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## **Social Studies Pedagogy Adequacy for Environmental Awareness Learning Outcomes of Students in Akwa Ibom State, Nigeria**

**Dr. Ibora Ukpong<sup>1</sup> and Joseph Okon Effiong<sup>2</sup>**

<sup>1,2</sup>*Department of Social Studies, College of Education, Afaha Nsit, Nsit Ibom Local Government Area, Akwa Ibom State, Nigeria*

**Corresponding Author:** Dr. Ibora Ukpong    **E-mail:** ukpongiboro2015@gmail.com

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### **ABSTRACT**

The adequacy of social studies pedagogy remains a critical determinant of students' environmental awareness learning outcomes, as effective instructional practices are essential for translating curriculum intentions into meaningful environmental knowledge, attitudes, and responsible behaviours. This study investigates the adequacy of social studies pedagogy for environmental awareness learning outcomes of students in Akwa Ibom state, Nigeria. Three objectives, three research questions and two hypotheses were proposed, answered and tested respectively in this study. Data was generated from 389 students and 312 teachers of public Junior Secondary Schools, using researcher developed questionnaire titled 'Teachers' Questionnaire (TQ) and Students' Questionnaire (SQ). Using descriptive statistics and One Sample t-test, the researchers found out that students perceive current social studies curriculum as moderately adequate in integrating environmental awareness themes at the basic and secondary school levels while the teachers perceive the same as low in adequacy. Again, findings indicated that instructional strategies used in social studies classrooms are moderately adequate, but not strong enough to fully facilitate robust environmental awareness learning outcomes. Also, the study revealed that social studies teachers possess moderate pedagogical competence in delivering environmental education content. Consequently, the researchers concluded that there is a limitation in the effectiveness of social studies as a tool for environmental awareness and sustainability education given the fact that curriculum design, instructional strategies, and teacher competence are aligned at a moderate level. Based on the conclusion, the researchers recommended that social studies content should be aligned with local, national, and global environmental challenges to enhance relevance and depth.

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## **1. Introduction**

Social studies education is widely regarded as an integrated field of study that draws from the social sciences and humanities to prepare learners for responsible citizenship, social understanding, and effective participation in societal development. The National Council for the Social Studies (NCSS) conceptualizes social studies as a subject designed to help young people develop the ability to make informed and reasoned decisions for the public good as citizens of

a culturally diverse, democratic society (NCSS, 2010). Social studies education also gears towards the development of participatory competencies. Westheimer and Kahne (2004) observe that social studies must foster forms of active citizenship, including community engagement, advocacy, and collaborative problem-solving. Environmental stewardship is an extension of this mandate in which learners are expected to act as responsible agents who can participate meaningfully in environmental decision-making and community-based sustainability initiatives. Within this conceptualization, environmental awareness, understood as knowledge, attitudes, values, and behaviours that support environmental protection and sustainable use of resources, has become an essential component of contemporary social studies.

Education for environmental awareness is often expressed through two overlapping frameworks which are Environmental Education (EE) and Education for Sustainable Development (ESD). EE emphasizes ecological knowledge, attitudes, and actions that promote conservation and responsible environmental behaviour (Hungerford and Volk, 1990), whereas ESD adopts a broader vision that integrates environmental integrity, economic viability, and social justice (UNESCO, 2014). In modern curricula, social studies is one of the most appropriate disciplinary spaces for embedding EE and ESD, given its civic orientation, interdisciplinary structure, and focus on real-world problem-solving.

Historically, the core mandate of social studies education has centered on civic literacy, cultivating the knowledge, skills, and dispositions that empower individuals to function responsibly in democratic society. According to NCSS (2010), social studies aims to develop informed, reflective, and active citizens capable of critical thinking, ethical reasoning, and participation in community and national affairs. Scholars argue that civic competence constitutes the normative foundation of social studies instruction (Ukpai, 2012), ensuring that learners acquire the democratic values necessary for social cohesion, justice, and collective well-being. Social Studies education was introduced into the Nigerian school system with the explicit mandate of fostering responsible citizenship, value reorientation, and societal problem-solving capacities among young learners (Ezegbe, 2013; Offorma, 2016). Contemporary curricular revisions also position Social Studies as a strategic platform for promoting environmental literacy and behavioural awareness in response to Nigeria's escalating ecological challenges, including deforestation, erosion, flooding, pollution, and poor waste management (Ngazana and Dike, 2019; Jekayinfa and Yusuf, 2020).

Recent reforms in the Nigerian curriculum explicitly include sustainability themes. Social studies now promotes environmental ethics, conservation values, and sustainable-use practices at basic and junior secondary levels (NERDC, 2013). According to the Federal Ministry of Education (FME, 2014), social studies aims to produce citizens who understand their rights, responsibilities, and roles in nation-building. This mandate is particularly relevant in a multi-ethnic state such as Akwa Ibom where social cohesion, community cooperation, and environmental stewardship are vital for local development. The interdisciplinary character of social studies in Nigeria incorporates elements of geography, economics, civic education, cultural studies, and environmental science. This structure enables learners to understand complex issues such as flooding, oil spills, waste mismanagement, riverbank erosion, and the socio-economic consequences of environmental decline in the Niger Delta. In Akwa Ibom State, where communities experience flooding, coastal degradation, illegal sand mining, habitat loss, and oil-related pollution, such interdisciplinary learning is crucial.

