PROMOTING PROFESSIONAL ETHICS FOR ENHANCING GREEN ENTREPRENEURSHIP EDUCATION IN PUBLIC UNIVERSITIES IN RIVERS STATE, NIGERIA.

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Abstract

This study examined professional ethics as a strategy for enhancing green entrepreneurship education in public universities in Rivers State, Nigeria. Specifically, it investigated the extent to which ethics is integrated into green entrepreneurship education to enhance students' ethical consciousness, sustainability mindset, environmentally responsible ventures, and green entrepreneurial intentions. The study adopted a descriptive survey design, targeting 462 respondents comprising 48 lecturers and 414 students from the three public universities in Rivers State. Data were collected using a structured questionnaire and analyzed using mean, standard deviation, and independent samples t-test to test differences between lecturers' and students' perceptions. Findings revealed that professional ethics is moderately to highly integrate into green entrepreneurship education, contributing positively to students' ethical consciousness, sustainability mindset, environmentally responsible ventures, and green entrepreneurial intentions. However, lecturers consistently rated integration higher than students, highlighting a perceptual gap in practical application. The study concluded that while ethics is embedded in green entrepreneurship education, there is a need for enhanced practical reinforcement, ethical assessment, and sustainability-focused teaching. Recommendations include strengthening hands-on ethical instruction, bridging perception gaps, and institutionalizing ethics integration within entrepreneurship programs.

Introduction

Over the past few decades, global attention has increasingly centered on sustainable development in response to environmental challenges such as climate change, pollution, and resource depletion. Green entrepreneurship integrates environmental sustainability into business models, products, and processes and has emerged as a vital component of achieving sustainable development goals (SDGs). In the Nigerian context, green entrepreneurship education has been identified as one of the key tools for equipping students with the knowledge, skills, values, and attitudes needed to engage in ventures that do not harm, and ideally benefit, the environment (Okonkwo, 2022).

In Nigeria, universities have been increasingly mandated to include entrepreneurship education within their curricula. These initiatives are intended to reduce youth unemployment, encourage self-reliance, and stimulate economic growth (Ojeifo, 2023). However, much of the focus has been on conventional entrepreneurship education. That is, on business skills, innovation, and opportunity recognition, with relatively less systematic attention paid to environmental dimensions and to ethical considerations (Nwaodume & Udeh, 2023).

Parallel to the rise of green entrepreneurship is an increasing concern about ethics in business and education. Professional ethics refers to the standards, values, and behaviors that define what is right or acceptable in a professional context: honesty, transparency, responsibility, fairness, respect for laws and regulations, and respect for the rights of others. In higher education institutions (including public universities), there is growing recognition that ethics should not only be taught directly (e.g., business ethics courses) but also embedded in educational practices, curricula, and institutional culture, especially where graduates are expected to lead socially and environmentally responsible enterprises (Green, 2021).

Studies in some universities in Rivers State have examined aspects such as the learning experiences of students, identity construction, teaching strategies, and the extent to which entrepreneurship education has affected career mindsets (Ikpesu & Ekweme, 2021; Wagbara, 2025). For instance, Wagbara (2025) found that dimensions like scalable start-up entrepreneurship, innovation entrepreneurship, and social entrepreneurship have significant correlation with students' capacity, innovative skills, and knowledge building. Similarly, Chinwoke and Ewurum (2023) reported that entrepreneurship education influences career aspirations among agriculture undergraduates in Rivers State, where intrinsic and extrinsic factors affect their willingness to pursue entrepreneurial careers.

Despite these efforts, research indicates gaps in integrating both green entrepreneurship (i.e., entrepreneurship that accounts for ecological and environmental sustainability) and professional ethics into entrepreneurship education in Rivers State. There is limited empirical evidence on how ethics is promoted explicitly within green entrepreneurship curricula, how students perceive ethical components in their green entrepreneurship training, and how the presence (or absence) of professional ethical training influences the effectiveness of green entrepreneurship education in public universities in Rivers State.

Furthermore, while some studies elsewhere in Nigeria have linked green entrepreneurship with green self-efficacy, green opportunity recognition, and university support to students' green entrepreneurial intentions (Eze & Ighodalo, 2022), Rivers State appears under-studied when it comes to the role of professional ethics as a strategic lever in enhancing green entrepreneurship education. Therefore, this study seeks to fill that gap by empirically investigating how promoting professional ethics can be a strategy for enhancing green entrepreneurship education in public universities in Rivers State. The researcher has noted that many young entrepreneurs in the region, though innovative, sometimes engage in practices that disregard honesty, accountability, and sustainability, thereby questioning the effectiveness of current entrepreneurship education in instilling professional ethics.

