



JEDA

UNIVERSITY OF PORT HARCOURT
Journal of Education in Developing Areas

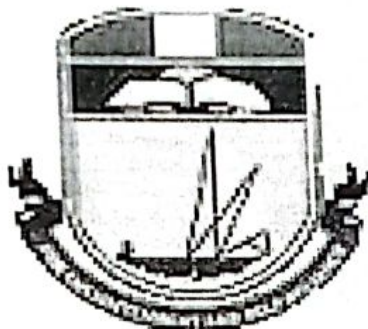
Vol. 24, No. 1 March, 2016

**PUBLISHED BY
THE FACULTY OF EDUCATION
UNIVERSITY OF PORT HARCOURT,
PORT HARCOURT, NIGERIA**

JOURNAL OF EDUCATION IN DEVELOPING AREAS

(JEDA)

UNIPORT



**PUBLISHED BY THE FACULTY OF EDUCATION
UNIVERSITY OF PORT HARCOURT
EAST/WEST HIGHWAY, CHOBA
PORT HARCOURT-NIGERIA.**

<http://www.jeda-uniport.com>

VOLUME 24, NUMBER 1, MARCH, 2016.

Copyright © Faculty of Education, University of Port Harcourt – 2016.

ISSN: 0189420X

**Produced by the Editorial Board
2016**

Editorial Board

Editor-in-Chief: Prof. Lawrence E. B. Igwe

Editor: Prof: Ibitamuno Mitchell Aminigo

Associate Editors:

Prof. (Mrs) P. O. Nwanna-Nzewunwa

Dr. (Mrs) N. J. Okoli

Dr. (Mrs) C. M. Uche

Dr. C. Agbakwuru

Dr. (Mrs) I. C. Kosemani

Dr. I. C. Elendu

Dr. O. F. Mbalisi

Technical Officers:

Dr. A. Orij

Dr. Mrs. E. Fomsi

Technical & Associate Editor: Dr. Abdulrahman Yusuf Maigida

Consulting Editors

Prof. B. A. Eheazu

(University of Port Harcourt, Nigeria.)

Prof. PAI Obanya

(International Education Strategist)

Prof. Tim Spannus

(Wayne-State University, Michighan, U.S.A.)

Emeritus Prof. Otonti Nduka

(University of Port Harcourt)

Prof. S.P.T. Gbamanja

(University of Sierra-Leone, Sierra-Leone.)

Emeritus Prof. O. C. Nwanna

(Imo State University, Nigeria.)

Prof. A. A. Adeyinka

(Niger Delta University, Wilberforce Island, Nigeria.)

Prof. N. E. Dienye

(University of Port Harcourt, Nigeria.)

Prof. A. I. Imogie

(University of Benin)

LIST OF CONTRIBUTORS

1. **COMFORT ONAIGHO NWADIANI**, Ph.D - Department of Vocational and Technical Education, Faculty of Education, University of Benin, Benin City.
2. **OYEBAMIJI, M. A.**, Ph.D - Department of Adult and Non-Formal Education, Faculty of Education, University of Port Harcourt, Nigeria
3. **EHIREMEN, F. I.** - Department of Adult and Non-Formal Education, Faculty of Education, University of Port Harcourt, Nigeria
4. **OHAERI, NNEKA CYNTHIA** - Educational Research Centre, Nigerian Educational Research and Development Council, Abuja
5. **ROSELINE O. OSAGIE**, Ph.D - Faculty of Education University of Benin, Benin-City, Edo State Nigeria
6. **AKANBI ABDULRASAQ OLADIMEJI**, Ph.D - Department of Science Education, University of Ilorin, Ilorin, Nigeria.
7. Prof. **ESTHER ORE OMOSEWO** - Department of Science Education, University of Ilorin, Ilorin, Nigeria.
8. **MUHAMMED RILWAN E.** - Department of Science Education, University of Ilorin, Ilorin, Nigeria.
9. **ABDULMALIK OLAYINKA ANWO** - Department of Science Education, University of Ilorin, Ilorin, Nigeria.
10. **BALOGUN ABDULRASAQ OLATUNJI**, Ph.D - Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
11. **JIMOH MOHAMMED IDRIS** - Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
12. **OKAFOR PRISCILIA IFEOMA**, Ph.D - Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
13. **IYEKOLO ALEXANDER OLUSHOLA**, Ph.D - Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
14. **AZIZ, ISIAKA** - Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
15. **OTARU, BERNARD MESHACH** Nigerian Educational Research and development Council, Sheda-Abuja & **OKUO, OREMEYI SCHOLAR** Nigerian Educational Research and development Council, Sheda-Abuja
16. **ADEKOLA, G.** Ph.D - Department of Adult and Non-Formal Education Faculty of Education University of Port Harcourt, Nigeria
17. **IGBIKIBERE BIMA, A. O.** - Department of Adult and Non-Formal Education Faculty of Education University of Port Harcourt, Nigeria
18. **GRACE OLUREMILEKUN AKANBI**, Ph.D - Emmanuel Alayande College of Education, Oyo Town, Oyo State, Nigeria.
19. Prof. **ALICE ARINLADE JEKAYINFA**, Department of Social Sciences Education, University of Ilorin, Ilorin, Nigeria.
20. **BETTY-RUTH N. IRULOH**, Ph.D Department of Educational Psychology, Guidance and Counselling, Faculty of Education, University of Port Harcourt, Rivers State.

