

# Environmental Literacy: Comparative Analysis of Public and Private Junior Secondary School Students in Southwest, Nigeria

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## Abstract:

This study compared the environmental literacy of private and public Junior Secondary School Students in Southwest, Nigeria. The descriptive research of the survey type was used in this study. The population consisted of all Junior Secondary School Class II students from private and public secondary schools in Southwest, Nigeria. The sample is made up of 2,191 students selected from 75 secondary schools in Southwest, Nigeria. The sample was selected through multistage sampling procedure. An instrument tagged "Students' Environmental Literacy Test (SELT)" was used to collect relevant data for the study. The validity methods used were face, content, and construct validity. The reliability of the instrument was determined through test re-test reliability method and a reliability coefficient value of 0.831 was obtained which was considered statistically high to make the instrument reliable. The responses obtained were collated and analysed using descriptive and inferential statistics. The findings of the study revealed that that the environmental literacy of students differs based on their school type as school type influenced students' environmental literacy. It was recommended among others that there should be an environmental club especially in public schools where students are mandated to join and participate in the activities of the club. This will go a long way to make the students environmentally aware of happenings around them and thereafter improve their environmental literacy.

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## Introduction

Environment refers to entire things which surround an organism, be it physical and non-physical space, biotic or abiotic things. Environment, according to Kelvin and Lewis (2017), refers to objects and human beings in one's surroundings. Ayodele, Okunade and Akinlade (2018) defined environment as the physical and non-physical milieu in which man begin their lives, mature, grow, develop and finally die. Environment has also been described by Aderogba (2017) as a place in which a person's behaviour and growth occur.

Khan & Ghouri (2017) submitted a wider description of environment to include not only air, soil and water but also, edible food and fruits, indoor air quality, the living as well as the working environment. Environmental disturbances such as spreading of harmful substances, change in weather, acidification, photochemical air pollution, ground contamination, over fertilization have impact on man's health. Also, aspects of environmental quality and daily routine that are not voluntarily chosen (e.g. indirect smoking, unwanted sound nuisance and stress) are also vital variables of environment.

The environment determines the source for human exploits for commercial, technological agricultural, industrial, and tourism development of a community. For this and many other reasons, environmental issues now take a central position in academic discourse and other public programs both at the national and global levels. It becomes visible that the rate of environmental degradation is now very frightening and it seems to be as a result of inadequate environmental literacy.

The environmental situation of Nigeria and Southwest in particular seems to be getting worse at an increasing rate due to alteration in human activities made worse by poor attitude towards proper safeguarding of our environment by persons, government and non-governmental organisations. These environmental concerns might be as a result of low knowledge and bad attitude of learners and teachers towards environmental worries. It follows therefore, that learner's need helpful education to be able to stop activities that are able to render the environment non-conducive and non-productive for both formal and informal societal developmental processes.

According to Abdu-Raheem (2013), Social Studies, as a course, is aimed at awakening consciousness on the menace of uncondusive environment and the reason to preserve natural resources and the sensible use of these gifts of nature for the betterment of the society. Hence, its centre of attention is human development. Environmental education allows teachers to teach learners how to develop a better understanding of their relationship with the environment and thus begins to develop environmental literacy. Lloyd-Strovas (2013) submitted that environmental education shows a multi-faceted approach for bridging the gap between society and nature while nurturing environmentally literate citizens who have the understanding and skills to meet nowadays' challenges.

Environmental literacy, therefore, is not just understanding of environmental and ecological concepts but an introduction of a set of skills needed to grow sustainable behaviours, as well as approaches and concern for the environment. Hence, by including environmental knowledge, manners as well as behaviours linked to environmental sustainability, environmental literacy create path for the development and improvement of human intellect than the basic literacy.

Hollweg (2011) suggested that environmental literacy must include understanding of environmental concepts; challenges, and issues; a set of affective and cognitive dispositions; and a set of cognitive skills and abilities; together with the suitable behavioural techniques to apply such awareness and understanding in order to make concrete and valuable decisions in a range of environmental contexts.

Environmental literacy is a scale of capabilities ranging from zero capabilities to very high capabilities that can be functionally divided into three working levels which are nominal, purposeful, and operational environmental literacy. Appraising environmental literacy among Social Studies students is the best technique to assess the effectiveness of the environmental literacy efforts and also to address the needs for better methods.

Environmental Education has been added to the syllabus of primary and Junior Secondary School levels but it seems some of the students display indifferent behavior towards it especially environmental literacy which wraps significant areas like the challenges of erosion, contamination, drought and desertification, oil spillage, deforestation among others.

School system appears to provide the largest planned base for environmental education and exploit. With children in this technological age, school offers an effective route for inculcating in them the desirable environmental laws and teachers are one of the important determinants, which is bound to affect this programme. They can provide a vital connection in the delivery of environmental knowledge, its associated challenges and their solutions. The level at which students learn could be facilitated depending on what the school environment makes available to the learners and the teacher.

