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Lived Perspectives of College Students on Climate Change: A Phenomenological Inquiry into Environmental Awareness and Sustainable Action in Isabela State University

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Abstract

Climate change has become one of the defining global challenges of the twenty-first century, requiring active participation from educational institutions in cultivating environmentally responsible citizens. While higher education institutions have increasingly integrated sustainability concepts into curricula and campus programs, limited qualitative research has explored how university students personally experience, interpret, and respond to climate change in their everyday lives. This phenomenological study examined the lived perspectives of college students regarding climate change, environmental awareness, and sustainable action at Isabela State University. Guided by Husserlian phenomenology, the research sought to uncover the meanings students attach to climate-related experiences and how these experiences influence their environmental behaviors. Fifteen undergraduate students representing different colleges were purposively selected based on their direct experiences with climate-related events and environmental participation. Data were gathered through in-depth semi-structured interviews and analyzed using Colaizzi's seven-step phenomenological method. Six essential themes emerged: (1) Climate Change as an Immediate and Personal Reality; (2) Environmental Awareness Through Education and Experience; (3) Emotional Responses of Concern, Hope, and Responsibility; (4) Sustainable Practices as Everyday Commitments; (5) Institutional Support and Collective Action; and (6) Barriers Between Awareness and Environmental Action. Findings reveal that although participants demonstrated substantial environmental knowledge and concern, sustainable practices were often constrained by limited institutional resources, inconsistent environmental policies, and socio-economic realities. Nevertheless, students expressed optimism that collaborative initiatives among universities, communities, and local governments could strengthen climate resilience and environmental stewardship. The study contributes to climate education literature by emphasizing the importance of experiential environmental learning, participatory sustainability programs, and student-centered environmental governance in higher education.

1. Introduction

Climate change has evolved from a scientific concern into one of the most urgent social, environmental, and educational challenges confronting humanity. Rising global temperatures, changing precipitation patterns, biodiversity loss, stronger tropical cyclones, and increasing occurrences of floods and droughts continue to threaten communities across the world. Young people, particularly university students, represent one of the most affected generations because they will experience the long-term consequences of climate change while simultaneously becoming future leaders, professionals, and decision-makers responsible for addressing environmental sustainability. Recent research likewise highlights that university students frequently experience

both heightened concern and a desire to act, although translating concern into sustained action remains challenging.

The Philippines consistently ranks among the countries most vulnerable to climate-related hazards due to its geographical location within the Pacific typhoon belt. Communities regularly experience destructive typhoons, prolonged flooding, landslides, extreme heat, and changing agricultural conditions. These environmental disruptions have direct implications for food security, public health, education, infrastructure, and local economies. Consequently, climate change is no longer perceived merely as a future environmental issue but as a lived social reality that shapes the daily experiences of Filipino citizens.

Higher education institutions play a pivotal role in promoting environmental sustainability by integrating climate education into academic programs, encouraging environmental research, and fostering sustainable campus practices. Universities are expected not only to produce scientific knowledge but also to cultivate environmentally responsible graduates capable of contributing to sustainable development. Educational initiatives such as environmental campaigns, waste management programs, tree planting activities, ecological conservation projects, and climate adaptation seminars provide opportunities for students to translate environmental awareness into meaningful action.

Isabela State University, as one of the leading state universities in Northern Luzon, has continuously supported environmental conservation through research, extension, instruction, and community engagement initiatives aligned with sustainable development principles. Situated within an agriculturally significant province frequently affected by typhoons, flooding, and climate variability, the university provides a meaningful context for understanding how college students perceive environmental challenges and respond to climate-related issues.

Although numerous quantitative studies have measured environmental awareness, climate literacy, and pro-environmental behavior among university students, qualitative investigations remain relatively limited, particularly within Philippine higher education. Existing evidence also suggests an "awareness–action gap," where students possess considerable knowledge about climate change but struggle to consistently translate that awareness into sustainable behavior. Such findings highlight the need to move beyond measuring awareness alone and instead explore the meanings students attach to their experiences.

