

# Interrogating the Efficacy of Educational Interlocution in Enhancing Climate Change Education Amongst Early Learners in Selected Primary Schools in Jos South Local Government Area of Plateau State, Nigeria

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DOI: <https://dx.doi.org/10.47772/IJRISS.2024.805073>

Received: 27 April 2024; Accepted: 06 May 2024; Published: 07 June 2024

## ABSTRACT

Climate change is a global phenomenon that weaves at every facet of the society as the natural processes of temperature and other key elements of environmental balance are in variation as time progresses. Early childhood climate change Education (CCE) creates capacity building in the creation of this informed climate citizenry. Childhood educators become critical in the accomplishment of this through their learned perspectives, teaching methods, content illustrations that are geared towards an information-based curriculum. The study explores the efficacy of climate change interlocution in early childhood classes in primary schools located in Jos South, Plateau State in communicating the negative interplay of climate change on humans, animals and neighboring planets while also building intentional attitudes that promote climate awareness. The study is anchored on Diffusion of Innovation Theory. It adopted survey research design. Questionnaire was used as an instrument for data collection. Purposive sampling technique was used to select 50 respondents who are teachers in primary schools. 50 copies of questionnaire were distributed, filled and 48 returned valid for constructive analysis. Data collected was analyzed and captured in tables using simple percentage. In terms of finding, early childhood teachers emphasize on the need for the inclusion of climate change teaching methods in the curriculum amongst others. The study concluded that children are the most vulnerable to the effects of climate change and the core need that they be tutored to adopt right attitudes in environmental management for earth survival. It recommended that there is need for collaboration between the Federal Government, State Government, Environment Agencies and Non-Governmental Organizations to come up with mechanisms of checking human activities and industries with a view of curbing climate change threat to the environment.

**Keywords:** Climate Change, Educational Interlocution, Early Childhood Education, Climate Change Education, Climate Awareness/Engagement

## INTRODUCTION

Climate change is a recurrent enigma facing our planet and has progressed significantly. Questions are being raised on the content of its origin and contributing factors; if it is caused by human activities or just a replay of nature's cycle. The recurrent effect this change has is vast as it affects the human cycle, agriculture, economy and environment. Nations around the world are laced with the impact of this nature slide with

Nigeria also having a toast in its oven. As a nation, we are faced with the vulnerability of nature drought as we depend on climate sensitive economic processes like agriculture for food security and other accompanying nature reliant products. The phenomenal effect climate change has on the health of the environment and man is overwhelming. According to NASA, the earth average temperature has increased to about 1-degree Fahrenheit during the 20<sup>th</sup> century. The numeral difference might look minute but its effect on the environment and man is enormous. The impact this percentage has is responsible for increased heat waves, drought and pugnacious hurricanes. On the other side of the coin is the immersion of unhealthy gas into the atmosphere which is detrimental to respiratory organs. According to L.A Berbisi et al (2016), the present-day warming trend has been attributed to annual increase in the atmospheric methane concentration and carbon dioxide. The aftermath impact this has is long term as the more carbon dioxide is in the atmosphere, the more heat is trapped and the more the Earth becomes hotter. And this increased heat surge affects the vulnerability of the human body and span of existence. This process is termed global warming-rising global temperatures across the Earth's landscapes and water bodies. A practical case of this temperature heat surge is seen in Plateau State Nigeria which is one of the coldest states with an all-time low of 6.7 degree Celsius. But in 2024 there has been a heat surge with a temperature level of 35 degree Celsius. Climate change is synonymous to a spider cluster that webs out its spin at various angles.

A decipherment of climate change and its accompanying effect on both the environment and all activities of human nature, places the importance of bringing this discourse to the space of early childhood learning. Educational interlocution of climate change in classrooms will not only create awareness about climate issues but will also play a significant function of inculcating the right attitudes and behaviors that aid in promoting a safer and friendly atmosphere.

The early years in the development of a child's creativity is highly considered an achieved success in life. Here, a child locates a space for emotional, social, lingual and mental development in a healthy way. It lays the foundation for a positive personality and aims to reveal creative aspects of a child. Understanding the importance on this highlight the relevance of equipping children with the intricacies of climate change and efforts that can be made towards creating safer and healthier spaces especially when human activities are contributory factors in climate change. According to Corner, Roberts, Chiari, Voller, Mayrhuber & Mandi, (2015), one of the significant aspects of climate change communication is understanding how various groups of the population relate and communicate about climate change which is presently a global confrontation.

