



EXPLORING THE RELATIONSHIP BETWEEN CHILD-FRIENDLY SCHOOL ENVIRONMENT AND HOLISTIC COGNITION OF PUBLIC SCHOOLS

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ABSTRACT

This study examined the relationship between child-friendly school environment and holistic cognition of learners in public schools in Panabo City Division. A quantitative descriptive-correlational design was used with 240 public school teacher-respondents who had at least one year of teaching experience. Adapted and validated questionnaires measured child-friendly school environment in terms of environment-friendly, teaching-friendly, peer-friendly, and children participation, and holistic cognition in terms of attention, causality, contradiction, and change. Data were analyzed using mean, Pearson product-moment correlation, and regression analysis at the 0.05 level of significance. Findings revealed that child-friendly school environment was very high, with peer-friendly as the most evident domain and environment-friendly as the least evident. Holistic cognition was also very high, with causality as the most evident domain and attention as the least evident. Correlation analysis showed a very strong, positive, and significant relationship between child-friendly school environment and holistic cognition. Regression analysis further revealed that environment-friendly conditions and children participation significantly predicted holistic cognition, while teaching-friendly and peer-friendly domains were not significant predictors. The findings indicate that safe, supportive, participatory, and environment-friendly school conditions help strengthen learners' holistic cognitive development. The study recommends strengthening environmental quality and learner participation to support improved cognitive outcomes.

KEYWORDS: *Child-Friendly School Environment, Holistic Cognition, Environment-Friendly, Children Participation, Regression, Panabo City Division*

INTRODUCTION

In the Panabo City Division, the development of holistic cognition among learners has become an important educational concern because learners are expected to think critically, regulate emotions, understand relationships, and connect meaningfully with others. Although schools aim to develop every aspect of the child, many school practices still focus mainly on academic performance and often give less attention to emotional literacy, creativity, participation, and social relationships. This condition may limit learners' ability to transfer knowledge to real-life situations and may weaken their holistic cognition. For this reason, fostering holistic cognition through inclusive, participatory, and supportive child-friendly school environments is essential in preparing learners to become balanced, resilient, and reflective thinkers.

In the United States, education researchers emphasized that holistic cognition involves the integration of developmental relationships, social-emotional support, and academic learning to ensure equitable outcomes for all learners. Chafouleas and Iovino (2021) explained that teachers who aim to develop the whole child nurture physical, cognitive, psychological, social, and emotional growth at the same time. When this occurs, learners can show stronger progress in critical thinking, emotional regulation, and social competence. This shows that holistic cognition is not developed through academic instruction alone but through learning conditions that address the whole learner.

In Canada, educators who adopted integrated approaches such as embedding social-emotional learning into academic instruction observed that learners developed stronger problem-solving skills and better emotional regulation. Jones et al. (2023) reported that students in integrated learning settings performed better than those in traditional classrooms. This indicates that when schools combine academic learning with emotional and social support, learners become more capable of understanding problems and managing responses. Therefore, holistic cognition is strengthened when the school environment provides supportive and integrated learning experiences.

In Saudi Arabia, education leaders described holistic cognition as a combination of critical thinking, creativity, and social-emotional intelligence. Almulla and Al-Rahmi (2023) emphasized that student-centered and supportive classrooms positively affect these skills because they allow learners to address real-world challenges more creatively and critically. Similarly, Al-Shehri (2020) found that differentiated instruction improved critical thinking among learners. These findings suggest that holistic cognition becomes stronger when learners are taught in classrooms that are supportive, differentiated, and responsive to their developmental needs.

In the Philippines, similar concerns have been raised about the need to strengthen learners' cognitive, emotional, and social development. Lomagdong and Ballado (2025) reported that Grade 12 students who used integrated cognitive strategies such as critical thinking, problem-solving, and self-regulation achieved higher academic performance. Loyola (2022) also emphasized that holistic initiatives combining cognitive, emotional, and social competencies promote leadership skills and personal growth. These ideas support the need for school environments that develop the whole child rather than focusing only on academic results.



