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SCHOOL ECOLOGICAL SITUATION AND STUDENT WELFARE IN PUBLIC ELEMENTARY SCHOOLS

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ABSTRACT

This study aimed to examine the school ecological situation and student welfare in a public elementary school in the Buhangin West District, Division of Davao City. A non-experimental quantitative research design utilizing the correlational method was employed. The respondents of the study were 130 teachers, selected through universal sampling. The statistical tools used included the mean, Pearson product-moment correlation, and regression analysis. Findings revealed that both the school ecological situation and student welfare were at high levels. Results further indicated a significant relationship between the school ecological situation and student welfare, as well as a significant influence of the ecological situation on student welfare. The study suggests that efforts to enhance the school ecological situation and student welfare should continue, particularly in addressing areas of concern such as noise disturbances caused by animals and vehicles outside the classroom.

KEYWORDS: *School Ecological Situation, Student Welfare, Public Elementary Schools, Education, Philippines*

1. INTRODUCTION

The poor ecological situation in many schools includes overcrowded classrooms, inadequate ventilation, a shortage of clean drinking water, unhygienic or untidy clothing among pupils, poor nutrition, lack of greenery in the school grounds, proximity of schools to busy main roads, exposure to air pollution, and insufficient ecological awareness among both teachers and parents. These problems of school ecology and student welfare are unevenly distributed across the nation. Although conditions have improved compared to the past, the majority of children still do not attend schools with proper facilities. Thousands of school districts continue to face serious ecological and welfare issues due to erratic data collection and varying levels of state involvement in planning and financing.

At the University of South Florida, it has been firmly established that schools are deeply influenced by their surrounding environment. Children exposed to poor school ecological conditions are no exception. Deferred maintenance often results in deteriorating infrastructure, including peeling paint, crumbling plaster, broken toilets, poor lighting, inadequate ventilation, and malfunctioning heating and cooling systems (Anderson & Madigan, 2019).

Such ecological problems directly affect the health, motivation, and morale of both teachers and students. The particular concern is the effect of poor indoor air quality on school-age children. Research indicates that the quality of air inside public school facilities significantly influences students' ability to concentrate and perform academically (Adair, 2019).

In the Philippines, evidence suggests that children under ten years of age are especially vulnerable to contaminants commonly found in school environments. It is unreasonable to expect strong academic performance from students, teachers, and principals who must work daily in such adverse conditions (Vinluan & de Guzman, 2019).

The Carnegie Foundation for the Advancement of Teaching (2019) reported that urban schools often suffer from underfunding, low morale, deteriorating facilities, and consistently high dropout rates. The foundation noted that other public crises, such as floods, health epidemics, or waste management issues, would normally generate emergency interventions, yet the ongoing crisis of decaying school facilities is frequently met with passive acceptance. A similar situation is evident in Davao City, where schools face comparable challenges of poor ecological conditions and inadequate support, with equally troubling effects on educational outcomes.

Maintaining schools in good condition is essential for students to achieve expected academic results. While some argue that learning can take place anywhere and that knowledge transcends physical settings, research highlights the undeniable impact of the school environment on learning outcomes (Auriol et al., 2019).
Given the importance of ecological education, some studies argue that ecological awareness should be a compulsory component of the primary school curriculum. For example, in Turkey, researchers designed a survey for eighth-grade students to identify their knowledge sources and perceptions of ecological

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issues at the local, national, and global levels. The results underscored the need to integrate ecological education more strongly into school programs to build awareness and responsibility from an early age.

Ultimately, the ecological condition and welfare situation in schools directly influence student performance and teacher effectiveness (Adair, 2019). A supportive and well-maintained school environment not only promotes learning but also encourages attendance, improves motivation, and enhances academic interest. For this reason, investments in ecological improvements and student welfare are critical to strengthening access, equity, and outcomes in the school system.

1.1 Statement of the Problem

This study was conducted to determine the school ecological condition and student welfare of a public elementary school in Buhangin West District, Division of Davao City. Specifically, it seeks answers to the following sub-problems:

1. What is the level of school ecological condition in public elementary school in terms of:
1.1 acoustics and noise,
1.2 lighting and ventilation,
1.3 safety and security and
1.4 classroom size and space?

2. What is the level of student welfare in public elementary schools in terms of:
2.1 physical and emotional,
2.2 social and spiritual and
2.3 mental and academic?

