

## EFFECTS OF GENDER AND ENVIRONMENT ON STUDENTS ACADEMIC PERFORMANCE IN PHYSICS.

*Sunday Benedict Ogundola*

### **Abstract**

This study surveyed the effects of gender and environment on students academic performance in physics in the secondary schools in Akure South LGA and Irele LGA of Ondo State. The subjects for the study consist of Comprehensive High School, Ode-Irele which represents the rural areas, and Oyemekun Grammar School, Akure which represents the urban areas. The Senior Secondary 11 (SS11) classes in the selected schools were used for the study. Information was gathered by means of Terminal Examination Score Sheets of the students in Physics. The data collected were analyzed using T-test Statistical analysis. The results of the study revealed that students in urban areas (schools) perform better in Physics than students in the rural areas (Schools). The result of the study also showed that the gender of students affects their performance in Physics. i.e male students perform better than female students both in rural and urban areas. This study therefore recommends that government at all levels should ensure there is equitable distribution of science facilities to both rural and urban areas for effective teaching and learning. It also encourages teachers both in rural and urban areas to be competent, diligent and ICT-literate/compliant. Parents should jettison obnoxious traditions and religious bigotry that discourage female education. Scholarship should be given to female students to motivate them in studying Physics.

**Keywords:** Genders, Environments, Academic performance etc.

Physics is a basic tool in the development of any science – based knowledge such as Technology, Geophysics, Geology, Meteorology, Agriculture, Astrophysics, Biogenetics, Electronics, Mathematics, Material Sciences, Engineering and even sound analytical reasoning in our daily lives in a modern society. It is a vast adventure in ideas. It is one of the important subjects in secondary school curriculum nowadays, and it is described as the “Queen of all sciences”.

In Nigeria, there is a saying that most of our students do not perform well in physics either in their final examinations or in terminal examinations. There must be some problems accounting for their failure to perform well and also there must be reason why one sex performs better than the opposite sex in physics.

Honzik(2013) stipulates that no course of study as well streamlined and orderly structured in the school curriculum is too difficult for learners to study. He stressed further that the performance of learners wholly depends on some important factors such as family background, finance, the amount of encouragement acquired, environment, gender and the degree of interest developed on the course. According to Medinnus and Johnson (2000), environment cannot supply what is lacking in capacity or ability, but it can provide in a most helpful manner in varied possibilities of development. All these are very essential to the academic performance and intellectual development of every student. Obviously, the environment of a school is very important if it is to have access to those things which

are vital to leanings. The environment of the school would mean, for the purpose of this study, the surrounding objects or circumstances and if we extend it a little further, we will discover this also means the physical and social surroundings of the school in which the child is. The schools in the urban areas have a cultural style distinctive of their own. The students are exposed to much more civilized way of life. They have access to things which could help in their intellectual development, that is, media of communication such as television, newspaper, journals and magazine, good nutrition and so on. Some recommendations from Berkowitz (2012) show that male students have better performance in physics than their female counterparts in secondary schools. He also remarked that the girls are excellent in verbal tasks and boys have the ability to observe and analyse. This shows that the boys have an in – depth thinking ability than the girls.

### **Statement of the Problems**

Fafunwa (2000) recommends that education is a fundamental right of every child but not a privilege. To this end, it is discovered that Nigeria is a developing nation and should need all the education her citizens can get to help her development. Schools are more in urban areas than rural areas. This is mainly due to the fact that there is a larger concentration of people in these parts thereby speeding up the rate of development. It is obvious then that this will have greater effects on the academic performances of the students in both areas.

### **Purpose of the Study.**

- (1) To find out if there is a significant difference in students achievements in physics due to difference in environmental set – up in rural and urban areas.
- (2) To investigate the effects of gender on students academic performance in physics.

### **Significance of the study.**

These two findings will help teachers, curriculum planners and career advisers to discover problems and solutions to maximize academic performance of students in physics. It will enable parents/Guardians to recognize their roles of motivation/encouragement to their children/wards in learning physics by making the environment conducive for them either in the cities or in the -villages. Educational administrators will benefit from the study as the findings will enlighten them on how to manipulate the environment to create conducive environment for effective teaching and learning of physics. The study will enable government take the case of students in rural areas into consideration in terms of providing facilities for effective teaching and learning of physics. It will also enlighten parents and teachers on gender implications in the learning of physics.

