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Senior Secondary Students' Perception of Teaching Style on West African Examination Results in English, Mathematics and Biology

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ABSTRACT

This study centered on the senior secondary school students perception of teaching style and comparative study of past WAEC results 2010-2014 (English, mathematics and biology) in Ohaukwu local government area of Ebonyi State. The purpose of the study is to examine different teaching styles and the student's perception towards them and also the comparison of the student's achievement on past WAEC results from 2010 to 2014 in Ohaukwu Local government area of Ebonyi State. The researcher dealt with analysis of data from comparison of students' achievement on past WAEC result. The comparison was based on science and art students and male and female students, the data for this study was drawn from raw WAEC result which the researcher got from the four selected schools for the study. After which the instrument was validated by 3 experts in measurement and evaluation. The statistical tools used in the analysis of the responses of the respondents were mean and standard deviation. The researcher used all the SSIII students of the selected school. The findings showed that inappropriate, inadequate and poor teaching style impedes good student's result achievement in their WAEC. The findings also showed that science students performed better than art students while male students also performed better than females. The researcher's recommendation among others was that, teachers should adopt favourable teaching styles while teaching their students.

Keywords: Senior Secondary, Students' Perception, Teaching Style, West African Examination, Results, English, Mathematics and Biology

INTRODUCTION

Nigeria, like many other African nations is far behind in technological advancement and qualified skilled manpower in almost all field of human endeavour, especially in science. Thus, there has been some efforts geared towards technological transfer and the federal and state governments have been allocating large revenue to education with the view to achieving scientific, technological, economic and political emancipation. The government in an attempt to the resolution of this problem needs to play vital roles in the development of sciences and technology, which our national policy on education emphasizes. Biology is the science of "life" it is therefore to say that it is the root of life. According to [1] the above statement derived from the fact that biology is one of the preliminary entry requirements for studying science based professions like medicine, pharmacy, genetics microbiology and molecular biology. Biology expertise is a vital component of the solution of many problems facing our civilization from human health and diseases to loss of biodiversity and environmental quality. The Claire biology program is designed to provide students the opportunity to integrate, interprets and translates biological phenomena and environmental observations and then uses this information to make meaningful decisions. As Nigeria's education aims at efforts campaigns and struggles to build a united strong and self reliant nation a great dynamic economic and a land of bright and full opportunities for all citizens: the post primary institution cannot be left out. One of the broad aims of secondary education has been to "prepare the students for senior secondary certificate examination (SSCE) and national examination council (NECO) which are passports to civil services and commercial firms as well as the universities. This simply implies that it is

the function of secondary education to do the following:

i. Provide all junior school leaves with the opportunity for education of higher level respective of sex, social status religious or entire background.
ii. Offer diversified curriculum to cater for the differences in talents opportunities and future roles.
iii. Provide trained manpower in the applied science, technology and commerce at sub-professional grades.
iv. Develop and promote Nigerian languages art and culture in the context of world cultural heritage.
v. Inspires its students with a desire for self improvement and achievement of excellence.
vi. Foster national unity with an emphasis on the common ties that unit us in our diversity,
vii. Raise a generation of people who can think for themselves, respect the views and feelings of others, and respect the dignity of labour.
viii. Appreciate those values specified under our broad national goals and live as good citizens.
ix. Provide technical knowledge and vocational skills necessary for agriculture and industries.

Poor performance of students in secondary school certificate examination in biology has been a matter of great concern to researchers, policy makers, parents and classroom teachers in education of this country, as this tends to cripple the nations more towards the development of science and indigenous technology. This entails for the effective and easy fostering of biology knowledge to the students for more enhancement and excellent performance in their senior school certificate examination and for further knowledge. The cause of this poor performance is connected with the attitude of students towards science based and also the teaching methods and strategies used. For instance [2] pointed out the positive impact of laboratory method of teaching and learning as it makes the students/learners to learn about the nature of science and technology in order to foster the knowledge of human enterprise of science and thus enhance the aesthetic and intellectual understanding of the child. He also said that during the laboratory teaching, the learner is able to match his abilities with the laboratory experiences he is exposed to by manipulations and control of any available variables. Equally, in a study carried out by [3] on students' performance in biology in Ohaukwu local government area of Ebonyi state for a period of five years, 1997 to 2001 in schools used for study, 3595 students took biology in SSCE 2,050 representing 37.95% failed. This made the work to conclude that failure in SSCE biology in recent years has remained persistently high in Ebonyi State. With reference to these views on subjects, the need to improve science leaking situation in our school through proper methods. The said recurrent poor result in science disciplines has generated complaints for several sections of the citizenry who are investors and consumers in the education system. Those who are mostly affected by this failure are the students, their parents/guardians who suffer directly the consequences of this poor performance. This situation is more disheartening when one considers that the fact these students who after spending six or more years in the secondary school with performance in science base disciplines do not gain into higher institutions to read science and allied courses nor can they gain employment for jobs requiring the expertise and ability of one who read science at school certificate level. Therefore, the researcher's trend of thought is that improvement of science teaching and learning would depend on the teacher in terms of his:

a. **Level of knowledge:** This means how far he has gone in obtaining the rightful knowledge needed to impact into the learners.
b. **His teaching method:** This is whether he is endowed or

has been enlightened on the necessary and suited methods of teaching the learners thus the need for manpower development in science based discipline the need for not only quantitative but also qualitative education and the performance in science in recent years underscores the need for the study on students achievement in science discipline using schools in Ohaukwu urban and Ngbo in Ohaukwu local government area of Ebonyi State as the research based those schools are relatively well equipped scientifically and have qualified teachers personnel's as such much as expected from them

Statement of the Problem

Presently in Nigeria, the lecture demonstration methods are frequently used in teaching science. As a result students tends to memories the concept, principles and theories for examination purpose, which is what the system emphasizes in view of the above, the students do not show adequate positive attitude to science. This is real from the low evolvement in the school certificate disciplines. Record showed out that the large number of students who enters science based disciplines in SSCE there is a great number of failure and the percentage of students within SSCE grades one to six is how for instance [4] in his recent convocation ceremony of Ebonyi State college of education, [5] revealed, using 2002 SSCE result, the performance of students in science education in which only 25.79% 28.68 and 37.48% passed biology, chemistry and physics at credit level respectively. Many researchers have come out with a series of suggestions for improvement of the teaching and learning process in science causes in our secondary schools considering the known style of teaching science in general e.g historical, lecture demonstration, laboratory field trips etc there is a need arise to find out what the aid empirical data, the most effective science teaching method and strategies for teacher effectiveness and improvement and also that many generate in the students the much needed positive attitude towards science which is very necessary for promoting students achievement in biology in particular and science in general. So for the present research has no evidence to previous work in this direction. This has promoted the researcher to make this contribution.

METHODOLOGY

This chapter is concerned with the procedure adopted in carrying out the study. This will be treated under the following sub-headings, Research design, Area of the study, Population of the study, Sample and sampling techniques, Instrument for data collection, Validation of the instrument, Reliability of the instrument, Style of data collection, and Style of data analysis.

Research Design

This study adopted a comparative research design. Comparative research is a research methodology in science that aims to make comparisons across variables [6]. This method was adopted by the researcher in order to aid him comparing student's achievement at the end of the data analysis.

Area of the study

This study was carried out in secondary schools in Ohaukwu local government area of Ebonyi State with a total number of 31 public secondary schools therein.

Population of the study

The population of this study consisted of all the SS111 students in the selected secondary schools in Ohaukwu local government area of Ebonyi State.

Sample and Sampling Techniques

This study adopted simple random sampling techniques. Simple random sampling techniques is a sample method in which every item or individual person

in the population has an equal opportunity or chance of being selected from the overall population. This technique was used to select four (4) secondary schools in the named local government Area that constituted the population Boy's secondary school Ezzangbo Girl's secondary school Ezzangbo.

Instrument for Data Collection

The data for the study was obtained using past WAEC result from 2010-2014 this was obtained by the researcher who wrote letter to those selected schools and which was granted for him.

Validation of the Instrument

This work does not need validation because it is a standardized research.

Reliability of the Instrument

The reliability of the instrument is the consistency of the instrument in measuring whatever it is designed to measure [7]. Reliability is also not needed because it is a standardized work.

Method of Data Analysis

The data collected were analyzed and interpreted using arithmetic mean table and standard deviation. The numeric values assigned to the different scaling items used as follows:

Strongly Agreed (SA) 4 points
Agreed (A) 3 points
Disagreed (D) 2 points
Strongly disagreed (SD) 1 points

The sum of these values gave a total of 10 for the four point rating scale employed. The mean was determined using the formula:

The mean $\overline{X} = \frac{\sum fX}{N}$ *or* $\frac{Efx}{Ef}$

Where $\overline{X}$ = mean

$\sum$ = Summation

F = Frequency

X = nominal value of the option/score

EF = N = total number of score

Therefore mean

$$\left(\overline{X}\right) = \frac{4+3+2+1}{4} = \frac{10}{4} = 2.5$$

The cut-off point of mean (X) = 2.5

Decision rule

The cut-off mean point is 2.5

However, any response receiving with a mean score of 2.5 and above is accepted while any response with a mean score below 2.5 is rejected.