21. **LOVETH N. NWOSA**, Ph.D Department of Educational Psychology, Guidance and Counselling, Faculty of Education, University of Port Harcourt, Rivers State.
22. Prof. **L. E. B. IGWE** - Department of Educational Management, Faculty of Education, University of Port-Harcourt.
23. **NWUKOR, MATILDA ONYI** - Department of Educational Management, Faculty of Education, University of Port-Harcourt.
24. **SAI, IORVAA PEVERGA** - Department of French & International Studies, School of Arts and Social Sciences, National Open University of Nigeria, Lagos.
25. **EZIMAH, M.O.A**, Ph.D Department of Adult and Non-Formal Education Faculty of Education University of Port Harcourt, Nigeria.
26. **OBIOMA, K. A.** Department of Adult and Non-Formal Education Faculty of Education University of Port Harcourt, Nigeria.
27. **MADUKWE, I.U.** Department of Oral Surgery and Pathology School of Dentistry College of Medical Sciences University of Benin, Benin City.
28. **RABIU KURFI**, Ph.D Educational Foundations Department, Faculty of Education, Federal University Dutsin-Ma, Katsina, Nigeria.
29. **ABDULKADIR, OLAREWAJU RASAQ**, Ph.D Educational Foundations Department, Faculty of Education, Federal University Dutsin-Ma, Katsina, Nigeria.
30. **ISIKA, GAFAR** Department of Counsellor Education, Faculty of Education, University of Ilorin, Nigeria.
31. **OLUWASEUN S. KUBEYINJE**, M.Sc (Ed) Principal Physiotherapist, Department of Physiotherapy, University of Benin Teaching Hospital, Benin City.
32. **ELIAS O. AGWUBIKE**, Ph.D Professor of Exercise Physiology and Kinanthropometry, Department of Human Kinetics and Sports Science, University of Benin, Benin City.
33. **OLAGBENDE, OMOLOLU VICTOR** Department of Educational Foundations, School of Education College of Education, Lanlate, Oyo State.
34. **ISA SHEHU USMAN** Department of Science and Technology Education, Physics Education Unit, Faculty of Education, University of Jos, Nigeria.
35. **BELLO IBRAHIM** - Department of Physics, College of Education, Azare, Bauchi State, Nigeria.
36. Prof. **A. M. ONYEOZU** - Department of Adult and Non-Formal Education, University of Port Harcourt.
37. **OTTY CHRISTIANA AMARA** - Department of Adult and Non-Formal Education, Alvan Ikoku Federal College of Education, Owerri
38. **FIDELIS UCHENDI OKAFOR**, Ph.D - Department of Nursing Science, School of Basic Medical Sciences, University of Benin, Benin City, Edo State.
39. **NGOZI GEORGE UDUMA** - Department of Educational Management Faculty of Education, University of Port Harcourt
40. **OWOYEMI, TOYIN E.** - Department of Science & Technology Education, University of Lagos.
41. **OLOWOFELA, TAIWO A.** - Department of Chemistry, Adeyemi College of Education, Ondo, Nigeria.
42. **ADEBAKIN AZEEZ BABATUNDE** - Department of Educational Management, Obafemi Awolowo University Ile-Ife, Nigeria.
43. **RAHEEM KABIRU** - Nigerian Educational Research and Development Council (NERDC), Sheda, Abuja.