### **Research Questions**

- (1) Is there any significant difference in the academic performance of students in rural areas and urban areas in physics?
- (2) Does gender of students affect their academic performance in physics both in rural and urban areas?

### **Limitation of the Study**

This research work was carried out in two schools due to lack of adequate time and finance. This was also coupled with the problem of transportation as well as truancy of the students in schools.

Hence, this study was restricted to only two schools chosen in Irele local government and Akure South local Govt., Ondo State.

### **Gender and Academic Performance**

In a survey done in Scotland, Crowbell (1994) found that sex differences and the ability to do certain task mainly concerned with manipulating shapes started appearing at the age of 14. After this age, boys increase in ability to carry out this task while girls decrease. He discovered that the differences in ability were social in origin. This is because part of the girls' brain actually deteriorates as they get older. So, girls become more influenced by the stereotype that being good at certain test is more suitable for boys than girls Aiken (2006). According to Abiri (2002), Nigerian boys excel than girls in secondary school due to the fact that school attendance has been observed as less important for girls than boys by some parents. Furthermore, considering students attitudes and self – concepts, boys are mainly grouped in the effective classes. It was stated by Churchil (2004) that students in effective class showed gains on the areas of personal and inter – personal competence, self – understanding and in problem – solving skills. Girls who are mostly grouped in regular classes showed gains in the more traditional learning area of literature and language skills. Robert (2000) said that the cognitive growth of Adolescent male is better than that of female. Adolescents show no significant differences in such areas as academic achievement and achievement motivation, career aspiration, self – conception and moral judgement. Yet, by late adolescent and early adulthoods, male scores continue to increase while female scores decrease due to social proclivities.

According to Agoi (2005), cognitive differences paneled by familiar traditional differences in interest reveal that in reading or watching television programme, boys show greater interest in sports, adventure, civics and sciences while girls show more interest in romance, tragedy, home life and animal life.

### **Environment and Academic Performance**

Goldsteen's (2008) recent study has shown how environment can neutralize a powerful venerable like social class in student achievement. Okoye (2001) discovered that children in boarding schools in urban areas are considered superior to those who still remained in the village or town. They tend to shun the culture of their people. They preferred music, Dress, Habits, Food, Art e.t.c of the western worlds. Duyilemi (2002) remarked that "Environment constitutes a very important factor to activities of an organism and human beings. Depending on adequate preparation and research made, influence of children's immediate environment determines their academic performances".

Environment is the term for all external conditions, influence and forces that affect and modify the life and development of human being, the main influences are divided into two areas:

- (1) Cultural factors i.e the culture that prevails in the immediate environment of a child.
- (2) The sum of social conditions such as the family, the peer group, the school, the environment and human behaviour.

Agoi (2002) opined that all the agents of socialization; the family, school and the entire environment in which a child lives contribute in one way or the other to the factors which influence his achievement. Apart from socializing influence in varying degrees, they also interfere with the child's academic achievements.

In Nigeria, there are urban and rural areas. The urban area comprises mainly the upper class people, and the rural area comprises mainly the lower class people. There is the belief also that schools

located in the urban areas are well – staffed and well equipped with learning materials. All these provisions promote students academic achievement in urban areas. Ipaye (2005) said that the school is another social environment which has a measure of influence on students performance and how he comes about it. The three major components that affect the students achievement are the facilities, the curriculum and the people in and around the school. The facilities consist of buildings, classroom, furniture, libraries, and laboratories etc. The curriculum comprises what is taught and the people are students, teachers and administrators.

### **Research Methodology and Procedure**

This study investigates the effects of gender and environment on the academic performance of students in physics. It is aimed at determining the differences in the academic performance of male and female students in physics. It is also meant for detecting the general performance of physics students in rural and urban areas.

### **Population and Sampling.**

The study population consists of 20 SSS II physics students in Ode Irele and 40 SSII physics students in Akure, Ondo State. For this study, stratified random sampling method was used. Both male and female SSII students are involved in the sampling. The schools selected are Community Comprehensive High School, Irele (rural area) and Oyemekun Grammar School, Akure(urban area).

### **Research Instrument and Data Collection**

The research instrument used for the study is the terminal examination score sheet of the students in physics. The terminal score sheet of the physics students in the selected school were collected from their physics teachers to know the academic performances of both male and female students in physics. This is done in both rural and urban secondary schools selected. T-test method was used to establish the reliability of the instrument.