Environmental degradation remains a critical challenge in Nigeria, with the Niger Delta region experiencing some of the worst ecological impacts in Africa. Oil spills, gas flaring, biodiversity loss, deforestation, flooding, and soil contamination undermine community health and economic sustainability (Nwilo and Badejo, 2006). In Akwa Ibom State, oil exploration, poor waste management, and urban growth have exacerbated environmental risks. Because these challenges are simultaneously ecological, social, economic, and political, they fall squarely within the scope of social studies, which focuses on human–environment relationships, civic responsibility, and collective problem-solving. Scholars in Nigeria emphasize that environmental awareness should begin early in the school system, and social studies provides the pedagogical and conceptual tools needed to contextualize these issues for young learners (Ogunyemi, 2011).

Environmental crises such as pollution, deforestation, resource depletion, and climate change underscore the necessity of environmental literacy within school curricula. Scholars widely agree that social studies, with its civic orientation and focus on societal challenges, is strategically positioned to host environmental education (Mensah, 2016). EE and ESD align naturally with the goals of social studies because environmental problems are inherently social, political, economic, and ethical.

Environmental education traditionally targets three domains which are cognitive, affective and behavioural. The cognitive focuses on knowledge about ecological systems, environmental issues, and human–environment interactions. The affective emphasizes attitudes, values, and emotional connections to the natural environment, and the behavioural dwells on skills and action competence necessary for pro-environmental behaviours (Hungerford and Volk, 1990).

Research suggests that knowledge alone rarely translates into behavioural change, rather, environmental action competence is enhanced by motivational factors, personal responsibility, and opportunities for civic engagement (Jensen and Schnack, 2006). This reinforces the importance of social studies methodologies which are discussion, inquiry, community projects, and civic action, all directed towards fostering environmental stewardship.

UNESCO (2014) defines education for sustainable development (ESD) as education that empowers learners to make decisions that ensure environmental sustainability, economic viability, and social justice for present and future generations. Key competencies emphasized in ESD includes systems thinking, critical and normative reasoning, anticipatory (futures) thinking, strategic competence (planning and action), and collaboration and civic engagement. These competencies parallel those of social studies, making ESD a natural extension of social studies pedagogy. Scholars such as Tilbury (2011) argue that embedding ESD into social studies enhances learners' abilities to analyze environmental problems, evaluate policy options, and participate in sustainable community practices.

The action competence and constructivist learning theories provides the foundations for understanding the inherent values of social studies education in environmental awareness.

The competence theory, advanced by Jensen and Schnack (2006), posits that environmental education should empower learners to take meaningful action on environmental issues. Social studies contributes to this through civic-action projects, decision-making exercises, problem-solving inquiries, and community engagement activities. On the other hand, the constructivism emphasizes learning through active engagement, reflection, and real-world experience. Social studies methods such as discussion, debate, inquiry and project-based learning are in alignment with constructivist principles and support the development of environmental understanding through authentic learning contexts (Brooks and Brooks, 1999).

Research across various contexts indicates variability in how social studies teachers integrate environmental issues into instruction. Stevenson (2007) highlights a persistent contradiction: while curricula advocate for action-oriented environmental education, classroom implementation often becomes content-heavy and exam-driven, limiting students' exposure to authentic environmental problem-solving. Similarly, Chawla and Cushing (2007) argue that hands-on, experiential learning is crucial for promoting environmental behaviours, yet many schools rely on textbook-based teaching lacking real-world engagement. Adewale and Adebayo (2018) reported from their study that students often evaluate curriculum content based on exposure and familiarity rather than depth, coherence, or pedagogical alignment. Nwankwo and Okoli (2019) and Ogunleye (2020) also reported that teachers often perceive social studies curricula in Nigeria as overloaded with theoretical content while offering limited guidance on practical and action-oriented environmental education

Studies by Ajiboye and Olatundun (2007) revealed that while Nigerian students possess moderate knowledge of environmental issues, their environmental attitudes and action competences remain weak, suggesting gaps in instructional practice. In Akwa Ibom State, field studies report challenges such as inadequate instructional materials, limited fieldwork activities, insufficient teacher expertise, and heavy reliance on rote learning (Ekpo, 2018).

Other Nigerian studies such as Ogunyemi (2011) and (Akpan and Etuk, 2015) reported the following; many teachers lack professional development in EE/ESD; environmental topics are taught theoretically rather than experientially;

curriculum overload and time constraints limit environmental instruction; and schools lack access to outdoor learning environments and teaching aids.

Ogunbiyi (2019), Udo and Akpan, (2020) also reported some pedagogy issues such as gaps in teacher preparedness, inadequate teaching resources, and insufficient integration of experiential, inquiry-based, and problem-solving pedagogies needed to cultivate strong environmental awareness.

Meta-analytic reviews show that experiential and community-based EE programs yield significant positive outcomes in environmental attitudes and behaviours (Ardoin et al., 2020). These findings suggest that social studies, when implemented through inquiry, fieldwork, and participatory projects, can significantly contribute to environmental awareness and sustainable behaviour.

These findings suggest that although social studies has strong potential for environmental education, the implementation is constrained by systemic and contextual barriers, especially in resource-limited settings like many communities in Akwa Ibom.