In Panabo City Division, local concerns remain regarding how cultural context, educational resources, facilities, teacher readiness, and learner engagement influence holistic cognition. Some schools may experience challenges such as limited facilities, inconsistent training, and uneven student participation. These conditions may affect how learners think, feel, and make sense of their learning experiences. Hence, there is a need to examine whether a child-friendly school environment is significantly related to holistic cognition among learners in public schools in Panabo City Division.

The research gap lies in the limited local quantitative evidence explaining how child-friendly school environment relates to learners' holistic cognition. While related studies discuss supportive school climate, whole-child development, and social-emotional learning, fewer studies have measured the connection between child-friendly school environment and holistic cognition in the context of Panabo City Division. Methodologically, there is a need for a descriptive-correlational study that can determine the level of both variables, test their relationship, and identify which child-friendly school environment domains significantly influence holistic cognition. Addressing this gap may help school leaders and teachers strengthen evidence-based practices that support learners' cognitive, social, emotional, and creative development.

This study is anchored on Social Cognitive Theory by Bandura (1986) and Ecological Systems Theory by Bronfenbrenner (1979). Social Cognitive Theory explains that learners develop through the interaction of personal, behavioral, and environmental factors, while Ecological Systems Theory explains that learners' development is shaped by nested and interacting environments such as family, peers, school, community, and culture. These theories fit the study because a child-friendly school environment may shape how learners think, feel, interact, and adapt. Together, these theories support the assumption that holistic cognition develops through continuous interaction between learners and their school environment.

The primary objective of this study was to determine the relationship between child-friendly school environment and holistic cognition of learners in public schools in Panabo City Division. Specifically, the study sought to determine the level of child-friendly school environment in terms of environment-friendly, teaching-friendly, peer-friendly, and children participation; determine the level of holistic cognition in terms of attention, causality, contradiction, and change; determine the significant relationship between child-friendly school environment and holistic cognition; and identify which indicators of child-friendly school environment significantly influence holistic cognition.

The following hypotheses were tested at 0.05 level of significance:

H01: There is no significant relationship between child-friendly school environment and holistic cognition of learners in public schools in Panabo City Division.

H02: None of the indicators of child-friendly school environment significantly influence holistic cognition of learners in public schools in Panabo City Division.

METHODOLOGY

The methodology outlined the procedures used to conduct the study, including the research design, respondents, research instrument, data gathering steps, ethical safeguards, and statistical treatment. The study employed a quantitative descriptive-correlational design to determine the extent of child-friendly school environment and holistic cognition and to test their relationship. This design was appropriate because it allowed the researcher to gather numerical data, describe the variables, and examine the strength and direction of their association without manipulating the school setting.

Ethical safeguards were observed through proper permission and approval before data collection. The researcher secured ethics clearance, endorsement from the Graduate School, permission from the Schools Division Superintendent, and approval from the school heads before administering the survey questionnaire. Informed consent was obtained from the teacher-respondents, and participation was voluntary. The respondents were assured that their identities would be kept confidential, their responses would be used only for academic purposes, and they could withdraw from the study without penalty. The researcher also observed privacy, justice, transparency, adequacy of facilities, and community involvement throughout the conduct of the study.

The study was conducted in selected public schools under the Panabo City Division. The respondents were 240 public school teachers selected from a population of 599 teachers using Slovin's formula. The respondents were legitimate educators who had served in their respective schools for at least one year. This inclusion criterion ensured that the respondents had sufficient teaching experience and contextual knowledge to provide reliable responses on child-friendly school environment and holistic cognition.

The researcher used adapted and validated survey questionnaires to gather data. The instrument for child-friendly school environment was based on Xiao et al. (2023) and measured four domains, namely environment-friendly, teaching-friendly, peer-friendly, and children participation. The instrument for holistic cognition was based on Lux et al. (2021) and measured attention, causality, contradiction, and change. Both instruments used a five-point Likert scale interpreted as follows: 4.20-5.00, very high; 3.40-4.19, high; 2.60-3.39, moderate; 1.80-2.59, low; and 1.00-1.79, very low. The adapted instruments underwent content validation and reliability testing before implementation.

