

Environmental Awareness of the Sustainable Development Goal Six (SDG 6) Among Social Studies Student-Teachers

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ABSTRACT:- This study examined Social Studies student-teachers' environmental awareness and sustainability practices. The study sat in a positivist worldview with a quantitative approach. Cross-sectional descriptive research design was employed for the study. The study population was all social studies student-teachers at Abetifi Presbyterian College of Education in the Eastern Region of Ghana. A simple random technique (lottery method) was used to select the sample size of 157 respondents, and a questionnaire was used to collect the data. The data was analysed using frequency, mean, standard deviation and correlation. The findings indicated that while student-teachers generally demonstrated a moderate level of environmental awareness, their practical application of sustainability practices was limited. Therefore, it is recommended that the college enhance its curriculum with more practical sustainability modules and that the Ministry of Education integrate comprehensive environmental education into national teacher training standards to address these gaps. These steps ensure that future educators are well-prepared to promote and implement sustainable practices effectively, thus aligning with the Sustainable Development Goals and addressing local environmental challenges.

Keywords: Sustainability, Student-Teachers, Social Studies Curriculum, Environmental Awareness, Sustainable Development Goals (SDGs)

I. INTRODUCTION

The socio-economic impact of climate change, resulting from anthropogenic activities, is a major concern for the international community and governments as it has emerged as a key human rights violation, global security issue and socio-economic development threat for many countries of the world (Golo & Eshun, 2018). Environmental consciousness and sustainability have gained global prominence due to the depletion of natural resources, pollution, and the detrimental impacts of climate change. Many countries, collaborating with international organisations like the United Nations, adopt sustainability measures to tackle these environmental challenges. A significant step in this direction has been the implementation of the Sustainable Development Goals (SDGs), with SDG 6 focusing on clean drinking water and sanitation for all. Education plays a crucial role in achieving these goals, with colleges of education being pivotal in promoting environmental literacy and sustainability among future educators.

Globally, education sectors are vital in shaping perceptions and actions toward environmental issues. Countries like Finland, Australia, and Canada have integrated environmental education into their teacher training programmes to ensure teachers can impart sustainability knowledge to their students and communities. In these countries, environmental education extends beyond classroom teaching and aims to cultivate environmentally responsible citizens through sustainable practices (UNESCO, 2020; Shepard, 2018).

Studies in Africa have shown that the waste management menace has become intractable and threatens to undermine the efforts of most city authorities (Neizer, 2014; Eshun, Mensah, & Ampomah, 2021). Subscribing to the prior standpoint, Eshun, Bassaw and Bordoh (2014) posited that the “rapid increase in the volume and types of solid waste as a result of continuous economic growth, urbanisation, and industrialisation is becoming a burgeoning problem for national and local governments to ensure effective and sustainable management of solid waste” (p. 110). The growing need for environmental awareness and sustainable practices is becoming more evident in Africa, although efforts across the continent have been uneven. Countries like South Africa and Kenya have incorporated environmental education into their teacher training programmes, addressing key issues like deforestation, desertification, and water shortages, often aggravated by human actions and poor governance (Lotz-Sisitka, 2020; Mkandawire, 2019). Sustainability-related concerns have slowly entered formal education in West Africa, including Nigeria. However, challenges remain in preparing student-teachers to apply their theoretical knowledge practically, which is crucial in transforming schools and communities into sustainable environments (Adejare & Oyetola, 2019).

In Ghana, environmental education is progressing, particularly within social studies programmes, which teach subjects like geography, civics, and economics. These areas have natural connections to environmentalism, yet there is a growing need for more systematic and conscious efforts to integrate sustainability into teacher training curricula (Ankomah, 2021; Antwi & Owusu, 2022). While Social Studies student-teachers are taught theoretical aspects of sustainability, practical sessions to implement this knowledge remain limited. This gap presents an opportunity for further improvement in preparing future educators to understand environmental consequences and actively promote sustainable practices in their classrooms and communities. At Abetifi Presbyterian College of Education, the focus of this research is that environmental challenges like deforestation, improper waste disposal, and water pollution are prevalent. These issues harm the environment and affect the health and livelihoods of the local population (Boadi et al., 2020). Eshun, Golo and Dankwa (2019, p. 41) buttressed, "It is worthy to note that good health and well-being of people is generally determined by the physical environment in which they live." Social Studies student-teachers have a critical role in addressing these problems through sustainable practices at both the school and community levels. Research indicates that teacher training programmes can cultivate environmental literacy, enabling student-teachers to advocate for sustainability in their future classrooms (Poudel et al., 2019). The integration of sustainability into education is essential not only for knowledge acquisition but also for practical application. In most colleges of education in Ghana, Social Studies student-teachers learn the theoretical aspects of sustainability but rarely engage in practical activities that prepare them to implement sustainable practices. Therefore, assessing these student-teachers current attitudes and behaviours is crucial to improving environmental education programmes and tailoring interventions for future educators (Mensah & Frimpong, 2022).