Despite the growing body of scholarship on social studies and environmental awareness, several gaps remains. There is limited research examining how social studies teachers in Nigeria implement EE or ESD within the classroom. There is also the gaps between curriculum intent and classroom practice. Studies consistently show that while social studies curricula highlight environmental goals, classroom practice remains largely theoretical and examination-focused (Stevenson, 2007). There is also a lack of standardized tools to assess environmental action competence within social studies, particularly in developing countries. Several studies note that teachers often lack the professional training necessary to integrate environmental issues into social studies effectively. Finally, few studies examine whether environmental awareness taught in social studies translates into sustained behavioural change. These gaps point to the need for context-specific studies, particularly in Nigeria, to evaluate the adequacy of social studies pedagogy in fostering environmental awareness.

### ***1.1 Statement of the problem***

Social Studies is regarded as a foundational subject for promoting social values, civic responsibility, and environmental consciousness. Again, social studies is expected to nurture learners who understand environmental processes, appreciate ecological interdependence, and demonstrate pro-environmental behaviors. However, these objectives have not been fully realized. Explanation lies on the fact that persistent environmental challenges across the country, ranging from deforestation, flooding, indiscriminate waste disposal, erosion, and pollution, suggest that the socialization and value-reorientation functions of social studies have not translated into widespread environmental literacy or sustainable environmental practices.

In Akwa Ibom State, the situation is particularly concerning. Despite being an oil-producing state with significant exposure to ecological risks such as gas flaring, oil spills, coastal erosion, and urban waste mismanagement, students' environmental awareness remains limited. Social studies instruction tends to be theoretical, examination-driven, and insufficiently linked to real-world environmental issues. Classroom teaching often fails to incorporate experiential learning, outdoor exploration, or community-based environmental engagement, all of which are essential for developing practical environmental knowledge and responsible attitudes. Moreover, inadequate teacher preparation, insufficient instructional materials, and minimal integration of local environmental contexts further constrain the subject's capacity to empower students with meaningful environmental competencies.

The discrepancy between the intended curriculum and actual learning outcomes raises significant concerns. If Social Studies that is designed to be the primary channel for environmental and civic education does not effectively promote environmental awareness, then students may progress through the school system without the knowledge, values, and skills required to address the growing environmental problems in the state. This gap presents long-term risks for

sustainable development, environmental protection, and community well-being in Akwa Ibom State. Therefore, despite the strategic importance of Social Studies in advancing environmental consciousness, there is inadequate empirical understanding of how well the subject currently fosters environmental awareness among junior secondary school students in Akwa Ibom State. This lack of clarity constitutes a gap that must be investigated to determine the extent to which Social Studies education is achieving its environmental mandate and what improvements may be necessary to strengthen environmental learning outcomes.

### ***1.2 Objectives of the study***

The main objective of this study is to explore the extent to which social studies pedagogy is adequate in promoting environmental awareness among learners in Nigeria, using Akwa Ibom State as a focus. Specifically, the study will achieve the following sub-objectives;

1. Examine the extent to which the current social studies curriculum is adequate and incorporates environmental awareness concepts at basic and secondary school levels in Nigeria.
2. Evaluate the adequacy of instructional strategies employed by social studies teachers in facilitating environmental awareness learning outcomes.
3. Determine the level of teachers' pedagogical competence in delivering environmental education components of social studies.

### ***1.3 Research questions***

The following research questions emanating from the objectives of this study are hereby raised

1. To what extent is the current social studies curriculum adequate by integrating environmental awareness themes at the basic and secondary school levels in Nigeria?
2. To what extent is the instructional strategies employed by social studies teachers adequate in facilitating environmental awareness learning outcomes?
3. What is the level of pedagogical competence of social studies teachers in delivering environmental education content?

### ***1.4 Statement of the hypotheses***

The following hypotheses are formulated and tested in this study;

1. Social studies curriculum at the basic and secondary school levels is not significantly adequate to promote environmental awareness among learners in Akwa Ibom state.
2. Instructional strategies employed by social studies teachers is not significantly adequate to enhance environmental awareness among students.

## **2. Methodology**

This section provides the various methods as well as the rationale for using the methods.

### ***2.1 Area of study***

This study was conducted in Nigeria using Akwa Ibom state as a focus. The choice of Akwa Ibom state is methodologically justified on the ground that the state is characterized by significant environmental vulnerabilities, including coastal erosion, flooding, gully expansion, waste-management challenges, and ecosystem degradation linked to urbanization and petroleum-related activities. These conditions create an imperative for effective environmental education, particularly through social studies, which is mandated to foster environmental responsibility among young learners. Again, the State Government in the recent past, implemented education and environmental policy initiatives, such as school-based environmental sanitation programs, climate-awareness campaigns, and curriculum enhancement efforts that make it a suitable setting for assessing how classroom pedagogy aligns with policy expectations.

## **2.2 Research Design**

This study adopted a descriptive survey research design. The design was considered appropriate because the study sought to collect data from a large population of teachers and students in order to assess the adequacy of social studies pedagogy in promoting environmental awareness in Akwa Ibom State. The design enabled the researcher to obtain quantifiable data on curriculum content, instructional strategies, teacher competence, and student environmental knowledge and attitudes.