TABLE OF CONTENTS

1. VOCATIONAL EDUCATORS' PERCEIVED EFFECTIVE PUBLIC-PRIVATE PARTNERSHIP MODALITIES FOR QUALITY ASSURANCE IN TECHNICAL AND VOCATIONAL EDUCATION TRAINING (TVET) IN EDO STATE - COMFORT ONAIGHO NWADIANI, <i>Ph.D</i>	1
2. CONTRIBUTIONS OF COOPERATIVE SOCIETIES TO POVERTY ALLEVIATION FOR COMMUNITY DEVELOPMENT AMONG URBAN DWELLERS IN SELECTED LOCAL GOVERNMENT AREAS OF DELTA STATE, NIGERIA - OYEBAMIJI, M. A., <i>Ph.D</i> & EHIREMEN, F. I.	10
3. ANALYSIS OF TEACHERS' PERCEPTION ON THE POOR STATUS OF TEACHER EDUCATION PROGRAMME IN NIGERIA - OHAERI, NNEKA CYNTHIA	19
4. THE IMPACT OF CONTINUOUS ASSESSMENT POLICY ON EXAMINATION RESULTS AT THE UNIVERSITY OF BENIN, NIGERIA - ROSELINE O. OSAGIE, <i>Ph.D</i>	26
5. GENDER AND SCHOOL TYPE AS PREDICTORS OF PERFORMANCE OF SENIOR SECONDARY SCHOOL PHYSICS STUDENTS IN ILORIN, KWARA STATE - AKANBI ABDULRASAQ OLADIMEJI, <i>Ph.D</i> , Prof. ESTHER ORE OMOSEWO, MUHAMMED RILWAN E. & ABDULMALIK OLAYINKA ANWO	33
6. ASSESSMENT OF EDUCATIONAL AND SKILL ACQUISITION NEEDS OF INTERNALLY DISPLACED PERSONS IN KADUNA, NIGERIA - BALOGUN ABDULRASAQ OLATUNJI, <i>Ph.D</i> , JIMOH MOHAMMED IDRIS, OKAFOR PRISCILIA IFEDMA, <i>Ph.D</i> , IYEKOLA ALEXANDER OLUSHOLA, <i>Ph.D</i> & AZIZ, ISIKA	42
7. STUDENTS' PERCEPTION ON THE USE OF BLENDED LEARNING IN TEACHING POSTGRADUATE COURSES AT THE NATIONAL OPEN UNIVERSITY OF NIGERIA (NOUN), ABUJA - OTARU, BERNARD MESHACH & OKUO, OREMEYI SCHOLAR	50
8. CULTURAL INFLUENCES ON COMMUNITY DEVELOPMENT ACTIVITIES AMONG THE IKWERRE PEOPLE OF RIVERS STATE - ADEKOLA, G. <i>Ph.D</i> & IGBIKIBERE BIMA, A. O.	59
9. FROM FUNCTIONALISM TO REDUCTIONISM, COMMUNALISM TO INDIVIDUALISM: CHANGING CULTURAL AND SOCIAL VALUES OF CHILDREN'S EDUCATION FROM PRE-COLONIAL NIGERIA TO 1999 - GRACE OLUREMILEKUN AKANBI, <i>Ph.D</i> & Prof. ALICE ARINLADE JEKAYINFA.	67
10. PSYCHOLOGICAL FACTORS AS CORRELATES OF SPOUSAL ABUSE - BETTY-RUTH N. IRULOH, <i>Ph.D</i> - & LOVETH N. NWOSA, <i>Ph.D</i>	76
11. EDUCATIONAL RESOURCE CONTROL FOR QUALITY SERVICE DELIVERY IN THE UNIVERSITIES IN SOUTH-SOUTH NIGERIA - Prof. I. E. B. IGWE & NWUKOR, MATILDA ONYI	83
12. LITERACY EXPRESSIONS, GENDER AND HUMAN DEVELOPMENT: THE GENDER-CENTRED DRAMA/PERFORMING ART ALTERNATIVE - SAI, IORVAA PEVERGA	91
13. RELEVANCE OF ENVIRONMENTAL ADULT EDUCATION TO CURBING INDISCRIMINATE SOLID WASTE DISPOSAL IN OYIGBO AND OBIO/AKPOR LOCAL GOVERNMENT AREAS OF RIVERS STATE - EZIMAH, M.O.A, <i>Ph.D</i> & OBIOMA, K. A.	100

14. PROBLEM-BASED LEARNING METHOD: A STUDENT-CENTRED PEDAGOGY IN ORAL BIOLOGY TEACHING IN NIGERIAN DENTAL SCHOOLS - MADUKWE, LU. 110
15. PSYCHOLOGICAL EFFECTS OF RETIREMENT ON THE RETIREES: THE COUNSELLING IMPLICATIONS - RABIU KURFI, *Ph.D.*, ABDULKADIR, OLAREWAJU RASAQ, *Ph.D* & ISIKA, GAFAR 116
16. PERSONNEL REQUIREMENTS BY EXERCISE THERAPY/FITNESS OUTFITS: IMPLEMENTATION OF THE STANDARDS IN THE SOUTH-SOUTH GEO-POLITICAL ZONE OF NIGERIA - OLUWASEUN S. KUBEYINJE, *M.Sc (Ed)* & ELIAS O. AGWUBIKE, *Ph.D* 124
17. THE PLACE OF NOMADIC EDUCATION IN ADULT EDUCATION FOR NATIONAL DEVELOPMENT - OLAGBENDE, OMOLOLU VICTOR 130
18. EFFECTIVE STRATEGY FOR TEACHING PHYSICS CONCEPTS IN SCHOOLS: A CASE OF PROBLEM-SOLVING MODEL - ISA SHEHU USMAN & BELLO IBRAHIM 136
19. EFFECTIVENESS OF COMMUNITY EDUCATION ON BENEFICIARIES' PARTICIPATION IN COMMUNITY DEVELOPMENT PROJECTS IN IDEATO-NORTH LGA OF IMO STATE - *Prof.* A. M. ONYEDZU & OTTY CHRISTIANA AMARA 143
20. CORRELATES OF VISUAL ACUITIES AND ENVIRONMENT AMONG UNIVERSAL BASIC EDUCATION PUPILS IN EDO STATE, NIGERIA - FIDELIS UCHENDI OKAFOR, *Ph.D.* 151
21. HUMAN RESOURCES MANAGEMENT FOR EFFECTIVE TEACHING AND LEARNING IN RIVERS STATE SECONDARY SCHOOLS - NGOZI GEORGE UDUMA 159
22. EFFECTS OF LEARNING COMPANY APPROACH ON STUDENTS' ACADEMIC ACHIEVEMENTS IN CONTENTS RELATED TO SEPARATION TECHNIQUES IN SENIOR SECONDARY SCHOOL CHEMISTRY IN ONDO WEST, ONDO STATE - OWOYEMI, TOYIN E. & OLOWOFELA, TAIWO A. 165
23. BUDGETARY ALLOCATION TO EDUCATION AND GROSS DOMESTIC PRODUCT (GDP) IN NIGERIA: A TREND ANALYSIS - ADEBAKIN AZEEZ BABATUNDE 176
24. PEOPLE WITH DISABILITIES IN NIGERIA: EDUCATIONAL CHALLENGES AS PERCEIVED BY EDUCATIONAL EXPERTS - RAHEEM KABIRU 184
25. A CRITICAL APPROACH OF POLITICAL FORCES IMPACT ON THE MANAGEMENT OF STATE-OWNED UNIVERSITIES IN NIGERIA - ABRAHAM, N. M. *Ph.D* ONYEIKE, V. C. *Ph.D* & ONYEAGBAKO, S. O. 191
26. INTERNAL SCHOOL SUPERVISION AND TEACHERS' EFFECTIVENESS IN KWARA STATE PUBLIC SENIOR SECONDARY SCHOOLS - AKINNUBI OLAOLU PAUL, *Ph.D* & ALIYU HAFSAT ADUKE 198
27. EFFECTS OF ENVIRONMENTAL POLLUTION ON SOCIO-ECONOMIC DEVELOPMENT IN BONNY, RIVERS STATE: IMPLICATIONS FOR ENVIRONMENTAL ADULT EDUCATION - PEPPELE NENGI ROWLAND - *Prof. (Mrs)* J. M. EBONG & MBALISI ONYEKA FESTUS, *Ph.D* 207
28. PREDICTION OF RISK OF ABDOMINAL OBESITY BASED ON ANTHROPOMETRIC MEASUREMENTS IN MALE SECONDARY SCHOOL STUDENTS IN BENIN METROPOLIS - ELIAS O. AGWUBIKE, *Ph.D* - KARL E. EIMUHI, *M.Sc. (Ed.)* & AGHARESE EFE-AIGBOYO, *Ph.D* 216