Children of early learning fall under one of the sub-groups that need to be given a focal point of education on this phenomenon as they are prospective pace setters, policy makers, researchers and members of the society whose action can make or mar decisions/objectives in all sphere of the society in the future. Additionally, educating and encouraging the children to engage in climate change learnings through graphical illustrations, videos, songs, dramatic presentations, story readings and etcetera develops their artistic skills and cognitive abilities that aids in inculcating positive attitude and attributes. Uka (2015) opined that the mind according to some philosophers is a tabula rasa on which one may print anything, as such a child's mind as he grows into adulthood in society and its values is one of the most malleable tabulae.

A key argument for UNICEF 2017 is the need for the voice of children be represented in climate change fora and the essentiality in shifting the current predominant narrative that focuses on the children as victims and powerless towards children with vital voices, strong agents of change and valuable contributors in changing climate into the future. We need to include children's right to participate meaningfully in decisions that affects them by properly educating them as information they say is immense power.

The place of education is pivotal in addressing the issue of climate change. The UN Framework Convention on Climate Change (UNFCCC) emphasizes the need to undertake educational awareness as it encourages people to change their mindset and help them make more informed decisions. In the classroom, children can

be taught on the immense impact of global warming, learn cues on how their activities can affect the ozone layers while also taking into cognizance ways of adapting to climate change.

In this study we define early childhood education as formal education in the classroom with children between the ages 3 and 11 years which is the most extraordinary period of mental growth and development in a child's life. The foundation of learning in which other phases will be laid is built within this space of time. This study therefore explores the efficacy of educational interlocution of climate change in imprinting the right comprehension, demeanor, behaviors and actions in responding appropriately to challenges that climate change presents.

## CONCEPTUAL CLARIFICATIONS

### Climate Change

According to the United Nations, climate change is a process which can be natural where temperature, rainfall, wind and other elements vary over decades or more. In millions of years, our world has been warmer and colder than it is now. Presently, we are experiencing rapid warming from human activities, primarily due to burning fossil fuels that generate greenhouse gas emissions. It is the expectation of a weather at a given time over a location or area. Climate change does not just stop at experienced weather condition but also the probability of occurrence and reoccurrence of a particular weather event. Tsebee (2020) opines that climate change has to do with the changeability of weather and it is a common phenomenon because weather variations occur frequently often at a scale of decades.

Climate change extends beyond temperature increase. Impacts of climate change include change in extreme heat, increased rainfall, changes in availability of food and freshwater, rising sea levels, loss of biodiversity and nature. These affect things that we need as humans which include water, energy, transportation, wildlife, agriculture, ecosystems and basic health. There is a coherent interrelation between climate change and its impacts because drought can cause reduced food production, increased sea levels can lead to flooding, disease spread and infrastructure. However, these climate change impact varies across the world due to the poles of the earth which are the North and South Geographical Poles and the North and South Magnetic Poles; the biggest threats to the poles is rapid climate change. Atmospheric carbon dioxide has been rising with hefty contributions from the fossil fuels used to power our homes, businesses and cars. Global temperatures have increased since 1800s with models predicting continued temperature rise. In an article titled Climate Change in 2024 opines that the global climate continues to undergo significant changes. Rising temperatures, extreme weather events and shifting ecosystems remain key indicators of the ongoing climate transformation.

In Nigeria, harsh climate has been predominant with climate changes which include flooding, desertification, coastal erosion, drought, pollution, land degradation. These are accompanied with food security, outbreak of diseases, insecurity, religious and political instability. At the UN Climate conference known as COP28 which was held at Dubai from November 30<sup>th</sup> to 12<sup>th</sup> December 2023 where world leaders met to deliberate on global climate change issues, Nigeria's main agenda in the conference was to seek for climate finance in order to address climate change mitigation and adaptation.

### Early Childhood Educational Interlocution

It is important that young children shouldn't be sidelined in climate change issues as the negative impacts can last throughout a lifetime. They need to be empowered with sustainable education which helps in promoting environmental science and nature education. Here children are taught on the need to live in ways that do not cause environmental harm but rather live in a consciousness to protect the environment.