## **2.3 Population of the study**

The population for this study consisted of all social studies teachers and all Junior Secondary School students offering social studies in the 31 LGAs of Akwa Ibom State. According to the State Secondary Education Board statistics 2025, the population of social studies teachers is 1,420, and approximately 89,500 Junior Secondary School students enrolled for social studies. Teachers form the population of implementers of pedagogy, while students represent the recipients of environmental awareness instruction. These two groups are essential for evaluating pedagogical adequacy and learner outcomes.

## **2.4 Sample and sampling techniques**

The sample of this study is 398 students and 312 teachers of public Junior Secondary Schools selected through stratified, proportionate and simple random sampling techniques. The choice of this sampling method was considered more appropriate because of the structural and demographic characteristics of schools, teachers, and students in Akwa Ibom State. Collectively, these sampling techniques produce a representative, balanced, and methodologically rigorous sample suitable for examining social studies pedagogy adequacy for environmental awareness learning outcomes in Akwa Ibom State.

## **2.5 Methods of data collection**

The primary instrument for data collection were two researcher structured questionnaire titled 'Teacher Questionnaire' (TQ) and Student Questionnaire (SQ). The TQ covered curriculum adequacy, instructional strategies and pedagogical competence while the SQ covered environmental knowledge, attitudes toward environmental protection, behavioural tendencies and perceived adequacy of social studies instruction. The instrument used a four-point Likert scale, which prevents respondents from selecting a neutral midpoint and promotes decisive responses. The researchers and designated research assistants visited the selected schools and administered the TQ and SQ on respondents.

## **2.6 Methods of data analysis**

Data generated using the TQ and SQ were analyzed using descriptive statistics to provide answers to the research questions while One sample t-test was employed to test the hypotheses at 0.05 level of significance.

## **3. Results and interpretations**

Results from analysis of data generated through the TQ and SQ are analyzed and presented in relevant tables with interpretations.

Descriptive statistics were computed on students' ratings of the extent to which the current social studies curriculum integrates environmental awareness themes. The results are presented in Table 1.

**Table 1: Students’ Descriptive Statistics on Curriculum Adequacy (n = 389)**

Item Indicators (Environmental Awareness Themes)	Mean ( $\bar{x}$ )	SD	Interpretation
Environmental sanitation and waste management concepts are well covered	2.68	0.91	Moderate Extent
Climate change and global warming topics are included	2.54	0.88	Moderate Extent
Topics on biodiversity, conservation, and ecosystem balance are adequately taught	2.46	0.92	Low Extent
Flooding, erosion, and pollution topics reflect local environmental realities	2.72	0.85	Moderate Extent
Activities promoting environmental responsibility are well integrated	2.39	0.90	Low Extent
<b>Composite Mean</b>	<b>2.56</b>	—	<b>Moderate Extent</b>

*Source: This study field report, 2025.*

The composite mean score of 2.56 indicates that students perceive the curriculum as being moderately adequate, with notable weaknesses in practical environmental activities and coverage of biodiversity and conservation themes. The moderate mean values across items suggest partial integration, but not the depth required for strong environmental awareness competencies.

Teachers’ descriptive statistics were also computed to provide a professional perspective on the adequacy of curriculum content. Results appear in Table (2).

**Table (2): Teachers’ Descriptive Statistics on Curriculum Adequacy (n = 389)**

Item Indicators (Environmental Awareness Themes)	Mean ( $\bar{x}$ )	SD	Interpretation
Curriculum sufficiently covers environmental education themes	2.61	0.84	Moderate Extent
The content depth is adequate for building environmental awareness	2.48	0.87	Low Extent
Curriculum aligns with contemporary environmental challenges	2.52	0.90	Moderate Extent
Curriculum provides clear objectives for environmental behaviour change	2.33	0.89	Low Extent
Teaching modules support practical, hands-on environmental knowledge	2.41	0.86	Low Extent
<b>Composite Mean</b>	<b>2.47</b>	—	<b>Low Extent</b>

*Source: This study field report, 2025.*

Teachers, who are more conversant with the curriculum structure and content adequacy, rated the curriculum with a composite mean of 2.47, corresponding to low extent. Their ratings reveal deficiencies in content depth, behavioural objectives, and practical environmental learning experiences. Teachers therefore perceive the curriculum as not sufficiently robust to instill comprehensive environmental awareness.

Across both groups, findings indicate that students perceive current social studies curriculum as moderately adequate (Composite Mean = 2.56) in integrating environmental awareness themes at the basic and secondary school levels. The teachers perceive the same as low in adequacy (Composite Mean = 2.47). This divergence suggests that although students encounter some environmental themes, teachers, being better acquainted with curriculum limitations, identify gaps in content depth, practical components, and curriculum alignment with contemporary environmental issues in Nigeria.

**Research question two**

Students were asked to indicate the extent to which the instructional strategies used by social studies teachers supported their environmental awareness learning outcomes. The descriptive results are presented in Table (3).

**Table (3): Students' Perception of Instructional Strategy Adequacy (n = 389)**

<b>Instructional Strategy Indicators</b>	<b>Mean (x̄)</b>	<b>SD</b>	<b>Interpretation</b>
Teachers use discussion methods to clarify environmental issues	2.82	0.88	Moderate Extent
Teachers employ field trips and observational studies	2.31	0.91	Low Extent
Teachers use problem-solving activities for environmental topics	2.63	0.86	Moderate Extent
Teachers integrate charts, maps, and visual aids for environmental lessons	2.77	0.83	Moderate Extent
Teachers encourage student participation in school-based environmental projects	2.44	0.89	Low Extent
<b>Composite Mean</b>	<b>2.59</b>	—	<b>Moderate Extent</b>

*Source: This study field report, 2025.*

The composite mean score of 2.59 indicates that students perceive the instructional strategies used by teachers as moderately adequate, with strengths in discussion-based learning and instructional aids. However, the consistently low means in field-based instruction and environmental projects show clear weaknesses in experiential learning components, which are critical for environmental awareness skill acquisition.

