

THE RELATIONSHIP BETWEEN ENVIRONMENTAL LITERACY AND GREEN ENTREPRENEURIAL INTENTIONS AMONG UNDERGRADUATE STUDENTS IN FEDERAL COLLEGE OF EDUCATION, EHA-AMUFU, ENUGU STATE, NIGERIA

¹Abdulkadir Umar, ²Zango Musa Sheriff Urama & ³Orji Amelia Ngozika

¹*Department of Business Education*

Sa'adatu Rimi College of Education, Kumbotso, Kano State, Nigeria

Email. abdulkadir4rl@gmail.com

08029805463

²*Department of Business Education*

Federal College of Education, Eha-Amufu, Enugu State, Nigeria

Email. Musasherry@yahoo.com

08064542662

³*Department of Business Education*

Federal College of Education, Eha-Amufu, Enugu State, Nigeria

Email. ngozikaugwuorji@.com

Abstract

This study examined the relationship between environmental literacy and green entrepreneurial intentions among undergraduate students of the Federal College of Education, Eha-Amufu, Enugu State, Nigeria. A descriptive survey research design was adopted. Data were collected from 74 undergraduate students using the Environmental Literacy and Green Entrepreneurial Intentions Scale (ELGEIS). The instrument was validated by experts, while its reliability was established using Cronbach's Alpha, yielding a coefficient of 0.82. Data were analysed using IBM SPSS Statistics, employing mean and standard deviation to answer research questions and Pearson Product Moment Correlation to test relationships. Findings revealed that environmental literacy has positive relationships with green entrepreneurial intentions across its three dimensions. Affective disposition showed a strong positive relationship ($r = 0.814$), cognitive knowledge demonstrated a moderate positive relationship ($r = 0.652$), while skill-based literacy indicated a low to moderate positive relationship ($r = 0.388$). The results suggest that although students demonstrate strong environmental values and adequate theoretical knowledge, their practical ecological skills remain comparatively underdeveloped. The study concluded that promoting green entrepreneurship among undergraduates requires a stronger emphasis on practical skill-based environmental training within the curriculum.

Keywords: green entrepreneurship, environmental literacy, sustainable development, vocational education, eha-amufu, eco-innovation.

Introduction

The 21st-century shift toward a circular economic model has fundamentally redefined the benchmarks for success in both the industrial and academic sectors. In alignment with the United Nations Sustainable Development Goals (SDGs), specifically those focusing on sustainable industry (SDG 9) and ethical consumption (SDG 12), there is a global urgency to decouple economic expansion from environmental degradation. Central to this paradigm shift is green entrepreneurship, which involves identifying and scaling inventive business models that offer ecological protection while maintaining commercial viability (Gast et al., 2017). By optimising the use of natural resources, modern enterprises can harmonise technical innovation with environmental preservation, securing a durable low-carbon economic future (Ogunlela, 2018; Ovharhe & Okolo, 2022).

As a strategic framework, green entrepreneurship blends eco-innovation with a profound sense of environmental responsibility to enhance organisational resilience (Hendratmoko, 2023). Often categorised as a subset of social enterprise, frequently referred to as "biosphere venturing," this model emphasises the mutual prosperity of human societies and the natural ecosystem (Tien, 2020). Moving past conventional profit-only motives, eco-conscious ventures contribute significant global value by alleviating climate impact and slowing the exhaustion of natural capital. These creative methodologies allow organisations to cultivate a Green Competitive Advantage (GCA), enabling them to navigate global challenges like environmental toxicity and habitat loss, while remaining profitable (Hendratmoko, 2023; Ogunlela, 2018).

Within Nigeria, the necessity for ecologically grounded business strategies is heightened by the intersection of high youth

unemployment and environmental vulnerability. Despite this, the Nigerian business education landscape has traditionally emphasised fiscal returns at the expense of ecological health, leading to a noticeable scarcity of "green-collar" professionals (Adewale & Amusan, 2020). This competency gap is especially evident in pedagogical centres like the Federal College of Education (FCE), Eha-Amufu, where the student body represents a vital demographic for social and educational reform. Transforming these students from passive job-hunters into active eco-entrepreneurs requires a comprehensive immersion in environmental literacy.