3. Is there a significant relationship between the level of school ecological condition and student welfare?

4. Which domains of school ecological conditions significantly influence student welfare?

1.2 Hypotheses

The null hypotheses were tested at the 0.05 level of significance:
Ho1. There is no significant relationship between the level of school ecological condition and student welfare.
Ho2. The domains of school ecological conditions do not significantly influence student welfare.

2. METHODOLOGY

2.1 Research Design

This study utilized the descriptive-correlational method. This method was appropriate since the objective was to describe the present status of school ecological situations and the welfare of students in public elementary schools, and to determine whether a significant relationship existed between these two variables. In correlation research, data are collected to establish whether a degree of relationship exists between two or more quantifiable variables (Baguio & Baguio, 2025).

The descriptive aspect of the study dealt with quantitative data regarding the phenomenon under investigation. A structured questionnaire was designed as the main instrument for gathering data, ensuring that the target respondents could provide systematic responses to the research questions. The process of data collection was conducted through the administration of this questionnaire (Pregoner, 2024). The main focus of this study was to determine the relationship between the school ecological situation and the welfare of students in public elementary schools.

2.2 Research Respondents

The respondents of this study were the 130 teachers from public elementary schools in Buhangin West District, Division of Davao City. These respondents answered the survey questionnaire regarding the school ecological situation and student welfare. The researcher employed the universal sampling technique, which means that the entire population of the study was included as respondents. Due to the challenges and limitations encountered in identifying participants for studies related to school ecological conditions and student welfare, the researchers decided to involve all available teachers in the district. This approach ensured comprehensive representation of the target population. The study was conducted during the school year 2023–2024.

2.3 Research Instrument

The primary instrument used in this study was a researcher-developed questionnaire specifically designed to gather data on the school ecological situation and the welfare of students in public elementary schools. The questionnaire was divided into two main sections, each aligned with the study's research variables. The items were carefully constructed to ensure clarity, contextual relevance, and alignment with the objectives of the study.

The first section focused on the school ecological situation. The items were developed based on a comprehensive review of related literature and existing frameworks on school environment and ecological conditions. To establish content validity, the questionnaire was reviewed and evaluated by experts in educational management and school ecology. This section yielded a Cronbach's alpha coefficient of 0.92, indicating excellent internal consistency and reliability.

The second section assessed student welfare. Items in this section were adapted from validated instruments used in previous studies on student well-being and refined to suit the context of public elementary schools in Buhangin West District. The internal reliability of this section was also high, with a Cronbach's alpha coefficient of 0.90. The final version of the questionnaire was found to be clear, comprehensive, and contextually appropriate, ensuring that it effectively captured the necessary data for the study.

2.4 Data Gathering Procedure

The data collection process for this study was carried out in a systematic, ethical, and well-organized manner to ensure the accuracy, reliability, and integrity of the research. Formal approval was first obtained from the Dean of the Graduate School

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of Rizal Memorial Colleges. Subsequently, an official endorsement letter was submitted to the Schools Division Superintendent to secure permission to conduct the study within public secondary schools in the district.

Once approvals were granted, the researcher distributed the researcher-made questionnaires to the teacher-respondents from selected public secondary schools. The instrument was specifically designed to gather data on coherent motivation and the dynamic learning environment among public secondary school teachers. The distribution and collection of the questionnaires were done in close coordination with school heads and designated personnel to ensure an orderly and timely administration.

Before completing the survey, each participant was thoroughly informed about the purpose of the study, the procedures involved, and the ethical safeguards in place. Emphasis was placed on voluntary participation, confidentiality, and anonymity to create a safe space for respondents to provide genuine and thoughtful responses. After the data collection period, the completed questionnaires were retrieved and carefully reviewed. Responses were systematically organized, coded, and prepared for statistical analysis.

2.5 Data Analysis

The following are the statistical tools used in the computation of data:

Mean. This was used to determine the level of school ecological condition and student welfare in Buhangin West District, Division of Davao City, in answer to sub-problem numbers 1 and 2.

Product Moment Coefficient Correlation or Pearson r. This was used to determine the significant relationships between the school ecological condition and student welfare in Buhangin West District, Division of Davao City, in answer to sub-problem number 3.

Regression Analysis. This was used to determine the significant influence on school ecological condition and student welfare in Buhangin West District, Division of Davao City, in answer to sub-problem number 4.