DATA ANALYSIS AND PRESENTATION

This chapter deals with the analysis of students result comparison on student's academic achievement on west Africa Examination Council (WAEC) based on three commonly subjects English Mathematics and Biology from 2010-2014. Also mean and standard deviation were used to answer the four research questions of the study. Certain statistical computations were used in analyzing and testing three hypotheses the t-test was used in listing hypothesis. The result of the analyzed data and test are shown below and which is from boys' secondary school.

Table 1: Science students

	A	B	C	D	E	F	A	B	C	D	E	F
2010	3.79	2.53	18.99	2.53	1.27	7.59	2.52	0	27.85	5.06	10.13	0
	6.33	0	20.25	1.27	3.79	5.06	1.27	5.06	32.91	2.52	3.79	5.06
	2.53	10.13	15.19	3.79	2.52	0	1.27	0	8.86	2.53	10.13	27.85
2011	2.35	9.41	15.89	0	0	2.35	9.41	8.24	36.47	5.88	3.53	2.35
	5.88	5.88	16.48	1.18	0	0	1.18	5.88	35.29	9.41	14.12	4.70
	1.18	8.24	12.29	2.35	0	2,35	3.53	3.53	35.29	7.06	3.53	17.65
2012	0	2.33	11.63	9.30	0	5.88	1.6	3.49	56.89	3.49	1,6	8.14
	2.33	4.65	12.94	4.65	2.33	2.33	1.6	5.88	31.39	9.30	8.14	55.81
	1.6	4.65	15.11	2.33	1.6	4.65	8.14	9.24	47.67	5.88	8.14	3.49
2013	1.33	6.67	17.33	2.67	5.33	0	4	12	37.33	4	4	5.33
	4	6.67	16	0	1.33	5.33	0	4	16	4	2.67	40
	4	4	20	2.67	2.67	0	1.33	12	20	8	10.65	14.67
2014	0	10.48	19.04	4.76	0	0	2.85	16.19	37.14	1.90	2.85	4.76
	2.85	6.67	15.24	3.80	1.90	1.90	0.95	8.95	22.86	4.75	2.85	17.14
	2.85	19.04	8.57	0.95	2.85	0.95	0.95	6.67	12.38	15.24	3.80	18,09

Table 2:The summary of the student's achievement on West Africa examination Council (WAEC) from 2010 to 2014 in Boy's secondary schools Ezzangbo

	Science student						Art students					
	A	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**
2010 English, Math and biology	13	5	46	6	5	13	3	7	68	17	13	14
2011 English, math's biology	14	20	34	5	0	2	10	15	68	22	17	58
2012 English, math's biology	10	26	28	3	5	4	5	9	13	59	7	49
2014 English math's biology	9	27	54	10	4	2	8	34	64	19	9	66
Total	**53**	**89**	**195**	**39**	**16**	**30**	**31**	**77**	**306**	**141**	**73**	**245**

The table above presents the student's achievement on WAEC from 2010 to 2014 based on the three subjects been offered. The table was presented for both science and art student in order to compare their performances and it is explained as thus: From the table, we saw that science students had 53 number of "AS" from 2010 to 2014 while art' students had 31 number of “As”.

From this information gotten from the study as well, it can be rightfully asserted or agreed that science students performed better than art students in comparison. In terms of "B" grades, it can also be seen that science students got 89 "Bs" while Art students got 77 "Bs" and it can also be agreed that science students performed better than Art students as well. But reaching for "Cs" while Art students had 306 numbers of "Cs" and therefore Art students performed better. To compare the rate of failures science students had 30 numbers of the failures (Fs) while Art students had 245 (Fs). Here, it is seen that Art students failed or fails more than the science students. Therefore, from the study so far, the researcher observed that from 2010 to 2014, the science students performed best to compare Art students in Boys secondary school.