Teachers assessed their own instructional practices regarding how effectively these strategies facilitate environmental awareness learning outcomes. The results are displayed in Table 4.

**Table 4: Teachers' Self-Assessment of Instructional Strategy Adequacy (n = 312)**

<b>Instructional Strategy Indicators</b>	<b>Mean (x̄)</b>	<b>SD</b>	<b>Interpretation</b>
I regularly use participatory and inquiry-based teaching strategies	2.74	0.81	Moderate Extent
I employ project-based learning on environmental issues	2.39	0.85	Low Extent
I use instructional materials (charts, models, multimedia) effectively	2.68	0.79	Moderate Extent
I guide students to engage in community-based environmental activities	2.28	0.90	Low Extent
My teaching strategies promote critical thinking about environmental problems	2.62	0.88	Moderate Extent
<b>Composite Mean</b>	<b>2.54</b>	—	<b>Moderate Extent</b>

*Source: This study field report, 2025.*

Teachers reported a composite mean of 2.54, indicating that instructional strategies for environmental awareness are implemented to a moderate extent. Teachers acknowledge limitations in project-based learning and community-engagement activities, which are crucial for deeper environmental competency development.

Based on the responses from both students and teachers, with students’ composite mean of 2.59 (which indicates moderate extent in teachers’ instructional strategies for environmental awareness) and teachers’ composite mean of 2.54 which indicates moderate extent, findings demonstrate that instructional strategies used in social studies classrooms are moderately adequate, but not strong enough to fully facilitate robust environmental awareness learning outcomes. Again, discussion methods, basic inquiry activities, and instructional materials are used fairly well. Furthermore, results also show that fieldwork, project-based learning, and community-based environmental engagements are inadequately utilized, representing critical gaps that limit the development of practical environmental skills and behaviour change among students.

**Research question three**

Students were asked to rate the pedagogical competence of their social studies teachers in presenting environmental education content. The descriptive results are shown in Table 5.

**Table 5: Students’ Ratings of Teachers’ Pedagogical Competence (n = 389)**

<b>Competence Indicators</b>	<b>Mean (x̄)</b>	<b>SD</b>	<b>Interpretation</b>
Teacher demonstrates clear understanding of environmental concepts	2.88	0.86	Moderate Competence
Teacher explains environmental issues using real-life examples	2.73	0.89	Moderate Competence
Teacher effectively organizes and sequences environmental lessons	2.61	0.84	Moderate Competence
Teacher responds accurately to students’ questions on environmental topics	2.47	0.90	Low Competence
Teacher uses diverse teaching strategies suited to environmental topics	2.42	0.91	Low Competence
<b>Composite Mean</b>	<b>2.62</b>	—	<b>Moderate Competence</b>

*Source: This study field report, 2025.*

Students’ responses yielded a composite mean of 2.62, showing that social studies teachers possess moderate pedagogical competence in delivering environmental education. While teachers are perceived as knowledgeable and able to relate content to real-life situations, their competence in adapting strategies and handling higher-level student inquiries remains limited.

Teachers self-assessed their pedagogical competence in delivering environmental content. Results are presented in Table 6.

**Table 6: Teachers' Self-Assessment of Pedagogical Competence (n = 312)**

Competence Indicators	Mean ( $\bar{x}$ )	SD	Interpretation
I have adequate content mastery of environmental education topics	2.94	0.78	Moderate Competence
I can confidently integrate environmental themes into Social Studies lessons	2.83	0.82	Moderate Competence
I use pedagogical methods appropriate for teaching environmental issues	2.57	0.87	Moderate Competence
I assess students' environmental learning using appropriate techniques	2.46	0.89	Low Competence
I can design instructional materials to support environmental lessons	2.41	0.85	Low Competence
<b>Composite Mean</b>	<b>2.64</b>	—	<b>Moderate Competence</b>

*Source: This study field report, 2025.*

Teachers reported a composite mean of 2.64, indicating moderate pedagogical competence. Their strengths lie in content mastery and lesson integration, but weaknesses are evident in assessment competence and instructional material development, both essential for effective environmental education delivery.

Across both respondent groups, students' composite mean of 2.62 on the pedagogical competence of teachers was rated as moderately competent and teachers' with composite mean of 2.64 on the same subject matter rated themselves as moderately competent. The convergent evidence shows that social studies teachers possess moderate pedagogical competence in delivering environmental education content. Again, teachers demonstrate acceptable content knowledge but lack strong skills in designing appropriate learning materials, conducting environmental-focused assessments, and applying diverse pedagogical strategies. More so, the competence level, while moderate, is insufficient to guarantee the high-quality environmental awareness outcomes needed in contemporary environmental challenges.