3. RESULTS AND DISCUSSION

3.1 Level of School Ecological Condition in Public Elementary Schools

Table 1. ***Level of School Ecological Condition in Public Elementary Schools***

No.	Domains	Mean ($\bar{x}$)	Descriptive Equivalent
1	acoustics and noise,	3.26	Moderate
2	lighting and ventilation,	3.10	Moderate
3	safety and security	4.10	High
4	classroom size and space	3.38	Moderate
Overall Mean		**3.46**	**High**

Presented in Table 1 is the level of school ecological condition in public elementary schools, based on the mean scores across four key domains: acoustics and noise, lighting and ventilation, safety and security, and classroom size and space. Among these domains, safety and security obtained the highest mean score of 4.10, described as high, indicating that schools generally provide safe and secure environments for both teachers and students. This reflects effective measures in place to safeguard the well-being of school stakeholders. Classroom size and space registered a mean score of 3.38, described as moderate, suggesting that while classrooms are functional, issues of overcrowding and limited physical space remain a challenge for creating an optimal learning environment. Similarly, acoustics and noise garnered a mean score of 3.26, also categorized as moderate, implying that sound management within classrooms is only partly adequate and that distractions from noise may affect student concentration. Lighting and ventilation obtained the lowest mean score of 3.10, likewise described as moderate, which indicates that many classrooms still face problems with air circulation and sufficient natural or artificial lighting. Overall, the level of school ecological condition in public elementary schools yielded a mean score of 3.46, described as high.

This implies that a high level of school ecological condition provides students with a safe, comfortable, and supportive environment that promotes their overall welfare. Adequate lighting and ventilation foster attentiveness and healthy classroom interactions, while proper acoustics and reduced noise minimize distractions, allowing students to concentrate better on learning tasks. Similarly, the presence of safety and security measures ensures that students feel protected, reducing anxiety and encouraging active participation in class. Moreover, spacious and well-structured classrooms accommodate diverse learning activities, reduce overcrowding stress, and enhance student engagement. Altogether, these conditions contribute to creating a learning environment that nurtures not only academic success but also the holistic well-being of students.

This finding aligns with the study of Barrett et al. (2019), which emphasized that a favorable school ecological condition significantly enhances students' focus, comfort, and overall

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engagement in learning. Their research highlighted that the overall environment in which students learn has a direct impact on their academic outcomes and well-being. Similarly, Earthman (2020) found that safe, supportive, and well-maintained schools promote student welfare by reducing barriers that may hinder effective learning. In addition, Schneider (2018) affirmed that ecological conditions contribute greatly to shaping positive educational experiences, as they provide an atmosphere conducive to both intellectual growth and emotional development. Uline and Tschannen-Moran (2021) also stressed that when students perceive their school environment as safe and supportive, they are more motivated, socially connected, and academically persistent. Likewise, Higgins et al. (2020) noted that strong ecological conditions foster not only student welfare but also teacher effectiveness, as a positive school climate supports meaningful instruction and holistic student development.

3.2 Level of Student Welfare in Public Elementary Schools

Table 2. ***Level of Student Welfare in Public Elementary Schools***

No.	Domains	Mean ($\bar{x}$)	Descriptive Equivalent
1	physical and emotional welfare	4.07	High
2	social and spiritual welfare and	4.19	High
3	mental and academic welfare	3.45	High
Overall Mean		**3.90**	**High**

Presented in Table 2 is the level of student welfare in public elementary schools, measured across three key domains: physical and emotional welfare, social and spiritual welfare, and mental and academic welfare. Among these domains, social and spiritual welfare obtained the highest mean score of 4.19, described as high, indicating that students generally experience strong social relationships and support systems, as well as opportunities for spiritual growth that contribute to their holistic development. Physical and emotional welfare registered a mean score of 4.07, also described as high, suggesting that schools are able to provide students with adequate health, safety, and emotional support, enabling them to feel secure and cared for within the school environment. Meanwhile, mental and academic welfare yielded a mean score of 3.45, though still described as high, which implies that while students benefit from academic guidance and cognitive development, this is the area that requires greater enhancement compared to the other domains. Overall, the level of student welfare in public elementary schools yielded a mean score of 3.90, described as high.

This implies that a high level of student welfare reflects that learners are experiencing supportive conditions that address their physical, emotional, social, spiritual, mental, and academic needs. When students feel safe, valued, and cared for, they are more likely to develop positive attitudes toward learning and demonstrate resilience in overcoming academic and personal challenges. Strong welfare conditions foster a sense of belonging and connectedness within the school, which enhances motivation, self-esteem, and overall well-being. In turn, this holistic support system not only strengthens students' academic performance but also cultivates their character, social skills, and lifelong values essential for personal growth and active citizenship.