Environmental literacy is a multidimensional educational pillar designed to cultivate citizens who possess both the understanding and the commitment to address planetary emergencies (Ram et al., 2022). It encompasses the ability to diagnose the status of ecological systems and the proactiveness to implement protective or restorative measures (Hasnul & Wasiuzzaman, 2024). Although such literacy offers the cognitive tools to repurpose waste as a commercial asset, intellectual awareness alone frequently fails to catalyse behavioural change, a disconnect identified as "action paralysis" (Mahinay et al., 2023). Indeed, while many Nigerian undergraduates possess a basic understanding of climate change, they often lack the technical and skill-based literacy required to design sustainable market solutions (Lawal, 2018).

Currently, there is a lack of empirical clarity regarding how environmental literacy directly shapes the green entrepreneurial aspirations of students in Nigeria's vocational and technical training sectors. The prevailing literature focuses heavily on broad environmental consciousness, leaving a void in research concerning the transition from literacy to the actual intent to establish sustainable enterprises,

particularly within teacher-training programmes. Addressing this oversight, the present study investigates the nexus between environmental literacy and green entrepreneurial intentions among the student population at the Federal College of Education, Eha-Amufu, Enugu State, Nigeria.

Statement of the Problem

Despite the global shift toward sustainable development and green entrepreneurship, many Nigerian teacher education institutions still rely heavily on traditional instructional approaches that provide limited opportunities for the development of practical environmental and entrepreneurial competencies. In institutions such as the Federal College of Education, Eha-Amufu, students may possess basic knowledge of environmental issues, yet this awareness does not always translate into the intention to establish environmentally sustainable business ventures. This situation raises concern because graduates may lack the practical skills and entrepreneurial orientation required to contribute meaningfully to the emerging green economy. The consequence is a growing mismatch between educational outcomes and the increasing demand for green-collar competencies needed to address environmental challenges and youth unemployment in Nigeria. Furthermore, although environmental literacy is considered an important factor in promoting sustainable behaviour and innovation, little empirical attention has been given to how its various dimensions such as cognitive knowledge, affective disposition, and skill-based literacy influence green entrepreneurial intentions among undergraduate students, particularly in teacher education institutions in Enugu State. The absence of sufficient empirical evidence in this area creates uncertainty regarding the specific aspects of environmental literacy that can effectively

encourage students to engage in green entrepreneurship. Therefore, this study seeks to examine the relationship between environmental literacy and green entrepreneurial intentions among undergraduate students in the Federal College of Education, Eha-Amufu, Enugu State, Nigeria, with a view to providing evidence-based recommendations for curriculum improvement and sustainable workforce development.

Purpose of the Study

The main purpose of this study is to examine the relationship between environmental literacy and green entrepreneurial intentions among undergraduate students at the Federal College of Education, Eha-Amufu, Enugu State, Nigeria. Specifically, the study seeks to:

1. determine the extent to which Cognitive Environmental Knowledge influences the Green Entrepreneurial Intentions of undergraduate students at FCE Eha-Amufu
2. determine the extent to which Affective Disposition influences the Green Entrepreneurial Intentions of undergraduate students.
3. determine the extent to which Environmental Skill-based Literacy influences the Green Entrepreneurial Intentions of undergraduate students.

Research Questions

The following research questions guided the study:

1. To what extent does Cognitive Environmental Knowledge influence the Green Entrepreneurial Intentions of undergraduate students at FCE Eha-Amufu?
2. To what extent does Affective Disposition and the Green Entrepreneurial Intentions of undergraduate students align?

3. To what extent does Environmental Skill-Based Literacy influence the Green Entrepreneurial Intentions of undergraduate students?

Research Hypotheses

The following null hypotheses were tested at the 0.05 level of significance:

1. There is no significant relationship between cognitive environmental knowledge and undergraduate students' green entrepreneurial intentions.
2. There is no significant relationship between affective disposition and undergraduate students' green entrepreneurial intentions.
3. There is no significant relationship between environmental skill-based literacy and undergraduate students' green entrepreneurial intentions.

Methodology

This study adopted a descriptive survey research design to examine the relationships between environmental literacy and green entrepreneurial intentions among undergraduate students. The population of the study comprised all undergraduate students of the Federal College of Education (FCE), Eha-Amufu, Enugu State. A sample of 74 undergraduate students was selected using proportionate stratified random sampling to ensure fair representation of departments and academic levels.

Data were collected using a researcher-developed questionnaire titled *Environmental Literacy and Green Entrepreneurial Intentions Scale* (ELGEIS). The instrument consisted of two

sections. Section A elicited demographic information from the respondents, while Section B contained items on the dimensions of environmental literacy, namely cognitive, affective, behavioural, and skill-based literacy, as well as green entrepreneurial intentions. The items in Section B were structured on a 4-point Likert scale.