Phenomenology offers an appropriate methodological lens because it seeks to understand the essence of lived human experience. Rather than quantifying environmental knowledge or behavior, phenomenological inquiry explores how individuals construct meaning from their

interactions with environmental phenomena. Through rich personal narratives, researchers gain deeper insight into the emotions, motivations, values, and lived realities that shape environmental awareness and sustainable action.

This study therefore explored the lived perspectives of college students regarding climate change at Isabela State University. Specifically, it sought to understand how students experience climate-related environmental changes, develop environmental awareness, interpret their responsibilities toward sustainability, and negotiate barriers to environmental action. By examining these lived experiences, the study contributes to a deeper understanding of climate education within Philippine higher education and offers evidence-based recommendations for strengthening institutional sustainability initiatives.

Objectives of the Study

The study aimed to:

- explore the lived experiences of college students regarding climate change;
- examine how environmental awareness develops among university students;
- describe students' experiences in practicing environmental sustainability;
- identify barriers affecting sustainable environmental action; and
- develop a phenomenological description of students' environmental experiences to inform climate education and university sustainability programs.

Review of Related Literature and Theoretical Framework

Review of Related Literature

Climate Change as a Global Educational Concern

Climate change is one of the most pressing global challenges, affecting ecosystems, economies, public health, food security, and human livelihoods. Beyond its environmental impacts, it has become an important educational concern because developing environmentally literate citizens is essential for sustainable development. The Intergovernmental Panel on Climate Change (IPCC, 2023) emphasized that education plays a vital role in strengthening climate resilience and promoting sustainable decision-making. Likewise, UNESCO (2020) highlighted that higher education institutions should integrate sustainability into teaching, research, extension, and governance to develop environmentally responsible graduates. Leal Filho et al. (2023) further found that universities with sustainability-oriented programs significantly improve students' environmental awareness and participation in climate action. These studies underscore the important role of universities in preparing students to address climate-related challenges.

Environmental Awareness among College Students

Environmental awareness refers to an individual's understanding of environmental issues and responsibility toward environmental protection. In higher education, awareness develops through classroom instruction, environmental programs, media exposure, and personal experiences. Ardoin et al. (2020) explained that environmental awareness includes knowledge, values, emotions, and responsible behavior. Similarly, Otto and Pensini (2017) found that students with stronger emotional connections to nature are more likely to engage in pro-environmental actions. In the Philippines, Lasco et al. (2022) reported that students' frequent exposure to typhoons and flooding strengthens their awareness of climate change, making their understanding more experience-based than theoretical.

Climate Change Awareness and Lived Experiences

Phenomenological studies emphasize understanding how individuals experience climate change in their daily lives. Van Manen (2016) explained that lived experiences shape the meanings people attach to environmental issues. Students commonly associate climate change with extreme heat, flooding, stronger typhoons, and disruptions to education and livelihoods. Hickman et al. (2021) found that these experiences increase environmental concern while motivating young people to participate in climate action. In agricultural provinces such as Isabela, students experience the direct effects of climate change, making environmental awareness deeply rooted in everyday life.

Sustainable Environmental Practices among University Students

Sustainable environmental practices include waste segregation, recycling, conserving water and energy, reducing plastic use, participating in tree-planting activities, and environmental advocacy. Steg and Vlek (2009) noted that positive environmental attitudes encourage sustainable behavior, while Leal Filho et al. (2022) found that institutional support and experiential learning strengthen students' participation in environmental programs. These findings suggest that universities play a significant role in encouraging sustainable practices among students.

The Awareness–Action Gap

Although many university students possess high environmental awareness, this does not always translate into consistent sustainable behavior. Kollmuss and Agyeman (2002) explained that environmental behavior is influenced by personal, social, and institutional factors. Gifford (2011) identified barriers such as limited resources, inadequate facilities, weak institutional support, and convenience-oriented lifestyles that hinder sustainable action. These findings indicate that environmental education should provide opportunities and

supportive environments that help students transform awareness into consistent environmental practices.