This study is particularly relevant to SDG 6, emphasising sustainable water and sanitation management. Issues such as water distribution and sanitation remain challenges, especially in rural areas of Ghana, and are often worsened by a lack of environmental education and awareness (Gordon et al., 2021). Social Studies student-teachers are well-positioned to advocate for sustainable water management practices and promote better sanitation in schools and communities. By equipping them with the necessary knowledge and skills, colleges of education can play a significant role in helping Ghana achieve its SDG 6 target. This research will assess the level of environmental awareness among Social Studies student-teachers, identify the most commonly adopted sustainable practices, and examine the relationship between environmental awareness and sustainable practices at Abetifi Presbyterian College of Education. It will provide insights into how to equip future teachers better to contribute to sustainable development in their educational settings and beyond.

II. THEORETICAL PERSPECTIVE AND LITERATURE REVIEW

Social Learning Theory

Social Learning Theory, proposed by Albert Bandura in 1977, posits that individuals learn behaviours, values, and attitudes through observation, imitation, and modelling (Bandura, 1977). Unlike traditional theories that emphasise direct instruction, Social Learning Theory suggests that much of human behaviour is learned through observing others in a social context. This theory emphasises four key processes: attention, retention, reproduction, and motivation, which are fundamental to learning. In an educational context, these processes suggest that people learn not only from the knowledge imparted by teachers but also from other learners, educators, and community reference models (Bandura, 1977; Schunk & DiBenedetto, 2020).

Regarding environmental awareness, Social Learning Theory implies that college student-teachers can adopt sustainable practices observed in the environment, including from faculty, college officials, and other students. This process is reinforced by social reinforcement, which provides positive feedback and societal approval for sustainable behaviours. According to Social Learning Theory, behaviours are more likely to be repeated when positively reinforced. Feedback from instructors or peers about engaging in environmental practices could encourage student-teachers to continue these behaviours (Bandura, 1977; Cheng & Monroe,

2012). The use of observational and imitative learning is key to environmental sustainability. Student-teachers at Abetifi Presbyterian College of Education, like those at other institutions, are likely to emulate the sustainability behaviours observed in their environment. For instance, if instructors and administrators commit to sustainable behaviours such as waste segregation, energy conservation, and promoting eco-friendly practices, student-teachers will likely follow these behaviours (Cheng & Monroe, 2012). There has been an issue of lack of sensitisation as Al-Khatib et al. (2009), opined that a negative attitude is commonly connected with the mishandling of household solid wastes in underdeveloped countries. As a result, Eshun and Bassaw (2013, p. 5) proposed that “homeowners segregate their domestic solid waste into glass, paper, and plastic categories for efficient trash management, allowing for easier collection. The authors further stressed that “The mix-up will even make recycling difficult. The plastic waste generated implies that when these end up in the refuse dump and find their way into the soil, they stay there for a longer time before decaying, reducing the soil’s fertility and/or impeding plant growth.” This burning issue calls for sustainable ways of disposing of waste.

The introduction of sustainability into the college curriculum further enhances the learning process. Bandura (1977) noted that learning involves direct observation and indirect observation of interactions. This suggests sustainable practices should be demonstrated across various social settings, including classrooms, extracurricular activities, and community services. Rickinson et al. (2019) found that learners are more motivated to adopt sustainability education when engaged in authentic learning activities modelled by teachers and other students. Imitating pro-environment behaviours is often driven by the desire to meet societal expectations of environmental responsibility. Hartley et al. (2019) found that learners who adopted sustainable behaviours persisted in these practices when others appreciated them. This aligns with Bandura's (1977) assertion that motivation, whether from external reinforcements or intrinsic satisfaction, is critical to learning.

Within the context of this study on Social Studies student-teachers at Abetifi Presbyterian College of Education, Social Learning Theory helps explain how knowledge and practices related to sustainability can be learned and replicated. Social Studies typically include topics on environmental issues, social welfare, and legal obligations (Sterling, 2016). Student-teachers, therefore, gain theoretical and practical insights into environmental sustainability. However, the extent of this exposure is influenced by educators' leadership behaviours and the institution's sustainability measures. For example, sustainability practices such as teaching about climate change or involving students in campus sustainability projects foster better behaviours among student-teachers. This is consistent with Bandura's (2018) observation that people model behaviours enacted by authorities or leaders. The college environment significantly influences students' attitudes and behaviours toward sustainability. If the institution promotes recycling, energy conservation, and other sustainability efforts, these behaviours become socially acceptable, and student-teachers mimic them. This aligns with findings that institutional commitment to sustainability impacts students' behaviours (Mogren et al., 2019). Through the lens of Social Learning Theory, College policies, workshops on sustainability, and environmental clubs operate as environmental reinforcement in teaching and implementation of sustainable practices among the student-teachers as posited (Poudel et al., 2019; Mogren et al., 2019).