Some area of learning on climate change are comprehensible for early young learners. Some others there are loopholes in their expression of climate modalities. Boylan (2008) opines that children understanding of the causes of climate change varies in correctness, from pollution fumes, to common climate misconceptions such as hole in the ozone layer, the sun getting closer to the earth and seasonal changes. Although children understand some common impacts of climate change, it is recommended that teaching of climate change at the early childhood classes is essential.

Some teachers have stated that the method of instruction might be a problem as they don't think some of the children will have a grasp of what is been taught. But this questions the point where early childhood educators believe environmental education promotes children's connection to the reality of nature and the exploration of the ecosystem. Beaver (2023) stated that in a global study of Early Childhood Education for Sustainable Development Curriculum, researchers found that adults consistently underestimated children's knowledge about the environment and sustainable practices.

### **Barriers to Climate Change Education**

According to UNICEF (2014), timely investment in programs aimed at children from an early age brings great benefits for the development of the inherent potentials. One barrier is the poor inclusion of climate change in curriculums. Teachers often complain on the need for climate change educational resources that are engaging, relevant and collaborative be made available. For Beaver & Navy (2023), the learning outdoor spaces can be particularly useful in climate change education.

Another point of worry is little or no training for these instructors on climate change. They need to be periodically offered formal trainings on emerging climate change trends and provided with backdrops on how to carry the young minds along. Knowledge empowers them to instruct the young learners appropriately. Relating children's learning to the environment, experience and interactions with the physical environment equips them on climate awareness and resilience. Conille (2023) advocates that intentional efforts must be made to make pedagogical approaches that address climate education from the early stages of learning in schools a reality. Integrating this approach into education is a first step, but teachers must be provided with tools and curricular content to enable children to be at the center of climate action and environmental protection.

The National Scientific Council on Developing Child (2023) stresses the need to integrate training and anticipatory guidance on the impacts of climate change and young children into professional associations, degree and certification programs. This underlines the need for learning programs be amended and included into the curriculums to include information about the effects of climate change, cover strategies for climate adaptation and building resilience.

It is predominantly important that all early education learning be inclusive of climate change and awareness. To increase the children engagement and interest there are educational games that give room for cognitive development and critical thinking in problem solving. Using climate change games aids in inspiring the children as they learn about the impacts of climate change, find solutions, be climate aware and take climate actions.

### **THEORETICAL FRAMEWORK**

The study is anchored on the Diffusion of Innovation Theory propounded by Everret Rogers in 1962. Rogers analyses processes by which an innovation when introduced is communicated effectively through various channels. He further stated that adoption of any new innovation is categorized as innovators, early adopters, early majority, late majority and laggards. The willingness to adopt to any new idea is solely

dependent on the adopter's awareness, interest, evaluation, trial, and adoption.

The Communication theory (2017) states that there exist five stages in which any form of innovation can be adopted. They include:

1. **Knowledge:** Here, children of early childhood education are introduced to something new like climate change topics and may refuse to properly ingest what they are being taught as they have little or no information about the innovation. Even the educators can be reluctant in incorporating climate change-based topics into their curriculum.
2. **Persuasion:** In this stage, the media, educational instructors, parents and caregivers play a vital role in helping the children to gain interest and motivation towards learning more on climate change and how to keep the earth safe. Climate education materials like games, graphical illustrations, songs, dramatic presentations and etcetera builds participation in the quest to learn new information.
3. **Decision:** At this stage, provision of adequate information is important as it helps in sustaining acceptance on the innovation. It creates a space for the evaluation and assessment of the negative and positive perspectives on the usefulness of the innovation. For teaching instructors in early education this is desideratum because their attitude on being equipped and optimistic about learning/disseminating information builds the child's cognitive acceptance.
4. **Implementation:** Here, communication helps in usefulness of the innovation and the place of action on what is been learnt. For early childhood children, practical implementation on how they can help keep the atmospheric composition safe is learnt. They take this information outside the classroom as they educate their parents and whomever is close on the need and how to keep the earth healthy.
5. **Confirmation:** A final stage in the process of innovation adoption where the children make up their minds to adopt the innovation and continue to implement it at every stage. Here, they are climate aware and take decisive climate actions.

