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EFFECTS OF SCHOOL-BASED CLIMATE CHANGE EDUCATION PROGRAMS ON ENVIRONMENTAL AWARENESS AMONG ELEMENTARY LEARNERS

***Dean Rose E. Vidad**

Master of Arts in Teaching major in Social Studies Valencia Colleges (Bukidnon), Inc. Hagkol, Valencia City, Bukidnon Philippines.

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***Corresponding Author: Dean Rose E. Vidad**
Master of Arts in Teaching major in Social Studies Valencia Colleges (Bukidnon), Inc. Hagkol, Valencia City, Bukidnon Philippines.

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ABSTRACT

This study investigated the effects of school-based climate change education programs on the environmental awareness of elementary learners in Quezon II District, Division of Bukidnon, during the 2025-2026 school year. Utilizing a quantitative descriptive-correlational design, data were gathered from teachers and Grade VI learners through a validated researcher-made survey questionnaire. Statistical tools included mean, standard deviation, and Pearson r Product-Moment Correlation Coefficient. The findings revealed a very high extent of program effects across all dimensions: curriculum integration depth, teacher training, experiential learning, community involvement, and digital resource utilization. Simultaneously, learners demonstrated a high level of environmental awareness in terms of knowledge, attitudes, and behaviors. Notably, the study established a strong, significant relationship between program effects and learner awareness, indicating that as the quality of institutional interventions increases, student awareness significantly improves. The study concludes that climate change education is most effective when multi-faceted, combining proficient teaching with hands-on activities. The results realize that well-structured programs transform students from passive recipients into empowered environmental stewards prepared for climate action. Recommendations suggest that teachers sustain blended instructional approaches, while school heads institutionalize platforms for student-led projects. Furthermore, DepEd policy makers are encouraged to prioritize experiential learning and teacher specialization within the national curriculum to ensure the durability of climate

literacy. These robust interventions are essential for cultivating lifelong environmental responsibility among Filipino learners.

KEYWORDS: *Climate Change Education, Environmental Awareness, Experiential Learning, Curriculum Integration, Elementary Learners, Bukidnon.*

Chapter 1

The Problem

INTRODUCTION

The escalating climate crisis represented the most significant peril to the future prosperity of modern children, as it manifested through intensified extreme weather, heat-related stress, and risks to nutritional stability. Observers noted that the restricted comprehension and frequently indifferent reactions of elementary learners toward ecological hurdles underscored a vital requirement for assertive educational involvement. Lacking a fundamental grasp of climate variations established during these developmental stages, children often lacked the essential intellectual instruments, psychological toughness, and functional abilities to transform into knowledgeable and active protectors of the earth (Oxfam, 2020). Consequently, this investigation became vital for evaluating the degree to which school-based initiatives successfully converted intricate international problems into concrete, usable insights that motivated young learners and immediately impacted their ecological consciousness and ensuing conduct.

Transitioning from the general necessity of these initiatives, the requirement for embedding climate movements within the instructional system found its foundation in domestic regulations and earlier inquiries. From a legal standpoint, the 1987 Philippine Constitution, Article II, Section 16, dictated the obligation of the State to safeguard and promote the right of the citizens to a harmonious and vigorous ecology, which created a pedagogical requirement. Additionally, the Department of Education (DepEd) Order Number 52, series of 2011, definitively established environmental instruction within both state-run and independent schools, while it highlighted the inclusion of climate change principles throughout the academic program. In connection with these mandates, investigations conducted by Shepardson and colleagues (2019) within the United States and Abe and colleagues (2022) across Asia proved a favorable relationship between strictly organized, locally relevant climate change study plans and a notable growth in the ecological proficiency and accountable perspectives of learners.

Despite these legislative requirements and the transparent findings from global investigations, a substantial localized void persisted within the Philippine elementary school environment. Although teachers implemented general ecological instruction, the field lacked thorough, regionalized inquiry that specifically appraised the efficiency and particular results of modern, inclusive, school-based climate change schemes on the quantifiable ecological consciousness of elementary learners. Earlier domestic inquiries frequently concentrated extensively on the substance of the curriculum or the readiness of teachers, while they ignored a straightforward, numerical evaluation of the learner-focused results reached through hands-on, all-encompassing climate change instructional frameworks (Tan, 2018). The present inquiry aimed to bridge this void by accurately calculating the shifts in mindfulness prompted by specialized schemes, which offered information crucial for the improvement of various policies.