Through the lens of Social Learning Theory, this study explains how environmental awareness and sustainability can be influenced among Social Studies student-teachers. Student-teachers can learn sustainable practices by emulating their instructors and peers and passing these behaviours on to future generations. In this way, the teaching and learning environment plays a crucial role in promoting positive behaviours.

Environmental Awareness and Sustainable Practices among Social Studies Student-Teachers

Efforts to understand teacher education's role in environmental advocacy and sustainability have focused on Colleges of Education that train future educators. Student teachers must demonstrate content knowledge, process knowledge, and personal qualities to facilitate environmental learning in their future classes. Thus, assessing the level of environmental awareness and the sustainable practices of Social Studies student teachers is essential for developing educational interventions that support sustainability. Environmental consciousness, defined as knowledge and applying environmentally appropriate behaviour, is critical in teacher education. Previous research shows that the environmental awareness of Social Studies student-teachers affects their ability to incorporate sustainability into their teaching (Fakoya & Adebayo, 2020). Student-teachers' attitudes towards environmental conservation depend on their awareness of climate change, deforestation, pollution, and biodiversity loss. Sarkar et al. (2019) found that when student-teachers receive targeted environmental education, they become more sensitive and likely to promote sustainable practices.

In Ghana, concerns have been raised about student-teachers' environmental consciousness. Boakye and Hagan (2021) found that while awareness of environmental issues exists in Ghanaian Colleges of Education, it depends on the emphasis placed on environmental education. They found that student-teachers in institutions with structured environmental education better understand sustainability. This suggests that the curriculum and institutional goals of Abetifi Presbyterian College of Education could significantly influence Social Studies student-teachers environmental orientation.

Authors argue that student-teacher involvement beyond the classroom enhances their environmental awareness. Amponsah et al. (2022) stress that activities like environmental clubs, tree planting, and community clean-ups foster sustainable development, emphasising hands-on experience in raising environmental consciousness. Student teachers must adopt sustainable practices. Sustainability involves preventing environmental degradation through efforts like recycling and using eco-friendly resources. Kyere and Ankomah (2021) found that student teachers with positive environmental attitudes are likely to exhibit responsibility but may lack motivation or institutional support to adopt sustainable behaviours consistently.

At Abetifi Presbyterian College of Education, it is essential to identify which sustainable measures are most practised by Social Studies student-teachers. Studies in Ghanaian educational contexts show that recycling and waste management are standard practices, though implementation remains low (Frimpong & Asare, 2020). Despite awareness, the lack of facilities or organisational support often limits regular recycling. Similarly, though widely understood, energy conservation is seldom practised due to convenience and prior habits (Mensah & Gyimah, 2022). Water conservation also shows varying commitment levels. Boateng and Yeboah (2021) found that while student-teachers understand water conservation's importance, their actions often do not align with this awareness. This gap between knowledge and practice highlights the need for institutions like Abetifi Presbyterian College of Education to bridge it by educating students and supporting sustainable practices through policy, infrastructure, and extracurricular activities.

The Link between Environmental Awareness and Sustainable Practices among Social Studies Student-Teachers

Environmental awareness and practice among Social Studies student-teachers at Abetifi Presbyterian College of Education is critical, as these colleges shape future educators. Environmental concern involves understanding environmental issues, while sustainable management focuses on managing environmental resources. Numerous studies show that awareness does not always lead to environmentally friendly behaviour. Kollmuss and Agyeman (2010) emphasise that knowledge alone is insufficient for behaviour change; social and economic factors and learned behaviours also play roles. For instance, student-teachers may understand the importance of conserving water but lack the facilities to adopt sustainable practices. However, research suggests that student-teachers with high environmental attitudes are more likely to engage in sustainable behaviours. Koul and Choudhary (2018) found that teacher education students who took environmental courses were more active in sustainability efforts. This indicates that integrating environmentalism into the curriculum can promote sustainable behaviours among future teachers. Social Studies student-teachers at Abetifi Presbyterian College are in a key position to influence future students' environmental behaviours. Poudel et al. (2019) argue that teacher education can cultivate environmental literacy, helping student-teachers become advocates for sustainability in their future schools and communities. Despite the positive link between awareness and sustainable practices, gaps still exist. Leung et al. (2020) suggest that institutions often focus on theory, leaving students uncertain about how to implement sustainable practices. Even when student teachers understand sustainability, they may lack the practical skills or resources to act on this knowledge.