School type can be classified as public and private schools. Government owned and privately owned schools are institutions owned as the names denote. The public schools in Nigeria have Federal, State and Local Governments as their proprietors while the private schools have individuals, associations or organisations or religious institutions as their owners. Berkeley Parent Network (2009) asserted that private schools differ widely and level of parental involvement differs from one private school to the other. What is important for a parent is to choose private school that has attributes that match what they are looking for as a family. There are different findings on environmental literacy of public and private school pupils.

Taskin (2008) investigated the consequences of school type on high school students' environmental literacy. The sample of this study was composed of 912 students from different school types (public, vocational and private). The result indicated that school type affect students' environmental literacy. Public school had more pro-environmental literacy and attitudes than the others.

In another study, Tuncer, Ertepinar, Tekkaya and Sungur (2005) explained the effect of school type and gender on students' environmental attitudes. A total of 1497 sixth, seventh, eighth and tenth grade students were the study participants. The results showed that private school students had more knowledge about environmental challenges, individual responsibility and national environmental problems, and they had more favourable attitudes toward solving the challenges.

It is on this premise that this study compared the environmental literacy of private and public Junior Secondary School Students in Southwest, Nigeria. The study specifically investigated:

- i. the extent of environmental literacy among public and private Junior Secondary School students;
- ii. the difference in the environmental literacy of students based on their school type; and
- iii. the influence of school type on students' environmental literacy

### Research Question

This research question was raised for this study:

1. What is the extent of environmental literacy among public and private Junior Secondary School students?

### Research Hypotheses

The following research hypotheses were formulated for this study:

1. There is no significant difference in the environmental literacy of students based on their school type.
2. School type will not significantly influence students' environmental literacy.

### Methodology

The descriptive research of the survey type was used in this study. The population consisted of all Junior Secondary School Class II students from private and public secondary schools in Southwest, Nigeria. The sample is made up of 2,191 students selected from 75 secondary schools in Southwest, Nigeria. The sample was selected through multistage sampling procedure. In stage one, three states were selected from the six states through simple random sampling technique. The second stage involved the selection of fifteen local government areas from the three states using simple random sampling technique. In stage three, five secondary schools (three public and two private) were selected from each of the local governments using stratified sampling technique. In stage four, 30 students were selected from each of the schools using stratified sampling technique.

A questionnaire designed by the researcher tagged "Students' Environmental Literacy Test (SELT)" was used to collect relevant data for the study. The validity methods used were face, content, and construct validity. The test items were presented to experts from the fields of Social Studies Education as well as Tests and Measurement. The reliability of the instrument was determined through test re-test reliability method and a reliability coefficient value of 0.831 was obtained which was considered statistically high to make the instrument reliable.

The copies of questionnaire were administered to the respondents by the researcher with the help of trained research assistants. The responses obtained were collated and analysed using descriptive and inferential statistics. The research question was answered using frequency count, mean and standard deviation. Hypothesis 1 was tested using t-test analysis while hypothesis 2 was tested using two-way Analysis of Variance (ANOVA) to find the influence of school type on students' environmental literacy. All hypotheses were tested at 0.05 level of significance.

## Results

**Research Question 1:** What is the extent of environmental literacy among public and private Junior Secondary School students?

The mean analysis of environmental literacy in the selected secondary schools is presented in Table 1.

**Table 1a: Mean and standard deviation of students' environmental literacy in secondary schools**

Indicators		N	Mean	S.D
State	Lagos	729	23.16	5.89
	Ondo	723	21.25	7.32
	Ekiti	739	22.38	6.17
School Type	Public	1307	18.64	5.2
	Private	884	27.62	5.59
<b>Total</b>		<b>2191</b>		

Table 1 revealed the mean and standard deviation of students' environmental literacy in secondary schools. It was revealed that the mean average of environmental literacy of respondents selected from Lagos State was 23.16; Ondo State was 21.25 while Ekiti State was 22.38. Based on school type, the mean average of environmental literacy of respondents from public schools was 18.64 while the mean average of private schools was 27.62.

### Test of Hypotheses

**Hypothesis 1:** There is no significant difference in the environmental literacy of students based on their school type.

**Table 2:** t-test analysis for environmental literacy of students based on their school type

Variations	N	Mean	SD	df	t <sub>cal</sub>	P (Sig)	Rem.
Public	1307	18.64	5.12	2189	38.799	0.000*	Significant
Private	884	27.62	5.59				

\*P<0.05

Table 2 shows that the t<sub>cal</sub> value of 38.799 is significant because the P value (0.000) < 0.05 at 0.05 level of significance. This implies that null hypothesis is rejected. Hence, there is a significant difference in the environmental literacy of students based on their school type. Based on the mean mark, students from private schools performed better than students from public schools in environmental literacy test.

