

## **Undergraduates' Level of Study as Determinant of Perception, Knowledge and Attitudes Towards Global Warming in Ekiti State, Nigeria**

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**ABSTRACT:** *The study examined undergraduates' level of study as determinant of perception, knowledge and attitude towards global warming among undergraduates in Ekiti State, Nigeria. The descriptive research survey design was adopted in this study. The population consisted of all undergraduates in all the Universities in Ekiti State. The sample for this study consisted of 600 undergraduates which were selected from the three universities in Ekiti State. The sample was selected through multistage sampling procedure. A questionnaire designed by the researcher tagged "Global Warming Questionnaire (GWQ)" was used to collect relevant data for the study. The face and content validity of the instrument was done by specialists in Social Studies and Tests and Measurement experts. The reliability of the instrument was ensured through test re-test method of reliability. The scores of the two tests were correlated using Pearson Product Moment Correlation Coefficient Analysis. The correlation coefficient of 0.82 was obtained which was good enough to make the instrument reliable. The research hypotheses generated were tested using inferential statistics. The study revealed that there was no significant difference in knowledge and perception of global warming among undergraduates based on level but there was significant difference between attitudes of undergraduates towards global warming based on level, It was recommended that curriculum planners and other education stakeholders should see to regular review of tertiary institutions curriculum by updating new developments on global warming into the curriculum for undergraduates to familiarize themselves with latest information concerning global warming.*

**KEY WORDS:** undergraduate, global warming, perception, knowledge, attitude

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## **INTRODUCTION**

The physical environment of natural habitats and the environment offer the foundation for the growth of society's human exploitations in agriculture, industry, commerce, technology and

tourism. Social Studies according to Edeh (2021) exposed learners to the immediate and remote environments. He observed that level of education can influence the level of knowledge and attitude to health.

According to Abdu-Raheem (2010), Social Studies as an institution course that assist learners to comprehend their surroundings in all ramifications and develop a method to solve the issues of survival and living comfortably in such setting.

In order to improve the human quality of life, Social Studies and environmental education are multidisciplinary in nature. Not only are they broad fields, covering much more than one university topic, but they are also fields of applied knowledge that selects facts, concepts, theories and general knowledge for the purpose of addressing human issues (McGinn, 2014). Social conduct such as waste dumping, tree cutting, artificial environmental damage, and others may be taught in Social Studies classes (Olabami, 2018).

In the study of Abdu-Raheem and Olorunda (2020), Social Studies is concerned with fostering students' better understanding of the movements, events and personalities that have influenced the history of their immediate environment and the wider world as a global community. The main goal of Social Studies is to produce efficient and productive citizens capable of utilizing information from many fields to make good decisions about their surroundings.

In order to devise effective communication and educational messages, it became necessary to investigate the undergraduates' perception, knowledge and attitudes towards global warming based on level of study. This is because undergraduates are tomorrow's leaders and policy makers. The disparity in the level of knowledge also applies in the area of global warming. Miller and Spoolman (2018) mentioned population increase, inefficient and unsustainable resource usage, poverty, and a lack of understanding about how nature works as the primary drivers of environmental issues.

According to Abracosa and Ortolano (2021), perception can be seen as psychological consideration and ideas that are measured accurately based on personal experiences, excitement and essential assessments which is capable of one' behaviour, decisions and actions. Knowledge is evidence combined with experience, framework, combination, reflection, awareness and creativity ( Ajaps & Mclelanlan 2015). Aruma (2016) saw attitude as the summary appraisal of an object or thought.

A research conducted by Acquah (2011), in central Ghana to evaluate the degree of awareness and quality of information about global warming. A standard questionnaire was used to poll 78 randomly selected individuals. The primary instrument for data collection was a well-structured

interview schedule, and the main analytical methods were descriptive statistics and logistic regression analysis.