Environmental Education in Higher Education Institutions

Environmental education aims to develop knowledge, skills, values, and behaviors that promote sustainable development. According to UNESCO (2020), universities should adopt a whole-institution approach by integrating sustainability into instruction, research, campus operations, and community engagement. Lozano et al. (2017) also emphasized that participatory learning activities such as community projects and environmental campaigns enhance students' environmental responsibility and active citizenship.

Climate Change in the Philippine Context

The Philippines is among the countries most vulnerable to climate change, experiencing frequent typhoons, flooding, droughts, and other environmental hazards. According to the World Risk Index (2024), these disasters continue to affect agriculture, education, and community livelihoods. In Northern Luzon, particularly in Isabela, climate-related events directly influence students' daily lives and family livelihoods. Lasco et al. (2022) observed that Filipino students often develop climate awareness through firsthand experiences with environmental disasters. However, few phenomenological studies have explored how university students interpret these experiences, highlighting the need for the present study.

Research Gap

Existing literature demonstrates that university students generally possess moderate to high levels of climate awareness and positive environmental attitudes. However, several gaps remain.

First, most previous investigations employ quantitative survey methods emphasizing climate knowledge, environmental attitudes, and behavioral intentions. While valuable, these approaches often overlook the richness of students' personal experiences and the meanings they attach to climate change.

Second, relatively few phenomenological studies have explored climate change from the perspective of Filipino university students, particularly within state universities located in climate-vulnerable agricultural regions.

Third, although many studies identify the awareness–action gap, limited research explains why students who value environmental sustainability still encounter difficulties translating awareness into sustained environmental practice.

Finally, little empirical evidence exists regarding how lived experiences of climate-related disasters influence environmental identity, responsibility, and sustainable action among college students in Isabela State University.

The present study addresses these gaps by employing Husserlian phenomenology to examine the lived experiences of college students regarding climate change, environmental awareness, and sustainable action. Through in-depth narratives, the study seeks to reveal the essential structures of students' experiences and generate insights that can strengthen environmental education, sustainability initiatives, and institutional climate action within Philippine higher education.

Theoretical Framework

The present study is anchored on three complementary theories that explain environmental awareness, behavioral intention, and lived experience.

Husserl's Phenomenological Theory (1931)

Edmund Husserl's phenomenology serves as the primary philosophical foundation of this study. Husserl proposed that reality is understood through individuals' conscious experiences and the meanings they assign to those experiences.

Rather than explaining climate change through objective measurements alone, phenomenology explores how students experience environmental changes, interpret their significance, and construct meanings regarding sustainability.

Using phenomenological reduction (bracketing), the researcher sets aside personal assumptions to understand participants' experiences from their own perspectives. This approach enables the identification of the essential structures underlying students' lived experiences of climate change.

Theory of Planned Behavior (Ajzen, 1991)

Ajzen's Theory of Planned Behavior explains how beliefs influence behavior through three major determinants:

- attitudes toward the behavior;
- subjective norms; and
- perceived behavioral control.

Applied to climate change, the theory suggests that students are more likely to engage in sustainable environmental practices when they:

- possess positive attitudes toward environmental conservation;
- perceive that significant others support environmental behaviors; and
- believe they have the capacity and opportunity to act.

This framework helps explain why environmental awareness alone may not automatically lead to sustainable action and why institutional support is critical for behavioral change.

Environmental Education Theory

Environmental Education Theory posits that education should develop knowledge, attitudes, skills, values, and participation necessary for environmental stewardship.

The theory emphasizes experiential learning, critical reflection, and active participation rather than passive knowledge acquisition. Students learn environmental responsibility most effectively when they engage directly in sustainability initiatives, community projects, and environmental problem-solving.

Within higher education, Environmental Education Theory supports the integration of sustainability across instruction, research, extension, and campus operations, enabling students to translate environmental awareness into meaningful climate action.

Conceptual Framework

The study conceptualizes that college students' lived experiences with climate change—including exposure to environmental events, educational experiences, and community interactions influence their environmental awareness. This awareness shapes their emotional responses, environmental values, and sense of responsibility, which subsequently affect their sustainable actions. Institutional support, social influences, and resource availability may strengthen or hinder the translation of awareness into action, leading to either consistent environmental engagement or an awareness–action gap.