The data gathering procedure began with securing the necessary clearances and permissions from the concerned offices. After approval was granted, the researcher coordinated with school heads regarding the schedule of questionnaire administration. The questionnaires were personally administered to the selected teacher-respondents, and clear instructions were given to promote valid and honest responses. After the questionnaires were retrieved, the responses were checked, encoded, tabulated, and prepared for statistical treatment.



The gathered data were analyzed using appropriate statistical tools. Mean was used to determine the level of child-friendly school environment and holistic cognition. Pearson product-moment correlation was used to determine the strength and direction of the relationship between the two variables. Regression analysis was used at the 0.05 level of significance to determine which indicators of child-friendly school environment significantly influenced holistic cognition.

RESULTS AND DISCUSSION

Child-Friendly School Environment. The results showed that child-friendly school environment in public schools in Panabo City Division was very high overall ($M = 4.49$), indicating that child-friendly practices were always evident. Among the domains, peer-friendly obtained the highest mean ($M = 4.62$), followed by teaching-friendly ($M = 4.54$), children participation ($M = 4.49$), and environment-friendly ($M = 4.31$). This means that positive peer support, teacher care, learner participation, and supportive physical conditions were generally evident in the schools, although environment-friendly practices still had the most room for improvement among the domains.

Table 1. Child-Friendly School Environment in Public Schools in Panabo City Division

Indicators	Mean	Descriptive Rating
Environment Friendly	4.31	Very High
Teaching-Friendly	4.54	Very High
Peer-Friendly	4.62	Very High
Children Participation	4.49	Very High
Overall	4.49	Very High

The very high result suggests that public schools in Panabo City Division consistently provided supportive conditions for learners. Peer-friendly was the strongest domain, which implies that cooperation, encouragement, and positive class relationships were highly evident. Environment-friendly was the lowest among the domains, although still very high, indicating that facilities, sanitation, safety, and physical spaces were supportive but may still be further improved. These results are consistent with the view that child-friendly schools are strengthened by safe spaces, supportive relationships, inclusive culture, and opportunities for learner participation (Xiao et al., 2023; Margas, 2023).

Table 2. Child-Friendly School Environment in Terms of Environment-Friendly

Statement	Mean	Descriptive Rating
1. I love the dining environment in school.	4.48	Very High
2. Delicious food is served in the school cafeteria.	3.99	High
3. There are places in school that I like to read.	4.37	Very High
4. The school is accessible for a small number of physical disabilities or injuries.	4.27	Very High
5. There are professional medical facilities in school.	4.41	Very High
6. I love the music on the school radio.	4.36	Very High
7. A variety of events are often held in school.	4.33	Very High
8. There are plenty of sport areas in school.	4.27	Very High
9. Convenient disinfection facilities in school such as hand sanitizer.	4.32	Very High

Environment-friendly obtained a very high rating, showing that learners experienced school spaces as generally safe, accessible, clean, and supportive of well-being. The dining environment was the strongest item, while the quality of food served in the cafeteria received the lowest rating but remained high. This suggests that school physical conditions and health-related facilities were evident, but food quality and variety may still be improved. The result supports studies showing that green, safe, and well-designed learning spaces improve attention, mood, motivation, and academic functioning (Dadvand et al., 2023; Amicone et al., 2022).

Table 3. Child-Friendly School Environment in Terms of Teaching-Friendly

Statement	Mean	Descriptive Rating
The teacher will respect my opinion.	4.54	Very High
Teachers do not ignore my need.	4.53	Very High
The teacher will take the initiative to care about my feelings.	4.56	Very High

Teaching-friendly was also very high, indicating that teachers consistently demonstrated respect, responsiveness, and emotional concern for learners. The highest-rated item was the teacher's initiative to care about learners' feelings, which suggests that emotional support was strongly evident in classrooms. The slightly lower but still very high rating for not ignoring learner needs indicates that teachers were generally responsive to individual concerns. This supports the idea that teaching-friendly classrooms are marked by respectful interaction, learner-centered practices, and emotional safety (Fitriani & Qodariah, 2021; Paraguay-Agang, 2023).



