ASSESSMENT OF STUDENTS' ATTITUDE TOWARDS BASIC TECHNOLOGY IN PUBLIC SECONDARY SCHOOLS IN IBADAN

[1]ADETAYO, J. O. & [2]POPOOLA D. A.
[1&2]Department of Science and Technology Education
Olabisi Onabanjo University, Ago-Iwoye, Ogun State
bolafemitayo@yahoo.com, adetayo.janet@oouagoiwoye.edu.ng

Abstract
The study assessed students' attitude towards learning and teaching of Basic Technology in Public Junior Secondary Schools in Ibadan metropolis. The study adopted ex-post facto research design, simple random sampling was used to select four hundred and fifty (450) Junior Secondary III Basic Technology Students across six local government areas in Ibadan metropolis. Students' Attitude Questionnaire SAQ (α=0.74), and Basic Technology Performance Test [BTPT] (0.63) were the main instruments used for data collection. The data collected were analysed using descriptive statistics of frequency count and mean. Students' attitude is positive and supports learning of basic technology but students' performance in Basic Technology is slightly above average. The study has established that students' attitude to the learning and teaching of Basic Technology is positive and favourable but despite this academic performance is just slightly above average. Based on these findings, recommendations were made that that there is need to sustain the positive or high attitude of the students towards the learning and teaching of Basic Technology in schools and also that more of teachers' efforts is require in the positive direction for improvement in the level of students' performance in basic technology and that Government should also make available all things necessary to achieve this fit to support and encourage the teachers.

Keywords: Assessment, Basic Technology, Students' Attitude, Students' Academic Performance

Introduction

Basic Technology is a subject which introduces students at the Junior Secondary level of education in Nigeria, to the fundamental tips in technology. The title Introductory technology as a subject, came with the introduction of the now defunct 6.3.3.4 system of education, (this means six years of primary education, three years of Junior Secondary Education, another three years of Senior Secondary Education and of course, four years of Tertiary Education.) However, with the current 9.3.4 system of education, (this means nine years of basic education, three years of Senior Secondary and four years of the Tertiary Education), the title changed to Basic Technology. The aim is that by the end of the junior secondary school, presently known as basic 9, technological appreciation would have been activated and sustained, and foundation laid for students' entrance into a vocation of their choice.

Noteworthy in the curriculum for the new system, is the subsuming of primary science and integrated science to form a formidable unity known as Basic science and Technology.

This synthesis helps to prepare a child adequately to undergo studies in the mainline science. The National Policy on Education (FRN, 2004) defines Basic Technology as the aspect of education which leads to acquisition of practical and applied skills as well as basic scientific knowledge. It is also a subject which deals with the fundamentals of engineering and technology. Therefore, to reduce ignorance in relation to technology and help lay a solid foundation for true national development, Basic Technology has been accorded a place in the school curriculum as a core subject like English and Mathematics. The objectives of teaching Basic Technology subjects in Nigerian schools include: To provide pre-vocational orientation for further training in technology, to provide basic vocational literacy for everyday living, and to stimulate creativity (NPE, 2004).

Basic Technology, which is one of the core subjects among the pre-vocational subjects of the Junior Secondary Schools in Nigeria, have a component of other subjects such as Technical Drawing; Applied Electricity, Wood Work, Metal Work, Basic Electronics and Ceramic. It also involves academic practical study of materials and sources of energy with the ultimate intention of applying knowledge from the study to provide a comfortable environment for man (Akinfolarin, 2008). The study of basic technology is aimed to prepare students for the world of work, wealth creation and entrepreneurship (FRN, 2014). Elisha and Okolie (2014) observed that through basic technology, students are assisted to explore the various areas of technology towards making intelligent career choice. Moreover, as discussed by Umunadi (2013), he made known that Basic Technology as a skill-oriented subject, whose major aim is to expose the learners to the rudiments of technology, should be taught with equipment. This will enable the recipients to gain awareness, appreciation and orientation into technology that will enable them to develop further or choose a trade.

Most countries recognize the dependence of their social and economic growth on the development of science and technology. These developments are then affected by technology teaching offered in the schools. In a developing country like Nigeria, effective technology teaching is compulsory in Junior Secondary Schools as this would enable the country to produce adequate cadre of potential professional technologists and educated citizens equipped for living in a technological age. The objectives of Basic Science and Technology Curriculum (BSTC) as stated in the Junior Secondary School Curriculum are to make learners to: develop interest in science and technology; acquire basic knowledge and skills in science and technology; apply scientific and technological knowledge and skills to meet contemporary societal needs; take advantage of the numerous career opportunities provided by science and technology; become prepared for further studies in science and technology; and be safety and security conscious. (Nigerian Educational Research Development Council [NERDC], 2012) Revised.