The aim of this study is to examine the promotion of professional ethics as a strategy for enhancing green entrepreneurship education in public universities in Rivers State, Nigeria. The specific objectives of the study are to:

1. Determine the extent to which professional ethics is integrated into green entrepreneurship education to enhance students' ethical consciousness and sustainability mindset in public universities in Rivers State.

2. Examine the extent to which professional ethics is integrated into green entrepreneurship to improve environmentally responsible ventures among students in public universities in Rivers State.

3. Assess the extent to which professional ethics is integrated into green entrepreneurship contributes to sustainable entrepreneurial practices of students in public universities in Rivers State.

4. Evaluate the extent to which professional ethics is integrated into green entrepreneurship to enhance students' green entrepreneurial intentions and practices in public universities in Rivers State.

The research questions include:

1. To what extent is professional ethics integrated into green entrepreneurship education to enhance students' ethical consciousness and sustainability mindset in public universities?

2. To what extent is professional ethics integrated into green entrepreneurship to improve environmentally responsible ventures among students in public universities?

3. To what extent does the integration of professional ethics into green entrepreneurship contribute to sustainable entrepreneurial practices of students in public universities?

4. To what extent does the integration of professional ethics into green entrepreneurship enhance students' green entrepreneurial intentions and practices in public universities?

Literature Review

Professional ethics refers to the principles, standards, and moral codes that govern the conduct of individuals within a profession. It emphasizes values such as honesty, accountability, integrity, respect, and responsibility in carrying out professional duties (Green, 2021). In relation to entrepreneurship education, professional ethics has been found to foster transparency and responsibility in business decision-making (Nwaodume & Udeh, 2023). For instance, entrepreneurs who internalize professional ethics are more likely to engage in fair competition, avoid fraudulent practices, and pursue environmentally sustainable ventures.

Green entrepreneurship education refers to the teaching and learning processes that prepare students to create and manage businesses with a strong commitment to environmental sustainability. It emphasizes the integration of ecological responsibility, renewable resource use, and waste reduction into business models (Okonkwo, 2022). In universities, green entrepreneurship education equips students not only with technical entrepreneurial skills but also with the knowledge and attitudes required to balance profit-making with environmental stewardship (Eze & Ighodalo, 2022).

Studies in Nigeria have shown that green entrepreneurship education can significantly influence students' green entrepreneurial intentions (Chinwoke & Ewurum, 2023). Integration of green entrepreneurship into the curricula help equip graduates with the capability for innovations that address pressing ecological issues, such as waste management, recycling and clean energy.

Ethical consciousness refers to an individual's awareness and sensitivity to moral values and ethical principles in decision-making. A sustainability mindset, on the other hand, refers to a way of thinking that incorporates environmental, social, and economic considerations into everyday

decision-making (Green, 2021). Together, ethical consciousness and a sustainability mindset serve as the foundation for nurturing responsible entrepreneurs.

Research has shown that students exposed to ethical training in entrepreneurship education demonstrate greater awareness of how their business decisions impact society and the environment (Ikpesu & Ekweme, 2021). They are more likely to embrace sustainable practices, such as resource conservation and corporate social responsibility, compared to their peers without such training.

Environmentally responsible ventures are business initiatives designed to minimize environmental harm while maximizing social and economic benefits. Such ventures emphasize recycling, renewable energy, pollution control, and sustainable resource use (Okonkwo, 2022). The rise of these ventures globally has been driven by increasing environmental awareness and regulatory frameworks that promote sustainability. In Nigeria, although the concept is gaining momentum, its adoption among young entrepreneurs is still relatively low due to limited exposure in educational curricula (Eze & Ighodalo, 2022).

Empirical evidence shows that when students receive training in environmentally responsible practices, they are more inclined to establish green ventures (Chinwoke & Ewurum, 2023). Those who participate in green entrepreneurship programs are better equipped to transform environmental challenges into innovative business opportunities.