29. PERCEPTION OF LADOKE AKINTOLA UNIVERSITY OF TECHNOLOGY STUDENTS' ON INTEGRATION OF CLOUD COMPUTING INTO LEARNING IN NIGERIA - DEWUMI MICHAEL OLUBUNMI & FALADE AYOTUNDE ATANDA, <i>Ph.D</i>	223
30. STUDENT'S FACTORS AS DETERMINANTS OF ACADEMIC ACHIEVEMENT IN HISTORY AT SENIOR SECONDARY SCHOOL LEVEL IN KWARA STATE - SALIU, KAYODE A., AGBONLAHOR, A. A. & AWE, OLUSOLA O.	233
31. EMPLOYING TRACKING AS A STRATEGY FOR IMPROVING HUMAN CAPITAL DEVELOPMENT IN ORGANIZATION - STEPHEN TALABI AROGE, <i>Ph.D</i>	243
32. SCHOOL BASED FACTORS INFLUENCING ACADEMIC ACHIEVEMENT AMONG SPECIAL NEEDS' SCIENCE STUDENTS IN SOUTH-WESTERN NIGERIA - ISIAKA, TAJUDEEN ONITADA	249
33. VOCATIONAL EDUCATION (TVET) IN NIGERIA: CHALLENGES AND PROSPECTS - AHMED CHIROMA AMINU	257
34. KNOWLEDGE, ATTITUDES AND PRACTICES OF WASTE DISPOSAL AMONG INHABITANTS OF AKUNGBA-AKOKO: IMPLICATIONS FOR WASTE MANAGEMENT EDUCATION - ADEKUNLE OLATUMILE	267
35. EFFECTIVENESS OF REHABILITATION PROGRAMMES IN THE PRISON AND EX-PRISONERS PARTICIPATION IN COMMUNITY DEVELOPMENT IN RIVERS STATE, NIGERIA - OYEBAMIJI M. A., <i>Ph.D</i> & YOUNGARNEY, G. A. G.	277
36. <i>PSYCHO-PERSONOLOGICAL</i> FACTORS AS PREDICTORS OF SEXUAL ACTIVITIES AMONG SENIOR SECONDARY SCHOOL ADOLESCENTS IN KWARA STATE, NIGERIA - IBRAHIM MUSA	286
37. REPOSITIONING NIGERIAN UNIVERSITIES: IMPLICATIONS FOR EFFECTIVE RANKING AND ACCREDITATION - <i>Prof.</i> L. E. B. IGWE & MBA CALLISTUS OKECHUKWU, <i>Ph.D</i>	296
38. CORRUPTION AND LAW MAKING IN THE NIGERIA HOUSE OF REPRESENTATIVE: 2007 TO 2011 - ARABA, AKEEM AYANDA & LAWAL, AHMAD AKANNI	305
39. EFFECT OF VISUAL RESOURCES ON THE ACADEMIC PERFORMANCE OF UPPER BASIC STUDENTS IN ARABIC LANGUAGE IN ILORIN METROPOLIS - ABDULLAHI, MUSA SIDDIQ	319
40. CHALLENGES OF EDUCATIONAL POLICY AND REFORMS IN TEACHER QUALITY AND PRODUCTIVITY - ADEYEMO, AYUBA OLABODE	328

<http://www.jeda-uniport.com>

GENDER AND SCHOOL TYPE AS PREDICTORS OF PERFORMANCE OF SENIOR SECONDARY SCHOOL PHYSICS STUDENTS IN ILORIN, KWARA STATE

By

AKANBI ABDULRASAQ OLADIMEJI, Ph.D

Prof. ESTHER ORE OMOSEWO,

MUHAMMED RILWAN E.