To achieve these stated objectives, the syllabus and the textbooks are structured and written in ways that would require use of tools and equipment in appropriate environment. Also, each school must have efficient facilities for the teaching of Basic Technology and well qualified and practically knowledgeable teacher(s) to handle Basic Technology practical work using workshop. These objectives of the basic technology as stated by the (NERDC, 2012) will only be achieved if basic technology content is appropriate and suitable to be learnt in Junior Secondary classes and this will improve technological manpower in the country. However, presently there seems to be dearth of literature on appropriateness of the curriculum contents for learners. Ideally, at the Junior Secondary School, students are expected to be exposed to fundamental skills needed to be relevant in the society. They are supposed to acquire skills in wood work, metal work, electrical and electronics and local crafts so that those who will leave the schools at the Junior Secondary School level will be fit in the world of work (FRN, 2004).

Studies have been carried out in other areas of science evaluating the appropriateness of curriculum content but, few studies have considered evaluating basic technology curriculum especially in Ibadan metropolis. Also, there is dearth of empirical literature on the attitude of students and teachers of Basic technology. It then became imperative to undertake studies in this direction. According to Adodo and Gbore (2012), attitude defines inward and visible postures of human beliefs. Attitude determines what each individual will see, hear, think and do. According to them, attitude means individual's prevailing tendency to respond either favourably or unfavourably to an object (person or group of people, institutions or events). It can be either positive or negative. Attitude is concerned with an individual's way of thinking and behaving and this has serious implications for learner, the teacher, the immediate social group with which the individual learning relates, and the school system as a whole (Lawsha, 2011). Studies have shown that a learner's attitude has impact on his or her academic attainment. Adetayo (2011) and Ifamuyiwa (2004) from their study reported that attitude towards a particular subject is positively related to performance in the subject. They submitted that attitude contributes substantially more than other variables in predicting achievement. A positive attitude is more likely to produce achievement of a goal or objective than a negative attitude. It follows therefore, in order to have better performance, there is need to motivate students to have positive attitude towards the subjects.

Attitudes are essential ingredients in teaching and learning. Attitude is considered as a powerful structure which has strong impact on human behaviour (Akinfe et. al., 2012). Accordingly, it is reported that positive attitude towards teaching affects behaviour of teachers, success of students and development of students' personality in a positive way (Adeniyi et.al., 2014). Falaye and Okwilagwe (2007) opined that teachers' attitudes facilitate a caring and supportive classroom environment.

Research Questions

1. What is the level of Public Junior Secondary School students' performance in basic technology?
2. What is Public Junior Secondary Schools students' attitude to Basic Technology?

Methodology

The study is an ex-post facto research design. Public Junior Secondary Schools, Basic Technology Teachers and Junior Secondary School III Students are the population for the study. The sample for the study comprised of thirty (30) teachers and four hundred and fifty (450) students selected randomly from thirty (30) schools across six local government areas in Ibadan metropolis. Students' Attitude Questionnaire SAQ (α=0.74), and Basic Technology Performance Test BTPT ($r_{½}$=0.63) were the main instruments used for data collection. The data collected were analysed using descriptive statistics of frequency count and mean score.

Results

Research Question One: What is the level of Public Junior Secondary School students' performance in basic technology?

Table 1: Level of Public Junior Secondary School students' performance in Basic Technology

	Frequency	**Percent**
below average	218	48.4
average and above	232	51.6
Total	**450**	**100.0**

As shown in Table 1, majority of the students (51.6%) scored above the average score while students that scored below average are 48.6%. Drawing from the data, the students' performance in basic technology test is a bit above average.

Research Question Two: What is Public Junior Secondary Schools students' attitude to Basic Technology?

Table 2: Students' Attitude to Basic Technology in Public Junior Secondary Schools in Ibadan

Students' Attitude (Average mean = 62.2)		
Perception	**Frequency**	**Percentage**
Positive	286	63.5
Negative	164	36.4
Total	**450**	**100**

Table 2 show result of students' attitude to Basic Technology in public junior secondary school in Ibadan**.** Average mean of 62.2 as obtained from the students' attitude scale was used as benchmark. The minimum score recorded was 37 while the maximum score was 71. Score below the bench mark mean is taken as negative attitude while score obtained on the mean and above is taken as positive attitude to Basic Technology. The table further shows that 286 (63.5%) students recorded score above the average mean, while 164 (36.4%) students recorded scores below the average mean. Thus, having majority 286 (63.5%) students above the average mean implies that students have positive attitude to Basic Technology in public junior secondary school in Ibadan.

Discussion of Findings

The finding that students' attitude towards the learning of basic technology in public secondary schools is positive supported the findings of Adodo and Gbore (2012, Standslause, et. al. (2012) and Omwirhiren and Anderson, (2016) that high attitude towards learning promote meaningful learning and performance as well as the studies of Mbugua, et. Al., (2012) which revealed that where students have negative attitude, learning is hindered. Also, the finding that students' performance in basic technology is slightly above average confirms that of Ogbuagu et. al. (2012), Elisha and Okolie (2014) and Makgato (2014) and is not good for our education system because the magnitude of students that perform poorly calls for concern. It is therefore important that teachers should strive to make all the students successful because the objective of teaching is for all the students' excellent performance and attainment of 100% achievement in learning.