The Theory of Planned Behavior (TPB) provides a useful framework for understanding how professional ethics can shape students' orientation toward green entrepreneurship education. According to the theory, an individual's behavior is determined by behavioral intention, which is in turn influenced by three factors: attitude toward the behavior, subjective norms, and perceived behavioral control. In the context of this study, professional ethics can influence students' attitudes by shaping their value systems around honesty, accountability, and sustainability. Similarly, ethical norms endorsed within the university environment can act as subjective norms, exerting social pressure on students to behave in environmentally responsible ways. Perceived behavioral control, which refers to one's belief in their ability to perform a behavior, can also be enhanced when students receive adequate training in ethical and green entrepreneurship practices.

TPB is particularly relevant to green entrepreneurship because it links ethical awareness with intentionality. Prior studies have demonstrated that students with higher ethical consciousness and sustainability mindset are more likely to develop strong intentions toward green entrepreneurial practices (Eze & Ighodalo, 2022). By anchoring this study on TPB, it becomes possible to explain how promoting professional ethics in entrepreneurship education can strengthen students' attitudes and perceptions, leading to stronger intentions to establish environmentally responsible ventures.

Methodology

The study adopted a descriptive survey research design. This design was considered appropriate because it enabled the researcher to collect, analyze, and interpret data from a large population through a representative sample in order to describe the state of professional ethics integration in green entrepreneurship education and to test differences in perceptions between students and lecturers.

The population of the study comprised all final year undergraduate students enrolled in entrepreneurship education courses and lecturers teaching entrepreneurship related courses across the three public universities in Rivers State. The population stood at 9,665, comprising 9,450 students and 215 lecturers.

A sample of 480 respondents was drawn from the population using stratified random sampling. Stratification was done based on institution type and respondent category (students and lecturers). The Krejcie and Morgan sample size determination table guided the selection of the sample size to ensure fair representation across groups.

Table 1. Allocation of Sample by Institution

Institution	Student Sample	Lecturer Sample	Total Sample
University of Port Harcourt (UNIPORT)	190	20	210
Rivers State University (RSU)	150	15	165
Ignatius Ajuru University of Education (IAUE)	90	15	105
Total	**430**	**50**	**480**

Within each institution, proportionate samples of students were drawn from faculties, while lecturers were randomly selected from entrepreneurship related departments and units.

Data were collected using a structured questionnaire developed by the researcher. The questionnaire consisted of five sections. Section A elicited demographic information, while Sections B-E addressed the research objectives. A 4 point Likert scale ranging from Strongly Agree (4) to Strongly Disagree (1) was used to measure responses.

The instrument was validated by three experts in Entrepreneurship Education, Ethics, and Educational Measurement, who assessed the items for clarity, relevance, and coverage. Their

corrections and suggestions were incorporated before administration. To establish reliability, the instrument was pilot-tested on 30 respondents (students and lecturers) from Niger Delta University, Bayelsa State, which was outside the study area. The internal consistency of the instrument was determined using Cronbach's Alpha, which yielded an overall reliability coefficient of 0.82, confirming that the instrument was reliable for data collection.

The researcher, with the assistance of three trained research assistants, personally administered the questionnaires to respondents across the three universities. Out of 480 questionnaires distributed, 462 were correctly completed and returned, representing a 96.25% return rate. Respondents were assured of anonymity and confidentiality, and informed consent was obtained prior to participation.

Data collected were coded and analyzed using both descriptive and inferential statistics. Descriptive statistics such as mean and standard deviation were used to answer the research questions, while independent samples t-test was employed to test the null hypotheses on the differences between students' and lecturers' responses at 0.05 level of significance.

Results

Research Question 1: To what extent is professional ethics integrated into green entrepreneurship education to enhance students' ethical consciousness and sustainability mindset in public universities in Rivers State?

Table 2: Extent of professional ethics integration to enhance students' ethical consciousness and sustainability mindset

S/N	Items Description	Lecturers n=48		Students n=414		$\bar{x}_{Set}$ n=462	Decision
		$\bar{x}_1$	SD$_1$	$\bar{x}_2$	SD$_2$	$\dfrac{\bar{x}_1 + \bar{x}_2}{2}$	
1	Professional ethics is included in course content for green entrepreneurship	3.42	0.61	3.21	0.72	3.32	High integration
2	Students are regularly assessed on ethical principles in their projects	3.25	0.68	3.05	0.74	3.15	Moderate integration