The instrument was subjected to face validation by three experts from the Departments of Business Education and Environmental Education. To establish the reliability of the instrument, a pilot study was conducted using 20 Business Education undergraduate students at Sa'adatu Rimi College of Education (SRCOE), Kano, who possessed characteristics similar to those of the target population. Data obtained from the pilot study were analysed using Cronbach's Alpha, which yielded a reliability coefficient of 0.82, indicating high internal consistency.

The researchers, assisted by two research assistants, administered the questionnaire during the 2025/2026 academic session. A total of 74 completed copies of the questionnaire were retrieved and found suitable for analysis.

The data collected were analysed using IBM SPSS Statistics. Pearson Product Moment Correlation (PPMC) was used to test the hypotheses at a 0.05 level of significance. The decision rule was that the null hypothesis would be rejected if the p-value was less than 0.05 ($p < .05$), indicating a significant relationship between the variables. Conversely, the null hypothesis would be retained if the p-value was greater than or equal to 0.05 ($p \geq .05$), indicating no significant relationship between the variables.

Results

Research Question 1: To what extent does Cognitive Environmental Knowledge influence the Green Entrepreneurial Intentions of undergraduate students at FCE Eha-Amufu?

Table 1: Mean rating and standard deviation of respondents on the extent of Cognitive Environmental Knowledge Influence Green Entrepreneurial Intentions of undergraduate students

S/N	Items	<i>M</i>	<i>SD</i>	Decision
1	Awareness of environmental challenges in Enugu/Nigeria	3.42	0.65	Agree
2	Knowledge of climate change driving eco-solutions	3.10	0.78	Agree
3	Understanding "circular economy" concepts	2.65	0.89	Agree
4	Identifying "green" gaps in the market	2.88	0.72	Agree
5	Environmental laws encouraging legal compliance	3.05	0.81	Agree
6	Renewable energy knowledge inspiring ideas	2.94	0.85	Agree
7	Academic training at FCE Eha-Amufu as a base	3.20	0.68	Agree
8	Awareness of waste-to-wealth conversion	2.76	0.92	Agree
9	Recognising the financial benefits of green business	3.31	0.59	Agree
10	Conservation knowledge influencing self-employment	3.12	0.74	Agree
	Grand Mean	3.04	0.76	High

The empirical evidence presented in Table 1 suggests a consensus among participants that Cognitive Environmental Knowledge positively correlates with Green Entrepreneurial Intentions. Specifically, the data highlights that students possess a robust awareness of the ecological hurdles facing Nigeria and a clear recognition of the financial potential inherent in sustainable business models, evidenced by mean ratings of 3.42 and 3.31, respectively. Furthermore, respondents acknowledged that their academic experiences at FCE Eha-Amufu serve as a foundational pillar for these entrepreneurial aspirations ($\bar{x} = 3.20$). With a collective Grand Mean of 3.04, it is manifest that a solid theoretical grasp of environmental concepts acts as a vital precursor for students contemplating the launch of eco-conscious ventures.

Research Question 2: To what extent does Affective Disposition and the Green Entrepreneurial Intentions of undergraduate students align?

Table 2: Mean rating and standard deviation of respondents on the extent of Affective Disposition Influence on the Green Entrepreneurial Intentions of undergraduate students

S/N	Items	<i>M</i>	<i>SD</i>	Decision
1	Personal responsibility for the environment	3.55	0.52	Agree
2	Discomfort with environment-harming businesses	3.48	0.61	Agree
3	Prioritising the planet over high profits	2.58	0.95	Agree
4	Viewing green entrepreneurship as prestigious	3.15	0.70	Agree
5	Motivation to solve Eha-Amufu's eco-problems	3.22	0.77	Agree
6	Love for nature driving green practices	3.40	0.63	Agree
7	Worry about the future pushing sustainable planning	3.08	0.82	Agree
8	Confidence in the "Green Revolution"	2.95	0.88	Agree
9	Sustainability as a core business principle	3.27	0.66	Agree
10	Enthusiasm for "Green Entrepreneur" identity	3.18	0.79	Agree
	Grand Mean	3.19	0.73	High

Table 2 demonstrates that Affective Disposition representing the attitudes and ethical values of the students exhibits the most potent connection to Green Entrepreneurial Intentions among the studied dimensions. The participants expressed a profound sense of individual accountability toward the environment ($\{x\} = 3.55$) and reported significant moral friction regarding business practices that jeopardise ecological health ($\{x\} = 3.48$). Although there was a slight decrease in enthusiasm when asked to prioritise environmental preservation over maximised financial gain ($\{x\} = 2.58$), the overall sentiment remained positive. The substantial grand mean of 3.19 implies that emotional resonance and ethical commitment are the primary engines driving the students' desire to embrace a "Green Entrepreneur" identity.