The theory provides a dynamic plate in which early childhood children and educational instructors indulge in sensitization on changing climate discourse and workable paths on how to protect our planet.

## STATEMENT OF PROBLEM

Human activities such as felling of trees, bush burning, smoking, indiscriminate disposal of dirt's and industrialization are some of the drivers of global warming. This disrupt the earth's atmospheric balance. According to Amoo, Hambali and Amoo (2013), Anthropogenic emission of green hose gases affect the heat balance of the earth temperature and rising sea levels affects how the society develops. Dissipating this knowledge to create climate awareness is worthwhile as investing in early childhood educational interlocution is of essence as it improves resilience to climate challenges and aids sustainable development. Nigeria runs the 6-3-3-4 system of education where primary school is attended for six years with the longest time spent in. Early years of education is a great space to teach children about climate change, understand the world around them, engage in critical thoughts on issues, learn how their daily decisions can impact their environment and give them a sense of responsibility towards keeping the environment safe. All this is lost when there is a non-inclusion of climate change in primary school curriculums. This study seeks to investigate the efficacy of Educational Interlocution of climate change education in primary schools within Jos South Local Government Area of Plateau State, Nigeria.

## OBJECTIVES OF THE STUDY

The study is guided by the following objectives:

1. To equip early childhood educators with teaching methods on climate change for early learners in Jos South Local Government Area of Plateau State, Nigeria.



2. To integrate climate change awareness into primary schools' curricula for early learners in Jos South Local Government Area of Plateau State, Nigeria.
3. To assess the efficacy of educational interlocution of climate change in early childhood education in inculcating attitudes, behaviors and actions that assist in countering the threats climate change presents in selected primary schools in Jos South Local Government Area of Plateau State, Nigeria.

## RESEARCH QUESTIONS

The main purpose of the research is to find answers to the following questions:

1. Are early educators equipped with teaching methods on climate change for early learners in Jos South Local Government Area of Plateau State, Nigeria?
2. Is climate change awareness integrated into primary schools' curricula in Jos South Local Government Area of Plateau State, Nigeria?
3. To what extent is the level of Educational Interlocution of climate change in inculcating attitudes, behaviors and actions that assist in combating climate change threats to the environment in Jos South Local Government Area of Plateau State, Nigeria?

## RESEARCH METHODOLOGY

The study adopted survey research method. The method utilizes sampling techniques to interrogate the level of knowledge of educational interlocution of climate change amongst primary school teachers and their ability to inculcate this knowledge on early learners in selected primary schools in Jos South Local Government Area of Plateau State, Nigeria. According to McCombes (2023), survey research means collecting information about a group of people by asking them questions and analyzing the results. The appropriate method to be used is survey method because it guarantees effective and reliability of data collected from the sample size. The respondents were selected from four districts in Jos South Local Government Area. The districts are Du, Gyel, Kuru and Vwang Districts.

A total of fifty (50) primary school teachers were purposively selected in Jos South Local Government Area. They were selected based on their level of knowledge and involvement in the subject matter. Questionnaire was used as an instrument of data collection for this study. It was used to collect quantitative data. A total of fifty (50) copies of questionnaire were distributed to the target population of the study to interrogate their level of knowledge of Educational Interlocution on climate change as well as their effectiveness in inculcating this knowledge on early learners. Out of the fifty (50) copies administered to the respondents, forty-eight were validly filled and returned. One (1) was not validly completed and one (1) missing. Hence, forty-eight copies were found to be valid for this study.

Twelve schools were selected randomly from the four districts in Jos South Local Government Area for this study. Responses to the questions were collected and computed using simple percentage.

$$\frac{NR}{TR} \times \frac{100}{1}$$

Where NR = Number of respondents

TR = Total number of responses

100 = Is the percentage

1 = Is constant

## DATA ANALYSIS

### Demographic Data

Table 1: Age

Age bracket	Frequency	Percentage
25-35	7	14.6
36-47	21	43.8
48-59	15	31.2
60 and above	5	10.4
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field Survey 2024

#### Analysis of table 1

The analysis of the data in table 1 indicates that 14.6% of the respondents fall within the ages of 25-35, 43.8% are between 36-47, 31.2% are within the ages of 48-59 and 10.4% are 60 and above.