Table 3: student's performances in percentage

	A	B	C	D	E	F	A	B	C	D	E	F
2010 English	1.51	7.58	28.79	3.03	0	0	3.03	9.04	39.39	0	4.55	3.03
Math's	4.45	4.45	16.67	1.51	4.45	4.45	0	0	43.94	4.45	3.03	6.06
Biology	1.51	1.51	22.73	10.60	3.03	1.51	0	7.58	36.36	7.58	4.45	3.03
2011 English	0	0	20	3.75	1.25	12.5	3.75	32.5	12.5	3.75	2.5	12.5
Math's	1.25	0	12.5	2.5	5	12.5	0	0	13.75	10	2.5	36.25
Biology	2.5	1.25	31.25	0	0	2.5	0	6.25	27.5	12.5	10	6.25
2012 English	5.56	4.44	16.67	1.11	0	4.44	3.33	5.56	36.67	8.89	10	3.33
Math's	1.11	4.44	22.22	2.22	1.11	1.11	0	0	31.11	6.67	4.44	22.22
Biology	1.11	8.89	17.78	3.33	11.11	0	2.22	5.55	32.22	4.44	15.56	7.78
2013 English	0	0	15	10	3.75	6.25	1.25	2.5	22.5	12.5	16.25	7.5
Math's	6.25	3.75	12.5	1.25	6.25	5	1.25	8.75	33.75	2.5	7.5	15
Biology	2.45	4.94	16.25	9.88	0	1.23	3.75	8.64	19.75	2.47	9.88	24.69
2014 English	3.70	0	25.93	1.25	0	0	3.70	23.45	12.35	0	11	1353
Math's	2.47	3.70	23.40	0	1.25	0	3.70	3.70	3.70	16.05	1.11	9.88
Biology	2.5	1.25	11.25	8.75	1.25	12.5	0	2.5	26.25	12.5	16.25	7.5

Table4 the summary of the students achievement on west Africa examination Council (WAEC) from 2010 to 2014 in Girls secondary school Ngbo

Table 4 science							Art					
	A	**B**	**C**	**D**	**E**	**F**	**A**	**B**	**C**	**D**	**E**	**F**
2010 English Math's Biology	7	12	47	3	3	3	8	11	77	13	6	9
2011 English Math's Biology	1	6	44	9	5	22	5	6	74	18	13	42
2012 English Math's Biology	6	16	56	3	1	5	5	6	74	20	22	53
2013 English Math's Biology	4	5	34	16	7	20	1	12	66	26	17	47
2014 English Math's Biology	8	9	34	14	0	1	5	13	54	18	17	48
Total	**26**	**48**	**215**	**49**	**16**	**51**	**19**	**45**	**345**	**95**	**75**	**199**

The table above which is showing the summary of the student's achievement on WAEC result from 2010 to 2014 based on the three subjects-English mathematics and biology has the following total grades for both science and art; 26, 48, 215, 49, 16, 51 19 45, 345, 95, 75 and 199 respectively. From the summary above we can now deduce that science and art students also have differ grades in girls secondary school and which was further compared as thus; With the aid of the summary which the researcher succeeded with through the study or research work we can now see that science students made 26 "As" in the three subjects from throughout the duration on consideration which is 2010 to 2014 while the Art students made 19 "As" likewise. For "B" grade science students were found also in a higher level to compare art students and which they made 48 and 45 "B" respectively. For "C" grades Art students then took over science students by gotten 345 and 215 numbers of "Cs" respectively. Moving down through other grades which include D and E art students are still over sciences. In terms of failure, it was also found out that art students failed more than the science students which was 199 for art students and 51 for science students. Base on this analysis, it is seen that science students in girls' secondary school performed better to compare Art students in same schools.

TABLE 5

The dependent t-test which is the true test. The table below has the summation of all the grades of each single school both science and art for the purpose of comparing male and female achievement result. For example, 26 "A" of science students plus 19 "As" of art students all from girls secondary school Ngbo gave 45 As and 53 "A" of science students and 31 "A" of art students all in Boys secondary school Ngbo gavbe 84 As.

The full analysis.

Grades	Male(X)	Female(y)	$\left(X-\overline{X}\right)$	$\left(X-\overline{X}\right)^2$	$\left(Y-\overline{y}\right)^2$	$\left(Y-\overline{y}\right)^2$
A	84	45	-131.83	17,379.15	-152.17	23,155.70
B	166	93	-49.83	2,483.03	-104.17	10,851.39
c	501	560	-285.17	81,321.93	362.83	131,645.60
D	180	144	-35.83	1,283.79	-53.17	2,827.05
E	89	91	-126.83	16,085.85	-106.17	11,272.07
F	275	250	59.17	3,501.09	52.83	2,791.00