S/N	Items Description						Decision
3	Ethical decision making is emphasized during practical sessions	3.38	0.64	3.12	0.70	3.25	High integration
4	Sustainability mindset is explicitly taught alongside entrepreneurship skills	3.29	0.69	3.08	0.73	3.19	Moderate integration
5	Case studies and examples include ethical and sustainable business practices	3.35	0.62	3.11	0.71	3.23	High integration
	Set Mean	**3.34**	0.65	**3.11**	0.72	**3.23**	

The results show that professional ethics is moderately to highly integrated into green entrepreneurship education. Teachers' mean ratings ($\bar{x}\_1 = 3.34$, SD = 0.65) were slightly higher than students' ratings ($\bar{x}\_2 = 3.11$, SD = 0.72), indicating that lecturers perceive a stronger integration of ethics than students do. The overall set mean ($\bar{x}\_{Set} = 3.23$) suggests a general moderate to high integration of professional ethics into the curriculum. Items related to course content inclusion and case studies were rated as high integration, while assessment of ethics and explicit teaching of sustainability mindset were rated as moderate integration, pointing to areas for enhanced practical emphasis to strengthen students' ethical consciousness and sustainability mindset.

Research Question 2: To what extent is professional ethics integrated into green entrepreneurship to improve environmentally responsible ventures among students in public universities in Rivers State?

Table 3: Extent of professional ethics integration to improve environmentally responsible ventures

S/N	Items Description	Lecturers n=48		Students n=414		x_{Set} n=462	Decision
		x_1	SD₁	x_2	SD₂	$\dfrac{x_1 + x_2}{2}$	
1	Ethical principles are applied when teaching sustainable business practices	3.40	0.63	3.18	0.71	3.29	High integration

S/N	Items Description	x_1	SD	x_2	SD	x_{Set}	Decision
2	Students are encouraged to create environmentally friendly business ideas	3.32	0.67	3.10	0.74	3.21	Moderate integration
3	Practical projects require consideration of environmental impact	3.28	0.65	3.05	0.72	3.17	Moderate integration
4	Lecturers provide examples of ethical green entrepreneurship in industry	3.35	0.62	3.12	0.70	3.24	High integration
5	Students' project assessments include evaluation of ethical and environmental considerations	3.30	0.66	3.08	0.73	3.19	Moderate integration
	Set Mean	**3.33**	**0.65**	**3.11**	**0.72**	**3.22**	

Table 3 showed that the integration of professional ethics into green entrepreneurship to improve environmentally responsible ventures was found to be moderate to high. Teachers' ratings ($\overline{x}\_1 = 3.33$, SD = 0.65) were slightly higher than students' ($\overline{x}\_2 = 3.11$, SD = 0.72), indicating that lecturers perceive stronger integration than students. The overall set mean ($\overline{x}\_Set = 3.22$) suggests that while ethical guidance and examples are present, more practical emphasis on environmentally friendly project execution could strengthen student adoption of responsible practices.

Research Question 3: To what extent does the integration of professional ethics into green entrepreneurship contribute to sustainable entrepreneurial practices of students in public universities in Rivers State?

Table 4: Extent of integration contribute to sustainable entrepreneurial practices of students

S/N	Items Description	Lecturers n=48		Students n=414		x_{Set} n=462	Decision
		x_1	SD₁	x_2	SD₂	$\dfrac{x_1 + x_2}{2}$	
1	Students are trained to evaluate the sustainability of their business ideas	3.38	0.61	3.14	0.70	3.26	High contribution

		x_1	SD_1	x_2	SD_2	x_{Set}	Decision
2	Ethical principles guide students in selecting sustainable business models	3.36	0.64	3.11	0.73	3.24	High contribution
3	Students implement sustainable practices in their entrepreneurial projects	3.32	0.67	3.09	0.71	3.21	Moderate contribution
4	Lecturers emphasize long term ethical and sustainable business outcomes	3.34	0.65	3.10	0.72	3.22	High contribution
5	Students are assessed on sustainability practices during entrepreneurship activities	3.29	0.66	3.08	0.73	3.19	Moderate contribution
	Set Mean	**3.34**	0.65	**3.10**	0.72	**3.22**	

Professional ethics was found to contribute moderately to highly in students' sustainable entrepreneurial practices. Teachers' ratings ($\bar{x}\_1 = 3.34$, SD = 0.65) were slightly higher than students' ratings ($\bar{x}\_2 = 3.10$, SD = 0.72), reflecting their perception that ethical guidance is well integrated. The overall set mean ($\bar{x}\_Set = 3.22$) confirms that ethics is shaping sustainability practices, although consistent practical reinforcement in projects and assessments could improve students' application of sustainable entrepreneurship principles.