As a final consideration, this inquiry carried immense significance because the results offered factual proof immediately relevant to the refinement and legislative processes of the environmental programs of DepEd. Through the recognition of the most productive elements of school-based climate change instructional schemes, the investigation supported curriculum designers and school leaders in distributing assets toward methods that produced the largest influence on ecological consciousness. In the end, the productive execution of high-quality schemes fostered a generation with ecological awareness, specifically learners who recognized the issue and possessed the facts and drive to engage in efforts for lessening and adjusting to impacts (UNESCO, 2021). Therefore, this inquiry functioned as an essential contribution to the climate toughness and long-term viability of the country.

Theoretical Framework of the Study

This study was primarily anchored on Albert Bandura's (1986) Social Cognitive Theory (SCT), which posits that learning occurs within a social context through triadic reciprocal causation. This specific framework proposed that conduct, individual characteristics such as cognitive mindfulness, and ecological factors like school initiatives constantly influenced and modified one another. Through the application of the Social Cognitive Theory, this inquiry analyzed the manner in which school-centered activities progressed past mere repetitive recall to encourage the internal adoption of pro-environmental perspectives and personal agency among elementary learners.

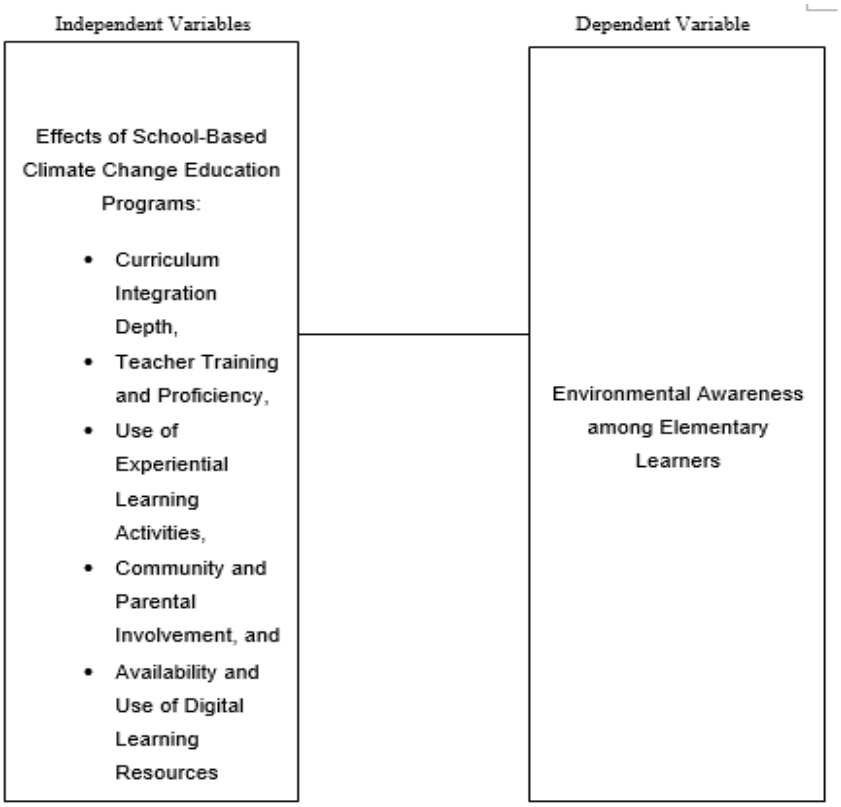
In addition to this psychological basis, the inquiry incorporated the Department of Education Order Number 52, series of 2011, as the fundamental administrative guideline for the work.

This official regulation established environmental instruction throughout the primary academic programs of the Philippines, which offered the necessary lawful and managerial support for the various schemes that the researcher assessed. By connecting the Social Cognitive Theory with this formal instruction, the study shifted from a strictly mental viewpoint to an analytical one that calculated the functional success of state-required climate change projects in reaching the targeted objectives of the government.

Moving into the specific components of the Social Cognitive Theory, the extent of curriculum inclusion and the quality of teacher preparation functioned as vital ecological variables. A thoroughly embedded academic program increased the contact of a learner with ecological ideas through both firsthand and vicarious instructional methods. At the same time, the competence of the staff ensured that teachers effectively demonstrated complicated sustainable habits. In this environment, teachers served as the main social examples whose capacity to show ecological care immediately impacted the observational study and the later mental organization of climate problems by the learners.