Mean $\left(\overline{X}\right)=\frac{\sum X}{N}=\frac{1{,}183}{6}=197.17$

$Y=\frac{\sum X}{N}=\frac{1{,}183}{6}=197.17$

Therefore $\sum\frac{\left(X-X\right)^2}{N}=\frac{106,414.84}{6}$

$=17,735.80$

$\sum\left(X-X\right)^2=\frac{182,542.81}{6}=30,\ 423.80$

Variance for male and female

To find variance for $X-Y=\sum\left(y-y\right)^2$

$\frac{136,838.64}{6}=22,806.44$

Standard deviation (SD) = 151.02

CONCLUSION

This study on senior secondary school students perception of teaching style and comparative study of past WAEC results 2010 to 2014 (English, mathematics and biology) was carried out for the improvement of teaching styles or methods and students achievements to utilize the data and recommend good and effective teaching in Ohaukwu local government area of Ebonyi state. The study was aimed at finding out the effectiveness of using different teaching styles in teaching English language, mathematics and biology. It was directed towards investigating the achievement of senior secondary school students in their WAEC result and went further to compare the science students in their WAEC result and went further to compare the science students achievement to art students and male students achievement to female students and to make suggestions and recommendations based on the findings. The sample for the study was made up of all SSll students in the selected secondary schools. Research questions as well as hypotheses were formulated to guide the researcher in investigating the achievement made by both science and art students, male and female students as well as their comparison. Data collection were in form of raw scores and were analyzed using T-test which is true test. From the tables presented in chapter four are drawn the following conclusion.

Table 1: this table contains the numbers of grades and percentage that students of the two disciplines (science and art) made at the end of each year and for five years as the study covered.

Table 2: this is another table that has the performances and achievements of student towards their WAEC results. There in the table we saw that science students performed best to compare art students while in turn art students had much number of mass failures over science.

Table 3: this table also has the summary of the student's achievement in girls secondary school from 2010 to 2014. The summary was also presented in a percentage for and its final analyses was presented in table 4. Table 4 this table presented the total numbers of different grades made by the both discipline in girls' schools. At the end of the analyses,

we got to realize that science students still performed better than art students. Table 5: this is the table that has the combination of all the grades made in each school from 2010 to 2014 for both science and art students, for instance, ail the grades for science students and art were summed up in boys school and kept different while same was done in girls secondary school and also kept aside with the aim of comparing boys achievement to that of girls. At the end of those analyses, the researcher came to realize that boys (male) students performed extremely higher than girls. In summary of these findings, the researcher came up with information that in boys (male) schools in Ohaukwu local government area teachers therein uses all the styles of teaching as listed in chapter two in teaching their students while in girls school of same local government area the teachers uses a few of them. For science students, it was as well noted that the teaching style the teachers uses in teaching those subjects selected was only in line with science disciplines and that it is totally out of track for art discipline? Therefore, the teaching style or methodology is dichotomous and need changing.

Educational implication

Here, the researcher pinpointed some relevant implications which the study finally resulted. It investigated the effectiveness of science students achievement and that of art students. It equally went further to compare these achievements and noted where there is a loophole for amendment. The study also brought to the researcher's notice that students does better when they are been separated in terms of sex to study as a single school. Finally, it looked how the teaching styles have been affecting students' achievement on their WAEC result since 2010 to 2014 it then made the researcher to understand that not all the schools in the named local government area in question uses all the required and preferable method of teaching while teaching their students and thereby affecting students work output.

Recommendations

The following recommendations were proffered in line with the result of the study

1. The use of laboratory and expository method of teaching and other teaching method should be made compulsory to all the teachers in the various schools of Ohaukwu local government area of Ebonyi State.
2. A better learning attitudes should be introduced and encouraged to the students in that area to enhance more educational achievement.
3. Government should help in equipping the laboratories with recent equipment and other teaching instructional materials to enhance more teaching and learning in those various schools

Limitation of the study

1. This study was limited to a particular area in Ebonyi State and therefore cannot be generalized to other areas.
2. Not all the art subjects like government literature and the rest of them were seen to be included in the study.