Research Question 4: To what extent does the integration of professional ethics into green entrepreneurship enhance students' green entrepreneurial intentions and practices in public universities in Rivers State?

Table 5: Extent of integration of professional ethics to enhance students' green entrepreneurial intentions and practices

S/N	Items Description	Lecturers n=48		Students n=414		x_{Set} n=462	Decision
		x_1	SD₁	x_2	SD₂	$\dfrac{x_1 + x_2}{2}$	

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1	Students demonstrate willingness to engage in green entrepreneurial ventures	3.40	0.62	3.15	0.71	3.28	High enhancement
2	Ethical instruction motivates students to adopt sustainable business practices	3.37	0.63	3.12	0.70	3.25	High enhancement
3	Students' projects reflect commitment to ethical and environmentally responsible goals	3.35	0.64	3.10	0.72	3.23	High enhancement
4	Lecturers encourage students to innovate in green entrepreneurship ethically	3.36	0.65	3.11	0.71	3.24	High enhancement
5	Students show intention to continue ethical and sustainable practices after graduation	3.33	0.66	3.08	0.73	3.21	High enhancement
	Set Mean	**3.36**	0.64	**3.11**	0.71	**3.24**	

Professional ethics was found to significantly enhance students' green entrepreneurial intentions and practices. Teachers' mean rating ($\overline{x}\_1 = 3.36$, SD = 0.64) was slightly higher than that of students ($\overline{x}\_2 = 3.11$, SD = 0.71). The overall set mean ($\overline{x}\_Set = 3.24$) indicates high enhancement, suggesting that ethical instruction motivates students to adopt sustainable business behaviors and strengthens their intention to maintain ethical and environmentally responsible practices beyond graduation.

Discussions

The findings from Research Question 1 indicated that professional ethics is integrated into green entrepreneurship education in public universities in Rivers State at a moderate to high level ($\overline{x}\_Set = 3.23$). Teachers consistently rated integration slightly higher than students, suggesting that while lecturers believe ethics is embedded within teaching, students perceive less emphasis on ethical instruction in practice. The high-rated items included the inclusion of ethics in course content and the use of case studies, whereas assessment of ethical principles and explicit teaching of sustainability mindset were moderately integrated.

For Research Question 2, the study found that ethics moderately to highly contributes to the promotion of environmentally responsible ventures ($\overline{x}$_Set = 3.22). Teachers emphasized the application of ethical principles in teaching and providing real-world examples of sustainable entrepreneurship, while students rated encouragement for eco-friendly business ideas slightly lower.

The results of Research Question 3 revealed that ethics integration moderately to highly contributes to sustainable entrepreneurial practices among students ($\overline{x}$_Set = 3.22). Lecturers perceived that ethical instruction strongly guides sustainable decision-making and long-term business outcomes, whereas students rated project implementation and assessment aspects slightly lower.

Finally, Research Question 4 demonstrated that the integration of professional ethics enhances students' green entrepreneurial intentions and practices ($\overline{x}$_Set = 3.24). Lecturers consistently rated all items higher than students, with a significant difference confirmed in hypothesis H04 ($t = 2.33$, $p < 0.05$). This suggests that while ethical instruction positively influences students' motivation and intention to engage in sustainable entrepreneurship, students may still experience gaps in translating ethical knowledge into consistent entrepreneurial behavior.

Conclusion

The study established that professional ethics is moderately to highly integrate into green entrepreneurship education in public universities in Rivers State, Nigeria. The findings highlight that practical reinforcement, ethical assessment, and hands-on application are essential to fully cultivate ethical consciousness, sustainability mindset, and commitment to environmentally responsible entrepreneurial practices among students.

Recommendations

Based on the findings, the following recommendations are made:

1. Universities should enhance the practical application of ethics in green entrepreneurship through project-based learning, simulations, and case studies that allow students to actively apply ethical principles in entrepreneurial decision making.

2. Lecturers and curriculum planners should include formal assessment of ethical and sustainable practices in students' entrepreneurship projects to ensure that ethical principles are not only taught but consistently practiced.

3. Universities should implement interactive workshops, mentorship programs, and feedback mechanisms to align teaching methods with students' learning experiences.

4. Curriculum designers should explicitly integrate sustainability-focused modules alongside ethics instruction to reinforce students' understanding of environmentally responsible business practices.

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