Table 2: Gender

Gender	Frequency	Percentage
Male	31	64.6
Female	17	35.4
Others	0	0
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field Survey 2024

#### Analysis of table 2

Analysis of data in Table 2 shows that 64.6% of the respondents are male, 35.4 are female and 0% fall under others.

Table 3: Educational Qualification

Qualifications	Frequency	Percentage
NCE	27	56.3
DEGREE	5	10.4
PGDE	16	33.3
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field Survey 2024

### Analysis of table 3

The analysis of the data in table 3 indicates that 56.3% are NCE holders, 10.4% are degree holders while PGDE certificate holders are 33.3%.

**Research Question 1:** Are early educators equipped with teaching methods on climate change for early learners in Jos South Local Government Area of Plateau State, Nigeria?

Table 4: Educators equipped with climate Change Teaching Methods.

Responses	Frequency	Percentage (%)
Yes	38	79.1
No	7	14.6
Undecided	3	6.3
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field survey, 2024

### Analysis of table 4

From the table above, the data revealed that 38 respondents representing 79.1% of the sample size agreed that primary school teachers in selected schools in Jos South Local Government Area of Plateau State, Nigeria are equipped with climate change teaching methods, 7 respondents representing 14.6% of the sample size opined that the teachers are not equipped with climate change teaching methods while 3 respondents representing 6.3% of the sample size were undecided as to whether teachers are equipped or not.

**Research Question 2:** Is climate change awareness integrated into primary schools' curricula in Jos South Local Government Area of Plateau State, Nigeria?

Table 5: Integration of Climate Change in Curriculum.

Responses	Frequency	Percentage (%)
Yes	25	52.1
No	20	41.6
Undecided	3	6.3
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field survey, 2024

### Analysis of table 5

The data in table 5 showed that 25 respondents representing 52.1% of the sample size acceded that climate change is integrated in the curriculum of some selected primary schools in Jos South Local Government Area of Plateau State, Nigeria, 20 respondents representing 41.6% of the sample size opposed to the fact that primary schools in Jos South Local Government Area of Plateau State, Nigeria have not integrated climate change into their curriculums while 3 respondents representing 6.3% of the sample size remained indifferent as to if climate change has been integrated into the primary schools or not.

**Research Question 3:** To what extent is the level of efficacy of Educational Interlocution of climate change



in inculcating attitudes, behaviors and actions that assist in combating climate change threats to the environment in Jos South Local Government Area of Plateau State, Nigeria?

Table 6: The level of efficacy of Educational Interlocution in inculcating climate change knowledge on early learners.

Responses	Frequency	Percentage (%)
Very Large Extent	23	47.9
Large Extent	17	35.4
Low Extent	6	12.5
Undecided	2	4.2
<b>Total</b>	<b>48</b>	<b>100</b>

Source: Field survey. 2024.

### Analysis of table 6

The table above indicated that 23 respondents representing 47.9% of the sample size rated the extent of the efficacy of educational interlocution in teaching climate change in selected primary schools in Jos South Local Government Area of Plateau State, Nigeria as “Very Large Extent”, 17 respondents representing 35.4% of the sample size rated the efficacy of educational interlocution in teaching climate change as “Large Extent”, 6 respondents representing 12.5% of the sample size rated it as “Low Extent” while 2 respondents representing 4.2% of the sample size were indifferent as to what extent is the level of efficacy of educational interlocution of climate change in inculcating attitudes, behaviors and actions that assist in combating climate change threats.

## DISCUSSION OF FINDINGS

In solving the statement of the problem of the study, three research questions were put forward to respondents using questionnaire to gather data for this study. The questionnaire was designed based on the research questions. The data gathered from the respondents were represented in the tables presented above. It is from the data research questions are provided with corresponding answers in relation to the theory and literatures explored in this study. The findings of the study were discussed and presented in line with the research objectives.

### Research Objective 1: To equip early childhood educators with teaching methods on climate change for early learners in Jos South Local Government Area of Plateau State, Nigeria.