### *Hypothesis one*

**Table 7: One-Sample t-Test Results on the Adequacy of the Social Studies Curriculum for Promoting Environmental Awareness**

Group	n	Mean	Std. Deviation	Test Value	t-value	df	p-value
Students	389	2.38	0.61	2.50	-4.18	388	< .001
Teachers	312	2.42	0.57	2.50	-3.23	311	.001

A one-sample t-test was conducted to determine whether the social studies curriculum at the basic and secondary school levels in Akwa Ibom State is significantly adequate to promote environmental awareness among learners. The adequacy benchmark was set at 2.50 on a 4-point Likert scale.

For students (n = 389), the result showed that the mean score (M = 2.38, SD = 0.61) was significantly lower than the adequacy criterion,  $t(388) = -4.18$ ,  $p < .001$ . This indicates that students perceived the curriculum as not adequately promoting environmental awareness.

For teachers (n = 312), the mean score (M = 2.42, SD = 0.57) was also significantly lower than the criterion value,  $t(311) = -3.23, p = .001$ . This confirms that teachers similarly believe that the curriculum is not adequate in providing environmental awareness content.

Based on these results, the null hypothesis is upheld. The social studies curriculum at the basic and secondary school levels in Akwa Ibom State is not significantly adequate to promote environmental awareness among learners.

***Hypothesis two***

The instructional strategies employed by social studies teachers are not significantly adequate to enhance environmental awareness among students in Akwa Ibom State.

Thus, the null hypothesis is retained.

***Table 8: Summary of the t-test results of adequacy of instructional strategies to enhance environmental awareness***

<b>Group</b>	<b>n</b>	<b>Mean</b>	<b>SD</b>	<b>Test Value</b>	<b>t</b>	<b>df</b>	<b>p</b>
Students	389	2.41	0.64	2.50	-3.60	388	< .001
Teachers	312	2.45	0.59	2.50	-1.96	311	.051

***Source: This study field report, 2025.***

A one-sample t-test was conducted to determine whether the instructional strategies employed by social studies teachers are significantly adequate to enhance environmental awareness. For students (n = 389), the mean score (M = 2.41, SD = 0.64) was significantly lower than the adequacy test value of 2.50,  $t(388) = -3.60, p < .001$ , indicating perceived inadequacy of instructional strategies. For teachers (n = 312), the mean rating (M = 2.45, SD = 0.59) was not significantly different from the test value,  $t(311) = -1.96, p = .051$ , implying that teachers consider their instructional strategies adequate, though not at a statistically significant level. Overall, the findings show that the instructional strategies used by social studies teachers are not significantly adequate to enhance environmental awareness among students; hence, the null hypothesis was retained.

**4. Discussion of findings**

***4.1 Current social studies curriculum and environmental awareness concepts at basic and secondary school levels in Nigeria.***

The descriptive evidence from research question one shows that the current social studies curriculum integrates environmental awareness themes to a moderate extent, but not adequately enough to produce strong learning outcomes and behavioural competencies among learners. The findings of this study reveal a perceptual divergence between students and teachers regarding the adequacy of the current social studies curriculum in integrating environmental awareness themes at the basic and secondary school levels. Specifically, students rated the curriculum as *moderately adequate* (Composite Mean = 2.56), whereas teachers perceived it as *low in adequacy* (Composite Mean = 2.47). Although both ratings fall within the lower-to-moderate range on the four-point Likert scale, the difference in perception is analytically significant and warrants critical discussion.

The students’ perception of moderate adequacy suggests that the existing social studies curriculum contains identifiable environmental concepts, such as environmental conservation, pollution control, resource management, and human environment interaction, which are sufficiently visible at the learner level. This finding aligns with prior studies which indicate that students often evaluate curriculum content based on exposure and familiarity rather than depth, coherence, or pedagogical alignment (Adewale and Adebayo, 2018; UNESCO, 2017). For many students, the mere presence of environmental topics in textbooks or classroom discussions may be interpreted as curriculum adequacy, even when such content is treated superficially or sporadically.

In contrast, teachers’ lower mean rating reflects a more critical and professional appraisal of the curriculum. As curriculum implementers, teachers are better positioned to assess not only the presence of environmental themes but also their scope, sequencing, instructional clarity, and relevance to contemporary environmental challenges. The

teachers' perception of low adequacy suggests that environmental education components in the social studies curriculum may be insufficiently articulated, inadequately emphasized, or poorly aligned with instructional objectives and assessment frameworks. This finding corroborates earlier research indicating that teachers often perceive social studies curricula in Nigeria as overloaded with theoretical content while offering limited guidance on practical and action-oriented environmental education (Nwankwo and Okoli, 2019; Ogunleye, 2020).

The narrow margin between the two composite means further suggests that, overall, the curriculum's integration of environmental awareness themes is marginal rather than robust. Even the students' "moderate" rating does not indicate strong adequacy, implying that environmental education within social studies may be treated as peripheral rather than central. This supports the argument advanced by environmental education scholars that curriculum integration in many developing contexts remains fragmented and lacks the interdisciplinary depth required to foster environmental literacy and sustainable behavior (Tilbury, 2011; UNESCO, 2020).

Moreover, the disparity in perceptions may be attributed to differences in role expectations. Teachers, who are responsible for translating curriculum prescriptions into classroom practice, are more likely to recognize gaps such as limited instructional time, inadequate curriculum emphasis, absence of locally relevant environmental case studies, and insufficient linkage between environmental concepts and students' lived experiences. Students, on the other hand, may not fully appreciate these structural deficiencies and may base their judgments on isolated learning experiences rather than systemic curriculum quality.