&

ABDULMALIK OLAYINKA ANWO

*Department of Science Education,
University of Ilorin,
Ilorin, Nigeria.*

Abstract

The study investigated gender and school type as predictors of performance of senior secondary Physics students in Ilorin, Kwara State, Nigeria. The study was a descriptive survey. A total of six hundred and twenty five Physics students participated in the study. A validated Proforma was used to collect records of students that sat for 2014 (WASSCE) in Physics which were converted to scores and were analyzed using mean, and t-test statistical techniques. The finding showed that there was a significant difference in the academic performance of male and female senior school students in Physics in favor of male students, there was a significant difference in the academic performance of senior school students in private schools and those in public schools in Physics in favor of private schools, there was a significant difference in the academic performance of male senior school students in private and public schools in Physics in favor of private schools while there was no significant difference in the academic performance in physics between female students in private and public senior schools in Ilorin. It was recommended that Physics teachers should be more gender-sensitive in their pedagogical approaches as well as in the implementation of the Physics curriculum. Physics teachers in public schools should make genuine effort towards improving the academic performance of students in the subject so as to equal the private schools in terms of students' academic performance.

Keywords: Physics, performance, Senior secondary school, Predicators, School type

Introduction

Science teaching in Nigerian secondary schools has started back since 1859 with the teaching of nature study and later expanded to the three separate sciences, that is Physics, Chemistry and Biology. Physics is one of the science subjects taught at the senior secondary level of the Nigerian Educational system which offers the students an opportunity to think critically, to reason analytically and to acquire the spirit of enquiry. The importance of Physics as a yardstick for technological advancement cannot be over-emphasized, since Physics as a scientific discipline is one of the fundamental ingredients of technology.

Despite the efforts of the Nigeria government, the situation of Physics in our school is worrisome to the people most especially Physics educators and researchers (Adeyemo, 2010). Researchers such as (Adegoke, 2011; Omosewo, & Akanbi, 2013; Isola, 2010; Onadeko, 2009) generally observed low and poor performance of students in Physics. The low enrolment and poor performance of students in Physics is indicative of a serious variance between the expectations of the National Policy on Education (FRN, 2013) and the actual situation of Physics in our schools and calls for a critical look at the strategies for the teaching and learning of Physics (WAEC, 2008).

In both developed and developing nations of the world, low enrolment and poor performance of students in Physics at all levels have been recorded. In kekunle and vojtech (2008) reported poor performance of students in Physics in the Czech Republic while in the United States of America, Spencer (2011) pointed out the poor performance of United States students in international assessments of their achievement in Physics. In the developing world for example, Wambugu and Chengeiywo (2008) in their study showed that the performance in Physics in Kenya was poor and the subject was less popular among students in Kenya secondary schools as compare to other science subjects. Also, Businge (2010) identified the science as recording the worst performance in the 2009 Ordinary level examinations. Businge noted specifically that only 0.6% of the over 211,000 candidates who sat for Physics passed with distinction. Ariyo and Ibeagha (2011) identified poor performance of Nigeria senior secondary school students in Physics as what informed their examination of the causal effect of some senior secondary school factors as it affects students' performance in Physics. Generally, students' poor performance in Physics as been attributed to inadequate laboratory facilities, gender effect, unqualified, inexperience teachers, and poor learning environment (Akanbi, 2009; Akinbobola, 2009; Alimen, 2009; Obaidat & Malkawi, 2009; Onah & Ugwu, 2010).

Gender according to Onah and Ugwu (2010) has very significant effect on performance of students in Physics at the secondary school level. Onah and Ugwu identified gender as a very good predictor of performance in Physics at this level. Researches on gender and Physics education have been predominantly concerned with comparisons of male and female students' attitude and/or achievements (Danielesson, 2011; Egun & Tibi, 2010). Several of these studies on gender issues in Physics education noted differing views. Afolabi and Akinbobola (2009) showed no significant difference in the mean performance between boys and girls in the manipulation of the same instructional materials, as well as, in their rate of contribution and class participation. Aina and Akintunde (2013) examined the analysis of gender performance in Physics in college of education in kwara state and shows no relationship existed between male and female students performance in Physics. Alao and abubakar (2011) reported no significant difference in the performance of male and female students in Physics class. Smith (2006) observed some gender differences in the introductory Physics courses where the males out-scored females on both pre-test, post-test and in class examinations.

Some posited that male students perform better than female students, (Apata, 2011; Danmole, 1998; Novak & Mosunda, 1991; Oboh, 1998). Others argued that female students perform better than male students (Lawal 1995). Nworgu, Ugwanyi and Nworgu (2013) examined school location and gender

as factors in senior secondary school and it was stated that female students tendered to be supreme to their male counterparts but it was not consisted across school location.

However, Akiri and Ugbirugbo (2009) observed deterioration in the academic achievement, attitude and values of secondary school students in public secondary schools, one wonders if the high failure rates and the poor quality of the students is not a reflection of the instructional quality in the schools. But is there a significant difference in the performance of students from both the private and public schools? There is a need to look at what transpires in our public and private schools with regards to students' understanding of science concepts especially Physics. Some researchers in this area, showed conflicting views. Baser and Durmus (2010) reported significant difference in favour of one or the other while others reported no significant difference. For example, Ariyo and Ibeagha (2011) pointed out that school type has both direct and indirect causal linkages in students' achievement in Physics.

Olatoye and Agbatogun (2009) in their study discovered that public school students were lagging behind in their performance in mathematics and sciences when they were compare with those in private schools. Lubianski and Lubianski (2006) in their study reported that students in regular public schools do as well as students in private schools when presented with equal learning opportunities. However, students come from different home and as a result have different challenges to contend with (Adeyemo, 2010). In addition to this, Students' educational outcome and academic success is greatly influenced by the type of school which they attend. The school one attends is the institutional environment that sets the parameters of a students' learning experience. Depending on the environment, a school can either open or close the doors that lead to academic achievement. According to Considine and Zappala (2007) the type of school a child attends influences educational outcomes.