Figure 1: Conceptual Framework
Source: Authors' Construct (2024)

The conceptual framework emphasises environmental consciousness and sustainability through student-teacher knowledge and behaviour. "Awareness" involves understanding, valuing, and appreciating the environment, preparing future educators with the knowledge and moral responsibility for sustainable development. "Education" explores the role of curricula and teaching methods in integrating sustainability themes into student learning. "Practices" focuses on how student-teachers gain knowledge and apply sustainable actions, influencing others in schools and society through responsible behaviour. This framework highlights the importance of balancing theoretical concepts with the practical application of environmental responsibility.

III. METHODOLOGY AND STUDY AREA

The Abetifi Presbyterian College of Education is located in Abetifi Township in the Republic of Ghana's Eastern Region. The geographical position of Benin City is about 6° 0' 35.411" N and 0° 39' 29.280" W. In this context, the college is somewhat located towards the southeastern corner of Ghana, surrounded by hills typical of the country's eastern region. This area is characterised by its great variety of plants and animals, which makes it perfect for teaching environmental consciousness and the importance of preserving nature. Some practical environmental concerns experienced in Abetifi are deforestation, lack of water sources, and poor waste management, proving the relevance of teaching sustainability within the academic curriculum. This context, therefore, presents the college as an appropriate site to explore how Social Studies student-teachers enact their learning and respond to these local environmental concerns.

Given this, a quantitative research approach was adopted to assess the environmental consciousness and environmental sensitivity of Social Studies student-teachers of Abetifi Presbyterian College of Education. It can be noted that quantitative research makes it possible for data to be collected in a standardised manner and also permits the generality of the results across the students. It also allows for increased sample sizes, reduced bias, more straightforward application of concepts and ideas, and the ability to replicate studies using standardised data collection protocols (Bernido, 2020; Bhandari, 2021). The research design adopted in the study was a cross-sectional descriptive survey. This design involves collecting data at one point and over a short period to provide a 'snapshot' of the outcome and the characteristics associated with a population at a specific time (Cohen et al., 2018). The rationale for the adoption of the design was that it relies on large-scale data from a representative sample of a population to describe the nature of existing conditions (Creswell, 2018; Cohen et al., 2018). This design is handy in surveys that intend to assess the level of awareness and the presence of specific practices since the survey offers a cross-sectional view of the current phenomena of interest (Fowler, 2020). Data for the study was collected using questionnaires that focused on eliciting detailed information about the awareness and sustainable practices concerning the environment among the Social Studies student-teachers. The study was restricted to the Social Studies student-teachers of Abetifi Presbyterian College of Education. Namely, it included students from Levels 100-400, which means a wide spectrum of participants involved in the Social Studies programme. Consequently, by including this broad sample of students, the research sought to establish an accurate account of the student's environmental sensitivity and sustainable behaviour. In the study, simple random technique was used (lottery method) in selecting Social Studies student-teachers from each of the four levels in Abetifi Presbyterian College of Education. Consequently, it will take the Yamane (1967) formula to estimate the necessary sample size of 157 within the total student population of 258 respondents.

$$N = \frac{N}{N(e^2)}$$

Where:

n=sample Size

N=population Size

E=margin of error

Given that N=258, we can calculate the sample size with a margin of error of 0.05 as follows:

$$N = \frac{258}{1+258(0.05^2)}$$

$$n = \frac{258}{1+258(0.0025)} = \frac{258}{1+0.645} = \frac{258}{1.645} = 157$$

To achieve this, the researchers used stratified random sampling because it helped attain respondents from Level 100 to Level 400, which enabled them to get an overall understanding of students' awareness of the environment and sustainable practices.

Ethical guidelines were strictly adhered to throughout this study to protect participants' rights. Informed consent was obtained from all participants, and their confidentiality and privacy were maintained. Ethical clearance was sought from the Institutional Review Board of the University of Education, Winneba, ensuring that the research complied with institutional and national ethical standards. No harm was caused to the participants, and all data was collected with respect and integrity.

IV. RESULTS

The demographic information of the respondents in the study on environmental awareness is indicated below; some of the variables in the data are the level of study, gender, age, and whether or not the respondents have taken formal environment courses.