When asked whether early educators teaching in some selected primary schools in Jos South Local Government Area of Plateau State, Nigeria are equipped with teaching methods on early climate change, 79.1% of the respondents conceded that educators are equipped with climate change teaching methods. 14.6% of the respondents opined that teachers are not equipped with teaching methods on climate change. On the other side, 6.3% of the respondents remained indifferent as to if teachers in selected primary schools in Jos South Local Government Area of Plateau State are equipped with teaching methods on climate change. However, the responses above shows that some teachers are not yet equipped with teaching methods that enhance climate change education in primary schools in the state. This is worrisome as the world is been threatened by climate change owing to various factors such as bush burning, felling of trees, industrialization, environmental mismanagement, amongst others. Supporting the above assertion, Patchen

(2006) states that ‘people are aware that climate change is a serious problem, most have only vague and often incorrect idea about effective ways to deal with the problem. Many are not clear that emission of carbon-dioxide through the burning of oil, coal and natural gas are the primary human-made cause of climate change’. it is also important to note that having an informed citizenry invariably leads to climate action in combating climate change. when early childhood educators are efficiently informed on the pivotal places of climate change issues, the information they pass across to the children will be accurate and educative.

**Research Objective 2: To integrate climate change awareness into primary schools’ curricula for early learners in Jos South Local Government Area of Plateau State, Nigeria.**

Research question 2 is vital towards the achievement of this objective. When asked if climate change be included in the curriculum, 51.2% of the respondents agreed that climate change is integrated into curriculum of some selected primary schools in Jos South Local Government Area of Plateau State, Nigeria, 41.4% of the respondents disagreed that climate is not yet integrated in the curriculum of some primary schools while 6.3% were undecided as to whether it has been integrated or not into the primary schools curriculum in Jos South and the State. The implication of this is that the Plateau State Government through the Ministry of Education and Primary Education Board needs to consolidate on its drive to trickle down the knowledge of climate change into primary education in the state. Climate change as time progresses continue to exacerbate societal malfunctions such as poverty, inequality, illiteracy and health challenges. in view of the above, UNICEF (2014) strongly upholds that children be involved in climate discourse because of their increased inadaptability and vulnerability. The Federal Government needs to be deliberate in action by equipping and educating children about climate change, the effect and workable solutions. Make in place disaster management procedures also in the curriculum where children are actively engaged in child centered climate tasks. Here, the child does not just stop at learning details about climate change, but is actively involved which prepares him/her in times of climate problems which invariably reduces fatality rate. Another advantage of climate change inclusion in the curriculum is that it spurs classroom conversations among their age grades. They can play scenarios on the need to plant trees, learning the importance of filtering water during drought for health safety and etcetera. The adaptability of the child readiness to learn and explore issues centered around climate change is aroused.

**Research Objective 3: To access the efficacy of educational interlocution of climate change in early childhood education in inculcating attitudes, behaviors and actions that assist in countering the threats climate change presents in selected primary schools in Jos South Local Government Area of Plateau State, Nigeria.**

In achieving research objective 3, the respondents were asked to what extent is the level of efficacy of Educational Interlocution of climate change in inculcating attitudes, behaviors and actions that assist in combating climate change threats to the environment in Jos South Local Government Area of Plateau State, Nigeria, 47.9% of the respondents rated it as “Very Large Extent”, 35.4% of the respondents rated it as “Large Extent”, 12.5% of the respondents rated it as “Low Extent” while 4.2% of the respondents were indifferent as to whether the educational interlocution of climate change education is effective or not. This implies that for those schools that have integrated climate change education in classroom learning are of the view that educational interlocution is effective in teaching climate change in primary schools. The Piaget Theory affirms this by vehemently stating that children cannot be passed off as mere thinkers but rather special beings born with a basic mental structure (genetically inherited or evolved) on which all other learning and knowledge acquired are measured. He states that young children are curious and actively involved in their own learning and the discovery of new schema. Since children spend most of their time in school, developing climate change initiatives, awareness and action in classroom conversations will go a distance in creating valuable outputs that are earth protective.