Purpose of the Study

The main purpose of this study was to investigate gender and school type as predictors of performance of senior secondary Physics students in Ilorin, Kwara State, Nigeria. Specifically, this study investigated the influence of:

- i. gender on the senior school students' performance in Physics
- ii. school type on senior school students' performance in Physics.
- iii. school type on senior school students' performance in Physics based on gender.

Research Hypotheses

The following null hypotheses were formulated and tested in this research work:

- H₀₁:** There was no significant difference in the academic performance of male and female senior school students in Physics in Ilorin.
- H₀₂:** There was no significant difference in the academic performance of students in public and private senior schools in Physics in Ilorin.
- H₀₃:** There was no significant difference in the academic performance of male students in private and public senior schools in Physics in Ilorin.
- H₀₄:** There was no significant difference in the academic performance of female students in private and public senior schools in Physics in Ilorin.

Methodology

This study was a descriptive survey. The target population was made up of all Physics students that sat for May/June 2014 West African Senior School Certificate Examination (WASSCE) in Physics in the senior secondary schools in Ilorin. The sampled schools were selected through proportionate random sampling

techniques. Forty senior secondary schools (private and public) were specifically selected from the schools that constituted the population of in Ilorin, Nigeria. A total of six hundred and twenty five students participated in the study (Three hundred and two students were from private schools and 323 students were from public schools with 287 female and 338 male students). A validated Profirma was used to collect information on academic records of students that sat for 2014 (WAECCE) in Physics. The grades of students collected from the selected schools were converted to scores and were analyzed using mean and t-test at 0.05 level of significance.

Results

H₀₁ There is no significant difference in the academic performance of male and female senior school students in Physics in Ilorin.

Table 1: t-test Analysis Showing Difference in Scores of Female and Male Students in Physics

Variables	No	Mean	Standard Deviation	df	Cal t-value	Sig.	Decision
Female	287	46.72	13.21	623	1.96	0.036	NS
Male	338	70.40	15.86				

$P < 0.05$

It can be seen from Table 1 that the calculated t value, (0.036) was less than the 0.05 level of significance with degree of freedom of 623. Therefore **H₀₁** was rejected. This means that there was a significant difference in the academic performance of male and female senior school students in Physics. To ascertain where the significant difference lies, the mean of the academic performance of the male students was compared with the mean of the academic performance of the female students. From Table 1, the mean score of the male students (70.40) was greater than the mean score of female students (46.72). This implies that the academic performance of male students in Physics was better than the academic performance of female students in Ilorin, Kwara State.

H₀₂ There would be no significant difference in the academic performance of students in public and private senior schools in Physics in Ilorin.

Table 2: t - test Analysis Showing Difference in Physics Scores of Private and Public Students

Variables	No	Mean	Standard Deviation	df	Cal t-value	Sig.	Decision
Private	302	68.55	12.52	623	1.87	0.038	S
Public	323	51.09	15.51				

$P < 0.05$

It can be seen from Table 2 that the calculated value, (0.038) was less than the 0.05 level of significance with degree of freedom of 623. Therefore the research hypothesis **H₀₂** was rejected. This means that there was a significant difference in the academic performance of senior school students in private schools and those in public schools in Physics. To ascertain where the significant difference lies, the mean

score of the academic performance of senior school students in private schools was compared with the mean of the academic performance of the senior school students in public schools. From Table 2, the mean score of the senior school students from private schools (68.55) was higher than the mean score of senior school students from public schools (51.09). This implies that the academic performance of students in private senior schools in Physics was better than the academic performance of students in public senior schools in Ilorin.

Ho₃: There would be no significant difference in the academic performance of male students in private and public senior schools in Physics in Ilorin.

Table 3: *t*-test Analysis Showing Difference in Physics Scores of male students in public and private senior schools

Variables	No	Mean	Standard Deviation	df	Cal t-value	Sig.	Decision
Private (M)	152	87.58	18.88	336	2.06	0.027	S
Public (M)		56.36	17.21				
	186						
$P < 0.05$							

It can be seen from table 3 that the calculated t.value. (0.027) was less than the 0.05 level of significance with degree of freedom of 336. Therefore the research hypothesis Ho₃ was rejected. This means that there was a significant difference in the academic performance of male senior secondary school students in private and public schools in Physics. To ascertain where the significant difference lies, the mean of the academic performance of male students in private senior schools was compared with the mean of the academic performance of the male students in public senior schools. From Table 3, the mean score of male students in private senior schools (87.58) was greater than the mean score of male students in public schools (56.36). This implies that male students in private senior secondary schools performed academically better in Physics than male students in public senior secondary schools.

Ho₄: There would be no significant difference in the academic performance of female students in private and public senior schools in Physics in Ilorin.

Table 4: *t*-test Analysis Showing Difference in Physics Scores of female students in public and private senior schools

Variables	No	Mean	Standard Deviation	df	Cal t-value	Sig.	Decision
Private (F)	150	49.26	13.43	285	1.97	0.103	N.S
Public (F)		43.96	16.09				
	137						
$P < 0.05$							

It can be seen from Table 4 that the calculated t. value (0.103) was greater than the 0.05 level of significance with 285 degree of freedom. Therefore the research hypothesis HO₄ was not accepted. This means that there was no significant difference in the academic performance of female students in private

and public senior secondary schools in Physics. However, comparing the mean scores, female students in private senior schools (49.26) performed slightly better than female students in public senior schools (43.96).