Table 4. Child-Friendly School Environment in Terms of Peer-Friendly

Statement	Mean	Descriptive Rating
The atmosphere in our class is united.	4.59	Very High
Classmates get along very well.	4.60	Very High
Classmates encourage each other.	4.67	Very High

Peer-friendly was the highest-rated domain, showing that positive peer relationships were always evident in the school setting. The strongest item was classmates encouraging each other, which implies that learners experienced support, motivation, and cooperation among peers. This kind of peer climate may help learners feel secure, included, and confident in participating in classroom activities. The finding supports literature showing that peer-friendly environments foster belongingness, social support, and emotional well-being among learners (Chu et al., 2025; Chataika & Goodley, 2018).

Table 5. Child-Friendly School Environment in Terms of Children Participation

Statement	Mean	Descriptive Rating
I have the right to choose my preferred seat.	4.58	Very High
I am satisfied with the current position of my seat.	4.47	Very High
I could participate in the formulation of class rules.	4.47	Very High
I could participate in the design and decoration of the school environment.	4.44	Very High

Children participation was very high, meaning that learners were given opportunities to express preferences and take part in classroom and school-related decisions. The right to choose a preferred seat was the highest-rated item, showing that learner autonomy was strongly supported. Participation in designing and decorating the school environment was the lowest but still very high, suggesting that learners were involved in improving their school spaces, though this may still be expanded. The result agrees with the view that child participation strengthens learner agency, ownership, and engagement in school life (Esteban, 2022; Bautista, 2025).

Holistic Cognition. The results showed that holistic cognition was very high overall ($M = 4.41$), indicating that learners consistently demonstrated holistic thinking patterns. Among the domains, causality obtained the highest mean ($M = 4.47$), followed by change ($M = 4.45$), contradiction ($M = 4.43$), and attention ($M = 4.30$). These results suggest that learners were highly capable of understanding causes, recognizing change, accepting opposing ideas, and attending to contextual information.

Table 6. Holistic Cognition of Learners in Public Schools in Panabo City Division

Indicators	Mean	Descriptive Rating
Attention	4.30	Very High
Causality	4.47	Very High
Contradiction	4.43	Very High
Change	4.45	Very High
Overall	4.41	Very High

The very high level of holistic cognition indicates that learners tended to process information in connected and contextual ways. Causality was the strongest domain, suggesting that learners were highly able to understand how choices, actions, motivations, and conditions may shape outcomes. Attention was the lowest domain, although still very high, indicating that learners generally recognized the importance of context and whole patterns but may still benefit from activities that deepen contextual and relational attention. These findings support the view that holistic cognition develops when learners are guided to connect cognitive, emotional, and social meaning-making processes (Chafouleas & Iovino, 2021; Lux et al., 2021).

Table 7. Holistic Cognition in Terms of Attention

Statement	Mean	Descriptive Rating
Where you put an ornament is just as important as the ornament itself.	4.32	Very High
In a painting, the background is just as important as the main object.	4.23	Very High
It is impossible to understand the pieces without considering the whole picture.	4.35	Very High

Attention was rated very high, showing that learners consistently considered context, relationships, and whole patterns when processing information. The highest-rated item emphasized understanding pieces by considering the whole picture, while the lowest-rated item focused on recognizing the value of background in a painting. This means that learners were inclined to see relationships among parts and wholes, although attention to contextual details may still be developed further. The finding supports Lux et al. (2021), who identified attention as a dimension of holistic cognition that helps learners see patterns and relationships rather than isolated details.



Table 8. Holistic Cognition in Terms of Causality

Statement	Mean	Descriptive Rating
Events occur as a result of individuals' choices and behavior.	4.45	Very High
Each individual person is only responsible for his/her own actions.	4.48	Very High
People's behavior is best understood by carefully examining their personal characteristics and internal motivations.	4.49	Very High

Causality obtained the highest rating among holistic cognition domains. This means that learners strongly recognized how actions, choices, personal characteristics, and motivations may influence outcomes. The highest-rated item indicated that learners considered internal motivations and personal characteristics in understanding behavior. This supports the idea that holistic thinkers view events as products of multiple interacting causes and are able to make meaning of experiences in a more connected and reflective way (Hong et al., 2021; Wong et al., 2021).