Overall, the findings indicate that while the social studies curriculum makes some provision for environmental awareness, its integration is not sufficiently comprehensive or effective to meet contemporary environmental education demands. The teachers' critical assessment underscores the need for curriculum review and enrichment, particularly in terms of strengthening environmental themes, enhancing practical and experiential learning components, and aligning content with current environmental challenges at local, national, and global levels. This discussion therefore reinforces the imperative for deliberate curriculum reform to reposition social studies as a more effective vehicle for environmental awareness and sustainable development education.

#### ***4.2 Instructional strategies employed by social studies teachers in facilitating environmental awareness learning outcomes.***

The findings from research question two and hypothesis one indicate a convergence in the perceptions of students and teachers regarding the extent to which instructional strategies employed by social studies teachers support environmental awareness learning outcomes. Specifically, students reported a composite mean of 2.59, while teachers reported a composite mean of 2.54. Both values fall within the *moderate extent* range on the four-point Likert scale, suggesting that instructional strategies for environmental awareness are present but not sufficiently robust or consistently applied.

The students' perception of a moderate extent implies that learners are exposed to some instructional approaches that facilitate understanding of environmental issues, such as classroom discussions, teacher explanations, use of textbooks, and occasional real-life examples. However, the absence of a high mean score indicates that these strategies may be largely conventional and teacher-centered, with limited opportunities for inquiry-based learning, fieldwork, simulations, or community-based environmental projects. This aligns with existing literature which suggests that Social Studies instruction in many developing contexts continues to rely heavily on expository methods, thereby constraining deeper environmental engagement and behavioral change (Ogunleye, 2020; Tilbury, 2011).

Teachers' ratings, although slightly lower than those of students, also reflect a moderate extent, suggesting a professional acknowledgment that while some instructional strategies are employed to address environmental awareness, these strategies are constrained by structural and pedagogical limitations. Teachers may recognize gaps such as inadequate instructional resources, limited time allocation within the curriculum, large class sizes, and

insufficient professional development in environmental education pedagogy. Previous studies have shown that teachers often lack sustained training in participatory and experiential methods that are critical for effective environmental education, thereby limiting the impact of instructional strategies on learning outcomes (Nwankwo and Okoli, 2019; UNESCO, 2020).

The close alignment between students' and teachers' composite means is analytically important, as it suggests a shared understanding of the instructional reality within Social Studies classrooms. Unlike findings where perception gaps exist, this convergence indicates that both groups recognize that instructional strategies moderately support environmental awareness but fall short of optimal effectiveness. This reinforces the argument that the challenge is not merely perceptual but systemic, rooted in instructional design, teacher capacity, and institutional support.

Furthermore, the moderate rating suggests that instructional strategies may focus more on cognitive awareness than on affective and behavioral dimensions of environmental learning. Environmental education literature emphasizes that effective instructional strategies should foster not only knowledge acquisition but also environmental values, attitudes, and pro-environmental behaviors through participatory, problem-solving, and action-oriented learning experiences (UNESCO, 2017; Tilbury, 2011). The findings imply that such transformative strategies are insufficiently integrated into Social Studies instruction.

In summary, the study demonstrates that instructional strategies used by social studies teachers moderately support environmental awareness learning outcomes, as perceived by both students and teachers. While this reflects a foundational level of instructional engagement, it also highlights the need for pedagogical enhancement. Strengthening teacher training, promoting learner-centered and experiential instructional strategies, and providing adequate instructional resources are necessary to move instructional practice from a moderate to a high level of effectiveness in fostering environmental awareness. These findings underscore the importance of pedagogical reform as a critical pathway to achieving meaningful environmental education outcomes within Social Studies.

#### ***4.3 Teachers' pedagogical competence in delivering environmental education components of Social Studies.***

The findings from research question three and hypothesis two indicate a high level of convergence between students' and teachers' perceptions regarding the pedagogical competence of social studies teachers in presenting environmental education content. Specifically, students rated teachers' pedagogical competence with a composite mean of 2.62, while teachers' self-assessment yielded a closely aligned composite mean of 2.64. Both ratings fall within the *moderately competent* range on the four-point Likert scale, suggesting that teachers possess foundational pedagogical skills for environmental education but have not yet attained a level of high or advanced competence.

The students' perception of moderate competence implies that teachers are generally able to communicate environmental concepts, organize lessons, and relate content to real-life environmental issues. This indicates a functional level of pedagogical effectiveness that supports basic understanding of environmental education. However, the absence of a high competence rating suggests that instructional delivery may lack depth, innovation, and sustained learner engagement. Students may experience environmental topics largely through conventional teaching approaches, with limited opportunities for inquiry, critical thinking, and participatory learning that are essential for meaningful environmental education.

Teachers' self-rating as moderately competent reflects professional awareness of both their capabilities and limitations. The marginally higher mean score among teachers suggests confidence in their subject-matter knowledge and general teaching skills, but also an implicit acknowledgment of gaps in specialized pedagogical competencies related to environmental education. Such gaps may include limited proficiency in experiential learning methods, integration of local environmental case studies, interdisciplinary teaching, and assessment of environmental attitudes and behaviors. This finding is consistent with existing research indicating that many Social Studies teachers have not received specialized pre-service or in-service training in environmental education pedagogy, thereby constraining instructional effectiveness (Ogunleye, 2020; Nwankwo & Okoli, 2019).