### **Validity and Reliability of Research instrument.**

The terminal examination score sheets of students in physics were validated by some experts in the field of science Education. This instrument was also validated by some project supervisors for reliability of the instrument. The reliability of the instrument was established through test-retest method. A correlation coefficient of 0.86 and 0.72 obtained for the students score were valid.

### **Procedure for Data Analysis**

In analyzing data, the terminal score sheets of the students were verified and recorded. The researcher used T-test method in analyzing the data. The frequency of the selected students were formed and recorded with the respective marks (x) of the students. Through this, the Mean Score of the students was obtained. The standard Deviation for the Data was also formed. Hence, the expected T-score was obtained.

**CUMULATIVE RESULTS OF S.S.S II STUDENTS OF COMPREHENSIVE HIGH SCHOOL, ODE – IRELE IN PHYSICS, (RURAL AREA)SESSION: 2015/2016**

S/N	NAME	SEX	SCORE	GRADE	REMARK
1	ABIODUN KAYODE	M	60	B	V. GOOD
2	ABOGUNDE SEGUN	M	55	C	GOOD
3	ADESUYI OMOLOLU	M	62	B	V. GOOD
4	ADESOLA BAMIDO	M	50	C	GOOD
5	ALLEN ADEBAYO	M	52	C	GOOD
6	AKINDURO JOSHUA	M	54	C	GOOD
7	OMOGUNWA FESTUS	M	48	D	GOOD
8	OGUNBOYE TAIWO	M	58	C	GOOD
9	ADEKUGBE ILESANMI	M	65	B	V. GOOD
10	OGUNMADE HARRISON	M	46	D	GOOD
11	FAPETU ELINAH	F	48	D	GOOD
12	OJAN IBIRONKE	F	40	E	FAIR
13	JAJO TITILAYO	F	46	D	GOOD
14	OMOJOLA KIKELOMO	F	45	D	GOOD
15	LIKINYO JUSTINAH	F	45	D	GOOD
16	OLOYEDE ESTHER	F	44	E	FAIR
17	OMOGUNLOYE ALABA	F	52	C	GOOD
18	OGUNSUSI OLAJUMOKE	F	42	E	FAIR
19	AKINMEJI ABIOLA	F	38	F	POOR
20	AKINBUWA FUNMILAYO	F	48	D	GOOD

**CUMULATIVE RESULTS OF S.S.S II STUDENTS OF OYEMEKUN GRAMMAR SCHOOL, AKURE IN PHYSICS. (URBAN AREA), SESSION: 2015/2016.**

S/N	NAME	SEX	SCORE	GRADE	REMARK
1	ABISOYE EMMANUEL	M	75	A	EXCELLENT
2	ABEOBA ISEOLUWA	M	60	B	V. GOOD
3	ADEPELE KAYODE	M	55	C	GOOD
4	AKINNIYI JUBA	M	60	B	V. GOOD
5	ENISAN SAMUEL	M	58	C	GOOD
6	FEHINTOLA OLADAYO	M	62	B	V. GOOD
7	FEYISARA BAYO	M	64	B	V. GOOD
8	FADAHUNSI SUNDAY	M	70	A	EXCELLENT
9	GEORGE OLUWOLE	M	86	A	EXCELLENT
10	IRINSANMI FELIX	M	68	B	V. GOOD
11	IRANLOWO OWOYELE	M	48	D	GOOD
12	IKUEROWO WEMIMO	M	68	B	V. GOOD
13	IJIYEMI AYODELE	M	72	A	EXCELLENT
14	JAYEOLA IBUKUN	M	68	B	V. GOOD
15	JOHNSON FASHEYI	M	78	A	EXCELLENT
16	KUTELU IDOWU	M	66	B	V. GOOD
17	KAZEEM TAJUDEEN	M	58	C	GOOD
18	OLAOTAN OLORUNTOSIN	M	50	C	GOOD
19	LEHINMIMO JOHN	M	52	C	GOOD
20	SADEOLU EZEKIEL	M	64	B	V. GOOD
21	ADESHIDA MARY	F	78	A	EXCELLENT
22	AKINYMIKA TOLULOPE	F	42	E	FAIR
23	AGBESUA BOSEDE	F	45	D	GOOD
24	ORIMOGUNJE EMMANUELA	F	55	D	GOOD
25	OLORUNYOMI JULIET	F	60	B	V. GOOD
26	AUGUSTUS OLUFUNKE	F	55	C	GOOD
27	ABUBAKAR AMINAT	F	50	C	GOOD
28	ILELANWO CAROLINE	F	48	D	GOOD
29	OLAKANYE HELEN	F	56	C	GOOD
30	LINUS UKAMAKA	F	46	D	GOOD
31	ISINKAN BIMPE	F	42	E	FAIR
32	ABODERIN SALAKO	F	50	C	GOOD
33	ADETUWO OLAPEJU	F	52	C	GOOD
34	ORIOWO REGINAH	F	54	C	GOOD
35	AGBESUA CATHERINE	F	58	C	GOOD
36	MEBAWONDUN OROWOLE	F	40	E	FAIR
37	AKINYODE LIZZY	F	44	E	FAIR
38	IGEObI EUNICE	F	42	E	FAIR
39	ABIDOYE SADIAH	F	38	F	POOR
40	AKINFISOYE PAMILERIN	F	40	E	FAIR