Table 9. Holistic Cognition in Terms of Contradiction

Statement	Mean	Descriptive Rating
Even two seemingly contradictory ideas can each yield something valuable.	4.43	Very High
In any given situation, what it means to do the right thing depends on who you ask.	4.39	Very High
Things can be both ugly and beautiful at the same time.	4.46	Very High

Contradiction was rated very high, showing that learners were able to recognize value in opposing ideas and tolerate complex viewpoints. The highest-rated item showed that learners understood that things can be both ugly and beautiful at the same time. This suggests openness to multiple perspectives and cognitive flexibility. The result supports Santos et al. (2025) and Chan (2022), who explained that holistic cognition includes tolerance for contradiction, openness to opposing ideas, and readiness to understand complex situations without rigid judgment.

Table 10. Holistic Cognition in Terms of Change

Statement	Mean	Descriptive Rating
It is useful to make future forecasts based on present situations.	4.48	Very High
An honest man can be expected to stay honest in the future.	4.49	Very High
The course of human history is best described as gradual linear progress.	4.38	Very High

Change was rated very high, indicating that learners recognized learning and reality as dynamic and evolving. The highest-rated item showed that learners expected continuity in personal behavior, while the lowest-rated item still indicated a very high recognition of gradual progress. This suggests that learners can understand situations as developing across time. The result supports Chowdhury (2023), Rogoff (2023), and Steen et al. (2024), who described holistic thinking as flexible, adaptive, and open to transformation.

Relationship Between Child-Friendly School Environment and Holistic Cognition. The correlation result showed a very strong, positive, and significant relationship between child-friendly school environment and holistic cognition. The computed correlation coefficient was $r = 0.825$ with a p-value of 0.001, indicating that the relationship was statistically significant at the 0.05 level. This means that higher levels of child-friendly school environment were associated with higher levels of holistic cognition among learners.

Table 11. Relationship Between Child-Friendly School Environment and Holistic Cognition

Variables	Mean	SD	r	r ²	Degree of Relationship	p-value	Decision
Child-Friendly School Environment	4.490	0.486	0.825	0.680	Very Strong	0.001	Significant
Holistic Cognition	4.554	0.478	0.825	0.680	Very Strong	0.001	Significant

The result implies that child-friendly school environments contribute to learners' holistic cognition by providing supportive, inclusive, participatory, and relational learning conditions. The coefficient of determination ($r^2 = 0.680$) indicates that 68 percent of the variance in holistic cognition was associated with child-friendly school environment. This suggests that when schools provide safe, respectful, participatory, and development-supporting environments, learners are more likely to demonstrate attention, causal reasoning, openness to contradiction, and understanding of change. Thus, the null hypothesis stating that there is no significant relationship between the variables was rejected.

Influence of Child-Friendly School Environment on Holistic Cognition. Regression analysis revealed that the domains of child-friendly school environment significantly influenced holistic cognition. The model was significant with $F = 124.8$, $R = 0.825$, $R^2 = 0.680$, and $p < .001$. Among the domains, environment-friendly ($B = 0.461$, $p < .001$) and children participation ($B = 0.316$, $p < .001$) were significant predictors, while teaching-friendly and peer-friendly were not significant predictors.



Table 12. Regression Analysis on the Domains of Child-Friendly School Environment as Predictors of Holistic Cognition

Model	B	Std. Error	Beta	t	p-value	Decision
Constant	0.827	0.201		4.118	< .001	Significant
Environment-Friendly	0.461	0.041	0.527	11.327	< .001	Significant
Teaching-Friendly	-0.043	0.042	-0.047	-1.018	.310	Not Significant
Peer-Friendly	0.081	0.048	0.078	1.669	.096	Not Significant
Children Participation	0.316	0.041	0.379	7.672	< .001	Significant
F-value = 124.8; R = 0.825; R ² = 0.680; p-value = < .001						

The findings show that environment-friendly conditions were the strongest predictor of holistic cognition, followed by children participation. This means that physical safety, clean facilities, accessible spaces, reading areas, activity areas, and health-related supports may strongly contribute to learners' ability to think holistically. Children participation also significantly influenced holistic cognition, suggesting that learner voice, autonomy, and involvement in school decisions support deeper thinking and self-directed engagement. However, teaching-friendly and peer-friendly domains did not significantly predict holistic cognition when analyzed together with the other domains, which may mean that their effects were already reflected through the broader school environment and participation practices. Therefore, the null hypothesis stating that none of the indicators of child-friendly school environment significantly influence holistic cognition was rejected.