This conceptual relationship guided the development of the interview protocol, thematic analysis, and interpretation of participants' lived experiences.

Methodology

Research Design

This study employed a qualitative research design using Husserlian descriptive phenomenology to explore the lived perspectives of college students on climate change, environmental awareness, and sustainable action at Isabela State University. The phenomenological approach was appropriate because it sought to understand the meanings participants attached to their personal experiences with climate change. Through in-depth interviews and the practice of bracketing, the researcher described the essence of these lived experiences without imposing personal assumptions.

Research Locale

The study was conducted at Isabela State University (ISU), a state university in Region II, Philippines, where students are frequently exposed to climate-related issues such as typhoons, flooding, droughts, and extreme heat. ISU's commitment to environmental sustainability through instruction, research, extension, and campus-based environmental programs provided a suitable setting for examining students' experiences and perceptions of climate change.

Participants of the Study

The participants consisted of fifteen (15) undergraduate students from different colleges of Isabela State University who were selected through purposive

sampling. They were chosen based on their firsthand experiences with climate-related events and their willingness to share their perspectives. The number of participants was deemed sufficient after data saturation was achieved, wherein no new themes emerged from the interviews.

Research Instrument

Data were collected using a researcher-made semi-structured interview guide consisting of open-ended questions that encouraged participants to describe their experiences, environmental awareness, and sustainable practices. The interview guide was validated by qualitative research experts and pilot-tested to ensure the clarity, relevance, and effectiveness of the questions.

Data Collection Procedure

After securing the necessary approvals and informed consent, the researcher conducted individual in-depth interviews lasting approximately 45 to 60 minutes. Interviews were audio-recorded with participants' permission and supplemented by field notes. The recordings were transcribed verbatim and translated into English when necessary while preserving the participants' intended meanings.

Data Analysis

The interview data were analyzed using Colaizzi's Seven-Step Phenomenological Method. Significant statements were extracted from the transcripts, meanings were formulated, and similar meanings were grouped into categories that were synthesized into major themes. An exhaustive description of the phenomenon was then developed, and member checking was conducted to ensure the credibility and accuracy of the findings.

Trustworthiness of the Study

The rigor of the study was ensured through the principles of credibility, transferability, dependability, and confirmability. Credibility was established through member checking and peer debriefing, while transferability was achieved through rich descriptions of the research context. Dependability was maintained through an audit trail, and confirmability was strengthened through reflexive journaling and bracketing to minimize researcher bias.

Ethical Considerations

Ethical standards were strictly observed throughout the study. Ethical clearance was obtained prior to data collection, and informed consent was secured from all participants. Participation was voluntary, and confidentiality was maintained through the use of pseudonyms and secure storage of research data. Participants were informed of their right to withdraw at any time without any consequences, and all information gathered was used solely for academic and research purposes.

Findings and Presentation of Themes

Analysis of the interview transcripts using Colaizzi's Seven-Step Phenomenological Method revealed six essential themes that

describe the lived perspectives of college students on climate change, environmental awareness, and sustainable action in Isabela State University. These themes represent the common meanings shared by the participants despite their diverse academic backgrounds and personal experiences.

Theme 1: Climate Change as an Immediate and Personal Reality

Participants perceived climate change as a phenomenon that directly affects their daily lives rather than a distant global issue. Most described experiencing stronger typhoons, extreme heat, unpredictable rainfall, flooding, and disruptions in transportation, agriculture, and academic activities. These firsthand experiences made them realize the seriousness of climate change and its impact on their communities.

One participant shared:

"Mas ramdam na namin ngayon ang sobrang init at pabago-bagong panahon. Hindi na ito katulad ng dati." (P3)

Another participant stated:

"Kapag bumabaha dahil sa malakas na ulan, naaapektuhan ang pagpasok namin sa paaralan." (P8)

These narratives indicate that students understand climate change through their personal experiences with environmental changes.