Research Question 3: To what extent does Environmental Skill-Based Literacy influence the Green Entrepreneurial Intentions of undergraduate students?

Table 3: Mean rating and standard deviation of respondents on the extent of Environmental Skill-Based Literacy Influence on the Green Entrepreneurial Intentions of undergraduate students

S/N	Items	<i>M</i>	<i>SD</i>	Decision
1	Skills to design products from recycled materials	2.42	1.02	Disagree
2	Conducting environmental impact assessments	2.15	0.98	Disagree
3	Using resource-efficient technology	2.60	0.88	Agree
4	Skills to convince investors/customers	2.75	0.81	Agree
5	Implementing waste-reduction strategies	2.82	0.75	Agree
6	Training on organic/sustainable raw materials	2.38	0.91	Disagree
7	Sharpness in identifying green opportunities	2.68	0.84	Agree
8	Marketing to eco-conscious consumers	2.55	0.89	Agree
9	Technical know-how to minimise carbon footprint	2.22	0.96	Disagree
10	Practical skills as a competitive advantage	2.70	0.87	Agree
	Grand Mean	2.53	0.89	Moderate

The results in Table 3 reveal a more heterogeneous perspective regarding Skill-Based Literacy. While undergraduates agreed that they possess the capacity to utilise resource-efficient tools ($\{x\} = 2.60$) and execute basic waste-management protocols ($\{x\} = 2.82$), they indicated a notable deficiency in specialised technical areas. For instance, respondents felt unequipped to engineer new products from reclaimed materials ($\{x\} = 2.42$) or perform formal environmental impact assessments ($\{x\} = 2.15$). Additionally, a lack of technical expertise concerning the reduction of carbon footprints was evident ($\{x\} = 2.22$). A moderate grand mean of 2.53 suggests that while the student body is both informed and ethically motivated, a critical gap persists in the practical technical competencies required for effective green innovation.

Test of Hypotheses

Hypothesis 1: There is no significant relationship between Cognitive Environmental Knowledge and Students' Green Entrepreneurial Intentions.

Table 4: Statistical Analysis of Cognitive Environmental Knowledge and Green Entrepreneurial Intentions

Variable		Cognitive Environmental Knowledge	Green Entrepreneurial Intentions
Cognitive Environmental Knowledge	Pearson Correlation	1	.652**
	Sig. (2-tailed)		.000
	N	74	74
Green Entrepreneurial Intentions	Pearson Correlation	.652**	1
	Sig. (2-tailed)	.000	
	N	74	74

*. Correlation is significant at the 0.01 level (2-tailed).

The results presented in Table 4 revealed a significant positive relationship between Cognitive Environmental Knowledge and Green Entrepreneurial Intentions among undergraduate students at FCE Eha-Amufu ($r = .652$, $p < .001$). Since the p-value is less than the .05 level of significance, the null hypothesis was rejected. This finding indicates that increased cognitive environmental knowledge is associated with higher green entrepreneurial intentions among the students.

Hypothesis 2: Affective Disposition does not significantly relate to the Green Entrepreneurial Intentions of undergraduates.

Table 5: Statistical Analysis of Affective Disposition and Green Entrepreneurial Intentions

Variable		Affective Disposition	Green Entrepreneurial Intentions
Affective Disposition	Pearson Correlation	1	.814**
	Sig. (2-tailed)		.000
	N	74	74
Green Entrepreneurial Intentions	Pearson Correlation	.814**	1
	Sig. (2-tailed)	.000	
	N	74	74

*. Correlation is significant at the 0.01 level (2-tailed).

Table 5 showed a very strong positive relationship between Affective Disposition and Green Entrepreneurial Intentions among undergraduate students ($r = .814$, $p < .001$). Because the p-value is less than .05, the null hypothesis was rejected. The result suggests that students' environmental values, attitudes, and emotional commitment are significantly associated with their intentions to engage in green entrepreneurship.