## CONCLUSION

Conclusively, educational interlocution of climate change in early childhood classes is an active enhancer medium that informs, empowers, gives awareness and creates room for action/performance towards the betterment of our environment as it also counters threats of climate change. Integrating educational interlocution in early childhood education will enhance childhood knowledge of early learners of climate change which is a global phenomenon and equip them with relevant skills and information on how to combat the phenomenon. Engaging the early learners in educational activities that are geared towards combating the menace of climate change such as debates, watching videos on climate change effects on the environment and humans, children books, topics, games, graphical illustrations, songs, dramatic presentations and etcetera. There is the need for climate change education as it improves environmental knowledge, environmental attitudes and create an awareness of how human attitudes influence the environment.

## RECOMMENDATIONS

Based on the findings of the study, the following recommendations were made:

1. There is a need for the Plateau State Government through the Ministry of Education to direct the state Primary Education Board to fully integrate climate change into the curriculum of primary schools in the state in order to equip the pupils with vital knowledge and skills on understanding climate change and combating the menace of it.
2. The pupils on their part, should pass the knowledge to their parents and out of school peers as well as collaborate with them to find ways of curbing the menace of climate change.
3. Teachers in early childhood education should be enthusiastic in climate change education as they impact lessons that are catalysts toward building a safe atmosphere.
4. The Federal Government of Nigeria through the Ministry of Education should incorporate introductory climate change topic in school curriculums for early childhood education.
5. There is need for collaboration between the Federal Government, State Government, Environment Agencies and Non- Governmental Organizations to come up with mechanisms of checking human activities and industries with a view of curbing climate change threat to the environment.
6. Establish renewable energy panels that will come up with researchable solutions on how to convert earth damaging gases to safe streams.

## REFERENCES

1. Amoo, S. A., Hambali, M. A. & Amoo, A. (2013). *Adolescents' Reactions to climate changes and environmental issues in Lagos*. A paper presented at the second Organisation of Women in Science for Developing World, African Conference Hosted by the University of Natural Resources, Sunyani, Ghana. October 15-18.
2. Beaver, B.C & Nvy, S.L (2023). Climate change educational resources from national parks in the United States. *Journal of Experiential Education*, 46 (3), 364-383: <http://doi.org/10.1177/10538259221140317>
3. Berbisi, L.A., et al. (2016). 'Methane Leakage from Evolving Petroleum Systems: asses, Rates and Inferences for Climate Feedback'. *Earth and Planetary Science Letters* 387. 219-228.
4. Boylan, C. (2008). Exploring elementary student's understanding of energy and climate change. *International Electronic Journal of Elementary Education*, 1 (1), 1-15.
5. Corner A., Roberts, O., Chiari, S., Völler, S., Mayrhuber, E. S., Mandl, S., et al. (2015). How do young people engage with climate change? The role of knowledge, values, message framing, and

- trusted communicators. *WIREs Climate Change*, 6, 523–534.
6. EPA (2023). *Climate Change and Children’s Health and Well-Being in the United States*. U.S Environmental Protection Agency. EPA 430-R-23-001.
  7. McCombes, S. (2023). Survey Research/Definition, Examples and Methods. <http://www.scribbr.com/methodology/survey/research>
  8. National Scientific Council on the Developing Child (2023): *The Environment We Create Shapes the Foundations of Healthy Development Working Paper No. 16*. Retrieved from <https://developingchildharvard.edu/placematters-the-environment-we-create-shapes-the-foundations-of-healthy-development/>
  9. Patchen, M. (2016). *Public Attitudes and Behavior Change: What shapes Them and How to Influence Them*. PCCRC Outreach Publication.
  10. Tsebee, A. K. (2020). Mass Media and Climate Change Management Among Farmers in Selected Local Government in Benue State. *NTA TVC Journal of Communication*. 4(1), 287-297.
  11. Uka, k. (2015). *Drama and Conscientization*. Reading in African Humanities: African Cultural Development. Enugu Fourth Dimensional Publishers. 201-202.
  12. UNCED (2017). *Agenda 21*. In *United Nations Conference on Environment and Development*; United Nations: Rio de Janerio, Brazil.
  13. UNICEF. (2014). *The challenges of climate change: Children on the front line*. Innocenti Insight, Florence, Italy: UNICEF Office of Research.
  14. UNICEF (2017). *Danger in the Air: How air pollution can affect brain development in young children*.
  15. UNICEF (2023). *Shape the Future of Education in Latin America and the Caribbean: Early Childhood Education for all*. Panama City.