Theme 2: Environmental Awareness Developed Through Education and Experience

Participants explained that their awareness of climate change developed through classroom discussions, university activities, social media, news reports, and personal experiences with natural disasters. Environmental education provided scientific knowledge, while lived experiences strengthened their understanding of the urgency of environmental protection.

One participant expressed:

"Mas naintindihan ko ang climate change dahil sa mga discussion namin sa school at sa mga naranasan naming bagyo." (P6)

Another participant remarked:

"Hindi lang sa libro ko natutunan ang climate change. Nakikita rin namin ang epekto nito sa aming komunidad." (P11)

These findings demonstrate that both formal education and real-life experiences contribute to students' environmental awareness.

Theme 3: Feeling Responsible for Environmental Protection

Participants consistently expressed feelings of concern, responsibility, and hope regarding environmental conservation. They believed that everyone has a role in reducing environmental degradation and protecting natural resources for future generations. Many

viewed sustainable living as both a personal and collective responsibility.

As one participant stated:

"Kahit maliit lang ang magawa ko, naniniwala akong may ambag pa rin ito sa kalikasan." (P2)

Another participant shared:

"Responsibilidad nating lahat ang pangalagaan ang mundo para sa susunod na henerasyon." (P14)

These responses illustrate that environmental responsibility has become part of the participants' personal values.

Theme 4: Sustainable Practices as Everyday Commitments

Participants described engaging in various environmentally friendly practices, including waste segregation, recycling, reducing plastic use, conserving electricity and water, participating in tree-planting activities, and joining environmental campaigns organized by the university. Although these actions appeared simple, participants considered them meaningful contributions toward environmental sustainability.

One participant explained:

"Sinisikap kong gumamit ng reusable bottle at iwasan ang single-use plastics." (P5)

Another participant stated:

"Sumasali ako sa tree planting at clean-up drive dahil gusto kong makatulong sa kalikasan." (P10)

These accounts reveal that sustainable behaviors are gradually becoming part of students' daily routines.

Theme 5: Institutional Support Encourages Sustainable Action

Participants emphasized that university programs, environmental organizations, and faculty initiatives motivated them to become more environmentally responsible. Environmental seminars, campus clean-up drives, recycling campaigns, and sustainability projects encouraged active participation and strengthened their commitment to environmental protection.

One participant shared:

"Mas naengganyo akong maging environmentally responsible dahil sa mga activities ng university." (P9)

Another participant added:

"Kapag may environmental campaign ang school, mas marami ang nagiging interesado na makilahok." (P13)

These findings suggest that institutional support plays a significant role in promoting sustainable behavior among students.

Theme 6: Challenges in Translating Awareness into Action

Despite their high level of environmental awareness, participants acknowledged several barriers that limited their ability to consistently practice sustainable behaviors. These included inadequate waste management facilities, limited

environmental programs, financial constraints, lack of community participation, and the convenience of using disposable materials.

One participant commented:

"Alam namin ang tamang gawin pero minsan kulang ang pasilidad para maging sustainable." (P4)

Another participant explained:

"Mahirap maging consistent kapag hindi lahat ng tao ay nakikiisa sa environmental practices." (P15)

These narratives highlight the existence of an awareness–action gap, where environmental knowledge does not always result in sustained environmental behavior due to external constraints.

Structural Description of the Phenomenon

The lived experiences of college students reveal that climate change is no longer viewed as a distant environmental concern but as a personal and immediate reality affecting their everyday lives. Their environmental awareness is shaped by both formal education and firsthand experiences with climate-related events, fostering feelings of concern and responsibility toward environmental protection. While students actively engage in sustainable practices and value institutional initiatives, they also encounter barriers that limit consistent environmental action. Overall, the essence of their lived experience reflects a growing commitment to sustainability supported by education, personal experiences, and collective responsibility, while emphasizing the need for stronger institutional and community support to transform awareness into sustained environmental action.