Table 1: Demographic Characteristics of Respondents

Variable	Frequency (n)	Percentage (%)
Level of Study		
Level 100	33	21
Level 200	39	24.8
Level 300	36	22.9
Level 400	49	31.2
Gender		
Male	79	50.3
Female	78	49.7
Age		
Under 20	26	16.6
20-24	85	54.1
25-29	35	22.3
30 and above	11	7
Formal Environmental Courses		
Yes	80	51
No	77	49
Total	157	100

Source: Field Survey (2024)

Table 1 shows that the largest proportion of respondents (31.2%) are in Level 400, followed by 24.8% in Level 200, 22.9% in Level 300, and 21% in Level 100. This distribution shows a fair representation of students across the various levels of study, with final-year students (Level 400) making up the highest proportion of respondents. The respondents are nearly equally split in gender, with males constituting 50.3% and females 49.7%. This reflects almost balanced gender participation in the study. Regarding the age of respondents, the majority (54.1%) are in the 20-24 age range, followed by 22.3% aged 25-29. Those under 20 comprise 16.6% of the sample, while 7.0% of respondents are aged 30 and above. This indicates that the study primarily includes younger adults, particularly those in their early twenties. Finally, the responses show that 51% of the respondents have taken formal environmental courses, while 49% have not. This near-equal distribution suggests a balanced exposure to formal environmental education among the respondents.

Level of Environmental Awareness

In this study, Vagias's (2006) criteria were used to determine the level of awareness: a mean score of 3.50-4.00 indicates a very good level; 3.00-3.49 indicates a good level; 2.50-2.99 indicates a moderate level; 1.50-2.00 indicates a fair level; and 0.00-1.49 indicates a poor level of awareness.

Table 2: Level of Environmental Awareness

Question	Mean	Standard Deviation	Interpretation
Addressing environmental issues for the future	2.90	1.21	Moderate Level
Understand the impact of human activities	2.70	1.15	Moderate Level
Updated on environmental issues	2.65	1.18	Moderate Level
Aware of global environmental policies	2.55	1.20	Moderate Level
Knowledge adequate for informed decisions	2.50	1.25	Moderate Level
Knowledgeable about environmental issues	2.45	1.23	Fair Level
Overall Level of Awareness	2.63	1.20	Moderate Level

Source: Field Survey (2024)

The data presented show varying levels of environmental awareness among respondents, as reflected by the mean scores and standard deviations. The results in Table 2 revealed that, overall, Social Studies student teachers had a moderate level of awareness on environmental awareness, as captured in SDG 6 (M=2.63, SD=1.20). Indeed, it could be realised that they had a moderate level of awareness on all the indicators of SDG 6 outlined in the study except knowledge about environmental issues, where they recorded a fair level of awareness. The mean scores across all questions range between 2.45 and 2.90, indicating moderate levels of

agreement or awareness. The highest mean score (2.90) pertains to addressing environmental issues for the future, suggesting a relatively stronger focus or understanding in this area. On the contrary, the lowest mean (2.45) is observed in the question about general knowledge of environmental issues, implying a weaker self-perception of environmental knowledge compared to other areas. Standard deviations range between 1.15 and 1.25, indicating a moderate degree of variability in responses across the sample. The lowest standard deviation (1.15) corresponds to understanding the impact of human activities on the environment, showing more consistent responses in this area.

On the other hand, the highest standard deviation of 1.25 emerges from the question of preparedness of knowledge for effecting decisions, which indicates more variation in how the respondents judge the possessiveness of environmental knowledge for effective decisions. The variation in the responses depending on the chosen question points to a certain level of inconsistency regarding the perceived environmental sensitivity and the willingness to make informed decisions.

Sustainable Environmental Practices

Table 3: Environmental Practices

Practice	Very Often	Often	Sometimes	Rarely	Never
Recycle paper, plastic, glass	46 (18.1%)	52 (20.2%)	47 (18.1%)	48 (18.5%)	41 (15.7%)
Reduce single-use plastics	52 (20.2%)	55 (21.5%)	39 (15.4%)	37 (14.5%)	51 (19.5%)
Conserve water by limiting usage	37 (14.5%)	49 (19.2%)	54 (21.0%)	45 (17.4%)	49 (19.2%)
Use energy-efficient appliances	36 (14.0%)	43 (16.8%)	59 (23.3%)	48 (18.5%)	48 (18.5%)
Tree planting and reforestation efforts	56 (22.0%)	52 (20.2%)	47 (18.1%)	39 (15.4%)	40 (15.9%)
Compost food waste	43 (16.8%)	40 (15.9%)	59 (23.3%)	48 (18.5%)	44 (17.3%)
Avoid products with excessive packaging	44 (17.3%)	49 (19.2%)	50 (19.8%)	44 (17.3%)	47 (18.1%)
Use public transport or a bike	36 (14.0%)	45 (17.4%)	57 (22.4%)	47 (18.1%)	49 (19.2%)
Environmental clean-up events	35 (13.8%)	48 (18.5%)	54 (21.0%)	48 (18.5%)	49 (19.2%)

Source: Field Survey (2024)