Furthermore, the use of hands-on activities and the participation of the local public strengthened these academic lessons through active mastery and symbolic representation. Practical tasks like the segregation of refuse permitted learners to encounter achievement in ecological duties, which represented the most powerful origin of personal confidence. When the schools paired these efforts with electronic materials and the witnessing of parents or neighborhood residents performing sustainable acts, the perceived importance of the habit grew in the mind of the learner. These diverse ecological contributions functioned in unison to solidify the conviction of the learner that they possessed the ability to participate in climate-related fixes.

Conclusively, the level of environmental awareness among elementary learners represented the primary individual characteristic and the dependent variable within this investigation. Based on the principles of the Social Cognitive Theory, the triumph of the school initiatives, which acted as the independent variables, underwent measurement through the expansion of this consciousness that included facts, viewpoints, and the determination to take action. By examining these factors through the perspective of triadic reciprocity, the inquiry identified how a methodical teaching environment fostered a strong feeling of competence in learners to tackle the international climate emergency.



The Methodology

This chapter is composed of the research design, research locale, respondents of the study, the sampling procedure, the research instrument, data gathering, scoring procedure, validation and try out of instrument, and statistical treatment of data. These sections are so ordered following the Valencia Colleges format.

Research Design

This study was performed by applying the descriptive-correlational research design. It delved on the effects of school-based climate change education programs on environmental awareness among elementary learners in the public elementary schools of Quezon II District, Division of Bukidnon, School Year 2025-2026. Data on the extent of effects of school-based climate change education programs in terms of Curriculum Integration Depth, Teacher Training and Proficiency, Use of Experiential Learning Activities, Community and Parental Involvement, and Availability and Use of Digital Learning Resources and level of environmental awareness among elementary learners were gathered by using the researcher-made questionnaire.

Research Locale

This research was conducted in in the public elementary schools of Quezon II District, Division of Bukidnon, School Year 2025-2026. This district occupied a central position in Barangay Salawagan within the Municipality of Quezon, Bukidnon, which represented a landlocked region situated in the southern portion of the province. Quezon shared its boundaries with other agricultural centers such as Kitaotao, Valencia City, Maramag, and Don Carlos. The municipality itself featured a diverse and frequently rugged terrain. While the area contained large sections of fertile plains and inland valleys suitable for farming, rolling hills and major mountain ranges, including Mount Tangkulan, dominated the overall topography. This varied landscape meant the region encountered mixed climate risks, where the lowlands in the northern and western sections faced threats of flash floods while the rocky, mountainous southern areas remained prone to landslides. This physical setting made the effects of school-based climate change education programs on environmental awareness among elementary learners vital for disaster risk reduction and sustainable land management.

Transitioning to the economic context, the Municipality of Quezon aptly earned the title of the Sugar Capital of Bukidnon, as the sugar milling industry functioned as its primary economic engine. Busco Sugar Milling Company, one of the largest sugar mills in the nation, anchored this industrial foundation. A vast agricultural sector complemented this industrial base, where major outputs included corn, lowland rice, and an increasing volume of pineapple production led by corporations such as Del Monte Philippines, Incorporated. The government officially classified the municipality as a First Class Municipality, which reflected its robust economic performance and self-sufficiency. The local leadership maintained a dedication to the principles of effective governance, with mandated efforts to provide essential, modern, and tough infrastructure while fostering a pro-enterprise atmosphere that supported regional growth and ensured the delivery of vital public services.

In connection with these administrative efforts, the local government unit of Quezon showed a powerful and pioneering dedication to the instructional sector, which established the reputation of the district for championing pedagogical goals. This official support appeared clearly in the direct assistance for infrastructure, such as the donation of land for school sites like Quezon National High School and the active funding for the purchase of printing equipment, paper, and ink to produce self-learning modules for every state-run school. Furthermore, the local government proactively pursued the conversion of several elementary schools into Integrated Schools, which represented a strategic action intended to improve access and offer a complete continuum of basic instruction. This commitment to the

improvement of both physical facilities and teacher skills demonstrated a favoral meaningful impact on the growth of school enrollment and the success of learners within the district, as noted by Aligsao et al. (2024). Consequently, these efforts solidified the locale as a supportive setting for educational inquiry and progressive innovation.

Summary, Findings, Conclusions, and Recommendations/Implications

This chapter presents the summary of findings, the conclusions drawn, and the recommendations and/or implications being offered.