**OYEMEKUN GRAMMAR SCHOOL, AKURE ,PHYSICS S.S.S II STUDENTS .  
CALCULATION OF MEAN SCORE, STANDARD DEVIATION AND T- SCORE OF  
STUDENTS PERFORMANCE IN THE NAMED URBAN AREA IN PHYSICS.**

*Effects of Gender and Environment on Studentsacademic Performance in Physics.*

Class Interval	Mark (x)	Tally	FREQ	FX	(X - $\bar{X}$ )	(X - $\bar{X}$ ) <sup>2</sup>	$\Sigma f(X - \bar{X})^2$
31 - 40	35.5	HHH	3	106.5	-20.5	420.25	1260.75
41 -50	45.5	HHH HHH	11	500.5	-10.5	110.25	1212.75
51 - 60	55.5	HHH HHH HHH	13	721.5	-0.5	0.25	3.25
61 - 70	65.5	HHHHH	8	524	+9.5	90.25	722
71 - 80	75.5	1111	4	302	+19.5	380.25	1521
81 - 90	87.5	I	1	85.5	+29.5	870.25	870.25
			$\Sigma F = 40$	$\Sigma FX = 2240$	$\Sigma(X - \bar{X}) = 27$		5590

$$\text{Mean Score } \bar{X} = \frac{\Sigma fx}{\Sigma f} = \frac{2240}{40} = 56$$

$$Z - \text{Score} = \frac{x - \bar{x}}{S.D} = \frac{58.5 - 31.5}{11.47} = 2.35$$

$$S.D. = \sqrt{\frac{\Sigma f(X - \bar{X})^2}{\Sigma f}} = \sqrt{\frac{5590}{40}} = 11.47$$

**T - SCORE = 50 + 10Z = 50 + (10x2.35), T-SCORE=73.5**

**COMPREHENSIVE HIGH SCHOOL, ODE-IRELE PHYSICS SSS 11 STUDENTS  
CALCULATION OF MEAN SCORE, STANDARD DEVIATION AND T-SCORE OF  
STUDENTS PERFORMANCE ON PHYSICS IN THE NAMED RURAL SCHOOL**

Class Interval	Mark (x)	Tally	FREQ	FX	(X - $\bar{X}$ )	(X - $\bar{X}$ ) <sup>2</sup>	$\Sigma f(X - \bar{X})^2$
31 - 40	35.5	II	2	71	-14.0	392	
41 -50	45.5	HHH HHH	10	455	-4.0	160	
51 - 60	55.5	HHH I	6	333	6.0	216	
61 - 70	65.5	II	2	131	16.0	512	
			$\Sigma F = 20$	$\Sigma FX = 990$	$\Sigma(X - \bar{X}) = 4$		1280

$$\text{Mean Score} = \frac{\Sigma fx}{\Sigma f} = \frac{990}{20} = 49.5, S.D. = \sqrt{\frac{1280}{20}} = \sqrt{64} = 8, S.D = 8, Z - \text{Score} = \frac{x - \bar{x}}{S.D} = \frac{22 - 18}{8} = \frac{4}{8} = 0.5$$

**T - SCORE = 50 + 10Z = 50 + (10x0.5) = 55.0**

**CALCULATION OF MEAN SCORE, STANDARD DEVIATION AND T-SCORE OF MALE  
PHYSICS STUDENTS IN THE TWO SELECTED SCHOOLS (BOTH URBAN AND RURAL)**