REFERENCES

1. Abonyi, S. O. (2005). *A First Course in Educational Measurement and Evaluation.* Enugu: Fred-Ogah Publishers. Ahmed S. (2001) "Comparison of Effectiveness teaching and secondary schools New York Holt Rhenetat and Washington.
2. Alexander, W. M. and Hatvercon, P. M. (2010). Effective teaching and secondary schools New York Holt Rehnetat and Washington.
3. Ali, A. (2013). Effective of laboratory classes on motivation and level of achievement in physics in Nigeria secondary school Illorin journal of Education Vol. iii no 2 P. 18.
4. Amachi, A. C. (2011). Are you teaching science unscientifically science and children Vol. ii P. 82.
5. Amajioye, C. A. (2000). A study of the problem of teaching chemistry in the post primary schools with

particular reference to Nsukka Urban and Nkweze Division of Anambra and Imo States (Unpublished B. Sc. Thesis Department of Education Unit).
6. Ambros, M. (2010). Ohaukwu Secondary School Science Teacher's perception of Effective teaching.
7. Arnold, K. L. (2013). The efficiency of the physics science laboratory in promoting general education objectives Journal of experimental education vol xxiv. No 3 P. 110.
8. Avaold (2013). *Essentials of Modern Biology.* Onitsha: De-Diamond JMB Publishers.
9. Bagley (2014). *Biology Microsoft® Encarta® 2006.* (CD) Redmond, W.A: Microsoft Corporation, 2005.
10. Banducien, O. I. (2007). *Paradigms of Personality.* New York Free Man.
11. Brandoeim, E. I (2014). Teaching high school sciences New York Holt Rhindat and Washington P. 51.
12. Burnett, R. V. (2011). Teaching science in secondary schools New York Rhinehal and Washington P. 199.
13. Collette and Chiappette (2009). *Ensuring Effective Utilization of the Labouratory in Science Pedagogy: A Challenge to Science Education in 21st Century Nigeria. Ebonyi State University Journal of Education;* vol. 4 (1); 84-88.
14. Dagu, (2009), *An Introduction to Research Method in Education and Social Science Lagos:* Sunshine International Publications,
15. Daju (2001). Address presented to the STAN journal of STAN vol. xiii, no 1 p. 19-20.
16. Deck, A. W. (2008). A modern approach to science. The teacher in New African vol. 10, P. 17.
17. Dickson. C. (2004). A Summary Magazine Investigation on Students performance in WAEC in Ohaukwu L.G.A of Ebonyi state merciful publication centre Okwo Ngbo.
18. Dock, I. J. (2008). *Continuous: A New Approach.* Ibadan University.
19. Ejikeme, C. N. (2009). A Study of problems involved in organizing secondary schools practical (An unpublished thesis UNN) P. 54.56.
20. Estelle, M. P. (2000). Developing of Design, The Vocational aspect of Education Vol. xxiv, no 88.
21. Ezeliora, B. (2001). *A* Guide to Practice Approach to Laboratory Management and Safety Precautions.
22. Ezeliora, B. (2001). Laboratory management and safety precautions. Published by divine love publication. Box 546 Enugu.
23. Ezike, H. O. (2014). An investigation in the census of failure in WAEC Biology with Practical reference to Nsukka Uzo-Uwani and Igbo-Eze L.G.A of Enugu State (An unpublished thesis (1979) UNN P. 23-25.
24. Fafunwa (2013), *Psychology on Progress.* Ibadan.
25. Gbamagnje, S. P. T. and Dienye, N. E. (2010). Science Education Theory and practice Totan Published Ltd.
26. Gerbel, D. and Sherwood, R. (2013). The Effects of Student's Manipulation of Molecular Models on Chemistry achievement according to piagetion level. Journal of research in science teaching vol xviii no 1 P. 81.
27. Gillbert, C. (2011), *Facilities for Technology Education.* Technology Teacher.
28. Green (2012) *Hazards of School Science,* SASTA Journal.
29. Gregory (2014), *Methods of Science Teaching in Nigeria.* Kaduna Lions Communication Publishers.
30. Grenn, T. I. (2012). The Teaching and Learning of Biology London University Press P. 20.
31. Henrive, F. E. (2009). *Testing Problems in Perspective.* Washington DC: American Council in Education.

32. Investigation of the course of failure of WAEC (2011). In Ohaukwu L.G.A of Ebonyi State by Uchechukwu.
33. Israel (2014), *General Biology, A Practical Hand Book. Abakaliki.* Folsun Technologies.
34. Item (1971), *Teaching and Learning in the Science Laboratory,* Netherlands: Kiuwer Academic Publishers.
35. Johnson, C. C. (2013). *Introduction to Psychological Measurement.* Tokyo: McGraw-Hill Books.
36. Likabal (2009). Continuous Assessment: A New Approach. Enugu University Press Ltd.
37. Lydey (2011). *Hazards of School Science,* SASTA Journal.
38. Mahesh, C. and Hekell, F. D. (2013). *A Framework for Evaluating Chemical Hazards.* Science Teacher.