Discussion of Findings

The findings of this research also showed that male Physics students perform academically better than their female counterpart. This is likely due to lack of interest by female students because they believe that Physics is men's profession or it might be other social reasons such as heavy workload in the home. This finding agrees with those of Bamigbala, (2006); Oludipe, (2012); Rosser, (2005) and Simpson & Oliver, (1985).

It was also found out in this research that students from private senior schools perform academically better than their counterparts in public senior schools as deduced from Table 2. On the basis of gender, male students in private senior schools were observed to perform significantly better than male students in public schools, whereas, no significant difference was found in the academic performance of female students in both private and public senior schools in Ilorin. This shows that school type influences male senior school students in Physics than their female counterparts. Factors such as level of education of parents, family income, parental involvement in child's learning, value and believe about the goals and purpose of schooling are some of the factors identified by Greene (2001) to be responsible for observed better academic performance of private schools compared to public schools. This finding concur with those of Ball (2003), Bosetti (2001), Coleman (1988), Reay & Ball (1998), and Reay & Lucey (2000) in which they all agreed that students from private schools perform academically better than those in public schools.

Conclusion

Based on the findings, this study concluded that male senior secondary school students perform academically better than their female counterpart in Physics in secondary schools in Ilorin. Students in private senior schools perform academically better than their counterparts in public senior schools. Male students in private senior schools performed significantly better in Physics than male students in public senior schools, whereas, no significant difference was observed in the academic performance of students in private and public senior schools in Physics in Ilorin. No significant difference in the performance of female students in private and public senior schools in Physics observed, but the means score of female students in private senior schools was slightly better than female students in public senior schools.

Recommendations

Based on the findings and the conclusion drawn on the study, the following recommendations were put forward

- i. Physics teachers should also be more gender-sensitive in their pedagogical approaches as well as in the implementation of the Physics curriculum.
- ii. Physics teachers in public schools should make genuine effort towards improving the academic performance of students in their subject so as to catch up with private schools in terms of students' academic performance.
- iii. Physics teachers in public should make cogent and additional effort in the process of discharging their professional duties so as to improve the academic performance of students in their subject which will make them catch up with private schools in terms of students' academic performance.

References

- Adegoke, B. A. (2011). Effects of multimedia instruction on senior secondary school students' achievement in Physics. *European Journal of Educational Studies*, 3 (3), 537 – 550
- Adeyemo, S. A. (2010). Students' ability level and their competence in problem solving task in Physics. *International Journal of Educational Research and Technology*, 1 (2), 35 – 47
- Adeyemo, S. A. (2010) Background and Classroom Correlate of Students in Physics. *International Journal of Educational Research and Technology*, 1, 25-34.
- Afolabi, F., & Akinbobola, A. O. (2009). Constructivist problem-base learning technique and the academic achievement of Physics students with low ability level in Nigerian secondary schools. *Eurasian Journal of Physics and Chemistry Education* 1(1), 45 - 51
- Aina, J. K., & Akintunde, Z. T. (2013). Analysis of gender performance in Physics in college of education, Nigeria. *Journal of Education and Practice* 4(6), 1 -5
- Akanbi, A. O. (2009). An investigation into students' performance in senior secondary school Physics in Ogbomoso metropolis. *Journal of Curriculum and Instruction*, 7 (1&2) 1 – 13
- Akinbobola, A. O. (2009). Enhancing students' attitude towards Nigerian senior secondary school Physics through the use of cooperative and individualistic learning strategies. *Australian Journal of Teacher Education*, 34 (1), 1 - 9
- Akiri, A. A., & Ugborugbo, N. M. (2009). Teachers' effectiveness and students' academic performance in public secondary schools in Delta State, Nigeria. *Student Home Communication Science*, 3 (2), 107 – 113
- Alao, A. A., & Abubakar, R. B. (2011). Gender and academic performance of college Physics students: a case study of department of Physics/computer science education, Federal College of Education (Technical) Omoku. *Journal of Research in Education and Society* 1(1), 129 - 137
- Alimen, R. A. (2009). Attitude towards Physics and Physics performance theories of learning and prospects in teaching Physics. *Liceo Journal of Higher Education Research Science and Technology*, 6 (1), 301 – 320
- Apata, F. S. (2011). Students' gender and numerical proficiency in secondary school Physics in Kwara State, Nigeria. *Journal of Research in Education and Society* 2(1), 195 - 198
- Ariyo, A. O., & Ibeagha, J. E. (2011). A causal model of some school factors as determinants of Nigerian senior secondary school achievement in Physics. *Proceedings of the 5th International Technology Education and Development Conference* (pp 3710 - 3719). Valencia Spain: IATED
- Ball, S. (2003). *Class strategies and the education market: the middle classes and social advantage*. London: Routledge Falmer.
- Bamigbala, P. A. (2006). Towards the improvement of teaching and learning of Integrated Science in Nigerian colleges of education: A case study of Osun State College of Education, Ila-Orangun, *Oro Science Education Journal*, 4(5&6), 156-161.
- Bosetti, L. (2001). Can markets save our schools? The Alberta charter school experience. In: C. Hepburn (Ed.) *Can markets save our schools?* Vancouver, BC: Fraser Institute, 101–120.
- Businge, C. (2010). Uganda: *Poor performance recorded in o' level*. Retrieved from <http://www.newvision.co.ng/D/8/13/709436>
- Coleman, J. S. (1988). Social capital in the creation of human capital. *American Journal of Sociology*, 94, 95–121.
- Considine, G., & Zappala, G. (2007) Influence of Social and Economic Disadvantage in the Academic Performance of School Students in Australia. *Journal of Sociology*, 38, 129-148.<http://jos.sagepub.com> <http://dx.doi.org/10.1177/144078302128756543>
- Danielsson, A. T. (2011). Exploring women university Physics students 'Doing gender' and 'Doing Physics'. Retrieved from <http://www.educ.cam.ac.uk/people/staff/danielsson>.
- Danmole, B. T. (1998): Gender, location and Type of school as predictors of science