Class Interval	Mark (x)	Tally	FREQ	FX	(X - $\bar{X}$ )	(X - $\bar{X}$ ) <sup>2</sup>	$\Sigma f(X - \bar{X})^2$
41 -50	45.5	IIII	4	182	-13.48	181.71	726.84
51 - 60	55.5	IIIIII I	11	610.5	-3.48	12.11	133.21
61 - 70	65.5	HHH III	9	589.5	+6.52	42.51	382.59
71 - 80	75.5	IIII	4	302	+16.52	272.91	1091.64
81 - 90	87.5	I	1	85.5	+26.52	703.31	703.31
			30	1769.5	26.52		3037.59

$$\text{Mean Score } \bar{X} = \frac{\Sigma fx}{\Sigma f} = \frac{1769.5}{30} = 58.9, S.D. = \sqrt{\frac{3037.59}{30}} = \sqrt{101.253} = 10.05, Z - \text{Score} = \frac{x - \bar{x}}{S.D} = \frac{49.56 - 16.96}{10.05} = \frac{32.6}{10.05} = 3.24, T - \text{SCORE} = 50 + 10Z = 50 + 32.4 = 82.4$$

**COMBINATION OF THE SELECTED SSS 2 FEMALE STUDENTS OF PHYSICS .  
CALCULATION OF MEAN SCORE, STANDARD DEVIATION AND T-SCORE OF  
FEMALE PHYSICS STUDENTS IN THE SELECTED SCHOOLS,(BOTH URBAN AND  
RURAL)**

Class Interval	Mark (x)	Tally	FREQ	FX	(X - $\bar{X}$ )	(X - $\bar{X}$ ) <sup>2</sup>	$\Sigma f(X - \bar{X})^2$
31-40	35.5	HHH	5	177.5	-21.90	141.61	1708.05
41 -50	45.5	HHHHH IHH I	16	728	-1.90	4.00	64
51 - 60	55.5	HH-III	8	444	8.10	65.60	524.88
61 - 70	65.5	0	0	0	0.00	0.00	0
71 - 80	75.5	I	1	75.5	28.10	784.00	789.61
			$\Sigma f=30$	$\Sigma Fx=1422$			2086.54

Mean Score  $\bar{X} = \frac{\Sigma fx}{\Sigma f} = \frac{1422}{30} = 47.40$       Z - Score =  $\frac{\text{Deviation}}{S.D.}$        $D = \frac{X - \bar{X}}{S.D}$       T -

SCORE = 50+10Z

S.D. =  $\sqrt{\frac{\Sigma f(X - \bar{X})^2}{\Sigma f}} = \sqrt{\frac{2086.54}{30}} = \sqrt{69.55} = 8.35$ ,      Z - SCORE =  $\frac{36.00 - 23.8}{8.35} = \frac{12.2}{8.35} = 1.436$

T-SCORE = 50 + (10X1.436)=64.36      Deviation,D= X -  $\bar{X}$

**RESULTS AND DISCUSSION**

**Analysis of Data Collected**

This chapter presents and discusses the results of data analysis for the study. The data were analyzed using t-test.

**Research Question 1** ;Is there any significant difference in the academic performance of rural and urban students in physics

Table 1: **Environment and academic performance of students in physics.**

Urban	40	56.00	11.47	73.50	$N_1+N_2-2=$	
				64.25	=40+20-2	P(0.05)
Rural	20	49.50	8.0	55.00	=58	(S)

Table 1 shows that there is a significant difference in the academic performance of urban and rural students in physics, since the calculated mean t-value, which is 64.25 is found to be significant at 58 degrees of freedom and at 0.05 level of significance. This means that urban students perform better than rural students in physics. The above findings were in line with the findings of Lewis (2003), which showed that the intelligence quotient of the students in urban areas is greater than that of their colleagues in rural areas, and that children in the more advantaged social environment (urban areas) get better marks in intelligence test than their rural area counterparts. In other world, there are more facilities that aid learning in the urban areas than the rural areas.

Urban students are therefore expected to perform better than their rural counterparts because they can easily relate what they are taught in the school to what they see in the cities.

**Research Question 2**

Does gender of students affect their academic performance in physics?

Table 2: **Gender and academic performance of students in physics**



*Effects of Gender and Environment on Students academic Performance in Physics.*

Groups	N	X	SD	T-value	df =	Prob.
Male	30	58.98	10.05	82.40	$N_1+N_2-2=$	P(0.05)
				73.38	$30+30-2=$	
Female	30	47.40	8.35	64.36	58	(S)

Table 2 shows the relationship between the academic performance of male and female students in physics. The result shows that there is a significant difference in the academic performance of students in physics irrespective of environment, since the value of calculated mean t-value, which is 73.38, is found to be significant at 58 degree of freedom and at 0.05 level of significance. This means that male students perform better than female students in physics regardless of the environment in which they are.