The analysis of environmental practices among Social Studies student-teachers at Abetifi Presbyterian College of Education reveals various patterns in their engagement with sustainable practices. Many respondents frequently recycle paper, plastic, and glass, with 18.1% reporting "Very Often" and 20.2% "Often." Similarly, a notable percentage actively reduce single-use plastics, with 20.2% "Very Often" and 21.5% "Often." Regarding conserving water by limiting usage, 21.0% engage in this practice "Sometimes," while 19.2% do so "Often." Energy-efficient appliances are used "Very Often" by 14.0% of the respondents and "Often" by 16.8%, indicating a moderate commitment to this practice. Tree planting and reforestation efforts see a high level of involvement, with 22.0% participating "Very Often" and 20.2% "Often." Composting food waste is also common, with 23.3% doing it "Sometimes" and 16.8% "Very Often." Avoiding products with excessive packaging is another area where 17.3% engage "Very Often" and 19.2% "Often." Public transport or biking is adopted by 22.4% "Sometimes" and 17.4% "Often." Finally, participation in environmental clean-up events is reported by 21.0% "Sometimes" and 18.5% "Often." All in all, as previously suggested by the findings, many student-teachers practice several environmental activities with varying frequency levels. However, there is still very good participation, especially in recycling, tree planting, and public transport activities. However, again, water conservation and composting food waste show a less rigorous involvement, pointing towards some practices that could benefit from higher participation and awareness.

Relationship between Environmental Awareness and Practices

The results of the correlational data analysis show the rather complex interconnection of factors affecting sustainable behaviours. Concern for the environment is specifically related highly to environmental workshops, as displayed by the correlation coefficient of 0.40. This points to the idea that enhanced consciousness amongst the stakeholders will likely create a positive relationship with the frequency of practice of workshops towards sustainability. Moreover, awareness has a moderate positive relationship of 0.35 with knowledge that leads to practice, which suggests that as awareness increases, there is a tendency for enhanced implementation of knowledge to practice sustainable initiatives.

Table 4: Relationship between Environmental Awareness and Practices

Statement	Correlation to Awareness	Correlation to Knowledge	Correlation to Education	Correlation to Curriculum	Correlation to Support	Correlation to Workshops	Correlation to Policies
Awareness influences sustainable practices	1.00	0.35	0.30	0.25	0.20	0.40	0.22
Knowledge leads to effective practices	0.35	1.00	0.45	0.32	0.40	0.28	0.37
Environmental education enhances behaviours	0.30	0.45	1.00	0.35	0.33	0.29	0.40
Environmental awareness in the curriculum	0.25	0.32	0.35	1.00	0.27	0.30	0.30
Support from the administration is crucial	0.20	0.40	0.33	0.27	1.00	0.28	0.25
Environmental workshops improve practices	0.40	0.28	0.29	0.30	0.28	1.00	0.33
College policies promote sustainable practices	0.22	0.37	0.40	0.30	0.25	0.33	1.00

Source: Field Survey (2024)

Knowledge has a closer association with environmental education, with a coefficient of 0.45, and support from administrators, with a coefficient of 0.40. Enhancing environmental education suggests that greater understanding usually leads to better environmental actions and approaches. Equally important is support from the administration, and the fact that it correlates with the knowledge they claim to have about sustainability shows the importance of organisational support in enacting sustainable practices. Environmental education, which increases relevant behaviours, correlates moderately positively with knowledge ($r = 0.45$) and college policies ($r = 0.40$). This strong relationship with knowledge indicates that educational programs are significant in implementing the best environmental practices. Furthermore, the link between environmental education and college policies means that policies in colleges are chief in supporting the gains affiliated with environmental education.

The significance of environmental awareness in the curriculum has a slightly positive relationship with knowledge (0.32) and environmental education (0.35). This association underscores the need to incorporate environmental consciousness into educational processes to promote students' awareness and practical implementation of sustainability concepts. The contribution from administration, which should be significant, has low correlation scores with most items, proving that while administrative support is vital, its effectiveness is not as high as other factors. However, it continues to play an essential role in enhancing sustainable practices, as evidenced by the moderate positive correlation with knowledge (Mean = 0.40). Sustainability workshops developed for environmental enhancements are significantly associated with awareness (coefficient of 0.40) and college policy developments (coefficient of 0.33). This indicates that awareness created through the workshops on sustainability is taken practical next steps and that policies add value to the process.

Finally, college policies concerning sustainable practices which are in place have a moderate relationship with environmental education, though not with the other variables (0.40). This suggests that the concern with policies is that, although they can offer direction to sustainability undertakings, their relevance is tied to the level of environmental outreach. The results affirm that awareness, knowledge, education, support, and policies are intertwined in promoting sustainable practices. All of them work simultaneously yet in their unique ways towards environmental sustainability and can help explain relationships between them to improve the effectiveness of question-and-answer.