The close alignment between students' and teachers' ratings is analytically significant, as it suggests a shared understanding of pedagogical practice within Social Studies classrooms. This convergence strengthens the credibility of the findings and indicates that the moderate competence observed is not a perceptual artifact but reflects actual

classroom realities. It also implies that both stakeholders recognize the need for pedagogical enhancement rather than wholesale restructuring, pointing to incremental but targeted professional development as a viable intervention.

Furthermore, the moderate level of pedagogical competence has implications for the attainment of environmental education goals. Environmental education literature emphasizes that effective teaching in this domain requires more than content transmission; it demands learner-centered, participatory, and action-oriented pedagogies that promote environmental values, problem-solving skills, and responsible behavior (Tilbury, 2011; UNESCO, 2017). The findings suggest that while teachers are capable of introducing environmental concepts, they may be less effective in fostering transformative learning outcomes associated with sustainability and environmental stewardship.

In summary, the study reveals that social studies teachers are moderately competent in presenting environmental education content, as perceived by both students and teachers. This level of competence provides a foundation for environmental awareness learning but is insufficient for achieving deeper, behavior-oriented environmental outcomes. The findings therefore underscore the need for continuous professional development, curriculum-aligned pedagogical training, and institutional support to enhance teachers' pedagogical competence and strengthen the role of Social Studies in advancing environmental education and sustainable development.

## **5. Conclusions**

Based on the findings across the three investigated areas, curriculum integration of environmental awareness themes, instructional strategies employed by social studies teachers, and teachers' pedagogical competence in presenting environmental education content, the study concludes that environmental education within the social studies programme at the basic and secondary school levels is moderately developed but not optimally effective.

First, the social studies curriculum demonstrates partial integration of environmental awareness themes, as reflected in students' perception of moderate adequacy and teachers' perception of low to moderate adequacy. This indicates that while environmental concepts are present in the curriculum, they are insufficiently emphasized, unevenly distributed, and inadequately aligned with contemporary environmental challenges. The curriculum therefore functions more as an introductory framework rather than a comprehensive vehicle for environmental education.

Second, the instructional strategies employed by social studies teachers are perceived by both students and teachers as supporting environmental awareness to a moderate extent. This suggests that teachers employ some instructional approaches relevant to environmental learning, but these strategies are largely conventional and limited in their capacity to foster higher-order thinking, practical engagement, and pro-environmental behavior. The moderate rating underscores a gap between policy intentions and classroom-level instructional practices.

Third, the pedagogical competence of social studies teachers in delivering environmental education content is similarly rated as moderate by both students and teachers. This convergence in perception indicates that teachers possess basic pedagogical skills but lack specialized competence in environmental education pedagogy, including experiential, inquiry-based, and action-oriented teaching methods. Consequently, environmental education outcomes are constrained to awareness creation rather than transformative learning and sustainable behavior change.

Taken together, these findings suggest a systemic pattern in which curriculum design, instructional strategies, and teacher competence are aligned at a moderate level, collectively limiting the effectiveness of social studies as a tool for environmental awareness and sustainability education. The study therefore concludes that meaningful improvement in environmental education outcomes requires coordinated interventions across curriculum reform, pedagogical practice, and teacher professional development.

### **5.1 Recommendations**

Based on the conclusions drawn from the study, the following recommendations are proposed:

### **1. Curriculum review and enrichment**

Educational authorities should undertake a comprehensive review of the social studies curriculum to strengthen the integration of environmental awareness themes. Environmental education content should be more explicitly stated, progressively sequenced across grade levels, and aligned with local, national, and global environmental challenges to enhance relevance and depth.

### **2. Adoption of learner-centered instructional strategies**

Social studies teachers should be encouraged and supported to adopt participatory and experiential instructional strategies, such as project-based learning, fieldwork, problem-solving activities, simulations, and community-based environmental projects. These approaches will enhance students' active engagement and promote meaningful environmental learning outcomes.

### **3. Continuous professional development for the teachers**

Regular in-service training, workshops, and seminars should be organized to build teachers' pedagogical competence in environmental education. Such programmes should focus on innovative teaching methods, interdisciplinary integration, assessment of environmental attitudes and behaviors, and the use of local environmental issues as instructional resources.

### **4. Provision of Instructional Resources and Support**

Schools and relevant stakeholders should provide adequate instructional materials, including environmental education teaching guides, audio-visual resources, and digital tools, to support effective teaching and learning. Adequate time allocation within the timetable should also be ensured for meaningful environmental education activities.

### **5. Strengthening Monitoring and Evaluation Mechanisms**

Curriculum implementation should be closely monitored by education quality assurance agencies to ensure that environmental education components are effectively taught. Feedback mechanisms should be established to identify instructional gaps and guide continuous improvement in teaching practices.

### **6. Integration of School-Community Partnerships**

Schools should collaborate with environmental agencies, non-governmental organizations, and local communities to provide real-life learning experiences for students. Such partnerships will bridge the gap between classroom instruction and environmental action, thereby reinforcing the practical relevance of social studies education.

Collectively, these recommendations aim to move social studies environmental education from a moderate level of effectiveness to a more robust, transformative, and sustainable model capable of addressing contemporary environmental challenges.

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