Discussion

The findings of this study demonstrate that college students perceive climate change as a real and immediate concern that directly influences their daily lives. Their experiences with extreme heat, flooding, typhoons, and other environmental changes have shaped their understanding of climate change beyond theoretical concepts learned in the classroom. These findings support phenomenological perspectives that lived experiences serve as the foundation for meaning-making and reinforce previous studies showing that direct exposure to climate-related events strengthens environmental awareness and concern among young people.

The study further revealed that environmental awareness develops through the combined influence of formal education and personal experiences. Classroom discussions, environmental programs, social media, and firsthand encounters with climate-related disasters collectively contributed to students' understanding of environmental issues. This finding is consistent with Environmental Education Theory, which emphasizes that meaningful learning occurs when academic knowledge is complemented by authentic experiences and active participation in environmental

activities. It also highlights the important role of higher education institutions in promoting climate literacy and sustainability.

Participants likewise expressed a strong sense of responsibility toward environmental protection, believing that individual actions, regardless of their size, contribute to addressing climate change. Their narratives reflected feelings of concern, hope, and commitment to preserving the environment for future generations. This finding supports the Theory of Planned Behavior, which explains that positive environmental attitudes and a sense of personal responsibility encourage individuals to engage in pro-environmental behaviors. Students recognized that sustainable practices such as waste segregation, recycling, reducing plastic use, and conserving resources are practical ways of contributing to environmental conservation.

Another important finding is the significant influence of institutional support on students' sustainable actions. Environmental campaigns, seminars, clean-up drives, and tree-planting activities organized by the university encouraged students to participate actively in sustainability initiatives. These findings suggest that universities play a crucial role in translating environmental awareness into concrete action by creating opportunities for student engagement and fostering a campus culture that values environmental stewardship.

Despite demonstrating high levels of environmental awareness, participants also identified several barriers that limited their ability to consistently practice sustainable behaviors. Limited facilities, inadequate environmental programs, financial constraints, and insufficient community participation contributed to an awareness–action gap. This finding agrees with previous studies indicating that knowledge alone does not automatically result in sustained environmental behavior unless supported by appropriate institutional policies, resources, and collective community participation.

Hence, the findings indicate that the lived perspectives of college students reflect an evolving environmental consciousness grounded in personal experiences, education, and social responsibility. The study highlights the importance of strengthening environmental education, expanding sustainability programs, and promoting collaborative partnerships among universities, communities, and local government units to encourage long-term environmental stewardship and climate resilience among young people.

Conclusion

This phenomenological study explored the lived perspectives of college students on climate change, environmental awareness, and sustainable action at Isabela State University. The findings revealed that students perceive climate change as an immediate and personal reality shaped by their experiences with extreme weather events and environmental changes. Their

environmental awareness developed through both formal education and firsthand experiences, fostering a strong sense of responsibility toward environmental protection. Although participants actively practiced sustainable behaviors and appreciated university-led environmental initiatives, they also encountered barriers that limited the consistent application of these practices. Overall, the study concludes that environmental awareness, experiential learning, and institutional support collectively influence students' commitment to sustainable action. Strengthening climate education and expanding sustainability programs can further empower students to become active contributors to environmental conservation and climate resilience.

Implications of the Study

The findings suggest that higher education institutions should strengthen climate change education by integrating sustainability concepts across academic programs and promoting experiential learning opportunities. Universities should also expand environmental campaigns, community engagement activities, and campus sustainability initiatives to encourage students' active participation in climate action. Furthermore, collaboration among universities, local government units, and community organizations may enhance environmental awareness and provide students with meaningful opportunities to translate knowledge into sustainable practices.

Recommendations

Based on the findings, the following recommendations are proposed:

1. Higher education institutions should integrate climate change and sustainability education across various disciplines.
2. Universities should strengthen environmental programs such as recycling campaigns, tree planting, waste management, and community extension activities.
3. Student organizations should be encouraged to lead environmental advocacy and sustainability initiatives within the university.
4. Local government units and community stakeholders should collaborate with universities in implementing climate adaptation and environmental conservation programs.
5. Future researchers may conduct similar phenomenological studies in other higher education institutions or employ mixed-methods approaches to further examine the relationship between environmental awareness and sustainable behavior.

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