V. DISCUSSIONS

Demographic Characteristics of Respondents

An analysis of the respondents' demographic details regarding environmental awareness in the present study demonstrates a diverse pool of students. Many participants are postgraduate students in their last semester (Level 400), meaning that the sample comprises relatively higher-level learners. Social Learning Theory suggests that learning is not confined to formal instruction but also occurs through social interactions and exposure to various role models within an educational setting (Schunk & DiBenedetto, 2020). This distribution indicates that the sample comprises a large number of students who can have a more elaborate outlook on

environmental problems because of their increase in grade and profession (Palmer, 1998). On the other hand, the respondents' distribution does provide a relatively wide spectrum of the student body across the class years, thus capturing a vast number of experiences and perceptions towards environmental awareness and practices within the university.

Regarding gender distribution, a slightly higher percentage of respondents are male than female. This gender disparity is relatively small but significant because it may have skewed the study's results because there may be differences in environmental perception and behaviour between the genders (Zelezny et al., 2000). Past studies have focused on examining differences in gender and environmental concern and behaviour, with some earlier studies indicating that female students express higher degrees of environmental concern (Gifford & Nilsson, 2014). However, the findings in the study reveal that males and females are fairly represented, offering equal perceptions of environmental problems. Regarding the age distribution, the highest percentage is in the 20-24 age group, which is considered very sensitive to modern issues, including environmental issues. This age group is generally in a transition phase and is more conscious and interested in society and the environment (Gollnisch et al., 2022). The low representation of the respondents whose age is 30 years and above means that the findings are likely to reflect the views of the youth, who are likely to have a different perception of environmental issues compared to other adults ages.

Regarding the reception of formal environmental education, slightly more than half of the participants reported having taken formal environmental courses, with the rest reporting that they had not, which means that the participants had equal exposure to environmental knowledge. This balance facilitates the synthesis and analysis of literature on the effects of formal education on environmental literacy and behaviour. Studies have shown that issues arising from structured environmental education could improve the awareness of and participation in pro-environmentalism (Hungerford & Volk, 1990). The fact that respondents have different levels of education makes it possible to assess the effects of such education on environmental concerns and actions.

Level of Environmental Awareness

However, the demographic analysis and respondents' environmental awareness of findings show a moderate level of awareness towards different aspects of the environment. The most/concerning environmental issues received the highest mean score, revealing a fairly high level of concern for future / environmental conservation strategies (Leeming et al., 1995). This should indicate that respondents embrace change and realise the need for organisations to adopt effective, environmentally sustainable practices. According to the Social Learning theory, individuals learn through observing, imitating, and modelling the behaviours of others. In the context of environmental awareness, student-teachers may have been exposed to sustainability initiatives, discussions, and environmental practices observed in their social and educational settings. This exposure might explain their relatively high concern for environmental issues related to the future, as these topics are likely emphasised within the college's curriculum, peer interactions, and institutional policies. Their behaviour aligns with Bandura's concepts of attention and retention, where attention to environmental issues leads to retaining information about conservation strategies. Nonetheless, the comparatively lower mean scores the respondents obtained for general knowledge about the environment signifies that their basic knowledge about environmental concerns, problems or issues is still deficient or minimal.

Differences in standard deviations, as highlighted, also show differences in perceived environmental knowledge and its sufficiency for decision-making. The lower variance in perception concerning the effects of human activities suggests that the respondents have a more apparent appreciation of how human actions affect environmental responses (Jorgensen & Sutherland, 2013). However, the more significant standard deviation in the perceived adequacy of knowledge to make an informed decision indicates that confident respondents may feel less empowered to apply their environmental knowledge appropriately. These discrepancies underscore the importance of continuing educational efforts to improve the general understanding of the environment and specific abilities to make better decisions.

Sustainable Environmental Practices

Consequently, the concerns from the survey about sustainable environmental practices reveal the degree of active involvement of the respondents with numerous ecological practices. They include recycling, cutting down the use of single-use products, and tree planting and other related conservation activities, which renders the global population active participants in sustainable initiatives (Gifford & Nilsson, 2014). The fact that the respondents are often involved in tree planting and recycling means that these actions fit seamlessly into their day-to-day lives and are seen as beneficial to the environment. Motivation can either be extrinsic, as Bandura has pointed out or from the intrinsic value of what is being done. This implies that student-teachers maximise sustainable actions if such behaviours are supported by college policies and encouraged by fellow student-teachers (Bandura, 1977; Sterling, 2016). Using water and composting food waste are distinctive to a

greater extent in terms of people's activity. These responses indicate that though respondents value such practices, their moderate frequency demonstrates that there could be options or obstacles to their frequent use (Gollnisch et al., 2022). Some barriers to adaptations of sustainable practices highlighted in past research literature include the availability of resources, knowledge, and level of convenience. Eliminating these barriers may improve the feasibility and sustainment of respondent environmental practices.