Furthermore, Dergisi (2011) conducted a study in Turkey on high school pupils' understanding of global warming. A global warming achievement exam was given to 193 pupils who were chosen at random. Their understanding of global warming was assessed in terms of theoretical, current consequences, and required safeguards. The author utilized a self-disclosure form to gather information on the students' academic backgrounds, high school type, and economic status, as well as if they had participated in any activities related to the topic before to the test. The data was processed using the Statistical Package for Social Sciences (SPSS), *f*-test, and then t-test, Analysis of Variance (ANOVA), and correlation findings were calculated. The test's reliability was determined to be 0.734, based on the study, and the students were found to be the most informed about the consequences of global warming among the three sets of questions.

The research by Oruonye (2011) assessed learners from Jalingo Metropolis, Taraba State, Nigeria in their knowledge of the impact of global warming. The results of the research showed that the degree of global warming awareness of students is increasing with the development of students from first to final year. This shows that while those in final year possess more knowledge of global warming than the rest of the students, those in first year have the least knowledge than their senior counterparts. In addition, Ogunyemi and Ifegbesan, (2017) observed that a survey of environmental knowledge and attitudes among certain Nigerian students revealed a reasonable degree of awareness or knowledge of local environmental concerns but a low level of awareness or knowledge of global environmental issues.

Undergraduates' perception and knowledge were suspected to have positive correlation with the attitude towards global warming. Ezeudu, Ezeudu and Sampson (2016) noted that attitude is an acquired trend. They stated further that the attitude that pupils adopt towards occurrences in the environment is either or disagreeable, favorable or disadvantageous. Ezeudu, Ezeudu and Sampson (2016) described an attitude to react to the previously conditioned or related stimulus as a state of mental and emotional preparedness. Ezeudu, Ezeudu and Sampson (2016) advocated for inclusion of Environmental awareness in the curriculum of various levels of educational institutions.

### **Statement of the Problem**

Global warming poses a clear danger to the entire life and human beings' continued existence on earth. The undergraduates are the future policy makers and administrators. As a result, they are the potential fighters of global warming and need to possess a level of knowledge on climate change which could not only positively influence perception and attitude to global warming, but also make them take a better standpoint in mitigating the tragedy. However, the study investigated level of study as determinant of undergraduates' perception, knowledge and attitudes towards global warming in Ekiti state.

### Research Hypotheses

The following research hypotheses were formulated for the study:

1. There is no significant difference in perception of global warming among undergraduates based on level of study.
2. There is no significant difference in knowledge of global warming among undergraduates based on level of study.
3. There is no significant difference in attitude towards global warming among undergraduates based on level of study.

### RESULTS AND DISCUSSION

**Hypothesis 1:** There is no significant difference in perception of global warming among undergraduates based on level of study.

**Table 1:** Analysis of Variance (ANOVA) for difference in perception of global warming among undergraduates based on level of study.

Groups	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	262.118	4	65.529		
Within Groups	6917.259	582	11.885	5.513*	0.000
<b>Total</b>	<b>7179.376</b>	<b>586</b>			

\*P < 0.05

The result presented in Table 1 shows that F-cal value of 5.513 was significant because the P value (0.000) < 0.05 level of significance. Hence, the null hypothesis was rejected. This implies that there was significant difference in perception of global warming among undergraduates based on level of study.

**Table 2:** Scheffe Post – hoc Test and Mean for observed differences in perception of global warming among undergraduates based on level of study.

Groups	N	Mean	1	2	3	4	5
			43.94	42.42	43.07	44.09	43.42
100 Level (1)	114	43.94					
200 Level (2)	139	42.42	*				
300 Level (3)	123	43.07					
400 Level (4)	147	44.09		*			
500 Level (5)	64	43.42		*			

\* P < 0.05

In Table 2, significant differences were found in perception of global warming between students 100 level and 200 level students; between 200 level and 400 level students; and between 200 level and 500 level students.

However, there were no significant differences in perception of global warming between 100 level and 300 level, 100 level and 400 level, 100 level and 500 level, 200 level and 300 level, 300 level and 400 level, 300 level and 500 level, and 400 level and 500 level undergraduates. It can be deduced from the table that 400 level

**Hypothesis 2:** There is no significant difference in knowledge of global warming among undergraduates based on level of study.