These findings support Social Cognitive Theory and Ecological Systems Theory because learners' cognition is shaped by the interaction of personal, behavioral, and environmental factors. The results show that environment-friendly school conditions and meaningful participation provide contexts where learners can observe, interact, decide, and develop confidence in thinking. They also confirm that learners' development is influenced by the systems surrounding them, particularly school spaces, routines, relationships, and participation opportunities. Hence, holistic cognition appears to be strengthened when the school environment is safe, supportive, inclusive, and responsive to the needs of the whole child.

CONCLUSIONS

The study concludes that child-friendly school environment in public schools in Panabo City Division is very high, indicating that environment-friendly, teaching-friendly, peer-friendly, and children participation practices are always evident. Peer-friendly emerged as the strongest domain, showing that learners experience strong encouragement, unity, and positive relationships with classmates. Environment-friendly was the least evident domain, although still very high, suggesting that school facilities, sanitation, activity areas, and physical spaces are supportive but may still be improved further.

The study also concludes that holistic cognition is very high, indicating that learners consistently demonstrate attention, causality, contradiction, and change. Causality was the strongest domain, showing that learners are highly capable of understanding how choices, actions, personal characteristics, and motivations shape outcomes. Attention was the least evident domain, although still very high, suggesting that learners can recognize whole patterns and contextual relationships but may still benefit from activities that strengthen contextual awareness and integrative thinking.

Correlation results confirm that child-friendly school environment has a very strong, positive, and significant relationship with holistic cognition. This means that learners in more child-friendly school environments tend to demonstrate stronger holistic cognition. The result indicates that safe, inclusive, supportive, participatory, and learner-centered school conditions are closely connected with learners' ability to attend to relationships, understand causality, accept contradiction, and recognize change.

Regression analysis reveals that child-friendly school environment significantly influences holistic cognition. Environment-friendly conditions and children participation were significant predictors, while teaching-friendly and peer-friendly domains were not significant predictors when analyzed together. This means that physical school conditions and meaningful learner participation have the strongest direct contribution to holistic cognition. The findings support Social Cognitive Theory and Ecological Systems Theory by showing that learners' thinking develops through interaction with supportive environments, meaningful participation, and the larger school system.

RECOMMENDATIONS

The study recommends that DepEd officials strengthen policies and programs that promote child-friendly school environments, especially environment-friendly conditions and learner participation. They may support schools in improving safe spaces, sanitation facilities, accessible areas, reading spaces, sports areas, and health-related services. They may also provide monitoring tools and technical assistance to ensure that child-friendly practices are sustained and connected with learners' holistic development.

School administrators and school heads should prioritize the improvement of physical learning environments and meaningful learner involvement in school activities. They may conduct regular school environment assessments, improve cafeteria services, strengthen



health and sanitation facilities, provide more reading and activity areas, and include learners in classroom and school-level decision-making. These actions may help create school spaces that support attention, causality, contradiction, and change among learners.

Teachers should continue building respectful, caring, and participatory classroom environments while giving learners opportunities to express ideas, make choices, collaborate with peers, and reflect on their experiences. They may design activities that help learners see relationships among ideas, explain causes and effects, understand opposing viewpoints, and adapt to changes. These practices may strengthen holistic cognition while maintaining the child-friendly character of the classroom.

Learners should actively participate in classroom discussions, school improvement activities, peer support practices, and decision-making opportunities provided by the school. They may practice listening, reflecting, comparing ideas, explaining causes, accepting different viewpoints, and adapting to new learning situations. Through active participation, learners can contribute to a stronger child-friendly school environment and develop more holistic ways of thinking.

Future researchers may conduct similar studies in other divisions, districts, grade levels, or private schools to determine whether the findings are consistent across different educational settings. They may also include other variables such as teacher support, family background, school leadership, learner motivation, emotional safety, and community involvement. Longitudinal or mixed-methods studies may also be conducted to provide deeper explanations of how child-friendly school environments shape holistic cognition over time.

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