- knowledge among fresh entrants in Junior Secondary Schools in Nigeria. *Journal of Education in Developing Countries*, 2(2) 44-51
- Egun, A. C., & Tibi, E. U. (2010). The gender gap in vocational education: Increasing girls access to 21st century in the Midwestern state of Nigeria. *International Journal of Vocational and Technical Education*, 2(2), 18 - 21
- Federal Republic of Nigeria (FRN, 2013). *National Policy on Education* (5th Ed) Abuja: NERDC Press
- Greene, J. (2001). A survey of results from voucher experiments: Where we are and what we know. In Hepburn (Ed.) *Can markets save our schools?* Vancouver, BC: The Fraser Institute, 121-149.
- Isola, O. M. (2010). *Effects of standardized and improvised instructional materials on students academic achievement in secondary school Physics*. Unpublished M. Ed. Thesis, University of Ibadan, Nigeria
- Kekunle, M., & Vojtech, Z. (2008, October). *Students' attitudes to Physics and Physics lessons in the Federal Republic of Nigeria*. Paper presented at the group International de recherche Sur l'Enseignement de physique (GIREP) conference, Nicosia, Cyprus.
- Lawal, F. K. (1995). *Error Analysis in practical Biology of senior secondary school students in Zaria and SabonGari Local Governments Area of Kaduna state*. Unpublished M.Ed. Thesis, Ahmadu Bello University, Zaria.
- Lubianski, C., & Lubianski, S. T. (2006). Private vs public schools: some surprises. Retrieved from <http://educationwork.blogspot.com/2006/01/private-vs-public-schools-some.html>
- Novak, J. D., & Mosunda, D. (1991). A twelve year longitudinal study of science concept learning. *American Educational Research Journal*, 28, 117-153
- Nworgu, B. G., Ugwanyi, C. S., & Nworgu, I. N. (2013). School location and gender as factor in senior secondary school students' conceptual understanding of force and motion. *International Journal of Education Research and Technology* 4(4), 71 - 76
- Obundiat, I., & Malkawi, E. (2009). The grasp of Physics concepts of motion: identifying particular patterns in students' thinking. *International Journal for the Scholarship of Teaching and Learning*, 3(1), 16
- Obidi, G. (1998). *A comparative study of the performance of male and female in SSCE Mathematics in Esan West local Government Area of Edo state from 1991-1995*. Unpublished M. Ed. Thesis, University of Ilorin, Ilorin.
- Olaniyemi, R. A., & Agbatogun, A. O. (2009). Parental involvement as a correlate of pupils' achievement in mathematics and science in Ogun State, Nigeria. *Educational Research and Review* 4(10), 457 - 464
- Oludipe, D. I. (2012). Gender difference in Nigerian junior secondary students' academic achievement in Basic Science. *Journal of Educational and Social Research*, 2(1), 34-39
- Omosoro, E. O., & Akanbi, A. O. (2013). Analysis of errors committed by Physics students in secondary schools in Ilorin metropolis, Nigeria. *Acta Didactica Napocensia*, 6 (1), 55 - 60.
- Onadelo, A. A. (2009). *Effects of numerical and graphing supplementary instructions on senior secondary school learning outcomes in Physics*. Ph. D. thesis, Institute of Education, University of Ibadan, Nigeria
- Onah, D. U., & Ugwu, E. I. (2010). Factors which predict performance in secondary school Physics in Ebonyi North educational zone of Ebonyi State. *Advances in Applied Science Research* 1(3), 251-258
- Reay, D., & Ball, S. (1998). Making their minds up: Family dynamics of school choice. *British Educational Research Journal*, 24(4), 431-449.
- Reay, D., & Lucy, H. (2006). Children, school choice and social differences, *Educational Studies*, 26(1), 101
- Rover, L. H. (2005). Sex, socio-economic status and science. *Journal of Research in Education*, 20(1), 28-46
- Simpson, R. D., & Oliver, J. S. (1985). Attitude toward science and achievement motivation profiles of male and female science students in grade six through ten. *Science Education*, 69(4), 511-526
- Smith, D. A. (2006). *What is understanding*. <http://web.media.mit.edu/~dustin/whatisunderstanding.html>

- Spencer, C. (2011). What can we learn from Physics teachers in high scoring countries on the TIMSS and PISA international assessment?
<http://www.aps.org/units/fed/newletters/spring2011/spencer.cfm>
- WAEC, (2008). *Executive summary of entries, results and chief examiners report on West African Senior Secondary School Certificate Examination (WASSCE) conducted in Nigeria*. Lagos, Nigeria: Author
- Wambugu, P. W., & Changeiywo, M. (2008). Effects of mastery learning approach on secondary school students' Physics achievement. *Eurasia Journal of Mathematics, Science & Technology Education* 4(3), 293 – 302.