Relationship between Environmental Awareness and Practices

The correlation analysis allows for a better understanding of the relationship between people's environmental awareness and the implementation of sustainable initiatives. Awareness and participation in environmental workshops Having tested the hypotheses for Awareness, participation demonstrated a positive correlation. As Awareness increases, people are likely to participate more in activities promoting sustainable environments (Palmer, 1998). This shows how the organisation benefits from the workshops as a way of going from awareness to action and underlining the importance of such educational measures in promoting the culture of sustainability. This idea can be reasoned with Social Learning Theory by Bandura (1977), which postulates that humans acquire behaviour through observation, imitation, modelling, and reinforcement in a social environment. Courses allow the participants to learn about sustainability practice by observing how others carry out the practice, whether by the course facilitators, teachers or fellow students. Thus, while watching those behaviours, learners gain awareness of replicability and action for sustainability. Included in the theory are attention, retention, reproduction, and motivation; the idea is that during the workshops, participants are guided to notice new sustainable behaviours, remember these behaviours, and apply them in their own lives.

Awareness of environmental problems with environmental education and administrative support are highly interrelated. This supports other literature highlighting the need for more comprehensive environmental education and overall institutionalisation of sustainability concepts (Hungerford & Volk, 1990; Leeming et al., 1995). Such a high correlation between environmental education and environmental knowledge supports the early belief that a higher level of education will lead to better environmental actions. Social Learning Theory helps explain why greater awareness leads to more participation in environmental initiatives: appreciation of practice translated into action is discernible among the participants, where social interactions and examples learnt in workshops inform the transition from awareness to action. Environmental consciousness in material and college procedures also contributes to the creation of sustainability. The positive relationship between environmental awareness and knowledge indicates the need to incorporate environmental issues in lessons (Jorgensen & Sutherland, 2013). Likewise, the moderate positive correlation between college policies and environmental education proves that institutional support is crucial in promoting sustainability. Such policies and educational initiatives must fit within, contribute to larger sustainability goals, and tackle new environmental issues. This concept can be reinforced using Social Learning Theory (Bandura, 1977), which highlights that learning occurs through observation, imitation, and modelling in a social context. Environmental consciousness and sustainability practices are likely reinforced within the college setting through social interactions, campus policies, and structured educational content. Social Learning Theory emphasises that individuals, in this case, students, learn from formal lessons and observe faculty, staff, and peers' sustainable behaviours. When environmental issues are integrated into lessons and demonstrated through college procedures, students can internalise these behaviours through attention, retention, and reproduction, which are critical components of the theory.

The research showed that the relationships between demographic factors, environmental concern, ecological behaviour, and organisational commitment are multilayered. They all collectively provide enhanced insight into how the respondents perceive and deal with environmental problems. From this review, it is possible to make recommendations for increasing sustainability, stressing the necessity for a specific change in terms of environmental awareness, political backing, and involvement in sustainable development.

VI. CONCLUSIONS AND RECOMMENDATIONS

In conclusion, this study explored Social Studies student-teachers' environmental awareness and sustainable practices at Abetifi Presbyterian College of Education. The findings revealed moderate environmental awareness among participants, though there is a notable gap in translating this awareness into practical sustainability actions. As highlighted in the study results, the gap between awareness and action can be explained by the reproduction process of Social Learning Theory, where student-teachers may understand sustainability but lack opportunities or resources to practice these behaviours. To fully prepare future educators for promoting sustainable behaviours, there is a need for a more robust integration of environmental education into the curriculum, supplemented by practical experiences that bridge theoretical knowledge with real-world application. The research underscores the importance of equipping student-teachers with the skills and knowledge necessary to address local environmental challenges effectively. It is recommended that the college's administration enhance the environmental education curriculum by incorporating more interactive and practical

sustainability modules. Collaboration with local environmental NGOs, such as the Environmental Protection Agency (EPA) of the Eastern Region, can provide practical workshops and real-world experience. The Ministry of Education should also support these initiatives by integrating environmental education into national teacher training standards to ensure that future educators are adequately prepared to promote sustainable practices. The Ministry of Education should integrate comprehensive environmental education into national teacher training standards, ensuring that future educators can promote sustainability in schools and their communities. Finally, partnerships with local organisations such as the Environmental Protection Agency (EPA) and environmental NGOs should be established to provide student teachers with hands-on workshops and practical exposure to sustainability efforts.

Conflict of Interest

The authors declare that there is no conflict of interest in this study. The research was conducted independently without any external pressures that could have influenced the results or analysis.

Data Availability

The data supporting this study's findings are available upon reasonable request from the corresponding author. Due to privacy restrictions, data may not be freely shared but will be available to legitimate researchers for academic purposes.

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