Conclusion

The study assessed the Students' Attitude toward learning and teaching of Basic Technology in public junior secondary schools in Ibadan metropolis. The study revealed that the students' performance in basic technology test is slightly above average, and that students' attitude towards the learning of basic technology in public secondary schools is positive.

Recommendations

Based on these findings' recommendations were made that there is need to sustain the positive or high attitude of the students towards the learning and teaching of Basic Technology in schools and also that more of teachers' efforts is require in the positive direction for improvement in the level of students' performance in basic technology and that Government should also make available all the necessary equipment as well as instructional materials which can assist in quick understanding and learning of the students, if any of this is not adequately available in schools.

References

Adeniyi, C.O., Ogundele, L.O., & Odetola, C.A. (2014). Teacher Quality Factors as Determinant of Students' Achievement in Mathematics.*Journal of Education and Practrice*, 5 (37), 1-5. Retrieved from www.iiste.org.

Adetayo, J.O. (2011). An Evaluation of the Professional Competence of the Nigeria Certificate in Education (NCE) Teachers of National Teachers' Institute Distance Learning Programme. Unpublished Ph.D. Thesis, University of Ibadan, Ibadan, Nigeria.

Adodo, S. O., & Gbore, L.O. (2012). Prediction of Attitude and interest of science students of different ability on their academic performance in basic science. *International Journal of Psychology and Counselling*. 4 (6), 68-72.

Akinfe, E.; Olofinniyi, O.E., & Fashiku, C.O. (2012). Teachers' Quality as Correlates of Students' Academic Performance in Biology in Senior Secondary Schools of Ondo State, Nigeria. *Online Journal of Education Research,* 1 (6), 108-114. Retrieved from http://www.onlineresearchjournals.org/IJER

Akinfolarin, C.A. (2008). Resource Utilization and technical education in Colleges of Education in South/West, Nigeria. Unpublished Ph.D. Thesis, University of Ado-Ekiti, Ekiti State, Nigeria.

Akubuiro, E. J (2004). Students Attitude Towards Science and Academic Self-Concept. University of Calabar Publication (Uzairue).

Elisha & Okolie, A. C. (2014). Impediments to Effective Teaching and Learning of Basic Technology in Nigerian Public Secondary Schools.

Falaye, F.V. & Okwilagwe, E.A. (2007). Some teacher and locational variables as correlates of attitudes to social studies teaching at the basic education level in Southern Nigeria. *Ghana Journal of Education and Teaching*, 1 (6), 15-23.

Federal Ministry of Education (2012). Core Curriculum for Basic Technology for Junior Secondary Schools.

Federal Republic of Nigeria [FRN] (2012). Federal Ministry of Education Abuja (The New 9-Year Basic Education Curriculum Structure) (NERDC).

Federal Republic of Nigeria (2004). National Policy on Education. Pp 24-25.

Ifamuyiwa, S.A. (2004). A Study of the relationship between Students' Achievement in and Attitude Towards Secondary School Mathematics. *Olabisi Onabanjo University Journal of Educational Studies*. 5 (1), 35-42.

Lawsha, M. A., & Hussain, W. (2011). Secondary Students' Attitude towards Mathematics in a Selected School of Maldives. *International Journal of Humanities and Social Science*, 1(15), 277-281. Retrieved from www.ijhssnet.com/journal/vol. 1 (15) Special Issue, October 2011/34.pdf.

Makgato, M. (2014). The challenges of Teaching and Learning Technology Subject at Schools in South Africa: A case of INSET Teachers in Mpumalanga Province. *International Journal of Academic Research in Progressive Education and Development*. April 2016, 5(2). Retrieved from www.hrmars.com/journals.

Nwaubani, O. O. (2005). Evaluating social studies curriculum for instructional efficiency in Nigerian schools and colleges. In E.A. Emeke & C.V. Abe (Eds.), Evaluation in theory and practice: A book of reading in honour of Prof. Joseph O. Obemeata. (pp. 107-121). Franco-Ola Printers, Ibadan.

Ogbuagu, Eyibe & Okoli (2012). Challenges of Teaching and Learning of Basic Technology inJunior Secondary Schools in Anambra State.

Omwirhiren, E. M., & Anderson, F. E. (2016). Effect of class size and students' attitude on academic performance in chemistry at demonstration secondary school, Ahmadu Bello University, Zaria, Nigeria. IOSR Journal of Research & Method in Education (IOSRJRME). 6(1), 1-6. DOI: 10.9790/7388-06120106.

Standslause, O. E. O., Maito, T. L., & Ochiel, J. K. O. (2013). Teachers and students' attitude towards mathematics in secondary schools in Siaya country, Kenya. Asian Journal of management sciences and education. 2 (3), 116-123. Retrieved from www.ajmse.leenaluna.co.jp.

Umunadi, E.K. (2013). Strategic resource utilization for implementing technical education curriculum towards sustainable development in Nigeria. Prime Research on Education (PRE), 3 (7), 579-584. Retrieved from www.primejournal.org/PRE.