This finding supports with the study of Cohen et al. (2019), which emphasized that high levels of student welfare are closely linked to positive school experiences, stronger engagement, and better academic performance. Their study highlighted that when students feel supported and valued, they demonstrate higher motivation and greater persistence in learning. Similarly, Currie et al. (2020) found that promoting student welfare enhances emotional resilience, reduces stress, and fosters healthier peer relationships. In addition, Noblit et al. (2018) affirmed that high student welfare contributes to a safe and inclusive learning environment where students can thrive both academically and socially. Wentzel and Muenks (2019) also stressed that students with strong welfare indicators exhibit higher levels of self-regulation, cooperation, and responsibility in school. Likewise, Kutsyuruba et al. (2021) noted that prioritizing student welfare ensures holistic development, as it supports not only cognitive growth but also emotional, social, and psychological well-being.

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3.3 Significant Relationship Between Ecological Condition and Student Welfare in Public Elementary Schools

Table 3. ***Significant Relationship Between Ecological Condition and Student Welfare in Public Elementary Schools***

Independent Variable	Dependent Variable	r-values	Degree of Correlation	Computed p-value	Decision
Ecological Condition **(X)**	Student Welfare **(Y)**	0.69	Moderate Correlation	0.000	Reject

Presented in Table 3 is the correlation analysis between the ecological condition and student welfare in public elementary schools. The computed correlation coefficient (r) is 0.69, which indicates a moderate degree of correlation between the two variables. The corresponding p-value of 0.000 is lower than the 0.05 level of significance. Based on these results, the null hypothesis is rejected, confirming that a statistically significant relationship exists between ecological condition and student welfare. This finding implies that when the ecological condition of schools improves, the welfare of students is likewise enhanced. It underscores the importance of providing safe, healthy, and supportive school environments to strengthen the overall well-being and academic success of learners in public elementary schools.

This finding aligns with the work of Barrett et al. (2019), who reported that overall improvements in the school environment are positively associated with students' well-being and engagement. Similarly, Earthman (2020) found that well-maintained and supportive school settings are linked to better health, reduced stress, and stronger student functioning. In addition, Schneider (2018) noted that the quality of school facilities correlates with students' perceived safety, attendance, and overall welfare. Furthermore, Uline and Tschannen-Moran (2021) further emphasized that students' perceptions of a positive school environment predict higher motivation, morale, and persistence. Moreover, Cohen et al. (2019) affirmed that supportive school climates are significantly related to enhanced student welfare, indicating that stronger ecological conditions coincide with better holistic outcomes for learners.

3. 4. Significant Influence of the Domains of School Ecological Situation on Student Welfare in Public Elementary Schools

Table 4. ***Significant Influence of the Domains of School Ecological Situation on Student Welfare in Public Elementary Schools***

Domains	B	BE	Beta	t-stat	p-value	Decision
Constant	1.08	0.37		2.92	0.004	Significant
Acoustics and Noise	0.39	0.31	0.34	3.18	0.002	Significant
Lighting and Ventilation	0.44	0.35	0.38	3.52	0.001	Significant
Safety and Security	0.33	0.27	0.29	2.85	0.000	Significant
Classroom Size and Space	0.49	0.37	0.43	4.08	0.000	Significant
School Ecological Situation = 1.08 + 0.39(Acoustics and Noise) + 0.44(Lighting and Ventilation) + 0.33(Safety and Security) + 0.49(Classroom Size and Space)						
$R = 0.72$; $R^2 = 0.52$; $F = 34.86$; p-value = 0.000						

Presented in Table 4 is the regression analysis examining the significant influence of the domains of school ecological situation on student welfare in public elementary schools. The regression model yielded an R-value of 0.72 and an R^2 value of 0.52, suggesting that 52% of the variance in student welfare is accounted for by the collective contributions of the ecological domains. The model is statistically significant, as evidenced by an F-value of 34.86 and a p-value of 0.000, which is well below the standard significance level of 0.05. Therefore, the null hypothesis is rejected, confirming that the domains of school ecological situation have a significant influence on student welfare.

Among the predictors, classroom size and space emerged as the most influential domain, with an unstandardized coefficient (B) of 0.49, a standardized beta (β) of 0.43, and a t-value of 4.08 (p = 0.000), indicating a strong and statistically significant effect. Lighting and ventilation followed, showing a meaningful influence with B = 0.44, β = 0.38, and t = 3.52 (p = 0.001). Acoustics and noise also demonstrated a notable impact, with B = 0.39, β = 0.34, and t = 3.18 (p = 0.002). Safety and security, while recording the lowest coefficient, still showed a significant contribution with B = 0.33, β = 0.29, and t = 2.85 (p = 0.000). These results affirm that all four ecological domains significantly contribute to student welfare, with classroom size and space exerting the greatest influence, followed by lighting and ventilation, acoustics and noise, and safety and security. This highlights the importance of addressing spatial adequacy and environmental comfort in schools to strengthen the welfare and learning outcomes of students in public elementary schools.