Hypothesis 3: Environmental Skill-Based Literacy has no significant relationship with students' Green Entrepreneurial Intentions.

Table 6: Statistical Analysis of Environmental Skill-Based Literacy and Green Entrepreneurial Intentions

Variable		Environmental Skill-Based Literacy	Green Entrepreneurial Intentions
Environmental Skill-Based Literacy	Pearson Correlation	1	.388*
	Sig. (2-tailed)		.024
	N	74	74
Green Entrepreneurial Intentions	Pearson Correlation	.388*	1
	Sig. (2-tailed)	.024	
	N	74	74

*. Correlation is significant at the 0.05 level (2-tailed).

The findings in Table 6 indicated a weak positive relationship between Environmental Skill-Based Literacy and Green Entrepreneurial Intentions ($r = .388$, $p = .024$). Since the p-value is less than the .05 level of significance, the null hypothesis was rejected. This implies that practical environmental skills are significantly

associated with green entrepreneurial intentions, although the relationship is weaker compared to cognitive knowledge and affective disposition.

Discussion of Findings

The findings of this study revealed a strong positive relationship between Cognitive

Environmental Knowledge and Green Entrepreneurial Intentions among undergraduate students at FCE Eha-Amufu. This suggests that students with higher levels of environmental knowledge are more likely to demonstrate interest in green entrepreneurship. The finding is consistent with the study of Gast et al., who reported that environmental innovation and entrepreneurial opportunities are closely associated with knowledge and awareness of environmental issues. The high level of awareness of environmental challenges among the students indicates that exposure to environmental education may enhance their understanding of sustainable business opportunities.

The study further revealed that Affective Disposition had the strongest positive relationship with Green Entrepreneurial Intentions. This finding implies that students' environmental values, attitudes, and sense of personal responsibility are strongly associated with their intention to engage in environmentally sustainable businesses. The finding supports the position of Ram et al., who observed that environmental concern and self-efficacy are important factors in promoting environmental commitment and action. The result also agrees with the submission of Ovharhe and Okolo that ethical values and environmental responsibility are essential for achieving sustainable development goals.

Furthermore, the findings showed a weaker but significant positive relationship between Environmental Skill-Based Literacy and Green Entrepreneurial Intentions. Although the students demonstrated positive environmental attitudes and knowledge, the relatively lower mean scores in technical competencies suggest deficiencies in practical environmental skills such as recycling innovation and environmental impact assessment. This finding is similar to the

observation of Mahinay et al., who noted that individuals may possess environmental awareness without adequate practical competencies for implementation. The result also supports the argument of Adewale and Amusan that educational institutions need to strengthen practical green skills required for sustainable development and low-carbon economic activities.

Overall, the findings suggest that while environmental knowledge and attitudes among undergraduate students are relatively strong, greater emphasis should be placed on developing practical environmental and entrepreneurial skills that can support effective participation in green entrepreneurship.

Conclusion

The study concluded that environmental literacy is significantly associated with green entrepreneurial intentions among undergraduate students at the Federal College of Education, Eha-Amufu. The findings revealed that cognitive environmental knowledge and affective disposition demonstrated strong positive relationships with students' green entrepreneurial intentions, while environmental skill-based literacy showed a weaker but significant relationship. Although the students exhibited positive environmental attitudes and adequate theoretical understanding of environmental issues, deficiencies were observed in their practical environmental and entrepreneurial skills. The study therefore suggests that educational institutions should place greater emphasis on practical skill development and experiential learning strategies that can enhance students' capacity to participate effectively in green entrepreneurship and sustainable development initiatives.

Recommendations

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

1. The management of the Federal College of Education (FCE), Eha-Amufu should integrate more practical and skill-based environmental entrepreneurship modules into Vocational and Business Education programmes, with emphasis on recycling, sustainable product development, and waste management practices.
2. Lecturers and educators should continue to promote positive environmental attitudes and ethical values among students through sustainability awareness programmes and environmentally responsible campus activities, since affective disposition showed the strongest relationship with green entrepreneurial intentions.
4. The institution should establish environmental innovation and entrepreneurship centres where students can receive practical training in sustainable technologies, recycling techniques, and environmental assessment practices to improve their technical competencies.
5. The Tertiary Education Trust Fund (TETFund) and other educational regulatory agencies should provide financial support for research, training facilities, and instructional resources aimed at developing practical environmental and entrepreneurial skills in Colleges of Education in Nigeria.

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