**Hypothesis 2:** School type will not significantly influence students' environmental literacy

**Table 3:** Two-way Analysis of Variance (ANOVA) for influence of school type on Junior Secondary School students' environmental literacy

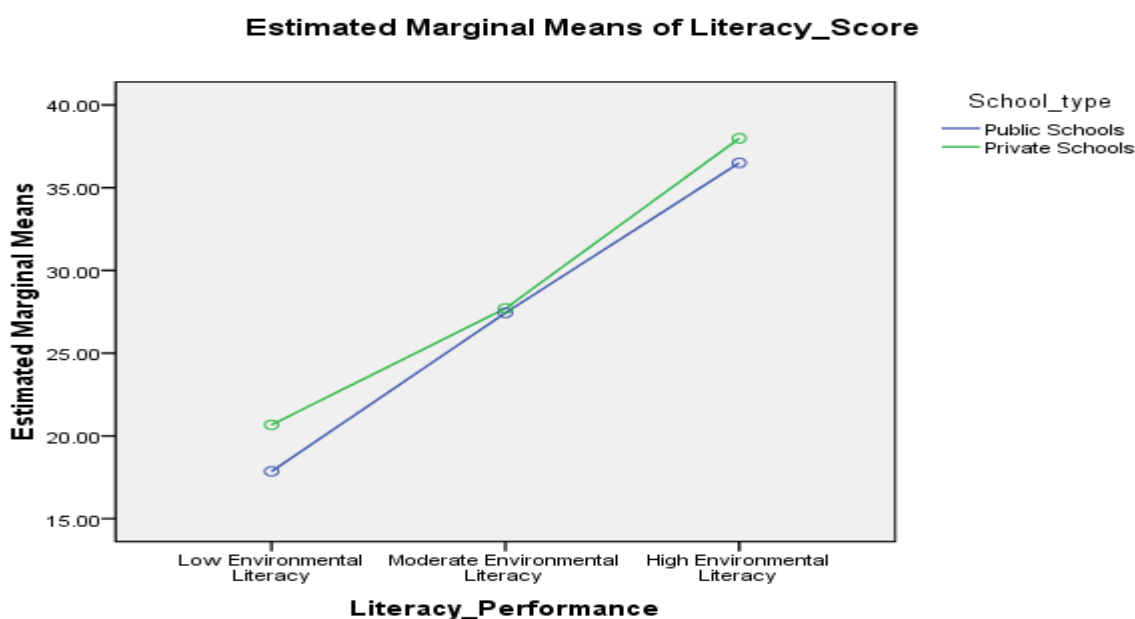
Source	Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	72822.891 <sup>a</sup>	5	14564.578	1009.944	.000*
Intercept	102017.934	1	102017.934	7074.179	.000*
School type	75.236	1	75.236	5.217	.022*
Environmental Literacy	18515.267	2	9257.634	641.947	.000*

School type *	354.542	2	177.271	12.292	.000*
Environmental Literacy					
Error	31510.256	2185	14.421		
<b>Total</b>	<b>1190139.000</b>	<b>2191</b>			
<b>Corrected Total</b>	<b>104333.147</b>	<b>2190</b>			

a. R Squared = .698 (Adjusted R Squared = .697)

\* P < 0.05

From Table 3, the p-value (0.000) is less than 0.05 level of significance i.e. P (0.000) < 0.05. This led to the rejection of the hypothesis. This means that school type significantly influenced Junior Secondary School students' environmental literacy. In order to authenticate interactive influence of school type on Junior Secondary School students' environmental literacy, a graphical representation is required and it is presented below.



**Figure i:** Interactive influence of school type on Junior Secondary School students' environmental literacy

Figure i further shows that there is a clear interactive influence of school type on Junior Secondary School students' environmental literacy. By implication, school type has influence on Junior Secondary School students' environmental literacy.

### Discussion

The findings of this study revealed that there was significant difference in the environmental literacy of students based on their school type in favour of students from private schools. Likewise, school type significantly influenced students' environmental literacy. The reason might be that parents pay for the cost of educating their children in private schools and therefore tend to be more involved in dictating what the schools offer than parents whose children are attending public schools. Taskin (2008) and Ayodele, Okunade and Akinlade (2018) found out that school type affects students' environmental

literacy but in favour of public schools as he reported that public school had more pro-environmental literacy and attitudes than students from private schools.

However, the submission of Tuncer, Ertepinar, Tekkaya and Sungur (2005) is in support of the present finding as they found out that school type significantly influenced students' environmental literacy. They believed that private school students had more awareness about environmental problems, individual responsibility and national environmental problems, and more favourable attitudes toward solving the problems. The implication of this finding is that students from private schools are more environmentally aware than students from public schools.

### Conclusion

Sequel to the findings of this study, it was concluded that the environmental literacy of students differs based on their school type as school type influenced students' environmental literacy

### Recommendations

1. There is the need for Social Studies teachers to ensure proper teaching of aspects of environmental education in the curriculum. There is high probability of improving students' environmental literacy as revealed by the study's findings.
2. World environmental day should be specially set aside for schools to organize activities that will enhance students' environmental literacy.
3. There should be an environmental club especially in public schools where students are mandated to join and participate in the activities of the club. This will go a long way to make the students environmentally aware of happenings around them and thereafter improve their environmental literacy.

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