Summary

This study was conducted to find the effects of school-based climate change education programs on environmental awareness among elementary learners in the public elementary schools of Quezon II District, Division of Bukidnon, School Year 2025-2026. Specifically, this study aimed to determine the extent of effects of school-based climate change education programs in terms of curriculum integration depth, teacher training and proficiency, use of experiential learning activities, community and parental involvement, and availability and use of digital learning resources. It also determined the level of environmental awareness among elementary learners in terms of: environmental knowledge, environmental attitudes, and environmental behavior and skills. Then it sought to find the significant relationship between the effects of school-based climate change education programs and the level of environmental awareness among elementary learners.

The study was performed by following the quantitative, descriptive-correlational research design. It conducted exclusively in selected public elementary schools of Quezon II District, Division of Bukidnon, School Year 2025-2026. The respondents were the teachers and Grade VI learners in Quezon II District, Division of Bukidnon, School Year 2025-2026. Data collection was strictly delimited to a single, researcher-made survey questionnaire. This instrument was validated by experts and pilot-tested for reliability. The data were analyzed with the descriptive statistics such as frequency count, percentage, mean, standard deviation, and Pearson r Product Moment Correlation Coefficient.

FINDINGS

The subsequent research unveiled the following results:

There was a very high extent of effects of school-based climate change education programs in terms of curriculum integration depth, teacher training and proficiency, use of experiential

learning activities, community and parental involvement, and availability and use of digital learning resources in Quezon II District, Division of Bukidnon, School Year 2025-2026.

The elementary learners are highly aware of environmental concerns in Quezon II District, Division of Bukidnon, School Year 2025-2026 in terms of environmental knowledge, environmental attitudes, and environmental behavior and skills.

There was a strong significant relationship between the effects of school-based climate change education programs and the level of environmental awareness among elementary learners. When the extent of effects of school-based climate change education programs increases, the awareness of environmental concerns among elementary learners increases also.

CONCLUSIONS

This study derived the following conclusions from the previously mentioned findings.

The very high extent of school-based programs in Quezon II District realized that climate change education achieved its greatest impact when the approach remained multi-faceted. This success indicated that the combination of proficient teaching, hands-on activities, and digital tools transformed learners from passive recipients into active environmental stewards. This outcome proved that a holistic school approach served as the essential factor for achieving deep climate literacy. By integrating diverse pedagogical strategies, the school successfully amplified the effects of school-based climate change education programs on environmental awareness among elementary learners, ensuring that the educational experience remained both comprehensive and engaging.

Furthermore, the high level of awareness among learners in Quezon II District realized that elementary learners did not function merely as passive targets for information, but instead possessed the cognitive, emotional, and behavioral readiness required for climate action. This finding underscored the reality that a well-structured curriculum successfully bridged the gap between theoretical understanding and the adoption of actual conservation habits. Consequently, this alignment fostered a new generation of empowered environmental stewards within the community. The data suggested that when schools prioritized a balanced curriculum, they effectively maximized the effects of school-based climate change education programs on environmental awareness among elementary learners, moving them toward a more internalized and active form of environmentalism.

In addition to these observations, the strong significant relationship identified in Quezon II District realized that the quality of school-based programming functioned as the primary

driver of learner awareness. This evidence proved that intentional investments in experiential activities and teacher proficiency directly determined the success of climate literacy initiatives. Such a connection confirmed that robust school interventions remained essential for cultivating a sense of active environmental responsibility among elementary learners. Ultimately, the researcher concluded that the effects of school-based climate change education programs on environmental awareness among elementary learners depended heavily on the institutional commitment to high-quality instruction and practical, real-world engagement.

Recommendations

Taking into account the findings and conclusions, the following recommendations are proposed:

Teachers are encouraged to sustain this multi-faceted approach by continuously blending digital simulations with hands-on nature activities. Regularly collaborating with colleagues across different subjects ensures that climate themes remain deeply integrated, while further exploring community-based projects allows for a more holistic learning environment that empowers students as environmental leaders.

School heads are invited to institutionalize platforms that showcase student-led conservation projects, further strengthening the bridge between classroom knowledge and community action. Providing teachers with more venues for specialized climate pedagogy training and investing in diverse environmental learning tools supports the continued growth of students as active and empowered environmental stewards.

DepEd policy makers are encouraged to prioritize the integration of experiential learning and teacher specialization into the national curriculum framework. Developing long-term policies that subsidize digital environmental resources and community-linked programs ensures that climate literacy remains a standard outcome, effectively institutionalizing the robust interventions necessary for cultivating lifelong environmental responsibility in Filipino learners.

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