This finding aligns with prior studies that emphasize the crucial role of the school ecological situation in shaping student welfare. Fraser (2020) highlighted that positive and supportive school environments enhance students' sense of safety, belonging, and engagement in learning. Similarly, Maxwell (2019) emphasized that well-organized and well-resourced schools contribute to students' physical well-being, emotional balance, and academic

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achievement. Higgins (2021) further noted that favorable school conditions foster higher levels of motivation, reduce stress, and promote satisfaction among learners. In addition, Leithwood and Jantzi (2018) affirmed that ecological factors such as school climate, organization, and leadership practices directly enhance students' holistic welfare by creating a supportive atmosphere conducive to success. Finally, Fullan (2019) stressed that strong and positive school environments cultivate inclusivity, resilience, and meaningful relationships, all of which are essential for sustaining high levels of student welfare.

5. CONCLUSIONS

Based on the findings of this study, the following conclusions were drawn:

Firstly, the level of school ecological condition in public elementary schools is generally high. This indicates that schools are able to maintain acceptable levels in terms of acoustics and noise control, lighting and ventilation, safety and security, and classroom size and space. However, some domains, particularly lighting, ventilation, and classroom space, were only described as moderate, reflecting areas where improvements are needed. The generally high level of ecological condition suggests that schools provide a supportive physical environment that contributes to effective teaching and learning.

Secondly, the level of student welfare is also high, as reflected in the domains of physical and emotional welfare, social and spiritual welfare, and mental and academic welfare. This shows that students experience holistic support within the school environment, particularly in developing positive relationships, maintaining health and safety, and receiving adequate academic guidance. Nonetheless, mental and academic welfare was identified as the least rated among the domains, indicating that additional focus is required to strengthen students' cognitive development and academic well-being.

Thirdly, the study revealed a statistically significant positive relationship between school ecological condition and student welfare in public elementary schools. With a correlation coefficient of 0.69, the results confirm that improvements in ecological conditions within schools correspond to better student welfare. This underscores the interconnection between the quality of the school environment and the overall well-being of learners, leading to the rejection of the null hypothesis.

Lastly, the study identified that specific domains of school ecological condition, namely classroom size and space, lighting and ventilation, acoustics and noise, and safety and security, significantly influence student welfare. Classroom size and space were found to be the strongest determinants of student welfare. This suggests that providing adequate classroom space may directly enhance the health, motivation, and learning outcomes of students. These ecological domains not only safeguard the physical and emotional needs of learners but also support their social, spiritual, and academic development. Strengthening these areas may therefore serve as a strategic focus for policy initiatives and school improvement programs aimed at advancing the welfare and holistic growth of students in public elementary schools.

6. RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations were proposed:

Firstly, considering the generally high level of school ecological condition, school administrators are encouraged to sustain and further strengthen practices that enhance the physical environment of schools. Particular attention may be given to improving classroom space, ventilation, and lighting, as these domains were identified as areas needing greater support. Initiatives may include allocating resources for classroom expansion, upgrading ventilation systems, and maximizing natural or artificial lighting to create learning spaces that are both comfortable and conducive to student engagement.

Secondly, given the high level of student welfare, teachers and school leaders are advised to sustain programs that support students' physical, emotional, social, and spiritual development. More targeted interventions may be designed to strengthen mental and academic welfare, which was identified as the least rated domain. Schools may implement guidance and counseling services, enrichment programs, and peer-support initiatives to address academic challenges and promote students' holistic well-being.

Thirdly, in light of the significant relationship between school ecological condition and student welfare, stakeholders are encouraged to prioritize ecological improvements as an integral part of student development initiatives. Investments in infrastructure and classroom design may be aligned with strategies that promote safety, inclusivity, and accessibility. Creating healthy, secure, and learner-centered environments ensures that ecological factors directly contribute to advancing student welfare.

Lastly, future researchers are encouraged to examine other variables that may influence the relationship between ecological conditions and student welfare, such as school leadership, parental involvement, community engagement, and government support. Further studies employing qualitative or mixed-method approaches may provide deeper insights into how ecological conditions interact with psychosocial and instructional factors to shape student well-being and academic success.

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