**Research Question 3** Is there any significant difference in the academic performance of male and female students in physics in urban areas?

**Table 3: Gender and academic performance of students in physics in urban areas**

Groups	N	X	SD	T-value	df =	Prob.
Male	20	56.00	11.47	73.50	$N_2+N_1-2=$	P(0.05)
				64.99	$20+20-2=$	
Female	20	45.50	6.55	56.50	38	(S)

Table 3 shows the relationship between the academic performances of students in physics in urban areas. The result shows that there is a significant difference in the academic performance of male and female students in physics in urban areas, since the value of calculated mean t-value, which is 64.99, is found to be significant at 38 degrees of freedom and at 0.05 level of significant. This means that male students in urban areas perform better than female students in physics.

Table 3 also shows that the mean score of male students in urban area is greater than that of female students in urban areas with their standard deviation higher than that of the female students. This finding is in line with the findings of Schwann (2000) which showed that boys tend to perform better than girls in scientific knowledge.

**Research Question 4**

Is there any significant difference in the academic performance of male and female students in physics in rural areas?

**Table 4: Gender and academic performance of students in physics in rural areas**

Groups	N	X	SD	T-value	df =	Prob.
Male	10	65.00	6.00	57.00	$N_1+N_2-2=$	P(0.05)
				55.00	$10+10-2=$	
Female	10	46.00	4.00	54.00	18	(S)

Table 4 shows the relationship between the academic performance of students in rural areas. The result shows that there is a significant difference in the academic performances of male and female students in physics in rural areas since the value of calculated mean t-value which is 55.50 was found to be significant at 18 degrees of freedom and at 0.05 level of significance

Table 4 also revealed that the mean score of male students in rural areas is greater than that of female students, with their standard deviation higher than that of the female students. The result, hence shows that the male students in the rural areas are more superior to the female.

The discussion on table (3) is also applicable to table (4) since both showed that male students were superior to female students in their performance in physics regardless of environment. Moreso, Abiri (2002) investigated the disparity between boys and girls in achievement motivation in Nigeria setting; the result of the study showed that the level of achievement motivation for boys is higher than that of girls. The rural parents, having themselves being illiterate, will want their sons to be educated rather than their females because it has been observed by some parents that sooner or later the females will get married and be set in the familyway and hence, females are prepared to be good wives and mothers with little cognizance about their academic achievements.

### **Conclusion**

The above results and findings show that students in urban areas perform better than students in rural areas in physics. The results also show that the gender of the students affect their performance in physics. That is, males perform better than females in physics both in rural and urban areas. It could also be concluded that the implications of the study are useful when it comes to the distribution of amenities to various towns and communities by the government, and in the development of the interest of female in physics. Since the rural areas lack most of the amenities for effective teaching and learning processes, education in these areas can be improved if government makes sure there is equal distribution of these amenities and also encourages more teachers to teach in these rural schools. Encouragement/Motivation should also be given to female students to study physics. Brutal traditions and obsolete Islamic doctrines that kill female education should be abolished/renounced by parents.

### **Recommendation**

1. Government should make sure that there is equal distribution of amenities in the rural and urban areas, and the teacher in the rural areas should be given rural/hazard allowances.
2. Education supervisors must make sure that the financial aids and amenities in schools are properly utilized. Government and curriculum planners should see to increasing educational and vocational needs of the society.
3. Co-ordinated and comprehensive educational system should be provided for the young rural students in order to compete on equal terms with their urban counterparts.
4. Rural teachers must be involved in developing curricula and encouraged to attend lectures, symposium and workshop that could brighten their knowledge in improvisation and new techniques of teaching physics.
5. The practice of continuous assessment should be encouraged so that teachers can monitor the achievement of their female students and thus know their weak areas. The difference between utilization of educational opportunities in rural and urban areas should be reduced.
6. Symposium, conference, workshops and lectures should be held on equality for both male and female students in

terms of achievements. This will reduce the psychological effect of 'inferiority complex' in the female students. Females studying physics can be encouraged by giving scholarship to them.

7. Parents should abstain from obnoxious traditions and extraneous Islamic bigotry (The Prude) that discourage female education. Both rural and urban teachers must be competent, diligent and ICT-literate to ensure effective teaching and learning of physics.

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