to be answered so as to elicit information on teacher factors. Four likert scale questionnaire as modified by the researchers were used with the weightings of the responses as follows: Strongly Agree = 4 points; Agree = 3 points; Disagree = 2 points and strongly Disagree = 1 point.

Data analysis technique

The data collected were analysed with the use of descriptive statistics and simple percentage while the difference in the relationship was measured using T-test statistics to determine the variation in the altitudinal response to the items.

RESULTS

Table 1 indicates that the major Basic Science and Technology teachers' constraints to the teaching and learning of Basic Science and Technology in both public and private schools in Oyo State is unqualified teachers teaching Basic Science and Technology (Teachers' without professional training and certificate in the subject). The Table 1 revealed that only nine (9) out of fifty (50 respondents which is 18.00% of the respondents are qualified to teach Basic Science and Technology in both public and private schools. The remaining 82.00% respondents are not qualified to teach Basic Science and Technology in schools. Table 1 further revealed that out of nine (9) respondents which is 18.00% that are qualified, (6) teachers which is 66.67% are from public schools while the remaining (3) teachers which is 33.33% are from private schools.

The p-value (0.839) is greater than 0.05, hence, hypothesis was not rejected and concluded that there is no significant difference in the Basic Science and Technology teacher constraints to the teaching of Basic Science and Technology in public and private secondary schools in Oyo state (Table 2). Therefore, the null hypothesis is hereby accepted.

DISCUSSION

The result of this research question identified non-professionals and unskilled teachers teaching Basic Science in public and private schools as a major constraint facing the teaching of Basic Science and Technology in Oyo State. The demographic information provided revealed that out of 50 teachers teaching Basic Science and Technology in the selected public and private schools only (9) teachers are qualified to teach the subject while the remaining (41) teachers are not qualified. This finding is in support of the view of Oludipe (1997), Odetoyinbo (2004), Olakulehin (2007), Sa'ad and Usman (2014), Abe

Table 1. Number and percentage of respondents' (teachers') qualification.

S/N	Qualification	Public schools	Private schools	Total	Percentage (%)
1	B.Sc. (Ed.), NCE	6	3	09	18.00
2	B.Sc.	3	3	06	12.00
3	HND	1	4	05	10.00
5	B.TECH	3	11	14	26.00
6	B.Ed. (in other subjects)	9	4	13	26.00
7	B.A	-	3	03	6.00
Total		22	28	50	100

Table 2. Independent Samples Test Teachers' factor.

Teacher factor	Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Equal variances assumed	0.464	0.499	0.204	48.000	0.839	0.08000	0.39209	-0.70835	0.86835
Equal variances not assumed	0.000	0.000	0.204	47.620	0.839	0.08000	0.39209	-0.70851	0.86851

(2014) and Musai and Migosi (2015) that teachers are the most influential agents in the teaching and learning process in the classroom; both teaching and learning depend on the teachers. Teachers' disposition to duty, methodology, coverage of scheme of work, attending workshops and seminars on the subject matter, teachers' collaborative work are other essential factors necessary for effective teaching and learning of Basic Science and Technology. Many of the classroom Basic Science and Technology teachers are unqualified for the job they are doing. This has implication for science and technology.

Arising from the above and a host of other studies, there have not been studies that suggested different findings to establish different opinion regarding teacher factors.

Conclusion

Teachers are the most influential agents in the teaching and learning of Basic Science and Technology. Teachers' qualification, teachers' disposition to duty, methodology, coverage of scheme of work, attending workshops and seminars on the subject matter, teachers' collaborative work have serious influence on students' behaviour and value students attach to Basic Science and Technology. Therefore, it was revealed that unqualified teachers have been teaching Basic Science and Technology in both public and private schools and this has made students develop negative behaviour towards Basic Science and Technology. In consequence, it has been recommended that qualified Basic Science and Technology teachers should be employed in both public and private schools. Basic Science and Technology teachers should attend seminars and workshop in order to update themselves with the current trends in the world of science education.

CONFLICTS OF INTEREST

The authors declare no conflict of interest.

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