**Table 3:** Analysis of Variance (ANOVA) for difference in knowledge of global warming among undergraduates based on level of study.

<b>Groups</b>	<b>Sum of Squares</b>	<b>Df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	.863	4	.216		
Within Groups	10663.543	582	18.322	0.012	1.000
<b>Total</b>	<b>10664.405</b>	<b>586</b>			

P > 0.05

The result presented in Table 3 shows that F-cal value of 0.012 was not significant because the P value (1.000) > 0.05 level of significance. Hence, the null hypothesis was not rejected. This implies that there was no significant difference in knowledge of global warming among undergraduates based on level of study.

**Hypothesis 3:** There is no significant difference in attitude towards global warming among undergraduates based on level of study.

**Table 4:** Analysis of Variance (ANOVA) for difference in attitude towards global warming among undergraduates based on level of study

<b>Groups</b>	<b>Sum of Squares</b>	<b>df</b>	<b>Mean Square</b>	<b>F</b>	<b>Sig.</b>
Between Groups	187.447	4	46.862		
Within Groups	4589.518	582	7.886	5.943*	0.000
<b>Total</b>	<b>4776.964</b>	<b>586</b>			

\*P < 0.05

The result presented in Table 4 shows that F-cal value of 5.943 was significant because the P value (0.000) < 0.05 level of significance. Hence, the null hypothesis was rejected. This implies that

there was significant difference in attitude towards global warming among undergraduates based on level. In order to investigate the source of the differences observed, Post – hoc analysis (Scheffe) with mean difference was carried out in Table 5.

**Table 5:** Scheffe Post – hoc Test and Mean for observed differences in attitude towards global warming among undergraduates based on level

Groups	N	Mean	1	2	3	4	5
			40.99	39.42	40.57	40.10	39.72
100 Level (1)	114	40.99					
200 Level (2)	139	39.42	*				
300 Level (3)	123	40.57	*	*			
400 Level (4)	147	40.10					
500 Level (5)	64	39.72					

\* P < 0.05

In Table 5, significant differences were found in attitude towards global warming between students 100 level and 200 level students; between 100 level and 300 level students; and between 200 level and 300 level students.

However, there were no significant differences in attitude towards global warming between 100 level and 400 level, 100 level and 500 level, 200 level and 400 level, 200 level and 500 level, 300 level and 400 level, 300 level and 500 level, and 400 level and 500 level undergraduates. It can be deduced from the table that 100 level undergraduates have the highest attitude towards global warming.

## DISCUSSION

The study reported significant difference in perception of global warming among undergraduates based on level of study. It was revealed that 400 level undergraduates have the highest perception of global warming. The probable reason could be due to the experience the 400 level undergraduates have acquired compared to other levels. This implies that 400 level undergraduates have higher level of perception of global warming than other levels. This finding supported the study of Oruonye (2011) who revealed that the students’ perception of global warming increases as the students’ progress from first to final year. This implies that the level of the undergraduates influence their perception of global warming. The 400 level undergraduates have higher level of perception of global warming than other levels.

The study found that there was no significant difference in knowledge of global warming among undergraduates based on level. The probable reason could be because undergraduates were

exposed to concepts related to global warming in their first year of study. This implies that undergraduates have equal level of knowledge of global warming. This finding contradicted the study of Oruonye (2011) who conducted a study to assess the level of awareness of the effects of global warming among students of tertiary institutions in Jalingo Metropolis, Taraba State, Nigeria. The findings of the study revealed that the students' level of knowledge of global warming increases as the students' progress from first to final year. This implies that the knowledge of global warming among the undergraduates was not influenced by their level.

It was found that there was a significant difference in attitude towards global warming among undergraduates based on level. It was revealed that 100 level undergraduates have the highest attitude towards global warming. The probable reason could be because the 100 level students did several courses related to global warming which influenced their attitude.

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